

Power supplies

Version 2021



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We have summarised all the advantages of the Orange Selection on our website.

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Power supplies

Catalogue 4.3

Power supplies

Switched-mode power supply units

Electronic load monitoring

Uninterruptible power supplies

DC/DC converters

Redundancy, diode and capacity modules

Communication modules

Appendix

Service and support

Glossary/Technical appendix

Index

Index Type / Index Order No.
Addresses worldwide

Power supplies – Overview

connectPower 1ph PROtop



- Single-phase switched-mode power supply module
- High MTBF values
- Cl. I Div. 2 + ATEX
- Power category 72...960 W
- Output 12, 24 and 48 V DC

connectPower 3ph PROtop



- Multiphase switched-mode power supply module
- 3× 320...575 V AC or 2× 360...575 V AC
- 450...800 V DC
- UL approval
- Power category 120...960 W

connectPower PROtop DCDC



- DCL technology for excellent dynamic range
- Operating modes: single / parallel operation and adjustable short-circuit behaviour (continuous current or switch-off)
- High durability up to 15 years, MTBF > 1.000.000 hours

connectPower PROtop UW



- DCL technology for excellent dynamic range
- Operating modes: single / parallel operation and adjustable short-circuit behaviour (continuous current or switch-off)
- High durability up to 15 years, MTBF > 1.000.000 hours

connectPower 1ph PROmax



- Single-phase switched-mode power supply module
- Slim design
- High efficiency
- Power category from 70...960 W
- International approvals

connectPower 3ph PROmax



- 3-phase switched-mode power supply module
- Slim design
- High efficiency
- Power category 120...960 W
- Wide range of approvals

connectPower 1ph PROeco



- Single-phase switched-mode power supply modules
- Slim design
- Large temperature range from -25 °C to 70 °C
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals

connectPower 3ph PROeco



- 3-phase switched-mode power supply modules
- Slim design
- Large temperature range from -25 °C to 70 °C
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals

connectPower PRO-PM



- Wall mounting
- Flat design
- Metal housing
- Power category 25...350 W
- Universal input and output voltages

connectPower 1ph INSTA POWER



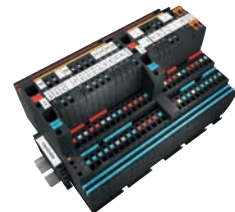
- Single-phase switched-mode power supply modules for the distribution board
- Compact form
- Power category 16 and 96 W
- Input and output voltage 5...48 V
- International approvals

topGUARD



- Electronic load monitoring
- Integrated potential distribution
- IO Link capable
- Status notification LEDs

maxGUARD



- Electronic load monitoring
- Status notification LEDs and potential-free contact
- Reset input
- Compact design

connectPower UPS control units



- Two 24 V models in 10 A/20 A and 40 A
- Temperature-compensated charging feature, for a long battery life
- Integrated battery diagnostics including continuous availability test
- Status relay and additional transistor outputs for remote monitoring
- Convenient LED displays for easy error analysis

connectPower Battery modules



- Maintenance-free, lead-acid batteries from 1.3 Ah to 17 Ah
- Integrated temperature sensor for an extended service life
- Integrated fuse for reliable activation
- Buffer times up to 40 A / 30 min or 10 A / 90 min
- Robust metal housing for wall mounting

connectPower Buffer modules



- Maintenance-free UPS on a capacitor basis, with capability to support 20 A / 200 ms
- Parallel switching to increase the output current or support time
- Status notification via LED and relay contact

connectPower DC/DC converters



- Compact form
- Metal housing
- International approvals
- High degree of efficiency
- DCL peak load reserve up to 600%

connectPower Redundancy modules



- Fast status diagnosis via LED display and status relay
- Universally applicable due to wide range of variants (max. up to 80 A output current)
- Wide range of approvals (e.g. cULus, Class I, Div. 2, ATEX and IECEx)

connectPower Diode modules



- Diode module for 100 % decoupling of switching power supplies
- Optimal power doubling
- Max. up to 40 A Output current
- International approvals

Power supplies – Overview

connectPower Capacity modules









































- To increase the peak current
- Provides sufficient energy reserves
- Compact design
- For tripping circuit breakers

Communication modules



- Tool-free assembly
- Protection class IP20
- Flexible to adapt PROtop and topGUARD to different communication protocols
- Available in CANopen and IO-Link

| Series / family | | Input side | | Output side | | | Additional functions | | | | | Recommendation for application | | | | | Order No. | | | | | | |
|-----------------|--------------------|------------|----------------------|----------------------|-------------------|-------------------|----------------------|------------------|--------------------------------|-----------------|--|--------------------------------|----------------|----------------|--|----------------|---------------------------------------|--|-----------------------------|------------------|-------------------|--------------------|--------------------|
| Page | Description | Phases | AC input voltage [V] | DC input voltage [V] | Rated voltage [V] | Rated current [A] | Power rating [W] | Derating at [°C] | Load reserve | Type of contact | Temperature range [°C] | Efficiency [%] | MTBF time [Mh] | Surge category | Approvals | Field cabinets | Small and series machine construction | Machine construction and plant manufacture | Simple process applications | Process industry | Energy technology | Power distribution | Marine engineering |
| PROmax A.40 | PRO MAX 72W 24V 3A | 1 | 85-277 | 80-370 | 24 | 3 | 72 | > 60 | 130 % permanently with ≤ 40 °C | NO | -25 to +70 -25 to +70 -25 to +70 | 90.0 | > 0.5 | III |   CI1 Div2  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C  C | | | | | | | | |

Overview

| Series / family | | Input side | | | Output side | | | | | Additional functions | | | | Recommendation for application | | | | | | | Order No. | | | | | | |
|-----------------|-------------|--------------------------|----------------------|---|------------------------|---|------------------|-----------------|----------------------------|-----------------------------|------------------------|------------------|----------------|--------------------------------|------------------------------------|----------------|---------------------------------------|--|-----------------------------|------------------|-------------------|--------------------|--------------------|------------|------------|------------|------------|
| Page | Description | AC input voltage [V] | DC input voltage [V] | Rated voltage [V] | configurable range [V] | Rated current [A] | Power rating [W] | Type of contact | Parallel connection option | Side-by-side connectability | Temperature range [°C] | Efficiency [%] | MTBF time [Mh] | Surge category | Approvals | Field cabinets | Small and series machine construction | Machine construction and plant manufacture | Simple process applications | Process industry | Energy technology | Power distribution | Marine engineering | | | | |
| USV | C.4 | CP DC UPS 24V 20A/10A | 20-30 | U _n -0,3 VU _n -0,3 V | | 10 / 20 | | NO | | ● | -25 to +70 | 98.0 | III | TUV cULus cRUus GL | ● | ● | ● | ● | | | | | ● | 1370050010 | | | |
| | | CP DC UPS 24V 40A | | | | 40 | NO | ● | 98.0 | ● | 1370040010 | | | | | | | | | | | | | | | | |
| | | CP DC BUFFER 24V 20A | 22.5-30 | 24 | | 20 | | NO | | ● | | 95.0 | | | ● | ● | ● | ● | | | | | ● | 1251220000 | | | |
| | | CP A BATTERY 24V DC1.3AH | | 24 | | 10 A / 7.8 min | 1.3 Ah | ≤ 2 | ● | | | | | | | ● | ● | ● | ● | | | | | ● | 1406930000 | | |
| | | CP A BATTERY 24V DC3.4AH | | 24 | | 10 A / 11.3 min | 3.4 Ah | ≤ 2 | ● | | 0 | | | | | ● | ● | ● | ● | | | | | ● | 1251070000 | | |
| | | CP A BATTERY 24V DC7.2AH | | 24 | | 10 A / 26.5 min | 7.2 Ah | ≤ 2 | ● | | to | | | | | ● | ● | ● | ● | | | | | ● | 1251080000 | | |
| | | CP A BATTERY 24V DC12AH | | 24 | | 10 A / 51 min | 12 Ah | ≤ 2 | ● | | +40 | | | | | ● | ● | ● | ● | | | | | ● | 1251090000 | | |
| | | CP A BATTERY 24V DC17AH | | 24 | | 10 A / 81 min | 17 Ah | ≤ 2 | ● | | | | | | | ● | ● | ● | ● | | | | | ● | 1251110000 | | |
| DC/DC | D.2 | PRO DCDC 120W 24V 5A | 18-31.2 | 24 | 22.5-29.5 | 5 | 120 | | | | | 92.0 | | | TUV cULus DNV-GL | | ● | ● | ● | ● | | | | ● | 2001800000 | | |
| | | PRO DCDC 240W 24V 10A | 18-31.2 | 24 | 22.5-29.5 | 10 | 240 | NO | ≤ 5 | ● | -25 to +70 | 92.0 | > 1 | III | ABS CI1Div2 Lloyd's Register | | | ● | ● | ● | | | | ● | 2001810000 | | |
| | | PRO DCDC 480W 24V 20A | 18-31.2 | 24 | 22.5-29.5 | 20 | 480 | NO | | | | 93.0 | | | EAC | | ● | ● | ● | | | | | ● | 2001820000 | | |
| DM / RM / CAP | E.4 | PRO RM 10 | 10-32 | U _n -0,13 VU _n -0,13 V | | 2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C), 2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C) | 480 | NO | yes | | | > 98 | III | TUV cULus CI1Div2 | ● | ● | ● | ● | ● | ● | | | ● | 2486090000 | | | |
| | | PRO RM 20 | | | | 2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C) | 960 | NO | yes | | > 98 | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | ● | 2486100000 |
| | | PRO RM 40 | | | | 3 × 48 A (-40 °C ~ +45 °C), 2 × 40 A (+45 °C ~ +60 °C), 2 × 30 A (+70 °C) | 1920 | NO | yes | | > 98 | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | ● |
| | E.6 | PRO DM 10 | 0-60 | U _n -0,7 VU _n -0,7 V | | 2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C), 2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C) | 480 | | yes | | | > 97 | III | TUV cULus | ● | ● | ● | ● | ● | ● | | | ● | 2486070000 | | | |
| | | PRO DM 20 | | | | 2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C), 2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C) | 960 | | yes | | > 97 | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | ● | 2486080000 |
| | E.7 | CP M CAP | 18-30 | U _n | | | 40 A / 1 min | | CO | | | -25 to +70 | | | TUV cULus | ● | ● | ● | ● | ● | ● | | | | ● | 1222240000 | |
| CP M CAP | | | | | | | | CO | yes | | > 0.5 | TUV GL EAC | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | ● | 1222240010 |

Switched-mode power supply units

| | | |
|---|---------------------------|------|
| Switched-mode power supply units | Overview | A.2 |
| | connectPower PROtop | A.4 |
| | connect Power PROtop DCDC | A.26 |
| | connect Power PROtop UW | A.34 |
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| | connectPower PROeco | A.52 |
| | connectPower PRO-PM | A.64 |
| | connectPower INSTA POWER | A.78 |

Optimum power supply for automation technology

The switch-mode power supplies feature a high efficiency, compact dimensions and minimal heat generation.

They are an excellent and reliable solution for providing power in all automation applications – safely providing 24 V DC voltage.

The different product series are optimised for the automation industry: they feature Ex approvals for the processing industry, a flat shape perfect for distribution tasks within buildings and provide decentralised control voltages.

All-purpose usage: with a wide range of AC/DC inputs, single-, double- or three-phase versions and a wide temperature range. Additional performance increases

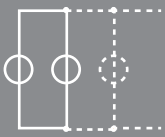
are possible using simple parallel connection. Weidmüller switch-mode power supplies are reliable usable for all applications because of their high efficiency and their resistance to both short circuits and overloads.

Weidmüller offers a system of one- and three-phase switch-mode power supplies especially for the PROtop family. These can be expanded with additional modules to create whole system solutions. The optimal fitting system can be assembled for any type of application: with redundancy circuits containing decoupled outputs, monitoring of the output voltage or triggering of circuit breakers.



AC/DC**International use**

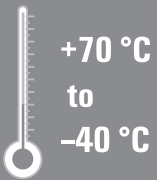
A wide-range input (both DC as well as AC voltages can be used; no switching required) and extensive approvals (UL/CSA and GL (EMC 1 – bridge)).

**Parallel connection**

Module power can be increased by connecting up to five power supplies in parallel without diode module.

**Narrow**

Space-saving configuration in the switching cabinet through very narrow housing construction and side-by-side connectability.

**Robust**

Wide temperature range from -40 °C ... +70 °C.

**Wide choice**

The right power supply for every application: 1-phase 3 A, 5 A, 7.5 A, 10 A, 20 A, 40 A and 3-phase 5 A, 10 A, 20 A, 40 A.

connectPower**connectPower PROtop****connectPower PROtop DCDC****connectPower PROtop UW****connectPower PROmax****connectPower PROeco****connectPower PRO-PM****connectPower INSTA POWER**

High-end-power supplies and future proofed PROtop: Reliable, powerful, efficient and communication-capable

A

Production processes constantly need to be made more efficient. As well as performance, energy efficiency and sustainability are also playing an increasingly important role in cutting-edge industry. PROtop power supplies combine excellent performance data with exemplary sustainability, which has a positive impact on the productivity of the entire production facility.

PROtop offers a number of advantages that give you a real competitive edge. These include the permanent reduction of energy costs thanks to high efficiencies as well as the increase in plant availability due to long service life and high MTBF values. In addition, there is a high functional density due to the extremely space-saving designs.

PROtop can achieve significant savings compared to conventional power supply units. Its increased efficiency saves an average of 50 kWh per day in a medium-sized production facility with approx. 100 PROtop power supplies working in three-shift operation. This adds up to over 15,000 kWh a year and also improves the facility's carbon footprint. The service life, which is twice as long as that of standard power supplies, also sustainably reduces the costs of repurchase and exchange.

Also in the
protection class
IP65
available





Direct parallel switching without diode modules thanks to integrated ORing MOSFETs for reduced system costs



Sustainable and innovative device concept

- Optimum efficiency levels (up to 95.3%) for sustainable energy savings
- High MTBF values (> 1,000,000 h) for permanently high system availability

Communication modules can be adapted without tools.



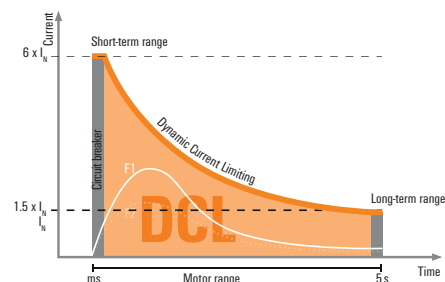
Outstanding peak load reserves

- High dynamic range thanks to unique DCL (dynamic current limiting) technology
- Continuous peak load reserves from millisecond to second range
- Ideal for reliably triggering circuit breakers or for powerful motor starts



Highly future-proof

- Complete data transparency through to the cloud
- Remote controllability for integration into machine control systems
- CANopen and IO-Link communication protocols



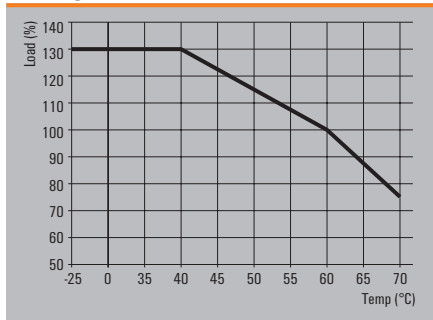
connectPower PROtop

connectPower PROtop

- DCL technology for an excellent dynamic range
- High energy efficiency (up to 95.4 % efficiency)
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 15 years, MTBF > 1 000 000 h.
- Extremely slim design
- Time-saving PUSH IN connection technology



Derating curve



Technical data

| General data | |
|---|--|
| Insulation voltage input / earth | 3.2 kV |
| Insulation voltage output / earth | 0.5 kV |
| Insulation voltage, input/output | 3.5 kV |
| Earth leakage current, max. | 3.5 mA |
| Series switching capability | Yes |
| Ambient temperature (operational) / Storage temperature | -25 °C...70 °C / -40 °C...85 °C |
| Humidity at operating temperature | 5...95 %, no condensation |
| Protection class / Pollution degree | I, with PE connection / 2 |
| MTBF | > 1.000.000 h according IEC 1709 (SN29500) |
| Housing version | Metal, corrosion resistant |
| Mounting position, installation notice | Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load |
| Conformal coating | No |
| EMC / shock / vibration | |
| Interference immunity test acc. to | EN 55032:2015, EN 55024:2010/A1:2015, EN 55035:2017, EN 61000-3-2:2014, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011 |
| Shock | 30 g in all directions |
| Resistance to vibration | 2.3 g (on DIN rail), 4 g (with direct mounting) |
| Electrical safety (applied standards) | |
| Electrical machine equipment | Acc. to EN60204 |
| Safety transformers for switch-mode power supplies | According to EN 61558-2-16 |
| For use with electronic equipment | Acc. to EN50178 / VDE0160 |
| Safety extra-low voltage | SELV according to EN 62368-1, PELV according to EN 60204-1 |
| Protective separation / protection against electrical shock | VDE0100-410 / acc. to DIN57100-410 |
| Protection against dangerous shock currents | Acc. to VDE0106-101 |

connectPower PROtop

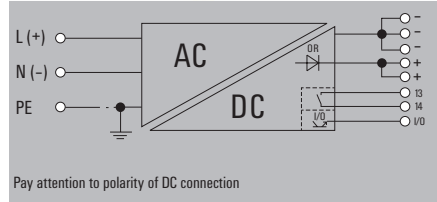
- 1-phase power supplies

PRO TOP1 72 W 24 V 3 A

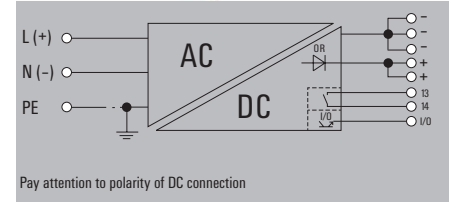
PRO TOP1 120 W 24 V 5 A



Similar to illustration



Similar to illustration



Technical data

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 3 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 89% |
| Power factor (approx.) | > 0.5 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 35 / 130 mm |
| Net weight | 650 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | | Output | |
|-----------------------|-----------------------|--------|--|
| PUSH IN with actuator | PUSH IN with actuator | | |
| 3 for L/N/PE | 5 (+ + / - -) | | |
| 0.5 / 1.5 | 0.2 / 2.5 | | |
| 0.5 / 2.5 | 0.2 / 2.5 | | |
| 20 / 12 | 26 / 12 | | |

| Input | | Output | |
|-----------------------|-----------------------|--------|--|
| PUSH IN with actuator | PUSH IN with actuator | | |
| 3 for L/N/PE | 5 (+ + / - -) | | |
| 0.5 / 1.5 | 0.2 / 2.5 | | |
| 0.5 / 2.5 | 0.2 / 2.5 | | |
| 20 / 12 | 26 / 12 | | |

| Connection data | |
|---------------------------------------|-----------------------|
| Connection system | PUSH IN with actuator |
| Number of terminals | 3 for L/N/PE |
| Wire cross-section, rigid min/max | 0.5 / 1.5 |
| Wire cross-section, flexible min/max | 0.5 / 2.5 |
| Wire cross-section, AWG/kcmil min/max | 20 / 12 |
| Note | |

| Input | | Output | |
|-----------------------|-----------------------|--------|--|
| PUSH IN with actuator | PUSH IN with actuator | | |
| 3 for L/N/PE | 5 (+ + / - -) | | |
| 0.5 / 1.5 | 0.2 / 2.5 | | |
| 0.5 / 2.5 | 0.2 / 2.5 | | |
| 20 / 12 | 26 / 12 | | |

| Input | | Output | |
|-----------------------|-----------------------|--------|--|
| PUSH IN with actuator | PUSH IN with actuator | | |
| 3 for L/N/PE | 5 (+ + / - -) | | |
| 0.5 / 1.5 | 0.2 / 2.5 | | |
| 0.5 / 2.5 | 0.2 / 2.5 | | |
| 20 / 12 | 26 / 12 | | |

Ordering data

| Type | Qty. | Order No. |
|---------------------|------|------------|
| PRO TOP1 72W 24V 3A | 1 | 2466850000 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO TOP1 120W 24V 5A | 1 | 2466870000 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO TOP1 120W 24V 5A | 1 | 2466870000 |

Note

Current technical data at catalog.weidmuller.com

Current technical data at catalog.weidmuller.com

connectPower PROtop

connectPower PROtop

- 1-phase power supplies

PRO TOP1 240 W 24 V 10 A

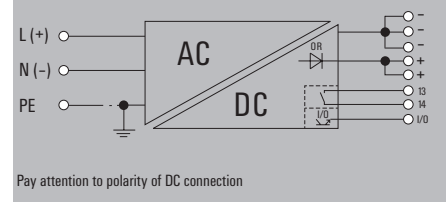
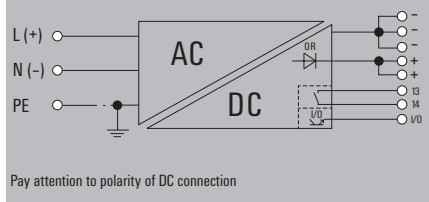
PRO TOP1 480 W 24 V 20 A



Similar to illustration



Similar to illustration



Technical data

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 600 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 92 % |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 39 / 130 mm |
| Net weight | 1050 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
|---|---|
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 600 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 92 % |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 39 / 130 mm |
| Net weight | 1050 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
|---|---|
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 500 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 20 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 93% |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 68 / 130 mm |
| Net weight | 1520 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Connection data | |
|---------------------------------------|---------------------------|
| Connection system | PUSH IN with actuator |
| Number of terminals | 3 for L/N/PE |
| Wire cross-section, rigid min/max | 0.5 / 1.5 mm ² |
| Wire cross-section, flexible min/max | 0.5 / 2.5 mm ² |
| Wire cross-section, AWG/kcmil min/max | 20 / 12 |
| Note | |

| Input | Output |
|-----------------------|-----------------------|
| PUSH IN with actuator | PUSH IN with actuator |
| 3 for L/N/PE | 5 (+ / - / -) |
| 0.5 / 1.5 | 0.2 / 2.5 |
| 0.5 / 2.5 | 0.2 / 2.5 |
| 20 / 12 | 26 / 12 |

| Input | Output |
|--------------|---------------|
| PUSH IN | PUSH IN |
| 3 for L/N/PE | 5 (+ / - / -) |
| 0.2 / 10 | 0.2 / 10 |
| 0.2 / 6 | 0.2 / 6 |
| 20 / 8 | 20 / 8 |

Ordering data

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO TOP1 240W 24V 10A | 1 | 2466880000 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO TOP1 240W 24V 10A | 1 | 2466880000 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO TOP1 480W 24V 20A | 1 | 2466890000 |

Note
Current technical data at catalog.weidmuller.com

Note
Current technical data at catalog.weidmuller.com

Note
Current technical data at catalog.weidmuller.com

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- 1-phase power supplies

PRO TOP1 960 W 24 V 40 A

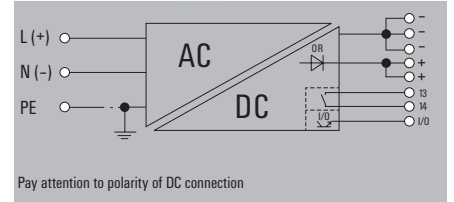
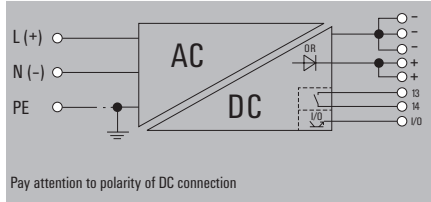
PRO TOP1 120 W 12 V 10 A



Similar to illustration



Similar to illustration



Technical data

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 40 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 94% |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 124 / 130 mm |
| Net weight | 3400 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 12 V DC ± 1 % |
| Output voltage | 11...15 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 90% |
| Power factor (approx.) | > 0.85 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 35 / 130 mm |
| Net weight | 850 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 12 V DC ± 1 % |
| Output voltage | 11...15 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 90% |
| Power factor (approx.) | > 0.85 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 35 / 130 mm |
| Net weight | 850 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Connection data | |
|---------------------------------------|---------------------------|
| Connection system | PUSH IN |
| Number of terminals | 5 (+ + / - -) |
| Wire cross-section, rigid min/max | 0.75 / 16 mm ² |
| Wire cross-section, flexible min/max | 0.75 / 16 mm ² |
| Wire cross-section, AWG/kcmil min/max | 20 / 4 |
| Note | |

| Input | Output |
|--------------|---------------|
| PUSH IN | PUSH IN |
| 3 for L/N/PE | 5 (+ + / - -) |
| 0.75 / 16 | 0.75 / 16 |
| 0.75 / 16 | 0.75 / 16 |
| 20 / 4 | 20 / 4 |

| Input | Output |
|-----------------------|-----------------------|
| PUSH IN with actuator | PUSH IN with actuator |
| 3 for L/N/PE | 5 (+ + / - -) |
| 0.5 / 1.5 | 0.2 / 2.5 |
| 0.5 / 2.5 | 0.2 / 2.5 |
| 20 / 12 | 26 / 12 |

Ordering data

| Type | Qty. | Order No. |
|--|------|------------|
| PRO TOP1 960W 24V 40A | 1 | 2466900000 |
| Note | | |
| Current technical data at catalog.weidmuller.com | | |

| Type | Qty. | Order No. |
|--|------|------------|
| PRO TOP1 120W 12V 10A | 1 | 2466910000 |
| Note | | |
| Current technical data at catalog.weidmuller.com | | |

| Type | Qty. | Order No. |
|--|------|------------|
| PRO TOP1 120W 12V 10A | 1 | 2466910000 |
| Note | | |
| Current technical data at catalog.weidmuller.com | | |

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- 1-phase power supplies

PRO TOP1 480 W 48 V 10 A

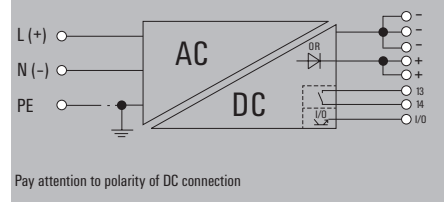
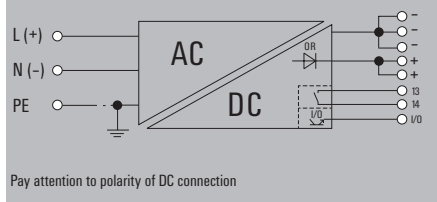
PRO TOP1 960 W 48 V 20 A



Similar to illustration



Similar to illustration



Technical data

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 150 % (5 s); 500 % (15 ms) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 93% |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 68 / 130 mm |
| Net weight | 1520 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 20 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 94% |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 124 / 130 mm |
| Net weight | 3382 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 20 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 94% |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 124 / 130 mm |
| Net weight | 3382 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | PUSH IN |
| Number of terminals | 3 for L/N/PE |
| Wire cross-section, rigid min/max | 0.2 / 10 mm ² |
| Wire cross-section, flexible min/max | 0.2 / 6 mm ² |
| Wire cross-section, AWG/kcmil min/max | 20 / 8 |
| Note | |

| Input | Output |
|--------------|---------------|
| PUSH IN | PUSH IN |
| 3 for L/N/PE | 5 (+ + / - -) |
| 0.2 / 10 | 0.2 / 10 |
| 0.2 / 6 | 0.2 / 6 |
| 20 / 8 | 20 / 8 |

| Input | Output |
|--------------|---------------|
| PUSH IN | PUSH IN |
| 3 for L/N/PE | 5 (+ + / - -) |
| 0.75 / 16 | 0.75 / 16 |
| 0.75 / 16 | 0.75 / 16 |
| 20 / 4 | 20 / 4 |

Ordering data

| Type | Qty. | Order No. |
|--|------|------------|
| PRO TOP1 480W 48V 10A | 1 | 2467030000 |
| Note | | |
| Current technical data at catalog.weidmuller.com | | |

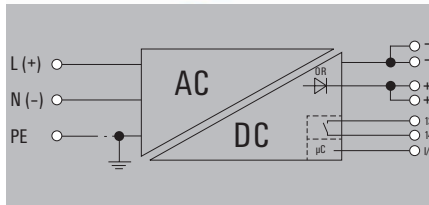
| Type | Qty. | Order No. |
|--|------|------------|
| PRO TOP1 960W 48V 20A | 1 | 2466920000 |
| Note | | |
| Current technical data at catalog.weidmuller.com | | |

| Type | Qty. | Order No. |
|--|------|------------|
| PRO TOP1 960W 48V 20A | 1 | 2466920000 |
| Note | | |
| Current technical data at catalog.weidmuller.com | | |

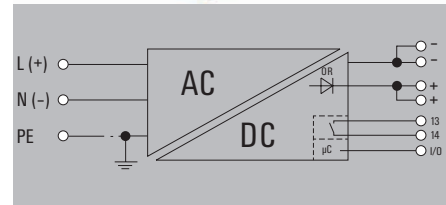
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- 1-phase power supplies with output-side screw flange

PRO TOP1 72W 24V 3A F



PRO TOP1 120W 12V 10A F



Technical data

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 3 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 89% |
| Power factor (approx.) | > 0.5 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 35 / 130 mm |
| Net weight | 650 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | | Output | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| PUSH IN with actuator | PUSH IN with actuator | PUSH IN with actuator | PUSH IN with actuator |
| 3 for L/N/PE | 4 (++ / -) | 3 for L/N/PE | 4 (++ / -) |
| 0.5 / 1.5 | 0.2 / 2.5 | 0.5 / 1.5 | 0.2 / 2.5 |
| 0.5 / 2.5 | 0.2 / 2.5 | 0.5 / 2.5 | 0.2 / 2.5 |
| 20 / 12 | 26 / 12 | 20 / 12 | 26 / 12 |

| Input | | Output | |
|---|--|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC | Rated output voltage | 12 V DC ± 1 % |
| Input voltage range AC | 85...277 V AC | Output voltage | 11...15 V |
| Frequency range AC | 45...65 Hz | DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| DC input voltage range | 80 ... 410 V DC | Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Input fuse (internal) / Inrush current | Yes / max. 5 A | Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Derating | > 60°C (2.5% / 1°C) | Nominal output current for U _{nom} | 10 A @ 60 °C |
| Series switching capability | Yes | LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Degree of efficiency | 90% | Parallel connection option | yes, max 10 |
| Power factor (approx.) | > 0.85 | Depth x width x height | 125 / 35 / 130 mm |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC | Net weight | 850 g |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV | Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

Connection data

| Connection system | |
|---------------------------------------|-----------------|
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| Input | | Output | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| PUSH IN with actuator | PUSH IN with actuator | PUSH IN with actuator | PUSH IN with actuator |
| 3 for L/N/PE | 4 (++ / -) | 3 for L/N/PE | 4 (++ / -) |
| 0.5 / 1.5 | 0.2 / 2.5 | 0.5 / 1.5 | 0.2 / 2.5 |
| 0.5 / 2.5 | 0.2 / 2.5 | 0.5 / 2.5 | 0.2 / 2.5 |
| 20 / 12 | 26 / 12 | 20 / 12 | 26 / 12 |

| Input | | Output | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| PUSH IN with actuator | PUSH IN with actuator | PUSH IN with actuator | PUSH IN with actuator |
| 3 for L/N/PE | 4 (++ / -) | 3 for L/N/PE | 4 (++ / -) |
| 0.5 / 1.5 | 0.2 / 2.5 | 0.5 / 1.5 | 0.2 / 2.5 |
| 0.5 / 2.5 | 0.2 / 2.5 | 0.5 / 2.5 | 0.2 / 2.5 |
| 20 / 12 | 26 / 12 | 20 / 12 | 26 / 12 |

Ordering data

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO TOP1 72W 24V 3A F | 1 | 2568970000 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO TOP1 72W 24V 3A F | 1 | 2568970000 |

| Type | Qty. | Order No. |
|-------------------------|------|------------|
| PRO TOP1 120W 12V 10A F | 1 | 2569000000 |

Note

Current technical data at catalog.weidmueller.com

Current technical data at catalog.weidmueller.com

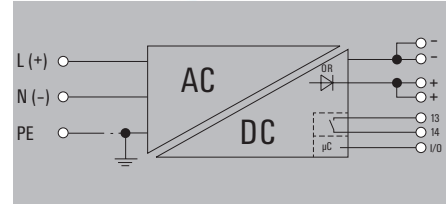
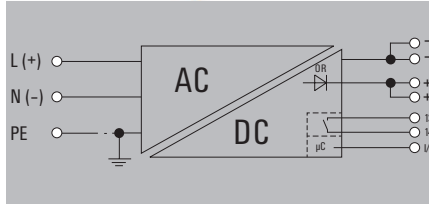
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connectPower PROtop

- 1-phase power supplies with output-side screw flange

PRO TOP1 120W 24V 5A F

PRO TOP1 240W 24V 10A F



Technical data

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 48...410 V DC (Derating 40% @ 48 V DC) |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 600 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 5 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 91% |
| Power factor (approx.) | > 0.85 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 35 / 130 mm |
| Net weight | 850 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | | Output | |
|---------------------------|---------------------------|--------|--|
| PUSH IN with actuator | PUSH IN with actuator | | |
| 3 for L/N/PE | 4 (++ / -) | | |
| 0.5 / 1.5 mm ² | 0.2 / 2.5 mm ² | | |
| 0.5 / 2.5 mm ² | 0.2 / 2.5 mm ² | | |
| 20 / 12 | 26 / 12 | | |

| Input | | Output | |
|---|---|--------------|--|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC | | |
| Input voltage range AC | 85...277 V AC | | |
| Frequency range AC | 45...65 Hz | | |
| DC input voltage range | 80 ... 410 V DC | | |
| Input fuse (internal) / Inrush current | Yes / max. 5 A | | |
| Output | | Output | |
| Rated output voltage | 24 V DC ± 1 % | | |
| Output voltage | 22.5...28.8 V | | |
| DCL - peak load reserve | 150 % (5 s); 600 % (15 ms) | | |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load | | |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) | | |
| Nominal output current for U _{nom} | 10 A @ 60 °C | | |
| General data | | General data | |
| Derating | > 60°C (2.5% / 1°C) | | |
| Series switching capability | Yes | | |
| Degree of efficiency | 92 % | | |
| Power factor (approx.) | > 0.9 | | |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC | | |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error | | |
| Parallel connection option | yes, max 10 | | |
| Depth x width x height | 125 / 39 / 130 mm | | |
| Net weight | 1050 g | | |
| Approvals | | Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV | | |

Connection data

| Connection system | |
|---------------------------------------|-----------------|
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| Input | Output |
|---------------------------|---------------------------|
| PUSH IN with actuator | PUSH IN with actuator |
| 3 for L/N/PE | 4 (++ / -) |
| 0.5 / 1.5 mm ² | 0.2 / 2.5 mm ² |
| 0.5 / 2.5 mm ² | 0.2 / 2.5 mm ² |
| 20 / 12 | 26 / 12 |

| Input | Output |
|---------------------------|---------------------------|
| PUSH IN with actuator | PUSH IN with actuator |
| 3 for L/N/PE | 4 (++ / -) |
| 0.5 / 1.5 mm ² | 0.2 / 2.5 mm ² |
| 0.5 / 2.5 mm ² | 0.2 / 2.5 mm ² |
| 20 / 12 | 26 / 12 |

Ordering data

| Type | Qty. | Order No. |
|---|------|------------|
| PRO TOP1 120W 24V 5A F | 1 | 2568980000 |
| Note | | |
| Current technical data at catalog.weidmueller.com | | |

| Type | Qty. | Order No. |
|---|------|------------|
| PRO TOP1 240W 24V 10A F | 1 | 2568990000 |
| Note | | |
| Current technical data at catalog.weidmueller.com | | |

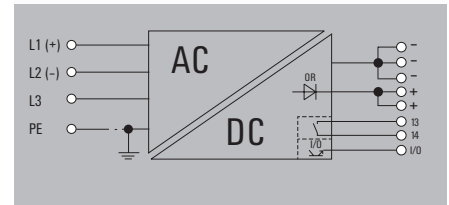
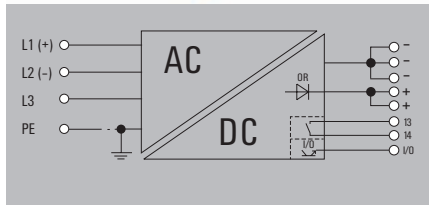
| Type | Qty. | Order No. |
|---|------|------------|
| PRO TOP1 240W 24V 10A F | 1 | 2568990000 |
| Note | | |
| Current technical data at catalog.weidmueller.com | | |

connectPower PROtop

- 3-phase power supplies

PRO TOP3 120 W 24 V 5 A

PRO TOP3 240 W 24 V 10 A



Technical data

| | |
|---|---|
| Input | |
| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 600 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 5 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 89% |
| Power factor (approx.) | > 0.4 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 39 / 130 mm |
| Net weight | 967 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| | |
|---|---|
| Input | |
| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 600 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 93% |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 50 / 130 mm |
| Net weight | 1120 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| | |
|---|---|
| Input | |
| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 600 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 93% |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 50 / 130 mm |
| Net weight | 1120 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| | |
|---------------------------------------|---------------------------|
| Connection data | |
| Connection system | PUSH IN with actuator |
| Number of terminals | 4 for L1/L2/L3/PE |
| Wire cross-section, rigid min/max | 0.5 / 1.5 mm ² |
| Wire cross-section, flexible min/max | 0.5 / 2.5 mm ² |
| Wire cross-section, AWG/kcmil min/max | 20 / 12 |
| Note | |

| | |
|-----------------------|-----------------------|
| Input | Output |
| PUSH IN with actuator | PUSH IN with actuator |
| 4 for L1/L2/L3/PE | 5 (+ + / - -) |
| 0.5 / 1.5 | 0.2 / 2.5 |
| 0.5 / 2.5 | 0.2 / 2.5 |
| 20 / 12 | 26 / 12 |

| | |
|-----------------------|-----------------------|
| Input | Output |
| PUSH IN with actuator | PUSH IN with actuator |
| 4 for L1/L2/L3/PE | 5 (+ + / - -) |
| 0.5 / 1.5 | 0.2 / 2.5 |
| 0.5 / 2.5 | 0.2 / 2.5 |
| 20 / 12 | 26 / 12 |

Ordering data

| | | |
|----------------------|-------------|------------------|
| Type | Qty. | Order No. |
| PRO TOP3 120W 24V 5A | 1 | 2467060000 |

| | | |
|----------------------|-------------|------------------|
| Type | Qty. | Order No. |
| PRO TOP3 120W 24V 5A | 1 | 2467060000 |

| | | |
|-----------------------|-------------|------------------|
| Type | Qty. | Order No. |
| PRO TOP3 240W 24V 10A | 1 | 2467080000 |

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|-------------|---|
| Note | Current technical data at catalog.weidmueller.com |
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| Note | Current technical data at catalog.weidmueller.com |
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| Note | Current technical data at catalog.weidmueller.com |
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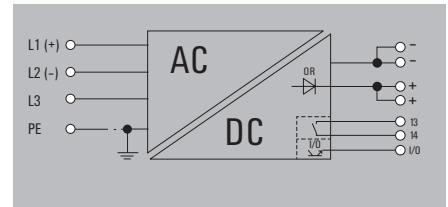
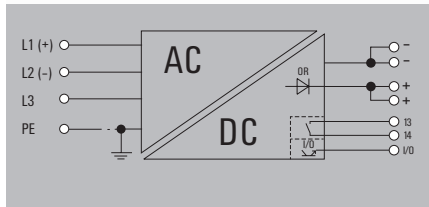
connectPower PROtop

connectPower PROtop

- 3-phase power supplies

PRO TOP3 480 W 24 V 20 A

PRO TOP3 960 W 24 V 40 A



Technical data

| Input | |
|---|---|
| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 500 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 20 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 94% |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 68 / 130 mm |
| Net weight | 1650 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | |
|---|---|
| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 40 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 95,3 % |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 175 / 89 / 130 mm |
| Net weight | 2490 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | |
|---|---|
| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 40 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 95,3 % |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 175 / 89 / 130 mm |
| Net weight | 2490 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | PUSH IN |
| Number of terminals | 4 for L1/L2/L3/PE |
| Wire cross-section, rigid min/max | 0.2 / 10 mm ² |
| Wire cross-section, flexible min/max | 0.2 / 6 mm ² |
| Wire cross-section, AWG/kcmil min/max | 20 / 8 |
| Note | |

| Input | Output |
|-------------------|------------|
| PUSH IN | PUSH IN |
| 4 for L1/L2/L3/PE | 4 (++ / -) |
| 0.2 / 10 | 0.2 / 10 |
| 0.2 / 6 | 0.2 / 6 |
| 20 / 8 | 20 / 8 |

| Input | Output |
|-------------------|------------|
| PUSH IN | PUSH IN |
| 4 for L1/L2/L3/PE | 4 (++ / -) |
| 0.75 / 16 | 0.75 / 16 |
| 0.75 / 16 | 0.75 / 16 |
| 20 / 4 | 20 / 4 |

Ordering data

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO TOP3 480W 24V 20A | 1 | 2467100000 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO TOP3 480W 24V 20A | 1 | 2467100000 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO TOP3 960W 24V 40A | 1 | 2467120000 |

| Note |
|---|
| Current technical data at catalog.weidmueller.com |

| Note |
|---|
| Current technical data at catalog.weidmueller.com |

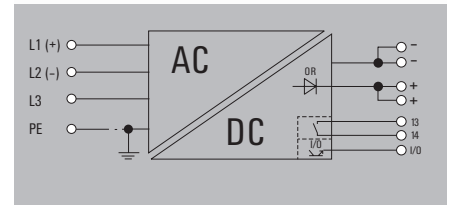
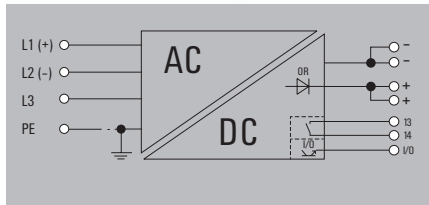
| Note |
|---|
| Current technical data at catalog.weidmueller.com |

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- 3-phase power supplies

PRO TOP3 480 W 48 V 10 A

PRO TOP3 960 W 48 V 20 A



Technical data

| Input | |
|---|---|
| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 150 % (5 s); 500 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 94% |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 68 / 130 mm |
| Net weight | 1645 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | |
|---|---|
| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 20 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 95,3 % |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 175 / 89 / 130 mm |
| Net weight | 2490 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | |
|---|---|
| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 20 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 95,3 % |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 175 / 89 / 130 mm |
| Net weight | 2490 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | PUSH IN |
| Number of terminals | 4 for L1/L2/L3/PE |
| Wire cross-section, rigid min/max | 0.2 / 10 mm ² |
| Wire cross-section, flexible min/max | 0.2 / 6 mm ² |
| Wire cross-section, AWG/kcmil min/max | 20 / 8 |
| Note | |

| Input | Output |
|-------------------|------------|
| PUSH IN | PUSH IN |
| 4 for L1/L2/L3/PE | 4 (++ / -) |
| 0.2 / 10 | 0.2 / 10 |
| 0.2 / 6 | 0.2 / 6 |
| 20 / 8 | 20 / 8 |

| Input | Output |
|-------------------|------------|
| PUSH IN | PUSH IN |
| 4 for L1/L2/L3/PE | 4 (++ / -) |
| 0.75 / 16 | 0.75 / 16 |
| 0.75 / 16 | 0.75 / 16 |
| 20 / 4 | 20 / 4 |

Ordering data

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO TOP3 480W 48V 10A | 1 | 2467150000 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO TOP3 480W 48V 10A | 1 | 2467150000 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO TOP3 960W 48V 20A | 1 | 2467170000 |

Note

Current technical data at catalog.weidmuller.com

Current technical data at catalog.weidmuller.com

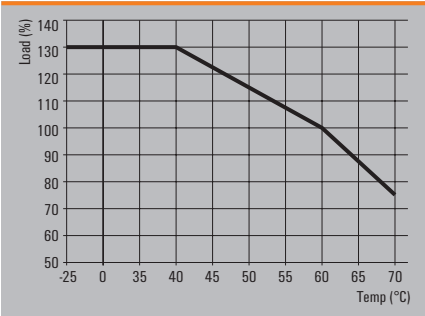
connectPower PROtop

connectPower PROtop

- DCL technology for an excellent dynamic range
- High energy efficiency (up to 95.4 % efficiency)
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 15 years, MTBF > 1 000 000 h.
- Extremely slim design
- Time-saving PUSH IN connection technology



Derating curve



Technical data

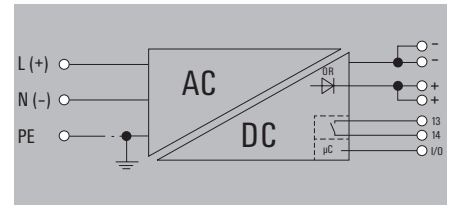
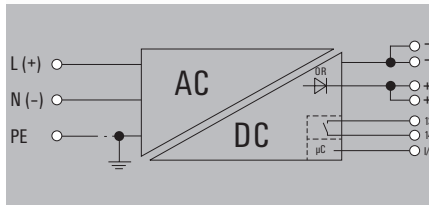
| General data | |
|---|--|
| Insulation voltage input / earth | 3.2 kV |
| Insulation voltage output / earth | 0.5 kV |
| Insulation voltage, input/output | 3.5 kV |
| Earth leakage current, max. | 3.5 mA |
| Series switching capability | Yes |
| Ambient temperature (operational) / Storage temperature | -40 °C...70 °C / -40 °C...85 °C |
| Humidity at operating temperature | 5...100 % no condensation |
| Protection class / Pollution degree | I, with PE connection / 2 |
| MTBF | > 1.000.000 h according IEC 1709 (SN29500) |
| Housing version | Metal, corrosion resistant |
| Mounting position, installation notice | Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load |
| Conformal coating | Yes |
| EMC / shock / vibration | |
| Interference immunity test acc. to | EN 55032:2015, EN 55024:2010/A1:2015, EN 55035:2017, EN 61000-3-2:2014, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011 |
| Shock | 30 g in all directions |
| Resistance to vibration | 2.3 g (on DIN rail), 4 g (with direct mounting) |
| Electrical safety (applied standards) | |
| Electrical machine equipment | Acc. to EN60204 |
| Safety transformers for switch-mode power supplies | According to EN 61558-2-16 |
| For use with electronic equipment | Acc. to EN50178 / VDE0160 |
| Safety extra-low voltage | SELV according to EN 62368-1, PELV according to EN 60204-1 |
| Protective separation / protection against electrical shock | VDE0100-410 / acc. to DIN57100-410 |
| Protection against dangerous shock currents | Acc. to VDE0106-101 |

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- 1-phase power supplies

PRO TOP1 72W 24V 3A CO

PRO TOP1 120W 24V 5A EX



Technical data

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 3 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 89% |
| Power factor (approx.) | > 0.5 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 35 / 130 mm |
| Net weight | 650 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 600 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 5 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 91% |
| Power factor (approx.) | > 0.85 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 35 / 130 mm |
| Net weight | 850 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX |

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC (Derating 40% @ 48 V DC) |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 600 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 5 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 91% |
| Power factor (approx.) | > 0.85 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 35 / 130 mm |
| Net weight | 850 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX |

| Connection data | |
|---------------------------------------|-------------------------|
| Connection system | Clamping yoke |
| Number of terminals | 3 for L/N/PE |
| Wire cross-section, rigid min/max | 0.2 / 4 mm ² |
| Wire cross-section, flexible min/max | 0.2 / 4 mm ² |
| Wire cross-section, AWG/kcmil min/max | 30 / 12 |
| Note | |

| Input | Output |
|---------------|--------------------------|
| Clamping yoke | Clamping yoke connection |
| 3 for L/N/PE | 5 (+ + / - -) |
| 0.2 / 4 | 0.2 / 4 |
| 0.2 / 4 | 0.2 / 4 |
| 30 / 12 | 30 / 12 |

| Input | Output |
|---------------|--------------------------|
| Clamping yoke | Clamping yoke connection |
| 3 for L/N/PE | 5 (+ + / - -) |
| 0.2 / 4 | 0.2 / 4 |
| 0.2 / 4 | 0.2 / 4 |
| 30 / 12 | 30 / 12 |

Ordering data

| Type | Qty. | Order No. |
|------------------------|------|------------|
| PRO TOP1 72W 24V 3A CO | 1 | 2466970000 |
| Note | | |

| Type | Qty. | Order No. |
|-------------------------|------|------------|
| PRO TOP1 120W 24V 5A EX | 1 | 2466980000 |
| Note | | |

| Type | Qty. | Order No. |
|-------------------------|------|------------|
| PRO TOP1 120W 24V 5A EX | 1 | 2466980000 |
| Note | | |

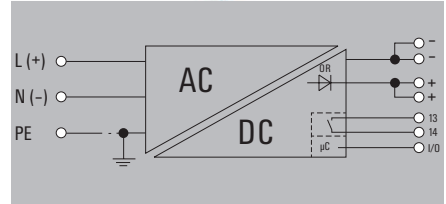
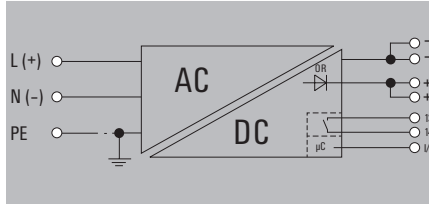
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- 1-phase power supplies

PRO TOP1 240W 24V 10A EX

PRO TOP1 480W 24V 20A EX



Technical data

| Input | |
|---|--|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 600 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 92 % |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 39 / 130 mm |
| Net weight | 1.05 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX |

| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
|---|--|
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 600 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 92 % |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 39 / 130 mm |
| Net weight | 1.05 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX |

| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
|---|--|
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 500 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 20 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 93% |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 68 / 130 mm |
| Net weight | 1520 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX |

Connection data

| Connection system | |
|---------------------------------------|-----------------|
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| Input | Output |
|---------------|--------------------------|
| Clamping yoke | Clamping yoke connection |
| 3 for L/N/PE | 5 (+ + / - -) |
| 0.2 / 4 | 0.2 / 4 |
| 0.2 / 4 | 0.2 / 4 |
| 30 / 12 | 30 / 12 |

| Input | Output |
|---------------|--------------------------|
| Clamping yoke | Clamping yoke connection |
| 3 for L/N/PE | 5 (+ + / - -) |
| 0.18 / 6 | 0.2 / 6 |
| 0.22 / 4 | 0.5 / 6 |
| 26 / 10 | 24 / 8 |

Ordering data

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP1 240W 24V 10A EX | 1 | 2466990000 |
| Note | | |

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP1 240W 24V 10A EX | 1 | 2466990000 |

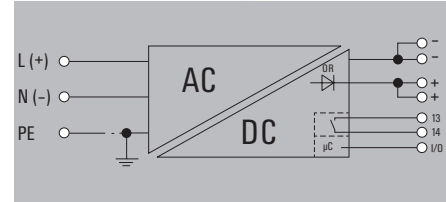
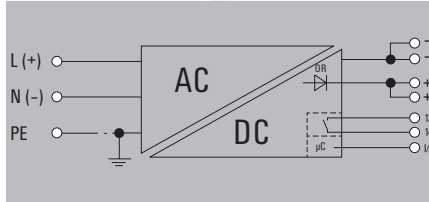
| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP1 480W 24V 20A EX | 1 | 2467000000 |
| Note | | |

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- 1-phase power supplies

PRO TOP1 480W 48V 10A EX

PRO TOP1 960W 48V 20A CO



Technical data

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 150 % (5 s); 500 % (15 ms) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 93% |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 68 / 130 mm |
| Net weight | 1520 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX |

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 150 % (5 s); 500 % (15 ms) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 93% |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 68 / 130 mm |
| Net weight | 1520 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX |

| Input | |
|---|---|
| Rated input voltage | 3x 400...3x 500 V AC (wide-range input) |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 20 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 94% |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 139 / 130 mm |
| Net weight | 3382 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | Clamping yoke |
| Number of terminals | 3 for L/N/PE |
| Wire cross-section, rigid min/max | 0.18 / 6 mm ² |
| Wire cross-section, flexible min/max | 0.22 / 4 mm ² |
| Wire cross-section, AWG/kcmil min/max | 26 / 10 |
| Note | |

| Input | Output |
|---------------|--------------------------|
| Clamping yoke | Clamping yoke connection |
| 3 for L/N/PE | 5 (+ + / - -) |
| 0.18 / 6 | 0.2 / 6 |
| 0.22 / 4 | 0.5 / 6 |
| 26 / 10 | 24 / 8 |

| Input | Output |
|---------------|--------------------------|
| Clamping yoke | Clamping yoke connection |
| 3 for L/N/PE | 5 (+ + / - -) |
| 0.18 / 6 | 0.2 / 16 |
| 0.22 / 4 | 6 / 16 |
| 26 / 10 | 22 / 6 |

Ordering data

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP1 480W 48V 10A EX | 1 | 2467040000 |
| Note | | |

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP1 480W 48V 10A EX | 1 | 2467040000 |

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP1 960W 48V 20A CO | 1 | 2467050000 |
| Note | | |

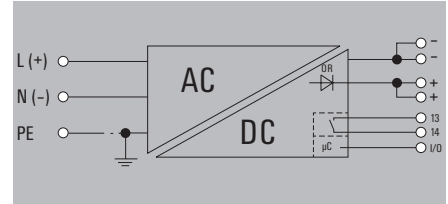
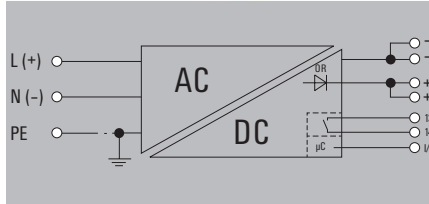
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- 1-phase power supplies

PRO TOP1 960W 24V 40A EX

PRO TOP1 120W 12V 10A EX



Technical data

| Input | |
|---|--|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80 ... 410 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 40 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 94% |
| Power factor (approx.) | > 0.9 |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 139 / 130 mm |
| Net weight | 3382 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX |

| Input | | Output | |
|---|--|---|--|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC | Rated output voltage | 12 V DC ± 1 % |
| Input voltage range AC | 85...277 V AC | Output voltage | 11...15 V |
| Frequency range AC | 45...65 Hz | DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| DC input voltage range | 80 ... 410 V DC | Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Input fuse (internal) / Inrush current | Yes / max. 15 A | Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Derating | > 60°C (2.5% / 1°C) | Nominal output current for U _{Nom} | 10 A @ 60 °C |
| Series switching capability | Yes | Derating | > 60°C (2.5% / 1°C) |
| Degree of efficiency | 94% | Series switching capability | Yes |
| Power factor (approx.) | > 0.9 | Degree of efficiency | 90% |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC | Power factor (approx.) | > 0.85 |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error | AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| Parallel connection option | yes, max 10 | LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Depth x width x height | 125 / 139 / 130 mm | Parallel connection option | yes, max 10 |
| Net weight | 3382 g | Depth x width x height | 125 / 35 / 130 mm |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX | Net weight | 850 g |

| Input | | Output | |
|---|--|---|--|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC | Rated output voltage | 12 V DC ± 1 % |
| Input voltage range AC | 85...277 V AC | Output voltage | 11...15 V |
| Frequency range AC | 45...65 Hz | DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| DC input voltage range | 80 ... 410 V DC | Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Input fuse (internal) / Inrush current | Yes / max. 5 A | Reserve capacity @ U _{Nom} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Derating | > 60°C (2.5% / 1°C) | Nominal output current for U _{Nom} | 10 A @ 60 °C |
| Series switching capability | Yes | Derating | > 60°C (2.5% / 1°C) |
| Degree of efficiency | 90% | Series switching capability | Yes |
| Power factor (approx.) | > 0.85 | Degree of efficiency | 90% |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC | Power factor (approx.) | > 0.85 |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error | AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| Parallel connection option | yes, max 10 | LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Depth x width x height | 125 / 35 / 130 mm | Parallel connection option | yes, max 10 |
| Net weight | 850 g | Depth x width x height | 125 / 35 / 130 mm |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX | Net weight | 850 g |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | Clamping yoke |
| Number of terminals | 3 for L/N/PE |
| Wire cross-section, rigid min/max | 0.18 / 6 mm ² |
| Wire cross-section, flexible min/max | 0.22 / 4 mm ² |
| Wire cross-section, AWG/kcmil min/max | 26 / 10 |
| Note | |

| Input | Output |
|---------------|--------------------------|
| Clamping yoke | Clamping yoke connection |
| 3 for L/N/PE | 5 (+ + / - -) |
| 0.18 / 6 | 0.2 / 16 |
| 0.22 / 4 | 6 / 16 |
| 26 / 10 | 22 / 6 |

| Input | Output |
|---------------|--------------------------|
| Clamping yoke | Clamping yoke connection |
| 3 for L/N/PE | 5 (+ + / - -) |
| 0.2 / 4 | 0.2 / 4 |
| 0.2 / 4 | 0.2 / 4 |
| 30 / 12 | 30 / 12 |

Ordering data

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP1 960W 24V 40A EX | 1 | 2467010000 |
| Note | | |

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP1 120W 12V 10A EX | 1 | 2467020000 |
| Note | | |

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP1 120W 12V 10A EX | 1 | 2467020000 |
| Note | | |

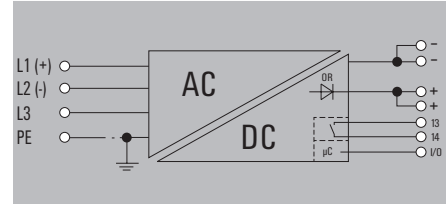
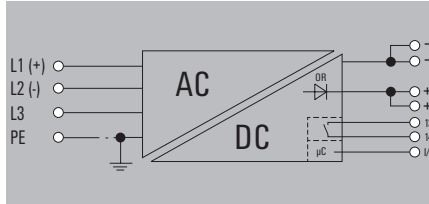
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- 3-phase power supplies

PRO TOP3 480W 24V 20A CO

PRO TOP3 960W 24V 40A CO



Technical data

| Input | |
|---|---|
| Rated input voltage | 3x 400...3x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 500 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 20 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 94% |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{Nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 68 / 130 mm |
| Net weight | 1650 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | |
|---|---|
| Rated input voltage | 3x 400...3x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 40 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 95,3 % |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{Nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 175 / 89 / 130 mm |
| Net weight | 2490 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | |
|---|---|
| Rated input voltage | 3x 400...3x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 40 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 95,3 % |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{Nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 175 / 89 / 130 mm |
| Net weight | 2490 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | PUSH IN |
| Number of terminals | 4 for L1/L2/L3/PE |
| Wire cross-section, rigid min/max | 0.2 / 10 mm ² |
| Wire cross-section, flexible min/max | 0.2 / 6 mm ² |
| Wire cross-section, AWG/kcmil min/max | 20 / 8 |
| Note | |

| Input | Output |
|-------------------|------------|
| PUSH IN | PUSH IN |
| 4 for L1/L2/L3/PE | 4 (++ / -) |
| 0.2 / 10 | 0.2 / 10 |
| 0.2 / 6 | 0.2 / 6 |
| 20 / 8 | 20 / 8 |

| Input | Output |
|-------------------|------------|
| PUSH IN | PUSH IN |
| 4 for L1/L2/L3/PE | 4 (++ / -) |
| 0.75 / 16 | 0.75 / 16 |
| 0.75 / 16 | 0.75 / 16 |
| 20 / 4 | 20 / 4 |

Ordering data

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP3 480W 24V 20A CO | 1 | 2467110000 |
| Note | | |

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP3 480W 24V 20A CO | 1 | 2467110000 |
| Note | | |

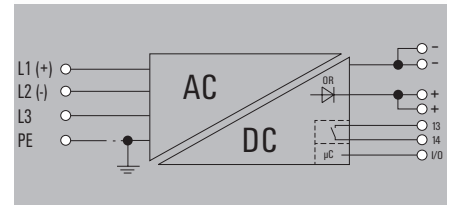
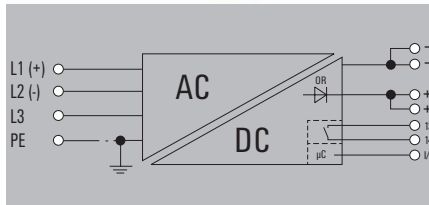
| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP3 960W 24V 40A CO | 1 | 2467130000 |
| Note | | |

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- 3-phase power supplies

PRO TOP3 960W 36V 26,6A CO

PRO TOP3 480W 48V 10A CO



Technical data

| Input | |
|---|---|
| Rated input voltage | 3x 400...3x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 36 V DC ± 1 % |
| Output voltage | 33...44 V |
| DCL - peak load reserve | 150 % (5 s); 500 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nenn} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 26.6 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 95,3 % |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 175 / 89 / 130 mm |
| Net weight | 2490 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| | |
|---|---|
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 150 % (5 s); 500 % (15 ms) |
| Residual ripple, breaking spikes | < 100 mV ss @ 48 V DC, I Nenn |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 10 A @ 60 °C |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 94% |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 68 / 130 mm |
| Net weight | 1645 g |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | |
|---|---|
| Rated input voltage | 3x 400...3x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 150 % (5 s); 500 % (15 ms) |
| Residual ripple, breaking spikes | < 100 mV ss @ 48 V DC, I Nenn |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{Nom} | 10 A @ 60 °C |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 94% |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 68 / 130 mm |
| Net weight | 1645 g |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Connection data | |
|---------------------------------------|---------------------------|
| Connection system | PUSH IN |
| Number of terminals | 4 for L1/L2/L3/PE |
| Wire cross-section, rigid min/max | 0.75 / 16 mm ² |
| Wire cross-section, flexible min/max | 0.75 / 16 mm ² |
| Wire cross-section, AWG/kcmil min/max | 20 / 4 |
| Note | |

| Input | Output |
|-------------------|------------|
| PUSH IN | PUSH IN |
| 4 for L1/L2/L3/PE | 4 (++ / -) |
| 0.75 / 16 | 0.75 / 16 |
| 0.75 / 16 | 0.75 / 16 |
| 20 / 4 | 20 / 4 |

| Input | Output |
|-------------------|------------|
| PUSH IN | PUSH IN |
| 4 for L1/L2/L3/PE | 4 (++ / -) |
| 0.2 / 10 | 0.2 / 10 |
| 0.2 / 6 | 0.2 / 6 |
| 20 / 8 | 20 / 8 |

Ordering data

| Type | Qty. | Order No. |
|----------------------------|------|------------|
| PRO TOP3 960W 36V 26,6A CO | 1 | 2467140000 |

| Type | Qty. | Order No. |
|----------------------------|------|------------|
| PRO TOP3 960W 36V 26,6A CO | 1 | 2467140000 |

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP3 480W 48V 10A CO | 1 | 2467160000 |

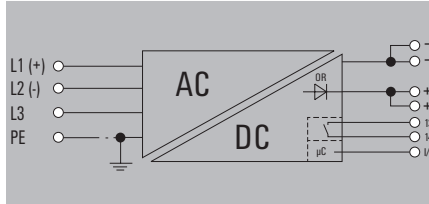
| Note |
|------|
| |

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- 3-phase power supplies

PRO TOP3 960W 48V 20A CO



Technical data

| Input | |
|---|---|
| Rated input voltage | 3x 400...3x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| Input fuse (internal) / Inrush current | No / Max. 10 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 150 % (5 s); 400 % (15 ms) |
| Residual ripple, breaking spikes | < 100 mV ss @ 48 V DC, I Nenn |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 20 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 95,3 % |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 175 / 89 / 130 mm |
| Net weight | 2490 g |
| Approvals | |
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV |

| Input | | Output | |
|---------------------------------------|---------------------------|---------------------------------------|----------------------------|
| Connection system | PUSH IN | Connection system | PUSH IN |
| Number of terminals | 4 for L1/L2/L3/PE | Number of terminals | 4 (++ / -) |
| Wire cross-section, rigid min/max | 0.75 / 16 mm ² | Wire cross-section, rigid min/max | 0.75 / 2.5 mm ² |
| Wire cross-section, flexible min/max | 0.75 / 16 mm ² | Wire cross-section, flexible min/max | 0.75 / 16 mm ² |
| Wire cross-section, AWG/kcmil min/max | 20 / 4 | Wire cross-section, AWG/kcmil min/max | 20 / 4 |
| Note | | | |

Ordering data

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP3 960W 48V 20A CO | 1 | 2467180000 |
| Note | | |

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| PRO TOP3 960W 48V 20A CO | 1 | 2467180000 |
| Note | | |

PROtop DCDC converter with IoT connection – fit for digitalisation

Powerful, efficient, and reliable isolation

PROtop DCDC converters are used for safe electrical isolation to avoid ground loops that can occur when supplying field devices in production or process plants. DCDC converters can be used on long supply lines to refresh the supply voltage.

The integrated ORing MOSFET reliably decouples possible internal short circuits. It allows direct parallel connection of ACDC and DCDC converters of the PROtop series for redundancy purposes or to increase power. This makes the use of the otherwise common diode or redundancy modules obsolete. Furthermore, PROtop DCDC converters feature the powerful DCL technology – and their communication module allows full data transparency and remote control.

Your special advantages:

- Integrated ORing MOSFET for direct parallel connection for redundancy purposes or to increase power
- Thanks to DCL technology, very high peak current reserves for fuse tripping or for powerful motor starts
- Communication interface for complete data transparency and remote control





Fit for the future thanks to IO-LINK
The optional communication modules, which can be retrofitted at any time, create data transparency, and enable automated parameterisation and remote control.



Redundancy without diode modules
The integrated ORing MOSFET allows direct parallel connection for redundancy purposes or to increase power. Diode and redundancy modules are thus obsolete.



Peak current reserves thanks to DCL
The high peak current reserves of up to 600 % nominal current reliably trigger miniature circuit breakers. In addition, the dynamic current limitation DCL offers high peak currents for powerful motor starting

Optimal for:



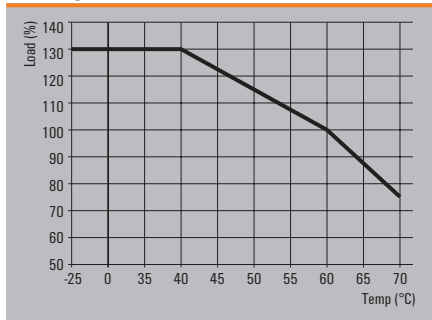
connectPower PROtop DCDC

connectPower PROtop DCDC

- DCL technology for an excellent dynamic range
- High energy efficiency
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 15 years, MTBF > 1 000 000 h.
- Extremely slim design
- Time-saving PUSH IN connection technology



Derating curve



Technical data

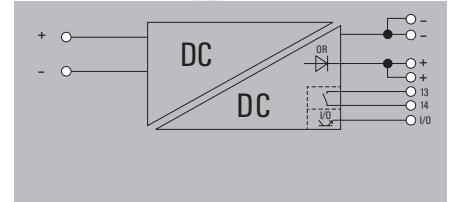
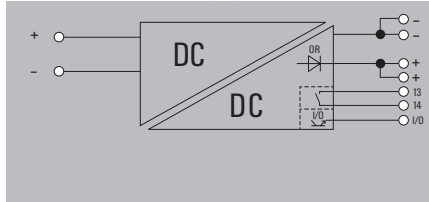
| General data | |
|---|--|
| Insulation voltage input / earth | 1.41 kV |
| Insulation voltage output / earth | 0.7 kV |
| Insulation voltage, input/output | 1.41 kV |
| Ambient temperature (operational) / Storage temperature | -25 °C...70 °C / -40 °C...85 °C |
| Humidity at operating temperature | 5...95 %, no condensation |
| Protection class / Pollution degree | III, with no ground connection, for SELV |
| MTBF | > 1.000.000 h according IEC 1709 (SN29500) |
| Housing version | Metal, corrosion resistant |
| Mounting position, installation notice | Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load |
| Conformal coating | No |
| EMC / shock / vibration | |
| Interference immunity test acc. to | EN 55032:2015, EN 55035:2017, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011, IEC 61000-4-2, IEC 61000-4-3, DIN EN 61000-4-4, EN 61000-4-5:2005, EN 61000-4-6:2008, IEC 61000-4-8 |
| Shock | 30 g in all directions |
| Resistance to vibration | 2.3 g (on DIN rail), 4 g (with direct mounting) |
| Electrical safety (applied standards) | |
| Electrical machine equipment | Acc. to EN60204 |
| Safety transformers for switch-mode power supplies | According to EN 61558-2-17 |
| For use with electronic equipment | Acc. to EN50178 / VDE0160 |
| Safety extra-low voltage | SELV according to EN 62368-1 |
| Protective separation / protection against electrical shock | VDE0100-410 / acc. to DIN57100-410 |
| Protection against dangerous shock currents | Acc. to VDE0106-101 |

connectPower PROtop DCDC

- DC/DC-Wandler

PRO TOPDC 24V/24V 5A

PRO TOPDC 24V/24V 10A



Technical data

| Input | |
|---|--|
| Rated input voltage | 24 V DC |
| Input current | 5.7A @ 24V / 7.6A @ 18V |
| DC input voltage range | 14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V) |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 600 % (15 ms); 200 % (5 s) |
| Residual ripple, breaking spikes | < 40 mV _{pp} @25 °C |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 5 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 89% |
| Mains failure bridge-over time | 10ms |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 35 / 130 mm |
| Net weight | 800 g |
| Approvals | |
| Approvals | ABS; BURVER; DNVGL; LLOYDSREG; RINA; TUEV; CE |

| | |
|---|--|
| Rated input voltage | 24 V DC |
| Input current | 5.7A @ 24V / 7.6A @ 18V |
| DC input voltage range | 14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V) |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 600 % (15 ms); 200 % (5 s) |
| Residual ripple, breaking spikes | < 40 mV _{pp} @25 °C |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 5 A @ 60 °C |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 89% |
| Mains failure bridge-over time | 10ms |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 35 / 130 mm |
| Net weight | 800 g |
| Approvals | ABS; BURVER; DNVGL; LLOYDSREG; RINA; TUEV; CE |

| | |
|---|--|
| Rated input voltage | 24 V DC |
| Input current | 11A @ 24V / 15A @ 18V |
| DC input voltage range | 14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V) |
| Input fuse (internal) / Inrush current | Yes / Max. 10 A |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 600 % (15 ms); 200 % (5 s) |
| Residual ripple, breaking spikes | < 40 mV _{pp} @25 °C |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 10 A @ 60 °C |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 91% |
| Mains failure bridge-over time | 10ms |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 43 / 130 mm |
| Net weight | 1000 g |
| Approvals | ABS; BURVER; DNVGL; LLOYDSREG; RINA; TUEV; CE |

| Connection data | |
|---------------------------------------|---------------------------|
| Connection system | PUSH IN with actuator |
| Number of terminals | 2 for (+, -) |
| Wire cross-section, rigid min/max | 0.5 / 1.5 mm ² |
| Wire cross-section, flexible min/max | 0.5 / 2.5 mm ² |
| Wire cross-section, AWG/kcmil min/max | 20 / 12 |
| Note | |

| Input | Output |
|-----------------------|-----------------------|
| PUSH IN with actuator | PUSH IN with actuator |
| 2 for (+, -) | 4 (++, -) |
| 0.5 / 1.5 | 0.2 / 2.5 |
| 0.5 / 2.5 | 0.2 / 2.5 |
| 20 / 12 | 26 / 12 |

| Input | Output |
|-----------------------|-----------------------|
| PUSH IN with actuator | PUSH IN with actuator |
| 2 for (+, -) | 4 (++, -) |
| 0.5 / 1.5 | 0.2 / 2.5 |
| 0.5 / 2.5 | 0.2 / 2.5 |
| 20 / 12 | 26 / 12 |

Ordering data

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO TOPDC 24V/24V 5A | 1 | 2627650000 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO TOPDC 24V/24V 5A | 1 | 2627650000 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO TOPDC 24V/24V 10A | 1 | 2627640000 |

Note
Current technical data at catalog.weidmuller.com

Note
Current technical data at catalog.weidmuller.com

Note
Current technical data at catalog.weidmuller.com

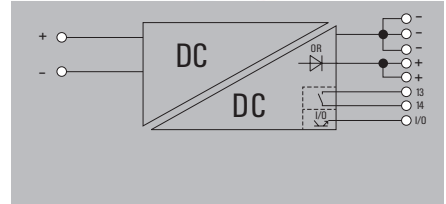
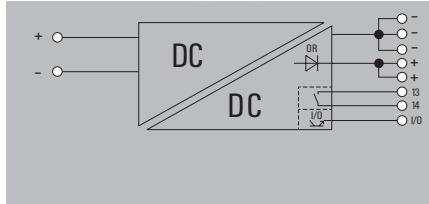
connectPower PROtop DCDC

connectPower PROtop DCDC

- DC/DC converter

PRO TOPDC 24V/24V 20A

PRO TOPDC 24V/48V 10A



Technical data

| Input | |
|---|--|
| Rated input voltage | 24 V DC |
| Input current | 22A @ 24V / 30A @ 18V |
| DC input voltage range | 14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V) |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 500 % (15 ms); 200 % (5 s) |
| Residual ripple, breaking spikes | < 40 mV _{pp} @25 °C |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 20 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 91% |
| Mains failure bridge-over time | 10ms |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 75 / 130 mm |
| Net weight | 2030 g |
| Approvals | |
| Approvals | ABS; DNVLG; LLOYDSREG; TUEV; CE |

| Input | |
|---|--|
| Rated input voltage | 24 V DC |
| Input current | 22A @ 24V / 30A @ 18V |
| DC input voltage range | 14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V) |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 500 % (15 ms); 200 % (5 s) |
| Residual ripple, breaking spikes | < 40 mV _{pp} @25 °C |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 91% |
| Mains failure bridge-over time | 10ms |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 75 / 130 mm |
| Net weight | 2020 g |
| Approvals | |
| Approvals | TUEV; CE |

| Input | |
|---|--|
| Rated input voltage | 24 V DC |
| Input current | 22A @ 24V / 30A @ 18V |
| DC input voltage range | 14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V) |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 45...56 V |
| DCL - peak load reserve | 500 % (15 ms); 200 % (5 s) |
| Residual ripple, breaking spikes | < 40 mV _{pp} @25 °C |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 10 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | No |
| Degree of efficiency | 91% |
| Mains failure bridge-over time | 10ms |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 75 / 130 mm |
| Net weight | 2020 g |
| Approvals | |
| Approvals | TUEV; CE |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | PUSH IN with actuator |
| Number of terminals | 2 for (+, -) |
| Wire cross-section, rigid min/max | 0.2 / 10 mm ² |
| Wire cross-section, flexible min/max | 0.2 / 6 mm ² |
| Wire cross-section, AWG/kcmil min/max | 20 / 8 |
| Note | |

| Input | Output |
|-----------------------|-----------------------|
| PUSH IN with actuator | PUSH IN with actuator |
| 2 for (+, -) | 5 (+ + / - -) |
| 0.2 / 10 | 0.2 / 10 |
| 0.2 / 6 | 0.2 / 6 |
| 20 / 8 | 20 / 8 |

| Input | Output |
|-----------------------|-----------------------|
| PUSH IN with actuator | PUSH IN with actuator |
| 2 for (+, -) | 5 (+ + / - -) |
| 0.2 / 10 | 0.2 / 10 |
| 0.2 / 6 | 0.2 / 6 |
| 20 / 8 | 20 / 8 |

Ordering data

| Type | Qty. | Order No. |
|---|------|------------|
| PRO TOPDC 24V/24V 20A | 1 | 2627630000 |
| Note | | |
| Current technical data at catalog.weidmueller.com | | |

| Type | Qty. | Order No. |
|---|------|------------|
| PRO TOPDC 24V/48V 10A | 1 | 2627660000 |
| Note | | |
| Current technical data at catalog.weidmueller.com | | |

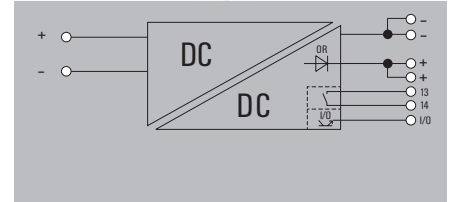
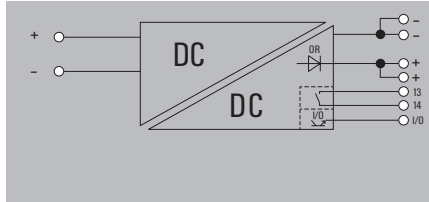
| Type | Qty. | Order No. |
|---|------|------------|
| PRO TOPDC 24V/48V 10A | 1 | 2627660000 |
| Note | | |
| Current technical data at catalog.weidmueller.com | | |

connectPower PROtop DCDC

- DC/DC converter

PRO TOPDC 24V/24V 5A EX

PRO TOPDC 24V/24V 10A EX



Technical data

| Input | |
|---|--|
| Rated input voltage | 24 V DC |
| Input current | 5.7A @ 24V / 7.6A @ 18V |
| DC input voltage range | 14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V) |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 600 % (15 ms); 200 % (5 s) |
| Residual ripple, breaking spikes | < 40 mV _{pp} @25 °C |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 5 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 89% |
| Mains failure bridge-over time | 10ms |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 35 / 130 mm |
| Net weight | 800 g |
| Approvals | |
| Approvals | DNVGL; LLOYDSREG; RINA; TUEV; CE |

| | |
|---|--|
| Rated input voltage | 24 V DC |
| Input current | 5.7A @ 24V / 7.6A @ 18V |
| DC input voltage range | 14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V) |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 600 % (15 ms); 200 % (5 s) |
| Residual ripple, breaking spikes | < 40 mV _{pp} @25 °C |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 5 A @ 60 °C |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 89% |
| Mains failure bridge-over time | 10ms |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 35 / 130 mm |
| Net weight | 800 g |
| Approvals | DNVGL; LLOYDSREG; RINA; TUEV; CE |

| | |
|---|--|
| Rated input voltage | 24 V DC |
| Input current | 11A @ 24V / 15A @ 18V |
| DC input voltage range | 14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V) |
| Input fuse (internal) / Inrush current | Yes / Max. 10 A |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 600 % (15 ms); 200 % (5 s) |
| Residual ripple, breaking spikes | < 40 mV _{pp} @25 °C |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 10 A @ 60 °C |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 91% |
| Mains failure bridge-over time | 10ms |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 43 / 130 mm |
| Net weight | 1000 g |
| Approvals | DNVGL; LLOYDSREG; RINA; TUEV; CE |

| Connection data | |
|---------------------------------------|-------------------------|
| Connection system | Clamping yoke |
| Number of terminals | 2 for (+, -) |
| Wire cross-section, rigid min/max | 0.2 / 4 mm ² |
| Wire cross-section, flexible min/max | 0.2 / 4 mm ² |
| Wire cross-section, AWG/kcmil min/max | 30 / 12 |
| Note | |

| Input | Output |
|---------------|--------------------------|
| Clamping yoke | Clamping yoke connection |
| 2 for (+, -) | 4 (++ / -) |
| 0.2 / 4 | 0.2 / 4 |
| 0.2 / 4 | 0.2 / 4 |
| 30 / 12 | 30 / 12 |

| Input | Output |
|---------------|--------------------------|
| Clamping yoke | Clamping yoke connection |
| 2 for (+, -) | 4 (++ / -) |
| 0.2 / 4 | 0.2 / 4 |
| 0.2 / 4 | 0.2 / 4 |
| 30 / 12 | 30 / 12 |

Ordering data

| Type | Qty. | Order No. |
|---|------|------------|
| PRO TOPDC 24V/24V 5A EX | 1 | 2467290000 |
| Note | | |
| Current technical data at catalog.weidmueller.com | | |

| Type | Qty. | Order No. |
|---|------|------------|
| PRO TOPDC 24V/24V 10A EX | 1 | 2467300000 |
| Note | | |
| Current technical data at catalog.weidmueller.com | | |

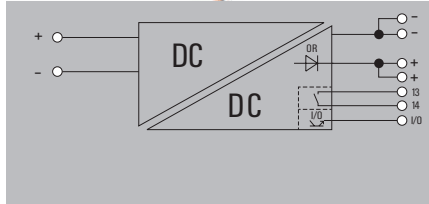
| Type | Qty. | Order No. |
|---|------|------------|
| PRO TOPDC 24V/24V 10A EX | 1 | 2467300000 |
| Note | | |
| Current technical data at catalog.weidmueller.com | | |

connectPower PROtop DCDC

connectPower PROtop DCDC

- DC/DC converter

PRO TOPDC 24V/24V 20A EX



Technical data

| Input | |
|---|--|
| Rated input voltage | 24 V DC |
| Input current | 22A @ 24V / 30A @ 18V |
| DC input voltage range | 14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V) |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 500 % (15 ms); 200 % (5 s) |
| Residual ripple, breaking spikes | < 40 mV _{pp} @25 °C |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 20 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 91% |
| Mains failure bridge-over time | 10ms |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 75 / 130 mm |
| Net weight | 2030 g |
| Approvals | |
| Approvals | TUEV, CE |

| Input | | Output | |
|---------------------------------------|--------------|---------------------------------------|------------|
| Clamping yoke | 2 for (+, -) | Clamping yoke connection | 4 (++ / -) |
| Wire cross-section, rigid min/max | 0.18 / 6 | Wire cross-section, rigid min/max | 0.2 / 6 |
| Wire cross-section, flexible min/max | 0.22 / 4 | Wire cross-section, flexible min/max | 0.5 / 6 |
| Wire cross-section, AWG/kcmil min/max | 26 / 10 | Wire cross-section, AWG/kcmil min/max | 24 / 8 |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | Clamping yoke connection |
| Number of terminals | 4 (++ / -) |
| Wire cross-section, rigid min/max | 0.2 / 6 |
| Wire cross-section, flexible min/max | 0.5 / 6 |
| Wire cross-section, AWG/kcmil min/max | 24 / 8 |
| Note | |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | Clamping yoke connection |
| Number of terminals | 4 (++ / -) |
| Wire cross-section, rigid min/max | 0.2 / 6 |
| Wire cross-section, flexible min/max | 0.5 / 6 |
| Wire cross-section, AWG/kcmil min/max | 24 / 8 |
| Note | |

Ordering data

| Type | Qty. | Order No. |
|--|------|------------|
| PRO TOPDC 24V/24V 20A EX | 1 | 2467310000 |
| Note | | |
| Current technical data at catalog.weidmueller.com | | |

| Type | Qty. | Order No. |
|--|------|------------|
| PRO TOPDC 24V/24V 20A EX | 1 | 2467310000 |
| Note | | |
| Current technical data at catalog.weidmueller.com | | |

PROtop UW power supplies with ultra wide input voltage range

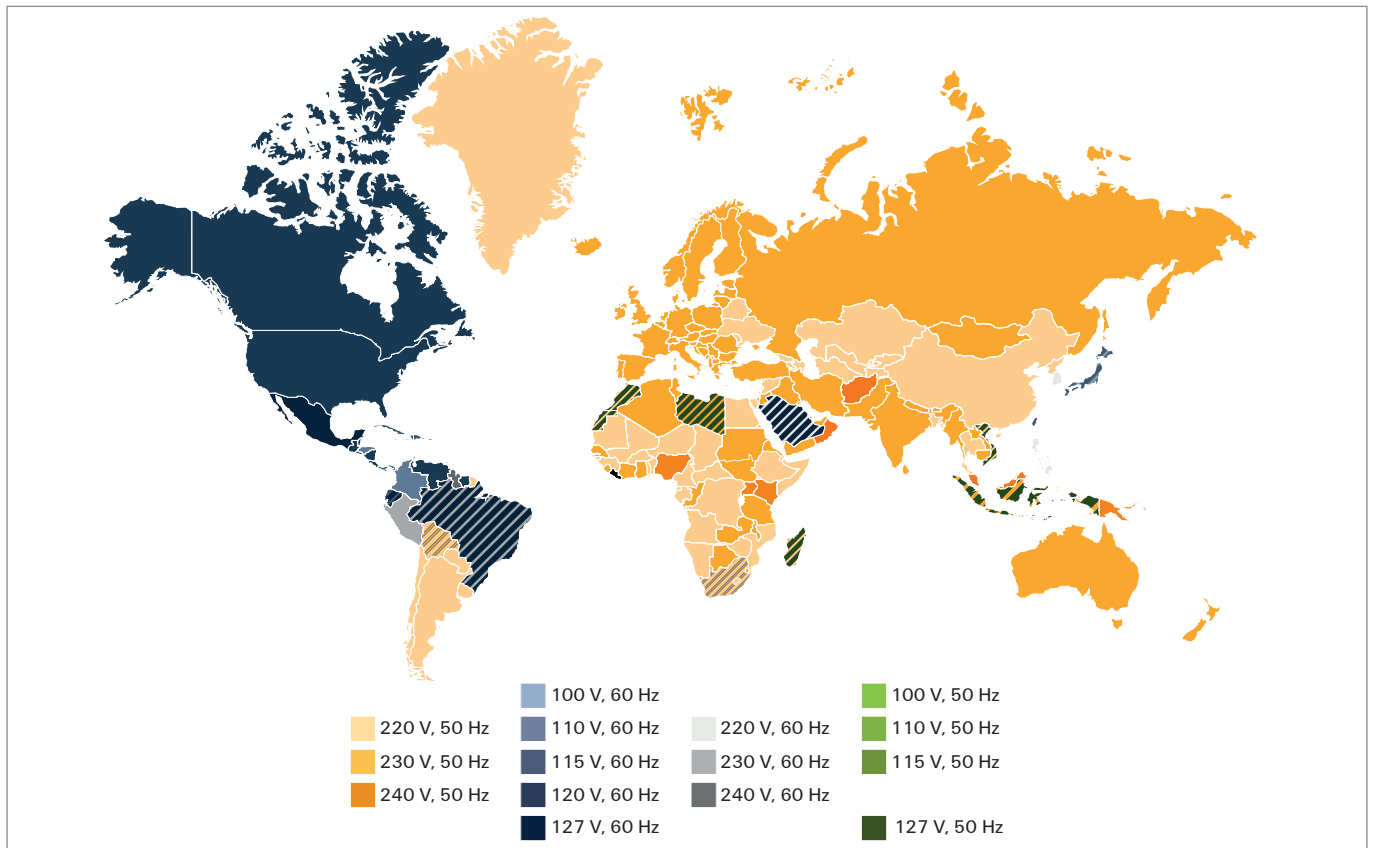
Use only one device for all the mains voltages

An increasing number of machines are being used worldwide. PROtop UW power supply units can be operated on all mains voltages in the world – both on single- and three-phase mains and DC supply networks. The units allow direct parallel connection for redundancy or power increase.

The fully electronic input circuit of our UW power supplies with an ultra-wide input voltage range of 85 – 550 V AC or 90 – 800 V DC allows operation on all supply networks in the world. Device classes up to 240 W ensure the basic supply of small to medium control systems. The integrated ORing MOSFETs of the PROtop family allow direct parallel connection to increase performance as well as the design of redundant power supply systems.

Your special advantages:

- Ultra-wide input voltage range for operation in supply networks worldwide
- Integrated ORing MOSFETs for direct parallel connection for redundancy purposes or to increase power
- DCL technology for high peak current reserves for fuse tripping or motor starts
- Communication interface for data transparency and remote control



Countries with a cross-hatched colour pattern have different supply voltages between the colour-coded voltage supplies.



Operation on all networks worldwide

The fully electronic input stage of the UW power supply units enables continuous operation on single- and three-phase mains supplies of 85 – 550 V AC as well as operation on DC mains supplies of 90 – 800 V DC.



Direct parallel connection

The integrated ORing MOSFETs enable direct parallel connection for power increase or redundancy without any diode modules.



Fit for the future thanks to IO-LINK

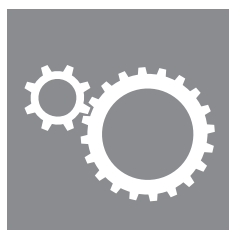
The optional communication modules, which can be retrofitted at any time, ensure data transparency, allow automated parameterization, and enable remote control.



Peak current reserves thanks to DCL

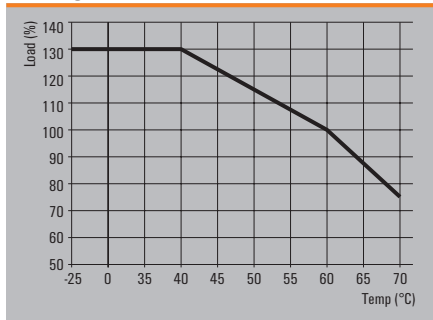
High peak current reserves of up to 600 % nominal current reliably trigger miniature circuit breakers. In addition, the dynamic current limitation DCL enables high peak currents for powerful motor starts.

Optimal for:



connectPower PROtop UW**connectPower PROtop2 UW**

- DCL technology for an excellent dynamic range
- High energy efficiency
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 15 years, MTBF > 1 000 000 h.
- Extremely slim design

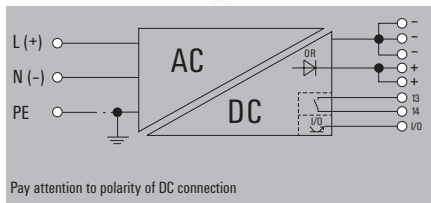
**Derating curve****Technical data**

| General data | |
|---|---|
| Insulation voltage input / earth | 3.2 kV |
| Insulation voltage output / earth | 0.5 kV |
| Insulation voltage, input/output | 3.5 kV |
| Earth leakage current, max. | 3.5 mA |
| Series switching capability | Yes |
| Ambient temperature (operational) / Storage temperature | -40 °C...75 °C / -40 °C...85 °C |
| Humidity at operating temperature | 5...100 % no condensation |
| Protection class / Pollution degree | I, with PE connection / 2 |
| MTBF | > 1.000.000 h according IEC 1709 (SN29500) |
| Housing version | Metal, corrosion resistant |
| Mounting position, installation notice | Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load |
| Conformal coating | Yes |
| EMC / shock / vibration | |
| Interference immunity test acc. to | EN 55032:2015, EN 61000-3-2:2019, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011, EN 61000-3-3:2013+A1:2019, EN 55035:2017, EN 61000-6-1:2019, EN 61000-6-2:2019, IEC 61000-4-2:2008, IEC 61000-4-3:2006+A1:2007+A2:2010, IEC 61000-4-4:2012, IEC 61000-4-5:2014, IEC 61000-4-6:2013, IEC 61000-4-8:2009, IEC 61000-4-11:2004 |
| Shock | 30 g in all directions |
| Resistance to vibration | 2.3 g (on DIN rail), 4 g (with direct mounting) |
| Electrical safety (applied standards) | |
| Electrical machine equipment | Acc. to EN60335-1 |
| Safety transformers for switch-mode power supplies | According to EN 61558-2-17 |
| Safety extra-low voltage | SELV according to EN 62368-1, PELV according to EN 60204-1 |
| Protective separation / protection against electrical shock | VDE0100-410 / acc. to DIN57100-410 |
| Protection against dangerous shock currents | Acc. to VDE0106-101 |

connectPower PROtop2 UW

- 1-phase power supplies with wide voltage input

PRO TOP2 120W 24V 5A UW EX



Technical data

| Input | |
|---|---|
| Rated input voltage | 100 - 500 V AC / 120 - 500 V DC |
| Input voltage range AC | 85...550 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 90...800 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 5 A |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 600 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 5 A @ 60 °C |
| General data | |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 89% |
| Power factor (approx.) | > 0.8 @ 230 V AC, > 0.6 @ 400 V AC |
| Mains failure bridge-over time, min. [In-Block] | 20ms |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 39 / 130 mm |
| Net weight | 920 g |
| Approvals | |
| Approvals | TUEV, CE |

| | |
|---|---|
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...28.8 V |
| DCL - peak load reserve | 600 % (15 ms) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Reserve capacity @ U _{Nominal} | 130% permanent at ≤ 40°C, 150 % (5 s) |
| Nominal output current for U _{nom} | 5 A @ 60 °C |
| Derating | > 60°C (2.5% / 1°C) |
| Series switching capability | Yes |
| Degree of efficiency | 89% |
| Power factor (approx.) | > 0.8 @ 230 V AC, > 0.6 @ 400 V AC |
| Mains failure bridge-over time, min. [In-Block] | 20ms |
| LED green/red | Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error |
| Parallel connection option | yes, max 10 |
| Depth x width x height | 125 / 39 / 130 mm |
| Net weight | 920 g |
| Approvals | TUEV, CE |

| Connection data | |
|---------------------------------------|-------------------------|
| Connection system | Clamping yoke |
| Number of terminals | 3 for L/N/PE |
| Wire cross-section, rigid min/max | 0.2 / 4 mm ² |
| Wire cross-section, flexible min/max | 0.2 / 4 mm ² |
| Wire cross-section, AWG/kcmil min/max | 30 / 12 |
| Note | |

| Input | Output |
|---------------|--------------------------|
| Clamping yoke | Clamping yoke connection |
| 3 for L/N/PE | 4 (++ / -) |
| 0.2 / 4 | 0.2 / 4 |
| 0.2 / 4 | 0.2 / 4 |
| 30 / 12 | 30 / 12 |

Ordering data

| Type | Qty. | Order No. |
|--|------|------------|
| PRO TOP2 120W 24V 5A UW EX | 1 | 2467240000 |
| Note | | |
| Current technical data at catalog.weidmuller.com | | |

| Type | Qty. | Order No. |
|--|------|------------|
| PRO TOP2 120W 24V 5A UW EX | 1 | 2467240000 |
| Note | | |
| Current technical data at catalog.weidmuller.com | | |

connectPower PROtop - Accessories

Small metal foot



| Type | Order No. |
|-----------|------------|
| MTA 30 MF | 1251320000 |

Large metal foot



| Type | Order No. |
|-----------|------------|
| MTA 45 MF | 1251310000 |

Small plastic foot



| Type | Order No. |
|-----------|------------|
| MTA 30 BK | 1168970000 |

Large plastic foot



| Type | Order No. |
|-----------|------------|
| MTA 45 BK | 1962250000 |

Small wall mounting



| Type | Order No. |
|------------------------|------------|
| CP A WALLADAPTER 30 MM | 1461870000 |

Large wall mounting



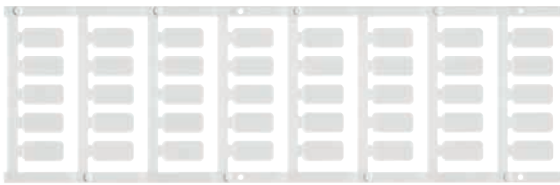
| Type | Order No. |
|------------------------|------------|
| CP A WALLADAPTER 45 MM | 1461850000 |

Small screwdriver



| Type | Size/AF | a | b | c | Order No. |
|------------------|---------|-----|---|-----|------------|
| SDIK PH 1 X 80 | | | | 80 | 2749890000 |
| SDIS 0.5X3.0X100 | | 0,5 | 3 | 100 | 2749800000 |

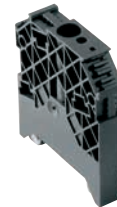
Markers



| Type | Colour | Qty. | Order No. |
|----------------------|--------|------|------------|
| SM 18/9.5 K MC NE WS | white | 200 | 1248580000 |

End bracket

For DIN rail TS 35



| Polyamide with fibre glass, screwable | Colour | Torque | Qty. | Order No. |
|---------------------------------------|--------|--------|------|------------|
| WEW 35/1 SW | black | 1.2 Nm | 50 | 1162600000 |

Powerful power supply for machines and systems

PROmax offers flexible solutions for ambitious automation

A Power supplies for large systems and machines are particularly challenging. Failures caused by device defects impact the entire production line and can result in high costs.

Our high performance and durable PROmax switched-mode power supply units are designed for demanding requirements. Continuous overload of up to 120 % or transient peak loads of 300 % are easy for PROmax to handle.

High boost capability and full power are also enabled over a wide temperature range. Our switched-mode power supply units can be used around the world and are also suitable for tight spaces thanks to their narrow width.

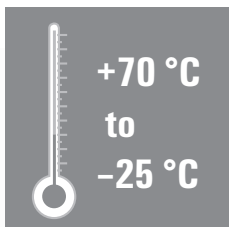


High boost capability for all industrial systems

Whether in large machines and plants, in power engineering or even in light process systems: Thanks to their high boost capability, the space-saving housing geometries, the wide temperature range and the numerous approvals, our PROmax switched-mode power supply units can be used for universal applications and anywhere in the world.

Robust and reliable supply

MTBF values exceeding 500,000 hours and a wide temperature range of -25 °C to +70 °C ensure reliable supply of the systems. Start-up temperatures of -40 °C make the PROmax particularly robust.



Space-saving width

With extremely small width and direct side-by-side fitting, minimal space is required on the DIN rail.



Universal application

Variants with 3 A to 40 A output current, output voltages of 5 V DC to 48 V DC and numerous approvals (e.g. GL, UL, Class I, Div. 2) enable universal application solutions the world over.



Powerful

Continuous output power of up to 120 % at temperatures up to +45 °C and high output peaks up to 300 % ensure safe operation, also at the limits.

Robust Input

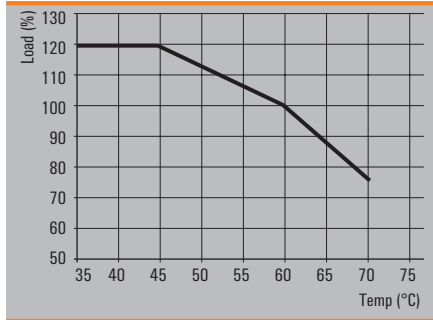
With an AC input voltage range of up to 277 V in single-phase devices and SEMI F47, PROmax is extremely robust.

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Derating curve



Permitted continuous limit currents [A]

| Typ \ Temp. | 45 °C | 50 °C | 55 °C | 60 °C | 65 °C | 70 °C |
|------------------|-------|-------|-------|-------|-------|-------|
| 1ph 24 V / 3 A | 3,6 | 3,3 | 3,2 | 3 | 2,6 | 2,2 |
| 1ph 24 V / 5 A | 6 | 5,7 | 5,4 | 5 | 4,4 | 3,8 |
| 1ph 24 V / 7,5 A | 9 | 8,5 | 8 | 7,5 | 6,6 | 5,6 |
| 1ph 24 V / 10 A | 12 | 11,3 | 10,7 | 10 | 8,8 | 7,5 |
| 1ph 24 V / 20 A | 24 | 22,6 | 21,4 | 20 | 17,6 | 15 |
| 1ph 24 V / 40 A | 48 | 45,2 | 42,8 | 40 | 35,2 | 30 |
| 1ph 5 V / 14 A | 16,8 | 15,8 | 15 | 14 | 12,3 | 10,5 |
| 1ph 12 V / 6 A | 7,2 | 6,8 | 6,4 | 6 | 5,3 | 4,5 |
| 1ph 12 V / 10 A | 12 | 11,3 | 10,7 | 10 | 8,8 | 7,5 |
| 1ph 48 V / 5 A | 6 | 5,7 | 5,4 | 5 | 4,4 | 3,8 |
| 1ph 48 V / 10 A | 12 | 11,3 | 10,7 | 10 | 8,8 | 7,5 |
| 1ph 48 V / 20 A | 24 | 22,6 | 21,4 | 20 | 17,6 | 15 |
| 3ph 24 V / 5 A | 6 | 5,7 | 5,4 | 5 | 4,4 | 3,8 |
| 3ph 24 V / 10 A | 12 | 11,3 | 10,7 | 10 | 8,8 | 7,5 |
| 3ph 24 V / 20 A | 24 | 22,6 | 21,4 | 20 | 17,6 | 15 |
| 3ph 24 V / 40 A | 48 | 45,2 | 42,8 | 40 | 35,2 | 30 |

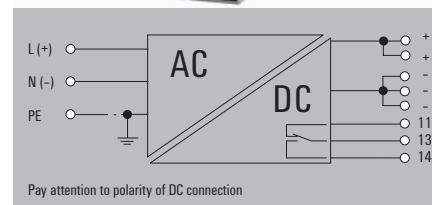
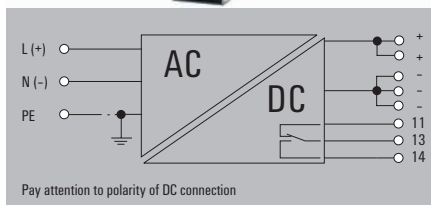
Technical data

| General data | |
|--|---|
| Current limiting | > 120% I _n |
| Insulation voltage input / earth | 3.5 kV |
| Insulation voltage output / earth | 0.5 kV |
| Insulation voltage, input/output | 4 kV |
| Earth leakage current, max. | 3.5 mA |
| Series switching capability | Yes |
| Ambient temperature (operational) / Storage temperature / Start-up | -25 °C...70 °C / -40 °C...85 °C / ≥ -40 °C |
| Humidity at operating temperature | 5...95 %, no condensation |
| Protection class / Pollution degree | I, with PE connection / 2 |
| MTBF | >500.000h (25°C, IEC 61709 (SN29500)) |
| Housing version | Metal, corrosion resistant |
| Status indication | LED red/green and relay (≥21.6 V DC LED green, relay on/ ≤20.6 LED red, relay off) |
| Mounting position, installation notice | Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between. |
| EMC / shock / vibration | |
| Interference immunity test acc. to | EN 55024, EN 55032, IEC61000-3-2,-3, IEC61000-4-2,-3,-4,-5,-6,-8,-11 |
| Shock | 30 g in all directions |
| Resistance to vibration | 2.3 g |
| Electrical safety (applied standards) | |
| Electrical machine equipment | Acc. to EN60204 |
| Safety transformers for switch-mode power supplies | According to EN 61558-2-16 |
| For use with electronic equipment | Acc. to EN50178 / VDE0160 |
| Protective separation / protection against electrical shock | VDE0100-410 / acc. to DIN57100-410 |
| Protection against dangerous shock currents | Acc. to VDE0106-101 |

connectPower PROmax

PRO MAX 72W 24V 3A

PRO MAX 120W 24V 5A



Technical data

| Input |
|--|
| Rated input voltage |
| Input voltage range AC |
| Frequency range AC |
| DC input voltage range |
| AC current consumption |
| DC current consumption |
| Input fuse (internal) / Inrush current |
| Recommended back-up fuse |

| |
|--|
| 100...240 V AC (wide-range input) |
| 85...277 V AC |
| 45...65 Hz |
| 80...370 V DC |
| 1 A @ 230 V AC / 1.5 A @ 115 V AC |
| 1A @ 370 VDC / 1,5A @ 120 VDC |
| Yes / max. 15 A |
| 6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker |

| |
|---|
| 100...240 V AC (wide-range input) |
| 85...277 V AC |
| 45...65 Hz |
| 80...370 V DC |
| 1A @ 230 VAC / 2,5A @ 115 VAC |
| 1,5A @ 370 VDC / 2,5A @ 120 VDC |
| Yes / max. 15 A |
| 6 A, Char. B, circuit breaker, 6 A, char. C circuit breaker |

| Output |
|---|
| Rated output voltage |
| Output voltage |
| Residual ripple, breaking spikes |
| Nominal output current for U_{nom} |
| Continuous output current @ $U_{Nominal}$ |
| Reserve capacity @ $U_{Nominal}$ |
| Current capacity (pulse) @ $U_{Nominal}$ |

| |
|--|
| 24 V DC \pm 1 % |
| 22.5...29.5 V (adjustable via potentiometer) |
| < 50 mVss @ U_{Nemo} , Full Load |
| 3 A @ 60 °C |
| 3,6 A @ 45°C, 2,25 A @ 70°C |
| 3,6 A (1 min), 4,5 A (4s) |
| 9 A (2ms) |

| |
|--|
| 24 V DC \pm 1 % |
| 22.5...29.5 V (adjustable via potentiometer) |
| < 50 mVss @ U_{Nemo} , Full Load |
| 5 A @ 60 °C |
| 6.0 A @ 45 °C, 3,75 A @ 70 °C |
| 6 A (1 min), 7.5 A (4s) |
| 15 A (2ms) |

| General data |
|---|
| Degree of efficiency |
| Power factor (approx.) |
| AC failure bridging time @ I_{nom} |
| Protection against reverse voltages from the load |
| Parallel connection option |
| Depth x width x height |
| Net weight |

| |
|-------------------|
| 89% |
| > 0.90 @ 230 V AC |
| min. 20 ms |
| 30...35 V DC |
| yes, max. 5 |
| 125 / 32 / 130 mm |
| 650 g |

| |
|-------------------|
| 89% |
| > 0.90 @ 230 V AC |
| min. 20 ms |
| 30...35 V DC |
| yes, max. 5 |
| 125 / 40 / 130 mm |
| 858 g |

| Approvals |
|-----------|
| Approvals |

| |
|--|
| CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV |
|--|

| |
|--|
| CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV |
|--|

| Connection data |
|---------------------------------------|
| Connection system |
| Number of terminals |
| Wire cross-section, rigid min/max |
| Wire cross-section, flexible min/max |
| Wire cross-section, AWG/kcmil min/max |

| Input | Output |
|------------------|-------------------|
| Screw connection | Screw connection |
| 3 for L/N/PE | 8 (++,-,11,13,14) |
| 0.18 / 6 | 0.5 / 6 |
| 0.22 / 4 | 0.5 / 4 |
| 26 / 10 | 26 / 12 |

| Input | Output |
|------------------|-------------------|
| Screw connection | Screw connection |
| 3 for L/N/PE | 8 (++,-,11,13,14) |
| 0.18 / 6 | 0.5 / 6 |
| 0.22 / 4 | 0.5 / 4 |
| 26 / 10 | 26 / 12 |

| Note |
|------|
| |

Ordering data

| Type | Qty. | Order No. |
|--------------------|------|-----------|
| PRO MAX 72W 24V 3A | 1 | 147810000 |

| Type | Qty. | Order No. |
|--------------------|------|-----------|
| PRO MAX 72W 24V 3A | 1 | 147810000 |

| Type | Qty. | Order No. |
|---------------------|------|-----------|
| PRO MAX 120W 24V 5A | 1 | 147811000 |

| Note |
|------|
| |

| |
|---|
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. |
|---|

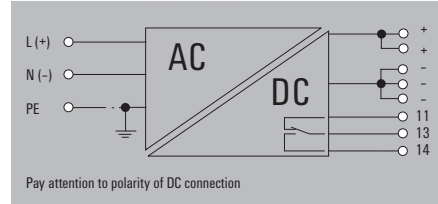
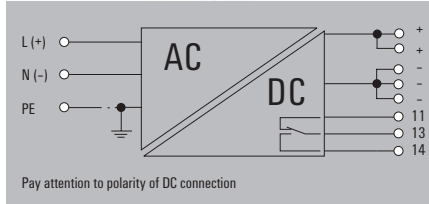
| |
|---|
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. |
|---|

connectPower PROmax

connectPower PROmax

PRO MAX 180W 24V 7,5A

PRO MAX 240W 24V 10A



Technical data

| Input | |
|---|---|
| Rated input voltage | 100...240 V AC (wide-range input) |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 1 A @ 230 V AC / 2 A @ 115 V AC |
| DC current consumption | 1A @ 370 VDC / 2A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...29.5 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{Nom} | 7,5 A @ 60 °C |
| Continuous output current @ U _{Nominal} | 9 A @ 45°C, 5,6 A @ 70°C |
| Reserve capacity @ U _{Nominal} | 9 A (1 min), 11.25 A (4s) |
| Current capacity (pulse) @ U _{Nominal} | 22,5 A (2ms) |
| General data | |
| Degree of efficiency | 91.5% |
| Power factor (approx.) | > 0.95 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | 30...35 V DC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height | 125 / 50 / 130 mm |
| Net weight | 950 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV |

| Input | | Output | |
|------------------|-------------------|--------|--|
| Screw connection | Screw connection | | |
| 3 for L/N/PE | 8 (++,-,11,13,14) | | |
| 0.18 / 6 | 0.5 / 6 | | |
| 0.22 / 4 | 0.5 / 4 | | |
| 26 / 10 | 26 / 12 | | |

| Input | | Output | |
|------------------|-------------------|--------|--|
| Screw connection | Screw connection | | |
| 3 for L/N/PE | 8 (++,-,11,13,14) | | |
| 0.18 / 6 | 0.18 / 6 | | |
| 0.22 / 4 | 0.22 / 4 | | |
| 26 / 10 | 26 / 10 | | |

| Connection data | |
|---------------------------------------|-----------------|
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| Input | | Output | |
|------------------|-------------------|--------|--|
| Screw connection | Screw connection | | |
| 3 for L/N/PE | 8 (++,-,11,13,14) | | |
| 0.18 / 6 | 0.5 / 6 | | |
| 0.22 / 4 | 0.5 / 4 | | |
| 26 / 10 | 26 / 12 | | |

| Input | | Output | |
|------------------|-------------------|--------|--|
| Screw connection | Screw connection | | |
| 3 for L/N/PE | 8 (++,-,11,13,14) | | |
| 0.18 / 6 | 0.18 / 6 | | |
| 0.22 / 4 | 0.22 / 4 | | |
| 26 / 10 | 26 / 10 | | |

Ordering data

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO MAX 180W 24V 7,5A | 1 | 1478120000 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO MAX 180W 24V 7,5A | 1 | 1478120000 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO MAX 240W 24V 10A | 1 | 1478130000 |

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

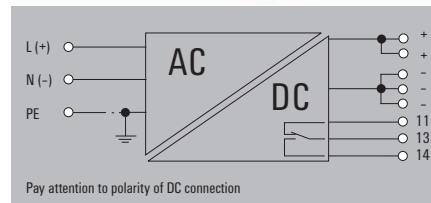
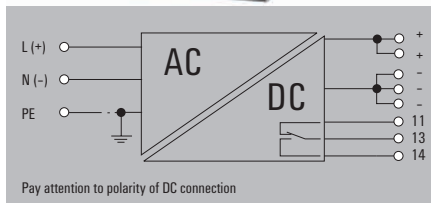
Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

connectPower PROmax

PRO MAX 480W 24V 20A

PRO MAX 960W 24V 40A



Technical data

| Input | |
|---|--|
| Rated input voltage | 100...240 V AC (wide-range input) |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 2,3A @ 230 VAC / 4,8A @ 115 VAC |
| DC current consumption | 1,5A @ 370 VDC / 4,8A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 16 A, char. B circuit breaker, 10 A, Char. C circuit breaker |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...29.5 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{Nom} | 20 A @ 60 °C |
| Continuous output current @ U _{Nominal} | 24 A @ 45°C, 15 A @ 70°C |
| Reserve capacity @ U _{Nominal} | 24 A (1 min), 30 A (4s), 100...240 V AC |
| Current capacity (pulse) @ U _{Nominal} | 60 A (2ms) |
| General data | |
| Degree of efficiency | 92 % |
| Power factor (approx.) | > 0.95 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | 30...35 V DC |
| Parallel connection option | yes, max. 3 |
| Depth x width x height | 150 / 90 / 130 mm |
| Net weight | 2000 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV |

| Input | |
|---|---|
| Rated input voltage | 100...240 V AC (wide-range input) |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 4,52A @ 230 VAC / 10A @ 115 VAC |
| DC current consumption | 2,8A @ 370 VDC / 10A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 20 A, char. B circuit breaker, 16 A, char. C, circuit breaker |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...29.5 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{Nom} | 40 A @ 60 °C |
| Continuous output current @ U _{Nominal} | 48 A @ 45°C, 30 A @ 70°C |
| Reserve capacity @ U _{Nominal} | 48 A (1 min), 60 A (4s), 100...240 V AC |
| Current capacity (pulse) @ U _{Nominal} | 120 A (2ms) |
| General data | |
| Degree of efficiency | 93% |
| Power factor (approx.) | > 0.95 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | 30...35 V DC |
| Parallel connection option | yes, max. 3 |
| Depth x width x height | 150 / 140 / 130 mm |
| Net weight | 3900 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV |

| Input | |
|---|--|
| Rated input voltage | 100...240 V AC (wide-range input) |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 2,3A @ 230 VAC / 4,8A @ 115 VAC |
| DC current consumption | 1,5A @ 370 VDC / 4,8A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 16 A, char. B circuit breaker, 10 A, Char. C circuit breaker |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...29.5 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{Nom} | 20 A @ 60 °C |
| Continuous output current @ U _{Nominal} | 24 A @ 45°C, 15 A @ 70°C |
| Reserve capacity @ U _{Nominal} | 24 A (1 min), 30 A (4s), 100...240 V AC |
| Current capacity (pulse) @ U _{Nominal} | 60 A (2ms) |
| General data | |
| Degree of efficiency | 92 % |
| Power factor (approx.) | > 0.95 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | 30...35 V DC |
| Parallel connection option | yes, max. 3 |
| Depth x width x height | 150 / 90 / 130 mm |
| Net weight | 2000 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | Screw connection |
| Number of terminals | 3 for L/N/PE |
| Wire cross-section, rigid min/max | 0.18 / 6 mm ² |
| Wire cross-section, flexible min/max | 0.22 / 4 mm ² |
| Wire cross-section, AWG/kcmil min/max | 26 / 10 |
| Note | |

| Input | Output |
|------------------|----------------------|
| Screw connection | Screw connection |
| 3 for L/N/PE | 8 (+, -, 11, 13, 14) |
| 0.18 / 6 | 0.18 / 6 |
| 0.22 / 4 | 0.22 / 4 |
| 26 / 10 | 26 / 10 |

| Input | Output |
|------------------|----------------------|
| Screw connection | Screw connection |
| 3 for L/N/PE | 8 (+, -, 11, 13, 14) |
| 0.18 / 6 | 0.5 / 16 |
| 0.22 / 4 | 0.5 / 16 |
| 26 / 10 | 22 / 8 |

Ordering data

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO MAX 480W 24V 20A | 1 | 1478140000 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO MAX 480W 24V 20A | 1 | 1478140000 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO MAX 960W 24V 40A | 1 | 1478150000 |

| Note |
|---|
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. |

| Note |
|---|
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. |

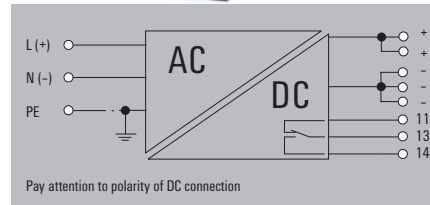
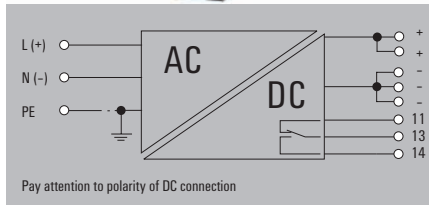
| Note |
|---|
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. |

connectPower PROmax

connectPower PROmax

PRO MAX 70W 5V 14A

PRO MAX 72W 12V 6A



Technical data

| Input | |
|--|--|
| Rated input voltage | 100...240 V AC (wide-range input) |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 1 A @ 230 V AC / 1.5 A @ 115 V AC |
| DC current consumption | 1A @ 370 VDC / 1,5A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker |

| | |
|--|--|
| Rated input voltage | 100...240 V AC (wide-range input) |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 1 A @ 230 V AC / 1.5 A @ 115 V AC |
| DC current consumption | 1A @ 370 VDC / 1,5A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker |

| | |
|--|--|
| Rated input voltage | 100...240 V AC (wide-range input) |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 1 A @ 230 V AC / 1.5 A @ 115 V AC |
| DC current consumption | 1A @ 370 VDC / 1,5A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker |

| Output | |
|--|--|
| Rated output voltage | 5 V DC |
| Output voltage | 4.5...7 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{Nom} | 14 A @ 60°C |
| Continuous output current @ U _{Nominal} | 16,8 A @ 45°C, 10,5 A @ 70°C |
| Reserve capacity @ U _{Nominal} | 16.8 A (1 min), 21 A (4s) |
| Current capacity (pulse) @ U _{Nominal} | 42 A (2ms) |

| | |
|--|--|
| Rated output voltage | 5 V DC |
| Output voltage | 4.5...7 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{Nom} | 14 A @ 60°C |
| Continuous output current @ U _{Nominal} | 16,8 A @ 45°C, 10,5 A @ 70°C |
| Reserve capacity @ U _{Nominal} | 16.8 A (1 min), 21 A (4s) |
| Current capacity (pulse) @ U _{Nominal} | 42 A (2ms) |

| | |
|--|--|
| Rated output voltage | 12 V DC ± 1 % |
| Output voltage | 10...15 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{Nom} | 6 A @ 60°C |
| Continuous output current @ U _{Nominal} | 7.2 A @ 45°C, 4.5 A @ 70°C |
| Reserve capacity @ U _{Nominal} | 7.2 A (1 min), 9 A (4s) |
| Current capacity (pulse) @ U _{Nominal} | 18 A (2ms) |

| General data | |
|---|-------------------|
| Degree of efficiency | 86% |
| Power factor (approx.) | > 0.90 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | > 7.5 V DC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height | 125 / 32 / 130 mm |
| Net weight | 650 g |

| | |
|---|-------------------|
| Degree of efficiency | 86% |
| Power factor (approx.) | > 0.90 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | > 7.5 V DC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height | 125 / 32 / 130 mm |
| Net weight | 650 g |

| | |
|---|-------------------|
| Degree of efficiency | 89% |
| Power factor (approx.) | > 0.90 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | > 18 V DC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height | 125 / 32 / 130 mm |
| Net weight | 650 g |

| Approvals | |
|-----------|--|
| Approvals | CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV |

| | |
|-----------|--|
| Approvals | CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV |
|-----------|--|

| | |
|-----------|--|
| Approvals | CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV |
|-----------|--|

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | Screw connection |
| Number of terminals | 3 for L/N/PE |
| Wire cross-section, rigid min/max | 0.18 / 6 mm ² |
| Wire cross-section, flexible min/max | 0.22 / 4 mm ² |
| Wire cross-section, AWG/kcmil min/max | 26 / 10 |

| Input | Output |
|------------------|----------------------|
| Screw connection | Screw connection |
| 3 for L/N/PE | 8 (+, -, 11, 13, 14) |
| 0.18 / 6 | 0.5 / 6 |
| 0.22 / 4 | 0.5 / 4 |
| 26 / 10 | 26 / 12 |

| Input | Output |
|------------------|----------------------|
| Screw connection | Screw connection |
| 3 for L/N/PE | 8 (+, -, 11, 13, 14) |
| 0.18 / 6 | 0.5 / 6 |
| 0.22 / 4 | 0.5 / 4 |
| 26 / 10 | 26 / 12 |

| Note |
|------|
| |

Ordering data

| Type | Qty. | Order No. |
|--------------------|------|------------|
| PRO MAX 70W 5V 14A | 1 | 1478210000 |

| Type | Qty. | Order No. |
|--------------------|------|------------|
| PRO MAX 70W 5V 14A | 1 | 1478210000 |

| Type | Qty. | Order No. |
|--------------------|------|------------|
| PRO MAX 72W 12V 6A | 1 | 1478220000 |

| Note |
|---|
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. |

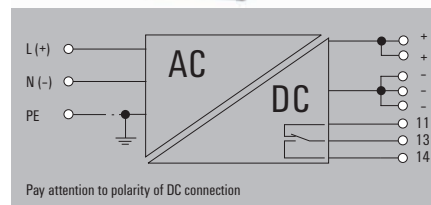
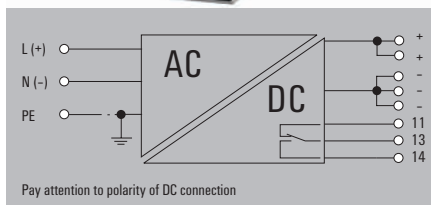
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|---|
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. |
|---|

| |
|---|
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. |
|---|

connectPower PROmax

PRO MAX 120W 12V 10A

PRO MAX 240W 48V 5A



Technical data

| Input | |
|---|---|
| Rated input voltage | 100...240 V AC (wide-range input) |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 1A @ 230 VAC / 2,5A @ 115 VAC |
| DC current consumption | 1,5A @ 370 VDC / 2,5A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 6 A, Char. B, circuit breaker, 6 A, char. C circuit breaker |
| Output | |
| Rated output voltage | 12 V DC ± 1 % |
| Output voltage | 10...15 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{nom} | 10 A @ 60 °C |
| Continuous output current @ U _{Nominal} | 12 A @ 45°C, 7,5 A @ 70°C |
| Reserve capacity @ U _{Nominal} | 12 A (1 min), 15 A (4s) |
| Current capacity (pulse) @ U _{Nominal} | 30 A (2ms) |
| General data | |
| Degree of efficiency | 89% |
| Power factor (approx.) | > 0.90 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | > 18 V DC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height | 125 / 40 / 130 mm |
| Net weight | 850 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV |

| Input | |
|---|---|
| Rated input voltage | 100...240 V AC (wide-range input) |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 1,5 A @ 230 V AC / 3 A @ 115 V AC |
| DC current consumption | 1,5 A @ 370 VDC / 3 A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 30...56 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{nom} | 5 A @ 60 °C |
| Continuous output current @ U _{Nominal} | 6.0 A @ 45 °C, 3.75 A @ 70 °C |
| Reserve capacity @ U _{Nominal} | 5 A (1 min), 7.5 A (4s) |
| Current capacity (pulse) @ U _{Nominal} | 15 A (2ms) |
| General data | |
| Degree of efficiency | 92.5% |
| Power factor (approx.) | > 0.95 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | 58...65 V DC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height | 125 / 60 / 130 mm |
| Net weight | 1050 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV |

| Input | |
|---|---|
| Rated input voltage | 100...240 V AC (wide-range input) |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 1,5 A @ 230 V AC / 3 A @ 115 V AC |
| DC current consumption | 1,5 A @ 370 VDC / 3 A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 30...56 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{nom} | 5 A @ 60 °C |
| Continuous output current @ U _{Nominal} | 6.0 A @ 45 °C, 3.75 A @ 70 °C |
| Reserve capacity @ U _{Nominal} | 5 A (1 min), 7.5 A (4s) |
| Current capacity (pulse) @ U _{Nominal} | 15 A (2ms) |
| General data | |
| Degree of efficiency | 92.5% |
| Power factor (approx.) | > 0.95 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | 58...65 V DC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height | 125 / 60 / 130 mm |
| Net weight | 1050 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | Screw connection |
| Number of terminals | 3 for L/N/PE |
| Wire cross-section, rigid min/max | 0.18 / 6 mm ² |
| Wire cross-section, flexible min/max | 0.22 / 4 mm ² |
| Wire cross-section, AWG/kcmil min/max | 26 / 10 |
| Note | |

| Input | Output |
|------------------|-------------------|
| Screw connection | Screw connection |
| 3 for L/N/PE | 8 (++,-,11,13,14) |
| 0.18 / 6 | 0.5 / 6 |
| 0.22 / 4 | 0.5 / 4 |
| 26 / 10 | 26 / 12 |

| Input | Output |
|------------------|-------------------|
| Screw connection | Screw connection |
| 3 for L/N/PE | 8 (++,-,11,13,14) |
| 0.18 / 6 | 0.18 / 6 |
| 0.22 / 4 | 0.22 / 4 |
| 26 / 10 | 26 / 10 |

Ordering data

| Type | Qty. | Order No. |
|---|------|------------|
| PRO MAX 120W 12V 10A | 1 | 1478230000 |
| Note | | |
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. | | |

| Type | Qty. | Order No. |
|---|------|------------|
| PRO MAX 240W 48V 5A | 1 | 1478240000 |
| Note | | |
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. | | |

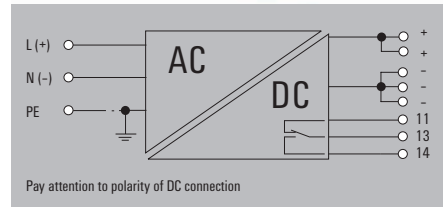
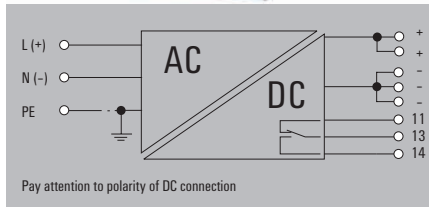
| Type | Qty. | Order No. |
|---|------|------------|
| PRO MAX 240W 48V 5A | 1 | 1478240000 |
| Note | | |
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. | | |

connectPower PROmax

connectPower PROmax

PRO MAX 480W 48V 10A

PRO MAX 960W 48V 20A



Technical data

| Input | |
|---|--|
| Rated input voltage | 100...240 V AC (wide-range input) |
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 2,3A @ 230 VAC / 4,8A @ 115 VAC |
| DC current consumption | 1,5A @ 370 VDC / 4,8A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 16 A, char. B circuit breaker, 10 A, Char. C circuit breaker |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 30...56 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{nom} | 10 A @ 60 °C |
| Continuous output current @ U _{Nominal} | 12 A @ 45°C, 7,5 A @ 70°C |
| Reserve capacity @ U _{Nominal} | 12 A (1 min), 15 A (4s), 100...240 V AC |
| Current capacity (pulse) @ U _{Nominal} | 60 A (2ms) |
| General data | |
| Degree of efficiency | 93% |
| Power factor (approx.) | > 0.95 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | 58...65 V DC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height | 150 / 90 / 130 mm |
| Net weight | 2000 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV |

| Rated input voltage | 100...240 V AC (wide-range input) |
|---|--|
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 2,3A @ 230 VAC / 4,8A @ 115 VAC |
| DC current consumption | 1,5A @ 370 VDC / 4,8A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 16 A, char. B circuit breaker, 10 A, Char. C circuit breaker |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 30...56 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{nom} | 10 A @ 60 °C |
| Continuous output current @ U _{Nominal} | 12 A @ 45°C, 7,5 A @ 70°C |
| Reserve capacity @ U _{Nominal} | 12 A (1 min), 15 A (4s), 100...240 V AC |
| Current capacity (pulse) @ U _{Nominal} | 60 A (2ms) |
| General data | |
| Degree of efficiency | 93% |
| Power factor (approx.) | > 0.95 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | 58...65 V DC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height | 150 / 90 / 130 mm |
| Net weight | 2000 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV |

| Rated input voltage | 100...240 V AC (wide-range input) |
|---|---|
| Input voltage range AC | 85...277 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 80...370 V DC |
| AC current consumption | 4,52A @ 230 VAC / 10A @ 115 VAC |
| DC current consumption | 2,8A @ 370 VDC / 10A @ 120 VDC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 20 A, char. B circuit breaker, 16 A, char. C, circuit breaker |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Output voltage | 30...56 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{nom} | 20 A @ 60 °C |
| Continuous output current @ U _{Nominal} | 24 A @ 45°C, 15 A @ 70°C |
| Reserve capacity @ U _{Nominal} | 24 A (1 min), 30 A (4s), 100...240 V AC |
| Current capacity (pulse) @ U _{Nominal} | 60 A (2ms) |
| General data | |
| Degree of efficiency | 94% |
| Power factor (approx.) | > 0.95 @ 230 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | 58...65 V DC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height | 150 / 140 / 130 mm |
| Net weight | 3950 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | Screw connection |
| Number of terminals | 3 for L/N/PE |
| Wire cross-section, rigid min/max | 0.18 / 6 mm ² |
| Wire cross-section, flexible min/max | 0.22 / 4 mm ² |
| Wire cross-section, AWG/kcmil min/max | 26 / 10 |
| Note | |

| Input | Output |
|------------------|------------------|
| Screw connection | Screw connection |
| 3 for L/N/PE | 8 (+,-,11,13,14) |
| 0.18 / 6 | 0.18 / 6 |
| 0.22 / 4 | 0.22 / 4 |
| 26 / 10 | 26 / 10 |

| Input | Output |
|------------------|------------------|
| Screw connection | Screw connection |
| 3 for L/N/PE | 8 (+,-,11,13,14) |
| 0.18 / 6 | 0.5 / 16 |
| 0.22 / 4 | 0.5 / 16 |
| 26 / 10 | 22 / 8 |

Ordering data

| Type | Qty. | Order No. |
|---|------|------------|
| PRO MAX 480W 48V 10A | 1 | 1478250000 |
| Note | | |
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. | | |

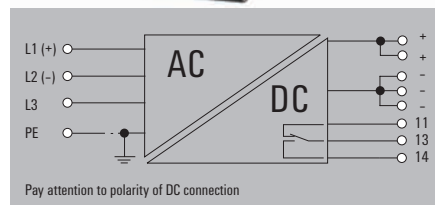
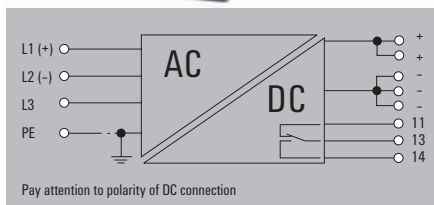
| Type | Qty. | Order No. |
|---|------|------------|
| PRO MAX 960W 48V 20A | 1 | 1478270000 |
| Note | | |
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. | | |

| Type | Qty. | Order No. |
|---|------|------------|
| PRO MAX 960W 48V 20A | 1 | 1478270000 |
| Note | | |
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. | | |

connectPower PROmax

PRO MAX3 120W 24V 5A

PRO MAX3 240W 24V 10A



Technical data

| Input | |
|---|--|
| Rated input voltage | |
| Input voltage range AC | |
| Frequency range AC | |
| DC input voltage range | |
| AC current consumption | |
| DC current consumption | |
| Input fuse (internal) / Inrush current | |
| Recommended back-up fuse | |
| Output | |
| Rated output voltage | |
| Output voltage | |
| Residual ripple, breaking spikes | |
| Nominal output current for U_{nom} | |
| Continuous output current @ $U_{Nominal}$ | |
| Reserve capacity @ $U_{Nominal}$ | |
| Current capacity (pulse) @ $U_{Nominal}$ | |
| General data | |
| Degree of efficiency | |
| Power factor (approx.) | |
| AC failure bridging time @ I_{nom} | |
| Protection against reverse voltages from the load | |
| Parallel connection option | |
| Depth x width x height | |
| Net weight | |
| Approvals | |
| Approvals | |

| |
|---|
| 3 x 400...3 x 500 V AC (wide-range input) |
| 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| 45...65 Hz |
| 450...800 V DC (max. 500 V DC acc. to UL508) |
| 0,28A @ 3*500 VAC / 0,3A @ 3*400 VAC |
| 0,18 A @ 800 V DC / 0,3 A @ 450 V DC |
| Yes / max. 15 A |
| 2...3 A, char. C circuit breaker |
| 24 V DC ± 1 % |
| 22.5...29.5 V (adjustable via potentiometer) |
| < 50 mVss @ U_{Nemo} , Full Load |
| 5 A @ 60 °C |
| 6,0 A @ 45 °C, 3,75 A @ 70 °C |
| 6 A (1 min), 7,5 A (4s), 400...500 V AC |
| 15 A (2ms) |
| 90% |
| > 0.50 @ 3x400 V AC |
| min. 20 ms |
| 30...35 V DC |
| yes, max. 5 |
| 125 / 40 / 130 mm |
| 783 g |
| CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV |

| |
|---|
| 3 x 400...3 x 500 V AC (wide-range input) |
| 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| 45...65 Hz |
| 450...800 V DC (max. 500 V DC acc. to UL508) |
| 0,35A @ 3*500 VAC / 0,4A @ 3*400 VAC |
| 0,35 A @ 800 V DC / 0,6 A @ 450 V DC |
| Yes / max. 15 A |
| 3 - 5 A, char. C, circuit breaker |
| 24 V DC ± 1 % |
| 22.5...29.5 V (adjustable via potentiometer) |
| < 50 mVss @ U_{Nemo} , Full Load |
| 10 A @ 60 °C |
| 12 A @ 45°C, 7,5 A @ 70°C |
| 12 A (1 min), 15 A (4s) |
| 30 A (2ms) |
| 91.5% |
| > 0.85 @ 3*400 V AC |
| min. 20 ms |
| 30...35 V DC |
| yes, max. 5 |
| 125 / 60 / 130 mm |
| 1322 g |
| CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV |

| Connection data | |
|---------------------------------------|-----------------|
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| Input | Output |
|-------------------|-------------------|
| Screw connection | Screw connection |
| 4 for L1/L2/L3/PE | 8 (++,-,11,13,14) |
| 0.18 / 6 | 0.5 / 6 |
| 0.22 / 4 | 0.5 / 4 |
| 26 / 10 | 26 / 12 |

| Input | Output |
|-------------------|-------------------|
| Screw connection | Screw connection |
| 4 for L1/L2/L3/PE | 8 (++,-,11,13,14) |
| 0.18 / 6 | 0.18 / 6 |
| 0.22 / 4 | 0.22 / 4 |
| 26 / 10 | 26 / 10 |

Ordering data

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO MAX3 120W 24V 5A | 1 | 1478170000 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO MAX3 240W 24V 10A | 1 | 1478180000 |

| Note |
|---|
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. |

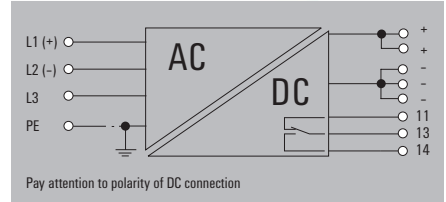
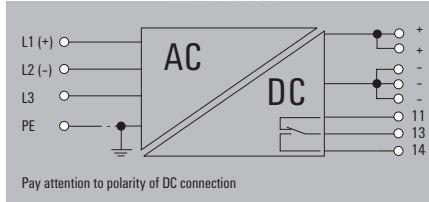
| Note |
|---|
| The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system. |

connectPower PROmax

connectPower PROmax

PRO MAX3 480W 24V 20A

PRO MAX3 960W 24V 40A



Technical data

| Input | |
|---|---|
| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| AC current consumption | 0,7A @ 3*500 VAC / 0,85 @ 3*400 VAC |
| DC current consumption | 0,7 A @ 800 V DC / 1,2 A @ 450 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 3 - 5 A, char. C, circuit breaker |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...29.5 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{Nom} | 20 A @ 60 °C |
| Continuous output current @ U _{Nom} | 24 A @ 45°C, 15 A @ 70°C |
| Reserve capacity @ U _{Nom} | 24 A (1 min), 30 A (4s) |
| Current capacity (pulse) @ U _{Nom} | 60 A (2ms) |
| General data | |
| Degree of efficiency | 91.5% |
| Power factor (approx.) | > 0.85 @ 3*400 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | 30...35 V DC |
| Parallel connection option | yes, max. 3 |
| Depth x width x height | 150 / 70 / 130 mm |
| Net weight | 1600 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV |

| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
|---|---|
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| AC current consumption | 0,7A @ 3*500 VAC / 0,85 @ 3*400 VAC |
| DC current consumption | 0,7 A @ 800 V DC / 1,2 A @ 450 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 3 - 5 A, char. C, circuit breaker |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...29.5 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{Nom} | 20 A @ 60 °C |
| Continuous output current @ U _{Nom} | 24 A @ 45°C, 15 A @ 70°C |
| Reserve capacity @ U _{Nom} | 24 A (1 min), 30 A (4s) |
| Current capacity (pulse) @ U _{Nom} | 60 A (2ms) |
| General data | |
| Degree of efficiency | 91.5% |
| Power factor (approx.) | > 0.85 @ 3*400 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | 30...35 V DC |
| Parallel connection option | yes, max. 3 |
| Depth x width x height | 150 / 70 / 130 mm |
| Net weight | 1600 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV |

| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
|---|---|
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| AC current consumption | 1,3A @ 3*500 VAC / 1,6A @ 3*400 VAC |
| DC current consumption | 1,4 A @ 800 V DC / 2,4 A @ 450 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 6...8 A, char. C circuit breaker |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...29.5 V (adjustable via potentiometer) |
| Residual ripple, breaking spikes | < 50 mVss @ U _{Nom} , Full Load |
| Nominal output current for U _{Nom} | 40 A @ 60 °C |
| Continuous output current @ U _{Nom} | 48 A @ 45°C, 30 A @ 70°C |
| Reserve capacity @ U _{Nom} | 48 A (1 min), 60 A (4s), 400...500 V AC |
| Current capacity (pulse) @ U _{Nom} | 120 A (2ms) |
| General data | |
| Degree of efficiency | 93.5% |
| Power factor (approx.) | > 0.75 @ 3x400 V AC |
| AC failure bridging time @ I _{nom} | min. 20 ms |
| Protection against reverse voltages from the load | 30...35 V DC |
| Parallel connection option | yes, max. 3 |
| Depth x width x height | 150 / 140 / 130 mm |
| Net weight | 3400 g |
| Approvals | |
| Approvals | CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV |

| Connection data | |
|---------------------------------------|--------------------------|
| Connection system | Screw connection |
| Number of terminals | 4 for L1/L2/L3/PE |
| Wire cross-section, rigid min/max | 0.18 / 6 mm ² |
| Wire cross-section, flexible min/max | 0.22 / 4 mm ² |
| Wire cross-section, AWG/kcmil min/max | 26 / 10 |
| Note | |

| Input | Output |
|-------------------|----------------------|
| Screw connection | Screw connection |
| 4 for L1/L2/L3/PE | 8 (+, -, 11, 13, 14) |
| 0.18 / 6 | 0.18 / 6 |
| 0.22 / 4 | 0.22 / 4 |
| 26 / 10 | 26 / 10 |

| Input | Output |
|-------------------|----------------------|
| Screw connection | Screw connection |
| 4 for L1/L2/L3/PE | 8 (+, -, 11, 13, 14) |
| 0.18 / 6 | 0.5 / 16 |
| 0.22 / 4 | 0.5 / 16 |
| 26 / 10 | 22 / 8 |

Ordering data

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO MAX3 480W 24V 20A | 1 | 1478190000 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO MAX3 480W 24V 20A | 1 | 1478190000 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO MAX3 960W 24V 40A | 1 | 1478200000 |

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Small metal foot



| Type | Order No. |
|-----------|------------|
| MTA 30 MF | 1251320000 |

Large metal foot



| Type | Order No. |
|-----------|------------|
| MTA 45 MF | 1251310000 |

Small plastic foot



| Type | Order No. |
|-----------|------------|
| MTA 30 BK | 1168970000 |

Large plastic foot



| Type | Order No. |
|-----------|------------|
| MTA 45 BK | 1962250000 |

Small wall mounting



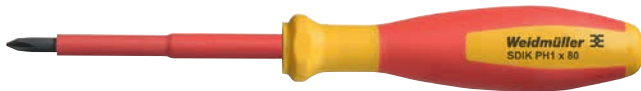
| Type | Order No. |
|------------------------|------------|
| CP A WALLADAPTER 30 MM | 1461870000 |

Large wall mounting



| Type | Order No. |
|------------------------|------------|
| CP A WALLADAPTER 45 MM | 1461850000 |

Small screwdriver



| Type | Size/AF | a | b | c | Order No. |
|------------------|---------|-----|---|-----|------------|
| SDIK PH 1 X 80 | | | | 80 | 2749890000 |
| SDIS 0.5X3.0X100 | | 0.5 | 3 | 100 | 2749800000 |

Large screwdriver



| Type | Size/AF | a | b | c | Order No. |
|------------------|---------|---|-----|-----|------------|
| SDIS 1.0X5.5X125 | | 1 | 5.5 | 125 | 2749850000 |

Markers



| Type | Colour | Qty. | Order No. |
|----------------------|--------|------|------------|
| SM 18/9.5 K MC NE WS | white | 200 | 1248580000 |

Endwinkel

For DIN rail TS 35



| Type | Colour | Torque | Qty. | Order No. |
|--|--------|--------|------|------------|
| Polyamide with fibre glass, screwable WEW 35/1 SW | black | 1.2 Nm | 50 | 1162600000 |

Find the cost-effective solution for your power supply

PROeco combines all of the basic functions in a compact design

A

Even in series machine construction, switched-mode power supply units can create a real competitive edge thanks to above-average performance values. The efficient PROeco series offers all of the basic functions and delivers impressively high performance and flexibility.

Our PROeco switched-mode power supply units are characterised by their compact design, a high degree of efficiency and the fact that they are extremely easy to service. Thanks to over temperature protection, short-circuit and overload protection, they can be universally used in all applications.

Solutions featuring PROeco are characterised by extensive safety functions and compatibility with our diode modules, capacity modules and UPS components for setting up a redundant power supply.



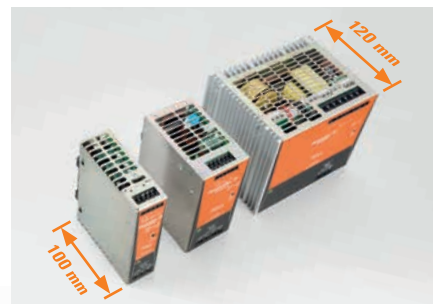
Rapid status diagnosis

The tricolour LED display and an integrated status relay make it easier to analyse statuses and errors during commissioning and operation.



Extremely compact

With a depth of 100 mm, PROeco power supplies even fit into small cabinets. The compact design also saves up to 50 % space in the cabinet.



Robust and reliable

PROeco power packs work reliably in a wide temperature range from -25 °C to +70 °C and boast a high MTBF value of more than 500,000 hours.

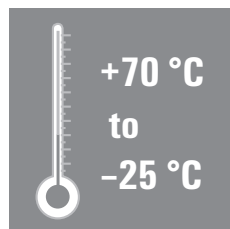
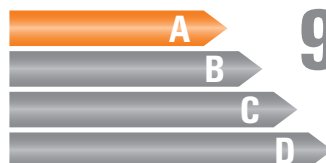
Power supply solution

Together with the uninterruptible DC UPS, the diode modules or CAP modules, you can create a power supply solution that is tailored to your requirements.



Noticeably energy-saving

A high degree of efficiency of up to 93 % and minimal no-load losses ensure low energy consumption and a long service life.



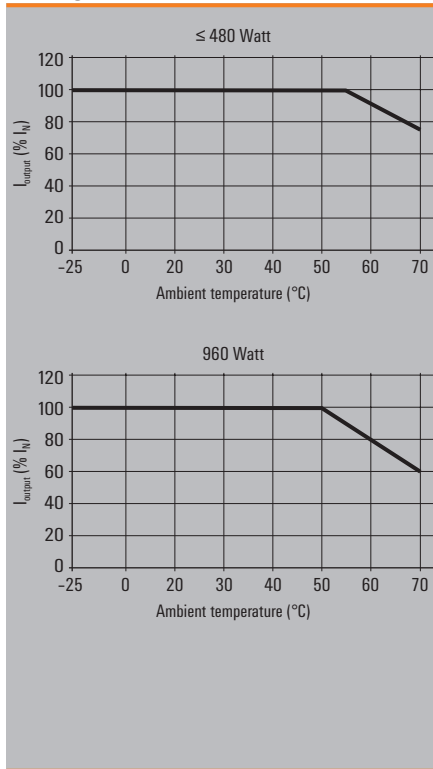
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PROeco power supplies with basic functionality and a high level of reliability

- Single- and three-phase switched-mode power supply units
- Slim design
- Large temperature range from -25 °C to 70 °C
- The output voltage can be precisely adjusted via the potentiometer on the front
- Remote monitoring via integrated status relay
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals



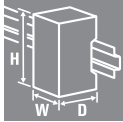
Derating curve



Technical data

| General data | |
|---|--|
| Ambient temperature (operational) | -25 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Max. perm. air humidity (operational) | 5 %...95 % RH |
| Protection degree | IP20 |
| Protection class | I, with PE connection |
| Pollution degree | 2 |
| Insulation voltage, input/output | 3 kV |
| Insulation voltage input / earth | 2 kV |
| Insulation voltage output / earth | 0.5 kV |
| MTBF | > 500,000 h in accordance with IEC 61709 (SN29500) |
| Parallel connection option | yes, max. 5 |
| Housing version | Metal, corrosion resistant |
| Mounting position, installation notice | on terminal rail TS 35 |
| Short-circuit protection | Yes |
| Overload protection | Yes |
| Protection against over-heating | Yes |
| EMC / shock / vibration | |
| Noise emission in accordance with EN55032 | Class B |
| Interference immunity test acc. to | EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (burst), EN 61000-4-5 (surge), EN 61000-4-6 (conducted), EN61000-4-8 (Fields), EN61000-4-11 (Dips) |
| Limiting of mains voltage harmonic currents | According to EN 61000-3-2 |
| Resistance to vibration / Shock | 1 g according to EN 50178 / 15 g In all directions |
| Electrical safety (applied standards) | |
| Electrical machine equipment | Acc. to EN60204 |
| Safety transformers for switch-mode power supplies | According to EN 61558-2-16 |
| For use with electronic equipment | Acc. to EN50178 / VDE0160 |
| Protective separation / protection against electrical shock | VDE0100-410 / acc. to DIN57100-410 |
| Protection against dangerous shock currents | Acc. to VDE0106-101 |

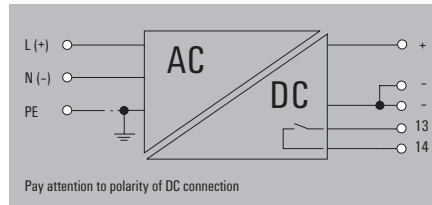
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PRO ECO 72W 24V 3A



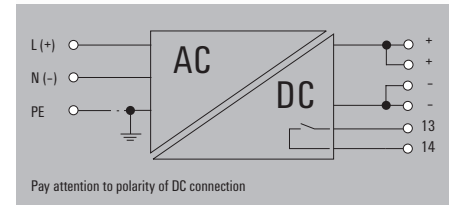
Similar to illustration



PRO ECO 120W 24V 5A



Similar to illustration



Technical data

| Input | |
|---|-----------------|
| Rated input voltage | |
| Input voltage range AC | |
| Frequency range AC | |
| DC input voltage range | |
| AC current consumption | |
| DC current consumption | |
| Input fuse (internal) / Inrush current | |
| Recommended back-up fuse | |
| Output | |
| Rated output voltage | |
| Output voltage | |
| Ramp-up time / Residual ripple, breaking spikes | |
| Nominal output current for U_{nom} | |
| Continuous output current @ $U_{Nominal}$ | |
| Capacitive load | |
| Protection against inverse voltage | |
| Signalling | |
| Indication | |
| Floating contact / Contact load | |
| Relay on/off | |
| General data | |
| Degree of efficiency | |
| Power loss idling / nominal load / Power loss, nominal load | |
| Earth leakage current, max. | |
| Power factor (approx.) | |
| AC failure bridging time @ I_{nom} | |
| Parallel connection option | |
| Depth x width x height / Net weight | |
| Approvals | |
| Approvals | |
| Connection data | |
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| 100...240 V AC (wide-range input) | |
|---|------------------|
| 85...264 V AC (derating at 100 V AC) | |
| 47...63 Hz | |
| 80...370 V DC (Derating @ 120 V DC) | |
| 0,55 A @ 230 V AC / 1,04 A @ 110 V AC | |
| 0,22 A @ 370 V DC / 0,68 A @ 120 V DC | |
| Yes / max. 40 A | |
| 2 A / DI, safety fuse | |
| 6 A, Char. B, circuit breaker | |
| 2...4 A, Char. C circuit breaker | |
| 24 V DC ± 1 % | |
| 22...28 V (adjustable via potentiometer) | |
| ≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I_N | |
| 3 A at 55 °C | |
| 3 A @ 55 °C, 2,25 A @ 70 °C | |
| unrestricted | |
| Yes | |
| Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90 \% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC) | |
| Yes / max. 30 V DC / 1 A | |
| Output voltage >21.6 V DC/ <20.4 V DC, overload | |
| 87 % | |
| 4 W / 9.5 W | |
| 3.5 mA | |
| > 0.5...230 V AC / > 0.53...115 V AC | |
| > 100 ms @ 230 V AC / > 20 ms @ 115 V AC | |
| yes, max. 5 | |
| 100 / 34 / 125 mm / 566 g | |
| CE; cULus; EAC; TUEV | |
| Input | Output |
| Screw connection | Screw connection |
| 3 for L/N/PE | 5 (+, -, 13, 14) |
| 0.5 / 6 | 0.5 / 6 |
| 0.5 / 2.5 | 0.5 / 2.5 |
| 26 / 12 | 26 / 12 |

| 100...240 V AC (wide-range input) | |
|---|------------------|
| 85...264 V AC (derating at 100 V AC) | |
| 47...63 Hz | |
| 80...370 V DC (Derating @ 120 V DC) | |
| 1,26 A @ 230 V AC / 2,24 A @ 110 V AC | |
| 0,39 A @ 370 V DC / 1,16 A @ 120 V DC | |
| Yes / max. 40 A | |
| 4 A / DI, safety fuse | |
| 6 A, Char. B, circuit breaker | |
| 3...5 A, Char. C, circuit breaker | |
| 24 V DC ± 1 % | |
| 22...28 V (adjustable via potentiometer) | |
| ≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I_N | |
| 5 A at 55 °C | |
| 5 A @ 55 °C, 3,75 A @ 70 °C | |
| unrestricted | |
| Yes | |
| Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90 \% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC) | |
| Yes / max. 30 V DC / 1 A | |
| Output voltage >21.6 V DC/ <20.4 V DC, overload | |
| 87 % | |
| 4 W / 15 W | |
| 3.5 mA | |
| > 0.5...230 V AC / > 0.53...115 V AC | |
| > 80 ms @ 230 V AC / > 20 ms @ 115 V AC | |
| yes, max. 5 | |
| 100 / 40 / 125 mm / 675 g | |
| CE; cULus; EAC; TUEV | |
| Input | Output |
| Screw connection | Screw connection |
| 3 for L/N/PE | 6 (+, -, 13, 14) |
| 0.5 / 6 | 0.5 / 6 |
| 0.5 / 2.5 | 0.5 / 2.5 |
| 26 / 12 | 26 / 12 |

Ordering data

| Type | Qty. | Order No. |
|--------------------|------|------------|
| PRO ECO 72W 24V 3A | 1 | 1469470000 |

Note

| Type | Qty. | Order No. |
|--------------------|------|------------|
| PRO ECO 72W 24V 3A | 1 | 1469470000 |

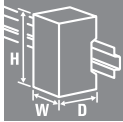
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

| Type | Qty. | Order No. |
|---------------------|------|------------|
| PRO ECO 120W 24V 5A | 1 | 1469480000 |

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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PRO ECO 240W 24V 10A

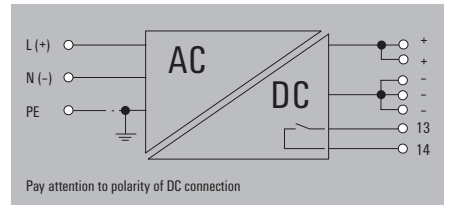
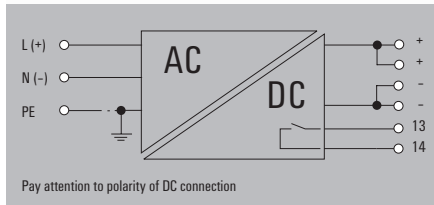
PRO ECO 480W 24V 20A



Similar to illustration



Similar to illustration



Technical data

| Input | |
|---|--|
| Rated input voltage | 100...240 V AC (wide-range input) |
| Input voltage range AC | 85...264 V AC (derating at 100 V AC) |
| Frequency range AC | 47...63 Hz |
| DC input voltage range | 80...370 V DC (Derating @ 120 V DC) |
| AC current consumption | 1,23 A @ 230 V AC / 2,47 A @ 110 V AC |
| DC current consumption | 1,18 A @ 370 V DC / 2,4 A @ 120 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 15 A |
| Recommended back-up fuse | 4 A / DI, safety fuse 10 A, Char. B, circuit breaker 3...4 A, Char. C, circuit breaker |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22...28 V (adjustable via potentiometer) |
| Ramp-up time / Residual ripple, breaking spikes | ≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N |
| Nominal output current for U _{nom} | 10 A @ 55 °C |
| Continuous output current @ U _{Nominal} | 10 A @ 55 °C, 2.5 A @ 70 °C |
| Capacitive load | unrestricted |
| Protection against inverse voltage | Yes |
| Signalling | |
| Indication | Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC) |
| Floating contact / Contact load | Yes / max. 30 V DC / 1 A |
| Relay on/off | Output voltage >21.6 V DC / <20.4 V DC, overload |
| General data | |
| Degree of efficiency | 90% |
| Power loss idling / nominal load / Power loss, nominal load | 2 W / 24 W |
| Earth leakage current, max. | 3.5 mA |
| Power factor (approx.) | > 0.94 @ 230 V AC / > 0.99 @ 115 V AC |
| AC failure bridging time @ I _{nom} | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height / Net weight | 100 / 60 / 125 mm / 1016 g |
| Approvals | |
| Approvals | CE; cULus; EAC; TUEV |
| Connection data | |
| Connection system | Screw connection |
| Number of terminals | 3 for L/N/PE |
| Wire cross-section, rigid min/max | 0.5 / 6 mm ² |
| Wire cross-section, flexible min/max | 0.5 / 2.5 mm ² |
| Wire cross-section, AWG/kcmil min/max | 26 / 12 |
| Note | |

| Input | | Output | |
|--|--|--|--|
| Rated input voltage | 100...240 V AC (wide-range input) | Rated output voltage | 24 V DC ± 1 % |
| Input voltage range AC | 85...264 V AC (derating at 100 V AC) | Output voltage | 22...28 V (adjustable via potentiometer) |
| Frequency range AC | 47...63 Hz | Ramp-up time / Residual ripple, breaking spikes | ≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N |
| DC input voltage range | 80...370 V DC (Derating @ 120 V DC) | Nominal output current for U _{nom} | 10 A @ 55 °C |
| AC current consumption | 1,23 A @ 230 V AC / 2,47 A @ 110 V AC | Continuous output current @ U _{Nominal} | 10 A @ 55 °C, 2.5 A @ 70 °C |
| DC current consumption | 1,18 A @ 370 V DC / 2,4 A @ 120 V DC | Capacitive load | unrestricted |
| Input fuse (internal) / Inrush current | Yes / max. 15 A | Protection against inverse voltage | Yes |
| Recommended back-up fuse | 4 A / DI, safety fuse 10 A, Char. B, circuit breaker 3...4 A, Char. C, circuit breaker | Signalling | Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC) |
| | | Floating contact / Contact load | Yes / max. 30 V DC / 1 A |
| | | Relay on/off | Output voltage >21.6 V DC / <20.4 V DC, overload |
| | | General data | Degree of efficiency: 90% |
| | | | Power loss idling / nominal load / Power loss, nominal load: 2 W / 24 W |
| | | | Earth leakage current, max.: 3.5 mA |
| | | | Power factor (approx.): > 0.94 @ 230 V AC / > 0.99 @ 115 V AC |
| | | | AC failure bridging time @ I _{nom} : > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| | | | Parallel connection option: yes, max. 5 |
| | | | Depth x width x height / Net weight: 100 / 60 / 125 mm / 1016 g |
| | | | Approvals: CE; cULus; EAC; TUEV |
| | | | Connection data: Screw connection |
| | | | Number of terminals: 3 for L/N/PE |
| | | | Wire cross-section, rigid min/max: 0.5 / 6 mm ² |
| | | | Wire cross-section, flexible min/max: 0.5 / 2.5 mm ² |
| | | | Wire cross-section, AWG/kcmil min/max: 26 / 12 |

| Input | | Output | |
|--|--|--|--|
| Rated input voltage | 100...240 V AC (wide-range input) | Rated output voltage | 24 V DC ± 1 % |
| Input voltage range AC | 85...264 V AC (derating at 100 V AC) | Output voltage | 22...28 V (adjustable via potentiometer) |
| Frequency range AC | 47...63 Hz | Ramp-up time / Residual ripple, breaking spikes | ≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N |
| DC input voltage range | 80...370 V DC (Derating @ 120 V DC) | Nominal output current for U _{nom} | 20 A @ 55 °C |
| AC current consumption | 2,37 A @ 230 V AC / 5,2 A @ 110 V AC | Continuous output current @ U _{Nominal} | 20 A @ 55 °C, 15 A @ 70 °C |
| DC current consumption | 1,55 A @ 370 V DC / 4,65 A @ 120 V DC | Capacitive load | unrestricted |
| Input fuse (internal) / Inrush current | Yes / max. 5 A | Protection against inverse voltage | Yes |
| Recommended back-up fuse | 6 A / DI, safety fuse 16 A, Char. B, circuit breaker 6...8 A, Char. C, circuit breaker | Signalling | Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC) |
| | | Floating contact / Contact load | Yes / max. 30 V DC / 1 A |
| | | Relay on/off | Output voltage >21.6 V DC / <20.4 V DC, overload |
| | | General data | Degree of efficiency: 91% |
| | | | Power loss idling / nominal load / Power loss, nominal load: 5 W / 43 W |
| | | | Earth leakage current, max.: 3.5 mA |
| | | | Power factor (approx.): > 0.98...230 V AC / > 0.98...115 V AC |
| | | | AC failure bridging time @ I _{nom} : > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| | | | Parallel connection option: yes, max. 3 |
| | | | Depth x width x height / Net weight: 120 / 100 / 125 mm / 1557 g |
| | | | Approvals: CE; cULus; EAC; TUEV |
| | | | Connection data: Screw connection |
| | | | Number of terminals: 7 (++,--,13,14) |
| | | | Wire cross-section, rigid min/max: 0.5 / 6 mm ² |
| | | | Wire cross-section, flexible min/max: 0.5 / 2.5 mm ² |
| | | | Wire cross-section, AWG/kcmil min/max: 26 / 12 |

Ordering data

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO ECO 240W 24V 10A | 1 | 1469490000 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO ECO 240W 24V 10A | 1 | 1469490000 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO ECO 480W 24V 20A | 1 | 1469510000 |

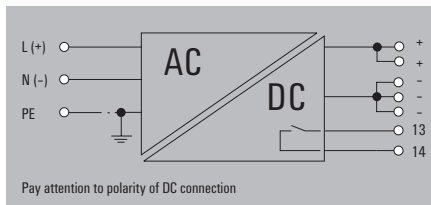
Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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PRO ECO 960W 24V 40A



Technical data

Input

Rated input voltage
 Input voltage range AC
 Frequency range AC
 DC input voltage range
 AC current consumption
 DC current consumption
 Input fuse (internal) / Inrush current
 Recommended back-up fuse

100...240 V AC (wide-range input)
 85...264 V AC (derating at 100 V AC)
 47...63 Hz
 80...370 V DC (Derating @ 120 V DC)
 4,6 A @ 230 V AC / 9,9 A @ 110 V AC
 2,9 A @ 370 V DC / 9 A @ 120 V DC
 Yes / max. 5 A
 16 A / DI, safety fuse
 20 A, Char. B, circuit breaker
 16 A, Char. C, circuit breaker

Output

Rated output voltage
 Output voltage
 Ramp-up time / Residual ripple, breaking spikes
 Nominal output current for U_{nom}
 Continuous output current @ $U_{Nominal}$
 Capacitive load
 Protection against inverse voltage

24 V DC \pm 1 %
 22...28 V (adjustable via potentiometer)
 \leq 100 ms / $<$ 50 mV_{pp} @ 24 V DC, I_n
 40 A @ 50 °C
 40 A @ 50 °C, 24 A @ 70 °C
 unrestricted
 Yes

Signalling

Indication

Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90\%$ I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC)
 Yes / max. 30 V DC / 1 A
 Output voltage >21.6 V DC / <20.4 V DC, overload

Floating contact / Contact load

Relay on/off

General data

Degree of efficiency
 Power loss idling / nominal load / Power loss, nominal load
 Earth leakage current, max.
 Power factor (approx.)
 AC failure bridging time @ I_{nom}
 Parallel connection option
 Depth x width x height / Net weight

93%
 8 W / 85 W
 3.5 mA
 $> 0.98...230$ V AC / $> 0.98...115$ V AC
 > 20 ms @ 230 V AC / > 20 ms @ 115 V AC
 yes, max. 3
 120 / 160 / 125 mm / 3190 g

Approvals

Approvals

CE; cULus; EAC; TUEV

Connection data

Connection system
 Number of terminals
 Wire cross-section, rigid min/max mm²
 Wire cross-section, flexible min/max mm²
 Wire cross-section, AWG/kcmil min/max

| Input | Output |
|------------------|------------------|
| Screw connection | Screw connection |
| 3 for L/N/PE | 7 (+, -, 13, 14) |
| 0.5 / 6 | 0.5 / 16 |
| 0.5 / 2.5 | 2.5 / 10 |
| 26 / 12 | 22 / 8 |

Note

Ordering data

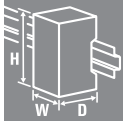
| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO ECO 960W 24V 40A | 1 | 1469520000 |

Note

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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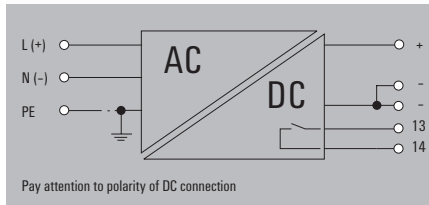
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PRO ECO 72W 12V 6A



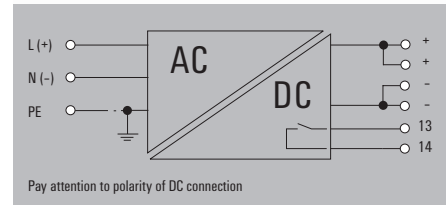
Similar to illustration



PRO ECO 120W 12V 10A



Similar to illustration



Technical data

| Input | |
|---|-----------------|
| Rated input voltage | |
| Input voltage range AC | |
| Frequency range AC | |
| DC input voltage range | |
| AC current consumption | |
| DC current consumption | |
| Input fuse (internal) / Inrush current | |
| Recommended back-up fuse | |
| Output | |
| Rated output voltage | |
| Output voltage | |
| Ramp-up time / Residual ripple, breaking spikes | |
| Nominal output current for U_{nom} | |
| Continuous output current @ $U_{Nominal}$ | |
| Capacitive load | |
| Protection against inverse voltage | |
| Signalling | |
| Indication | |
| Floating contact / Contact load | |
| Relay on/off | |
| General data | |
| Degree of efficiency | |
| Power loss idling / nominal load / Power loss, nominal load | |
| Earth leakage current, max. | |
| Power factor (approx.) | |
| AC failure bridging time @ I_{nom} | |
| Parallel connection option | |
| Depth x width x height / Net weight | |
| Approvals | |
| Approvals | |
| Connection data | |
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| 100...240 V AC (wide-range input) | |
|---|------------------|
| 85...264 V AC (derating at 100 V AC) | |
| 47...63 Hz | |
| 80...370 V DC (Derating @ 120 V DC) | |
| 0.6 A @ 230 V AC / 1.1 A @ 115 V AC | |
| 0.25 A @ 370 V DC / 0.7 A @ 120 V DC | |
| Yes / max. 40 A | |
| 2 A / DI, safety fuse | |
| 6 A, Char. B, circuit breaker | |
| 2...4 A, Char. C circuit breaker | |
| 12 V DC ± 1 % | |
| 10...16 V (adjustable via potentiometer) | |
| ≤ 100 ms / < 50 mV ss @ 12 V DC, I Nenn | |
| 6 A @ 55 °C | |
| 6 A @ 55 °C, 4.5 A @ 60 °C | |
| unrestricted | |
| Yes | |
| Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90 \% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC) | |
| Yes / max. 30 V DC / 1 A | |
| Output voltage >21.6 V DC / <20.4 V DC, overload | |
| 85 % | |
| 4 W / 15 W | |
| 3.5 mA | |
| > 0.5...230 V AC / > 0.53...115 V AC | |
| > 100 ms @ 230 V AC / > 20 ms @ 115 V AC | |
| yes, max. 5 | |
| 100 / 34 / 125 mm / 570 g | |
| CE; cULus; EAC; TUEV | |
| Input | Output |
| Screw connection | Screw connection |
| 3 for L/N/PE | 5 (+, -, 13, 14) |
| 0.5 / 6 | 0.5 / 6 |
| 0.5 / 2.5 | 0.5 / 2.5 |
| 26 / 12 | 26 / 12 |

| 100...240 V AC (wide-range input) | |
|---|------------------|
| 85...264 V AC (derating at 100 V AC) | |
| 47...63 Hz | |
| 80...370 V DC (Derating @ 120 V DC) | |
| 1.25 A @ 230 V AC / 2.25 A @ 110 V AC | |
| 0.4 A @ 370 V DC / 1.2 A @ 120 V DC | |
| Yes / max. 40 A | |
| 4 A / DI, safety fuse | |
| 6 A, Char. B, circuit breaker | |
| 3...5 A, Char. C, circuit breaker | |
| 12 V DC ± 1 % | |
| 10...16 V (adjustable via potentiometer) | |
| ≤ 100 ms / < 50 mV ss @ 12 V DC, I Nenn | |
| 10 A @ 55 °C | |
| 10 A @ 55 °C, 2.5 A @ 70 °C | |
| unrestricted | |
| Yes | |
| Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90 \% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC) | |
| Yes / max. 30 V DC / 1 A | |
| Output voltage >21.6 V DC / <20.4 V DC, overload | |
| 87 % | |
| 4 W / 20 W | |
| 3.5 mA | |
| > 0.5...230 V AC / > 0.53...115 V AC | |
| > 80 ms @ 230 V AC / > 20 ms @ 115 V AC | |
| yes, max. 5 | |
| 100 / 40 / 125 mm / 684 g | |
| CE; cULus; EAC; TUEV | |
| Input | Output |
| Screw connection | Screw connection |
| 3 for L/N/PE | 6 (+, -, 13, 14) |
| 0.5 / 6 | 0.5 / 6 |
| 0.5 / 2.5 | 0.5 / 2.5 |
| 26 / 12 | 26 / 12 |

Ordering data

| Type | Qty. | Order No. |
|--------------------|------|------------|
| PRO ECO 72W 12V 6A | 1 | 1469570000 |

| Type | Qty. | Order No. |
|--------------------|------|------------|
| PRO ECO 72W 12V 6A | 1 | 1469570000 |

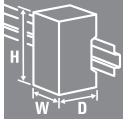
| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO ECO 120W 12V 10A | 1 | 1469580000 |

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

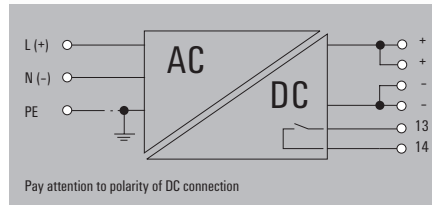
Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

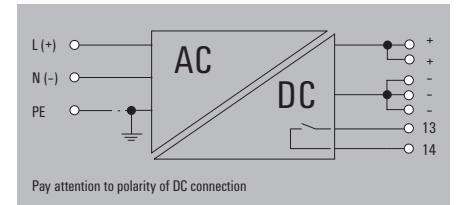
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PRO ECO 240W 48V 5A



PRO ECO 480W 48V 10A



Technical data

| Input | |
|---|-----------------|
| Rated input voltage | |
| Input voltage range AC | |
| Frequency range AC | |
| DC input voltage range | |
| AC current consumption | |
| DC current consumption | |
| Input fuse (internal) / Inrush current | |
| Recommended back-up fuse | |
| Output | |
| Rated output voltage | |
| Output voltage | |
| Ramp-up time / Residual ripple, breaking spikes | |
| Nominal output current for U_{nom} | |
| Continuous output current @ $U_{Nominal}$ | |
| Capacitive load | |
| Protection against inverse voltage | |
| Signalling | |
| Indication | |
| Floating contact / Contact load | |
| Relay on/off | |
| General data | |
| Degree of efficiency | |
| Power loss idling / nominal load / Power loss, nominal load | |
| Earth leakage current, max. | |
| Power factor (approx.) | |
| AC failure bridging time @ I_{nom} | |
| Parallel connection option | |
| Depth x width x height / Net weight | |
| Approvals | |
| Approvals | |
| Connection data | |
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| 100...240 V AC (wide-range input) | |
|---|------------------|
| 85...264 V AC (derating at 100 V AC) | |
| 47...63 Hz | |
| 80...370 V DC (Derating @ 120 V DC) | |
| 1.2 A @ 230 V AC / 2.4 A @ 115 V AC | |
| 1.2 A @ 370 V DC / 2.4 A @ 120 V DC | |
| Yes / Max. 10 A | |
| 4 A / DI, safety fuse | |
| 10 A, Char. B, circuit breaker | |
| 3...4 A, Char. C, circuit breaker | |
| 48 V DC ± 1 % | |
| 42...56 V (adjustable via potentiometer) | |
| ≤ 100 ms / < 100 mV ss @ 48 V DC, I Nenn | |
| 5 A at 55 °C | |
| 5 A @ 55 °C, 3,75 A @ 70 °C | |
| unrestricted | |
| Yes | |
| Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90\% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC) | |
| Yes / max. 30 V DC / 1 A | |
| Output voltage >21.6 V DC / <20.4 V DC, overload | |
| 92 % | |
| 3 W / 23 W | |
| 3.5 mA | |
| > 0.94 @ 230 V AC / > 0.99 @ 115 V AC | |
| > 20 ms @ 230 V AC / > 20 ms @ 115 V AC | |
| yes, max. 5 | |
| 100 / 60 / 125 mm / 1.01 g | |
| CE; cULus; EAC; TUEV | |
| Input | Output |
| Screw connection | Screw connection |
| 3 for L/N/PE | 6 (++,-,13,14) |
| 0.5 / 6 | 0.5 / 6 |
| 0.5 / 2.5 | 0.5 / 2.5 |
| 26 / 12 | 26 / 12 |

| 100...240 V AC (wide-range input) | |
|---|------------------|
| 85...264 V AC (derating at 100 V AC) | |
| 47...63 Hz | |
| 80...370 V DC (Derating @ 120 V DC) | |
| 2.4 A @ 230 V AC / 5.2 A @ 110 V AC | |
| 1.5 A @ 370 V DC / 4.6 A @ 120 V DC | |
| Yes / max. 3 A | |
| 6 A / DI, safety fuse | |
| 16 A, Char. B, circuit breaker | |
| 6...8 A, Char. C, circuit breaker | |
| 48 V DC ± 1 % | |
| 42...56 V (adjustable via potentiometer) | |
| ≤ 100 ms / < 100 mV ss @ 48 V DC, I Nenn | |
| 10 A @ 55 °C | |
| 10 A @ 55 °C, 2.5 A @ 70 °C | |
| unrestricted | |
| Yes | |
| Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90\% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC) | |
| Yes / max. 30 V DC / 1 A | |
| Output voltage >21.6 V DC / <20.4 V DC, overload | |
| 93% | |
| 5 W / 50 W | |
| 3.5 mA | |
| > 0.98...230 V AC / > 0.98...115 V AC | |
| > 20 ms @ 230 V AC / > 20 ms @ 115 V AC | |
| yes, max. 3 | |
| 120 / 100 / 125 mm / 1570 g | |
| CE; cULus; EAC; TUEV | |
| Input | Output |
| Screw connection | Screw connection |
| 3 for L/N/PE | 7 (++,-,13,14) |
| 0.5 / 6 | 0.5 / 6 |
| 0.5 / 2.5 | 0.22 / 4 |
| 26 / 12 | 26 / 10 |

Ordering data

| Type | Qty. | Order No. |
|---------------------|------|------------|
| PRO ECO 240W 48V 5A | 1 | 1469590000 |

Note

| Type | Qty. | Order No. |
|---------------------|------|------------|
| PRO ECO 240W 48V 5A | 1 | 1469590000 |

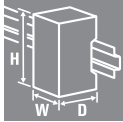
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO ECO 480W 48V 10A | 1 | 1469610000 |

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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PRO ECO3 120W 24V 5A

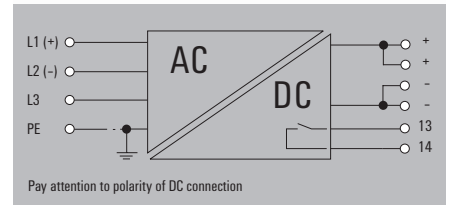
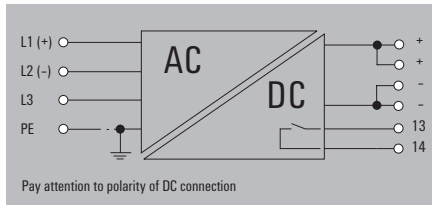


Similar to illustration

PRO ECO3 240W 24V 10A



Similar to illustration



Technical data

| Input | |
|---|---|
| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 47...63 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| AC current consumption | 0.3 A @ 3 x 500 V AC / 0.4 A @ 3 x 400 V AC |
| DC current consumption | 0.2 A @ 800 V DC / 0.4 A @ 450 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 40 A |
| Recommended back-up fuse | 2 A / DI, safety fuse 2...3 A, Char. C, circuit breaker |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22...28 V (adjustable via potentiometer) |
| Ramp-up time / Residual ripple, breaking spikes | ≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N |
| Nominal output current for U _{nom} | 5 A at 55 °C |
| Continuous output current @ U _{Nominal} | 5 A @ 55 °C, 3,75 A @ 70 °C |
| Capacitive load | unrestricted |
| Protection against inverse voltage | Yes |
| Signalling | |
| Indication | Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC) |
| Floating contact / Contact load | Yes / max. 30 V DC / 1 A |
| Relay on/off | Output voltage >21.6 V DC / <20.4 V DC, overload |
| General data | |
| Degree of efficiency | 87 % |
| Power loss idling / nominal load / Power loss, nominal load | 6 W / 17 W |
| Earth leakage current, max. | 3.5 mA |
| Power factor (approx.) | > 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC |
| AC failure bridging time @ I _{nom} | > 40 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height / Net weight | 100 / 40 / 125 mm / 685 g |
| Approvals | |
| Approvals | CE; cULus; EAC; TUEV |
| Connection data | |
| Connection system | Screw connection |
| Number of terminals | 4 for L1/L2/L3/PE |
| Wire cross-section, rigid min/max | 0.5 / 6 mm ² |
| Wire cross-section, flexible min/max | 0.5 / 2.5 mm ² |
| Wire cross-section, AWG/kcmil min/max | 26 / 12 |
| Note | |

| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
|---|---|
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 47...63 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| AC current consumption | 0.3 A @ 3 x 500 V AC / 0.4 A @ 3 x 400 V AC |
| DC current consumption | 0.2 A @ 800 V DC / 0.4 A @ 450 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 40 A |
| Recommended back-up fuse | 2 A / DI, safety fuse 2...3 A, Char. C, circuit breaker |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22...28 V (adjustable via potentiometer) |
| Ramp-up time / Residual ripple, breaking spikes | ≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N |
| Nominal output current for U _{nom} | 5 A at 55 °C |
| Continuous output current @ U _{Nominal} | 5 A @ 55 °C, 3,75 A @ 70 °C |
| Capacitive load | unrestricted |
| Protection against inverse voltage | Yes |
| Signalling | |
| Indication | Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC) |
| Floating contact / Contact load | Yes / max. 30 V DC / 1 A |
| Relay on/off | Output voltage >21.6 V DC / <20.4 V DC, overload |
| General data | |
| Degree of efficiency | 87 % |
| Power loss idling / nominal load / Power loss, nominal load | 6 W / 17 W |
| Earth leakage current, max. | 3.5 mA |
| Power factor (approx.) | > 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC |
| AC failure bridging time @ I _{nom} | > 40 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height / Net weight | 100 / 40 / 125 mm / 685 g |
| Approvals | |
| Approvals | CE; cULus; EAC; TUEV |

| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) |
|---|---|
| Input voltage range AC | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC |
| Frequency range AC | 47...63 Hz |
| DC input voltage range | 450...800 V DC (max. 500 V DC acc. to UL508) |
| AC current consumption | 0.6 A @ 3 x 500 V AC / 0.8 A @ 3 x 400 V AC |
| DC current consumption | 0.4 A @ 800 V DC / 0.7 A @ 450 V DC |
| Input fuse (internal) / Inrush current | Yes / max. 50 A |
| Recommended back-up fuse | 2 A / DI, safety fuse 2...3 A, Char. C, circuit breaker |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22...28 V (adjustable via potentiometer) |
| Ramp-up time / Residual ripple, breaking spikes | ≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N |
| Nominal output current for U _{nom} | 10 A @ 55 °C |
| Continuous output current @ U _{Nominal} | 10 A @ 55 °C, 2.5 A @ 70 °C |
| Capacitive load | unrestricted |
| Protection against inverse voltage | Yes |
| Signalling | |
| Indication | Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC) |
| Floating contact / Contact load | Yes / max. 30 V DC / 1 A |
| Relay on/off | Output voltage >21.6 V DC / <20.4 V DC, overload |
| General data | |
| Degree of efficiency | 88 % |
| Power loss idling / nominal load / Power loss, nominal load | 8 W / 26 W |
| Earth leakage current, max. | 3.5 mA |
| Power factor (approx.) | > 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC |
| AC failure bridging time @ I _{nom} | > 40 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC |
| Parallel connection option | yes, max. 5 |
| Depth x width x height / Net weight | 100 / 60 / 125 mm / 962 g |
| Approvals | |
| Approvals | CE; cULus; cURus; EAC; TUEV |

| Input | Output |
|---------------------------------------|-------------------|
| Connection system | Screw connection |
| Number of terminals | 4 for L1/L2/L3/PE |
| Wire cross-section, rigid min/max | 0.5 / 6 |
| Wire cross-section, flexible min/max | 0.5 / 2.5 |
| Wire cross-section, AWG/kcmil min/max | 26 / 12 |

| Input | Output |
|---------------------------------------|-------------------|
| Connection system | Screw connection |
| Number of terminals | 4 for L1/L2/L3/PE |
| Wire cross-section, rigid min/max | 0.5 / 6 |
| Wire cross-section, flexible min/max | 0.5 / 2.5 |
| Wire cross-section, AWG/kcmil min/max | 26 / 12 |

Ordering data

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO ECO3 120W 24V 5A | 1 | 1469530000 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO ECO3 120W 24V 5A | 1 | 1469530000 |

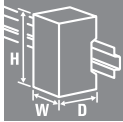
| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO ECO3 240W 24V 10A | 1 | 1469540000 |

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

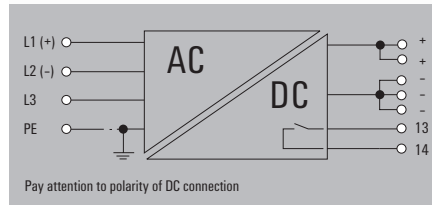
Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

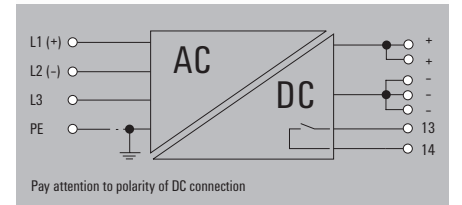
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PRO ECO3 480W 24V 20A



PRO ECO3 960W 24V 40A



Technical data

| Input | |
|---|-----------------|
| Rated input voltage | |
| Input voltage range AC | |
| Frequency range AC | |
| DC input voltage range | |
| AC current consumption | |
| DC current consumption | |
| Input fuse (internal) / Inrush current | |
| Recommended back-up fuse | |
| Output | |
| Rated output voltage | |
| Output voltage | |
| Ramp-up time / Residual ripple, breaking spikes | |
| Nominal output current for U_{nom} | |
| Continuous output current @ $U_{Nominal}$ | |
| Capacitive load | |
| Protection against inverse voltage | |
| Signalling | |
| Indication | |
| Floating contact / Contact load | |
| Relay on/off | |
| General data | |
| Degree of efficiency | |
| Power loss idling / nominal load / Power loss, nominal load | |
| Earth leakage current, max. | |
| Power factor (approx.) | |
| AC failure bridging time @ I_{nom} | |
| Parallel connection option | |
| Depth x width x height / Net weight | |
| Approvals | |
| Approvals | |
| Connection data | |
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| 3 x 400...3 x 500 V AC (wide-range input) | |
|--|------------------|
| 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC | |
| 47...63 Hz | |
| 450...800 V DC (max. 500 V DC acc. to UL508) | |
| 1.2 A @ 3 x 500 V AC / 1.5 A @ 3 x 400 V AC | |
| 0.7 A @ 800 V DC / 1.2 A @ 450 V DC | |
| Yes / max. 50 A | |
| 4 A / DI, safety fuse | |
| 3...5 A, Char. C, circuit breaker | |
| 24 V DC ± 1 % | |
| 22...28 V (adjustable via potentiometer) | |
| ≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N | |
| 20 A @ 55 °C | |
| 20 A @ 55 °C, 15 A @ 70 °C | |
| unrestricted | |
| Yes | |
| Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC) | |
| Yes / max. 30 V DC / 1 A | |
| Output voltage >21.6 V DC / <20.4 V DC, overload | |
| 89% | |
| 8 W / 48 W | |
| 3.5 mA | |
| > 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC | |
| > 30 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC | |
| yes, max. 3 | |
| 120 / 100 / 125 mm / 1300 g | |
| CE; cULus; cURus; EAC; TUEV | |
| Input | Output |
| Screw connection | Screw connection |
| 4 for L1/L2/L3/PE | 7 (++,-,13,14) |
| 0.5 / 6 | 0.5 / 6 |
| 0.5 / 2.5 | 0.5 / 2.5 |
| 26 / 12 | 26 / 10 |

| 3 x 400...3 x 500 V AC (wide-range input) | |
|--|------------------|
| 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC | |
| 47...63 Hz | |
| 450...800 V DC (max. 500 V DC acc. to UL508) | |
| 2.15 A @ 3 x 500 V AC / 2.68 A @ 3 x 400 V AC | |
| 1.37 A @ 800 V DC / 2.37 A @ 450 V DC | |
| Yes / max. 40 A | |
| 6 A / DI, safety fuse | |
| 10 A, Char. B, circuit breaker | |
| 6...8 A, Char. C, circuit breaker | |
| 24 V DC ± 1 % | |
| 22...28 V (adjustable via potentiometer) | |
| ≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N | |
| 40 A @ 50 °C | |
| 40 A @ 50 °C, 24 A @ 70 °C | |
| unrestricted | |
| Yes | |
| Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC) | |
| Yes / max. 30 V DC / 1 A | |
| Output voltage >21.6 V DC / <20.4 V DC, overload | |
| 90% | |
| 5 W / 95 W | |
| 3.5 mA | |
| > 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC | |
| > 25 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC | |
| yes, max. 3 | |
| 120 / 160 / 125 mm / 2899 g | |
| CE; cULus; cURus; EAC; TUEV | |
| Input | Output |
| Screw connection | Screw connection |
| 4 for L1/L2/L3/PE | 7 (++,-,13,14) |
| 0.5 / 6 | 0.5 / 16 |
| 0.5 / 2.5 | 2.5 / 10 |
| 26 / 12 | 22 / 8 |

Ordering data

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO ECO3 480W 24V 20A | 1 | 1469550000 |

Note

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO ECO3 960W 24V 40A | 1 | 1469560000 |

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Small metal foot



| Type | Order No. |
|-----------|------------|
| MTA 30 MF | 1251320000 |

Large metal foot



| Type | Order No. |
|-----------|------------|
| MTA 45 MF | 1251310000 |

Small plastic foot



| Type | Order No. |
|-----------|------------|
| MTA 30 BK | 1168970000 |

Large plastic foot



| Type | Order No. |
|-----------|------------|
| MTA 45 BK | 1962250000 |

Small wall mounting



| Type | Order No. |
|------------------------|------------|
| CP A WALLADAPTER 30 MM | 1461870000 |

Large wall mounting



| Type | Order No. |
|------------------------|------------|
| CP A WALLADAPTER 45 MM | 1461850000 |

Small screwdriver



| Type | Size/AF | a | b | c | Order No. |
|------------------|---------|-----|---|-----|------------|
| SDIK PH 1 X 80 | | | | 80 | 2749890000 |
| SDIS 0.5X3.0X100 | | 0,5 | 3 | 100 | 2749800000 |

Markers



| Type | Colour | Qty. | Order No. |
|----------------------|--------|------|------------|
| SM 18/9.5 K MC NE WS | white | 200 | 1248580000 |

End bracket

For DIN rail TS 35



| Polyamide with fibre glass, screwable | Colour | Torque | Qty. | Order No. |
|---------------------------------------|--------|--------|------|------------|
| WEW 35/1 SW | black | 1.2 Nm | 50 | 1162600000 |

PRO-PM – the efficient plate mounted power supply solution

Powering simple automation applications

A

Simple machines and automation applications require standard power supply solutions with basic functionalities. The new power supplies of the PRO-PM series offer an excellent price/performance ratio and are designed for reliable DC control voltage.

Due to the wide range of variants with output voltages of 5, 12, 24, and 48 V and extensive international approvals, they are suitable for use in many applications. The power range extends from 35 W to 350 W. The individual adaptability makes PRO-PM the right choice for many standard machines.

Your special advantages:

- Especially compact and robust metal housing
- Wide temperature range from -20°C to +70°C – for almost all industrial applications
- Certified according to CE, CCC, and cURus for universal worldwide use



Compact design

The low height of only 30 mm saves space and reduces overall system costs

Wide range of applications

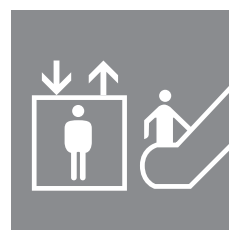
The wide temperature range from - 20°C to +70°C as well as international certificates such as CE, cURus, CCC etc. ensure reliable operation worldwide.



Especially economic

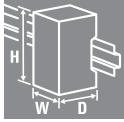
Thanks to the new „Design-to-Cost“ concept, PRO-PM power supplies offer a particularly favourable price/performance ratio.

Optimal for:



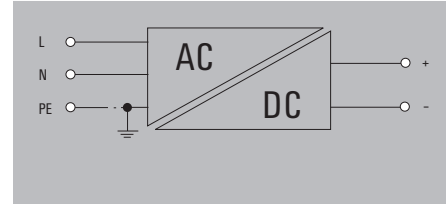
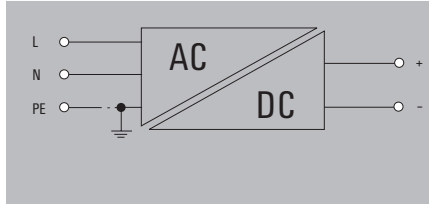
connectPower PRO-PM

connectPower PRO-PM



PRO PM 35W 5V 7A

PRO PM 35W 12V 3A



Technical data

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 2 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 5 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 7 A |
| Output power | 35 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 5.6...6.8 V @ 5 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 82 % |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 223 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 99 / 82 / 30 mm |

| | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 2 A at 230 V AC, characteristic curve C |
| Output voltage | 12 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 3 A |
| Output power | 35 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 13.5...16.2 V @ 12 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 84% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 220 g |
| Approvals | CE; cULus; CCC |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 99 / 82 / 30 mm |

| | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 2 A at 230 V AC, characteristic curve C |
| Output voltage | 12 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 3 A |
| Output power | 35 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 13.5...16.2 V @ 12 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 84% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 220 g |
| Approvals | CE; cULus; CCC |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 99 / 82 / 30 mm |

Note

Note

Note

Ordering data

| Type | Qty. | Order No. |
|------------------|------|------------|
| PRO PM 35W 5V 7A | 1 | 2660200277 |

| Type | Qty. | Order No. |
|------------------|------|------------|
| PRO PM 35W 5V 7A | 1 | 2660200277 |

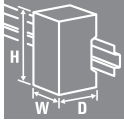
| Type | Qty. | Order No. |
|-------------------|------|------------|
| PRO PM 35W 12V 3A | 1 | 2660200278 |

Note

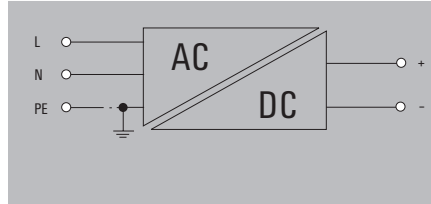
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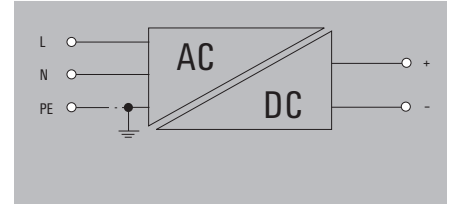
connectPower PRO-PM



PRO PM 35W 24V 1.5A



PRO PM 35W 48V 0.75A



Technical data

| Input | PRO PM 35W 24V 1.5A | PRO PM 35W 48V 0.75A |
|--|--|--|
| Input voltage range AC | 90...264 V AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz | 47...63 Hz |
| Rated input voltage | 100...240 V AC | 100...240 V AC |
| Recommended back-up fuse | 2 A at 230 V AC, characteristic curve C | 2 A at 230 V AC, characteristic curve C |
| Output | | |
| Output voltage | 24 V DC | 48 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 1.5 A | 0.75 A |
| Output power | 35 W | 35 W |
| Derating | > 50°C (2% / 1°C) | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} | < 150 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 28...32 V @ 24 V DC | 55...62 V @ 48 V DC |
| Mains failure bridge-over time | 20 ms | 20 ms |
| Parallel connection option | Yes, with diode module | Yes, with diode module |
| General data | | |
| Ambient temperature (operational) | -20 °C...70 °C | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C | -40 °C...85 °C |
| Humidity | 5...95 % RH | 5...95 % RH |
| Degree of efficiency | 86% | 86% |
| Status indication | LED green: ready | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix | Panel mount, screw fix |
| Net weight | 223 g | 223 g |
| Approvals | CE; cULus; CCC | CE; cULus; CCC |
| Screw connection | | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² | 0.34 / 4 mm ² |
| Depth x width x height | 99 / 82 / 30 mm | 99 / 82 / 30 mm |

Note

Ordering data

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO PM 35W 24V 1.5A | 1 | 2660200279 |
| PRO PM 35W 48V 0.75A | 1 | 2660200280 |

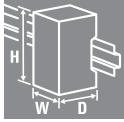
Note

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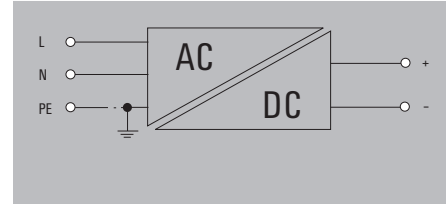
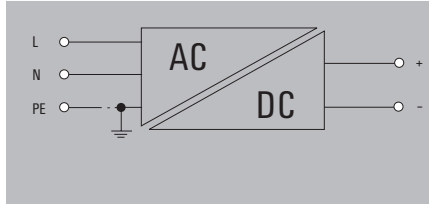
connectPower PRO-PM

connectPower PRO-PM



PRO PM 75W 5V 14A

PRO PM 75W 12V 6A



Technical data

| | |
|--|--|
| Input | |
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 5 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 14 A |
| Output power | 75 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 5.6...6.8 V @ 5 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 82 % |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 240 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 99 / 97 / 30 mm |

| | |
|--|--|
| Input | |
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 12 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 6 A |
| Output power | 75 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 13.5...16.2 V @ 12 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 84% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 240 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 99 / 97 / 30 mm |

| | |
|--|--|
| Input | |
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 12 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 6 A |
| Output power | 75 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 13.5...16.2 V @ 12 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 84% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 240 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 99 / 97 / 30 mm |

Note

Note

Note

Ordering data

| Type | Qty. | Order No. |
|-------------------|------|------------|
| PRO PM 75W 5V 14A | 1 | 2660200281 |

| Type | Qty. | Order No. |
|-------------------|------|------------|
| PRO PM 75W 5V 14A | 1 | 2660200281 |

| Type | Qty. | Order No. |
|-------------------|------|------------|
| PRO PM 75W 12V 6A | 1 | 2660200282 |

Note

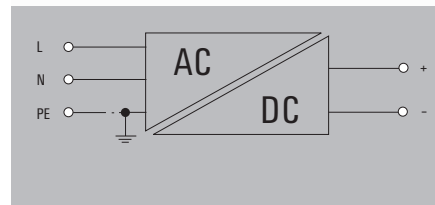
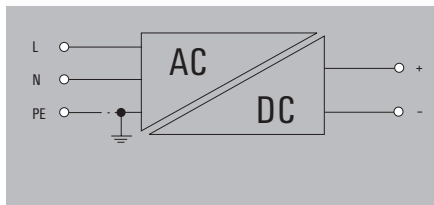
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connectPower PRO-PM

PRO PM 75W 24V 3.2A

PRO PM 75W 48V 1.6A



Technical data

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 24 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 3.2 A |
| Output power | 75 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 28...32 V @ 24 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 240 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 99 / 97 / 30 mm |

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 48 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 1.6 A |
| Output power | 75 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 150 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 55...62 V @ 48 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 240 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 99 / 97 / 30 mm |

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 48 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 1.6 A |
| Output power | 75 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 150 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 55...62 V @ 48 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 240 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 99 / 97 / 30 mm |

Note

Note

Note

Ordering data

| Type | Qty. | Order No. |
|---------------------|------|------------|
| PRO PM 75W 24V 3.2A | 1 | 2660200283 |

| Type | Qty. | Order No. |
|---------------------|------|------------|
| PRO PM 75W 24V 3.2A | 1 | 2660200283 |

| Type | Qty. | Order No. |
|---------------------|------|------------|
| PRO PM 75W 48V 1.6A | 1 | 2660200284 |

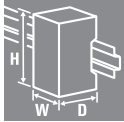
Note

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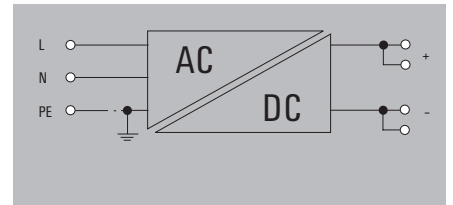
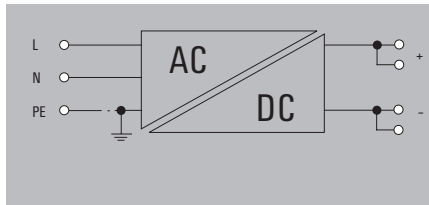
connectPower PRO-PM

connectPower PRO-PM



PRO PM 100W 12V 8.5A

PRO PM 100W 24V 4.5A



Technical data

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 12 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 8.5 A |
| Output power | 100 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 13.5...16.2 V @ 12 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 84% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 330 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 129 / 97 / 30 mm |

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 24 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 4.5 A |
| Output power | 100 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 28...32 V @ 24 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 330 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 129 / 97 / 30 mm |

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 24 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 4.5 A |
| Output power | 100 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 28...32 V @ 24 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 330 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 129 / 97 / 30 mm |

Note

Note

Note

Ordering data

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO PM 100W 12V 8.5A | 1 | 2660200285 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO PM 100W 12V 8.5A | 1 | 2660200285 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO PM 100W 24V 4.5A | 1 | 2660200286 |

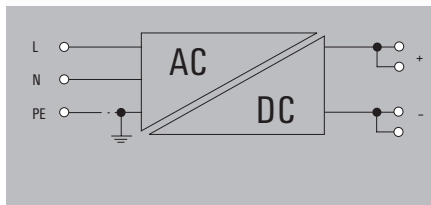
Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM

PRO PM 100W 48V 2.3A



Technical data

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 48 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 2.3 A |
| Output power | 100 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 150 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 55...62 V @ 48 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 330 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 129 / 97 / 30 mm |

Note

Ordering data

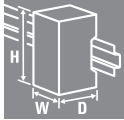
| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO PM 100W 48V 2.3A | 1 | 2660200287 |

Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

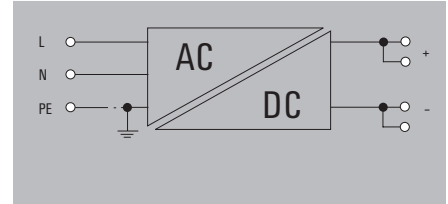
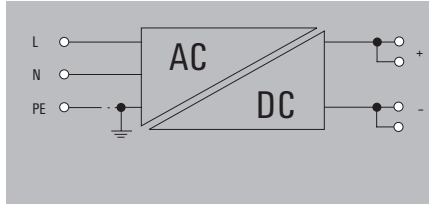
connectPower PRO-PM

connectPower PRO-PM



PRO PM 150W 12V 12.5A

PRO PM 150W 24V 6.5A



Technical data

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 12 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 12.5 A |
| Output power | 150 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 13.5...16.2 V @ 12 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 84% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 394 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 159 / 97 / 30 mm |

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 24 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 6.5 A |
| Output power | 150 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 28...32 V @ 24 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 394 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 159 / 97 / 30 mm |

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 24 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 6.5 A |
| Output power | 150 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 28...32 V @ 24 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 394 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 159 / 97 / 30 mm |

Note

Ordering data

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO PM 150W 12V 12.5A | 1 | 2660200288 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO PM 150W 24V 6.5A | 1 | 2660200289 |

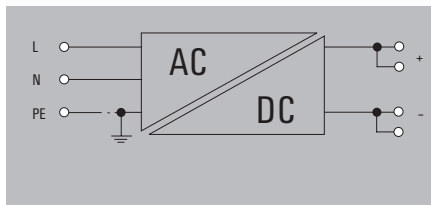
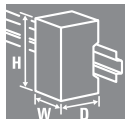
Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM

PRO PM 150W 48V 3.3A



Technical data

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 4 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 48 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 3.3 A |
| Output power | 150 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 150 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 55...62 V @ 48 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 394 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 159 / 97 / 30 mm |

Note

Ordering data

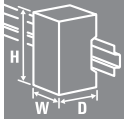
| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO PM 150W 48V 3.3A | 1 | 2660200290 |

Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

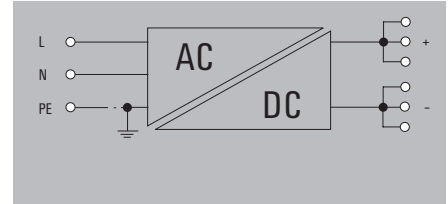
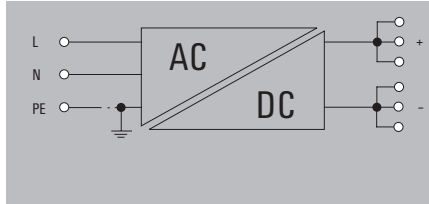
connectPower PRO-PM

connectPower PRO-PM



PRO PM 250W 12V 21A

PRO PM 250W 24V 10.5A



Technical data

| | |
|--|--|
| Input | |
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 6 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 12 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 21 A |
| Output power | 250 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 13.5...16.2 V @ 12 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 84% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 736 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 215 / 115 / 30 mm |

| | |
|--|--|
| Input | |
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 6 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 24 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 10.5 A |
| Output power | 250 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 28...32 V @ 24 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 0.84 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 215 / 115 / 30 mm |

| | |
|--|--|
| Input | |
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 6 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 24 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 10.5 A |
| Output power | 250 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 28...32 V @ 24 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 0.84 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 215 / 115 / 30 mm |

Note

Ordering data

| |
|--|
| |
|--|

| Type | Qty. | Order No. |
|---------------------|------|------------|
| PRO PM 250W 12V 21A | 1 | 2660200291 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO PM 250W 24V 10.5A | 1 | 2660200292 |

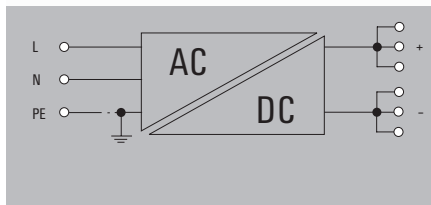
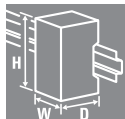
Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM

PRO PM 250W 48V 5.2A



Technical data

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 6 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 48 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 5.2 A |
| Output power | 250 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 150 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 55...62 V @ 48 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 736 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 215 / 115 / 30 mm |

Note

Ordering data

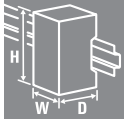
| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO PM 250W 48V 5.2A | 1 | 2660200293 |

Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

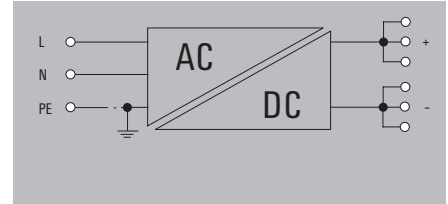
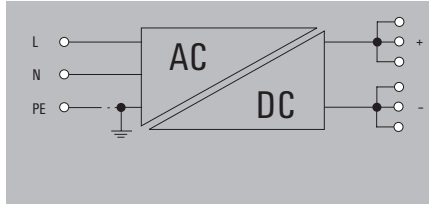
connectPower PRO-PM

connectPower PRO-PM



PRO PM 350W 24V 14.6A

PRO PM 350W 48V 7.3A



Technical data

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 6 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 24 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 14.6 A |
| Output power | 350 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 100 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 28...32 V @ 24 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 750 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 215 / 115 / 30 mm |

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 6 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 48 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 7.3 A |
| Output power | 350 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 150 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 55...62 V @ 48 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 750 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 215 / 115 / 30 mm |

| Input | |
|--|--|
| Input voltage range AC | 90...264 V AC |
| Frequency range AC | 47...63 Hz |
| Rated input voltage | 100...240 V AC |
| Recommended back-up fuse | 6 A at 230 V AC, characteristic curve C |
| Output | |
| Output voltage | 48 V DC |
| Output voltage adjustment | ± 10% nominal output voltage tolerance, adjustable with potentiometer |
| Output current | 7.3 A |
| Output power | 350 W |
| Derating | > 50°C (2% / 1°C) |
| Residual ripple, breaking spikes | < 150 mV _{pp} |
| Overload protection | 120%...180% I _{nominal} , hiccup mode with automatic recovery |
| Surge protection | 55...62 V @ 48 V DC |
| Mains failure bridge-over time | 20 ms |
| Parallel connection option | Yes, with diode module |
| General data | |
| Ambient temperature (operational) | -20 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 % RH |
| Degree of efficiency | 86% |
| Status indication | LED green: ready |
| Mounting position, installation notice | Panel mount, screw fix |
| Net weight | 750 g |
| Approvals | CE; cULus; CCC |
| Screw connection | |
| Connection cross-section, solid, min. / max. | 0.34 / 4 mm ² |
| Depth x width x height | 215 / 115 / 30 mm |

Note

Note

Note

Ordering data

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO PM 350W 24V 14.6A | 1 | 2660200294 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO PM 350W 24V 14.6A | 1 | 2660200294 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO PM 350W 48V 7.3A | 1 | 2660200295 |

Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

An everlasting power supply for buildings and machines

INSTA POWER power supplies – compact, efficient and reliable

A In building automation and mechanical engineering, many small distributors, meter cabinets and electrical distributions must often be taken into account. Efficient power supply solutions with high power density and high efficiency are in demand here.

The single phase INSTA POWER have a broad power spectrum, compact design, and good price-performance ratio. They operate in a temperature range from -25 °C to +70 °C and have wide range of approvals and wide-range voltage input. They are suitable for a variety of applications, which include signal and telecommunication systems and automation systems with low power requirements up to 96 W.

With its unique combination of particularly slim design, proven PUSH IN connection technology and high cost efficiency, INSTA POWER has decisive advantages over competitive products on the market.



Building automation with the compact power package.

The new INSTA POWER is optimal for the use in building automation. Due to the standardized design with small width, this power supply also finds sufficient space in sub-distribution boards and small distribution boards. Furthermore, the extensive power spectrum of INSTA POWER is an additional advantage for compact applications.

Extremely space- and energy-saving

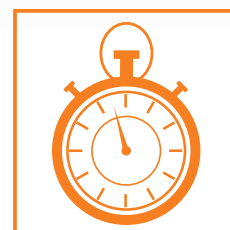
With a basic depth of only 60 mm, INSTA POWER fits into the smallest control cabinets. The high efficiency of up to 91 % and the extremely low no-load power loss of max. 0.5 W ensure minimum energy costs.

**Robust and reliable**

INSTA POWER operates reliably in a temperature range from -25 °C to +70 °C (start-up: -40 °C) and have a high MTBF value of more than 1,000,000 hours.

**Easy and quick to install**

The INSTA POWER devices can either be snapped onto a DIN rail or screwed to the control cabinet wall. The maintenance work and measurements can be carried out conveniently via the PUSH IN connections.

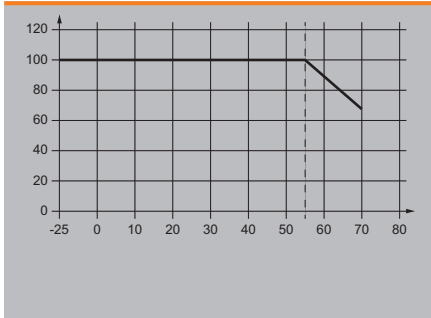


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Derating curve



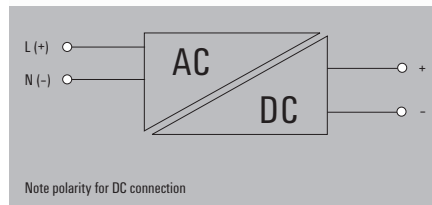
Technical data

| General data | |
|---|--|
| Ambient temperature (operational) | -25 °C...70 °C |
| MTBF | > 750.000 h nach IEC 61709 (SN29500) |
| Protection degree | IP20 |
| Housing version | Plastic, protective insulation |
| Mounting position, installation notice | Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load |
| Signalling | |
| LED green | Operating voltage OK |
| EMC / shock / vibration | |
| Limiting of mains voltage harmonic currents | According to EN 61000-3-2 |
| Noise emission in accordance with EN55032 | Class B |
| Interference immunity test acc. to | EN 61000-4-2 (ESD) EN 61000-4-3 and EN 61000-4-8 (fields) EN 61000-4-4 (burst) EN 61000-4-5 (surge) EN 61000-4-6 (conducted) EN 61000-4-11 (dips), EN 61000-4-11 (Dips) |
| Shock | 15 g in all directions |
| Insulation coordination | |
| Insulation voltage output / earth | 0.5 kV |
| Insulation voltage, input/output | 4 kV |
| Insulation voltage input / earth | 3.5 kV |
| Protection class | II |
| Pollution degree | 2 |
| Electrical safety (applied standards) | |
| For use with electronic equipment | Acc. to EN50178 / VDE0160 |
| Electrical machine equipment | Acc. to EN60204 |
| Protection against dangerous shock currents | Acc. to VDE0106-101 |
| Protective separation / protection against electrical shock | VDE0100-410 / acc. to DIN57100-410 |
| Safety transformers for switch-mode power supplies | According to EN 61558-2-16 |

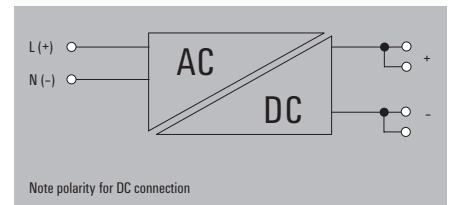
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- 1-phase power supplies

PRO INSTA 16 W 24 V 0.7 A



PRO INSTA 30 W 5 V 6 A



Technical data

| Input | |
|---|--|
| Rated input voltage | |
| Input voltage range AC | |
| AC current consumption | |
| Frequency range AC | |
| DC input voltage range | |
| DC current consumption | |
| Inrush current | |
| Output | |
| Rated output voltage | |
| Nominal output current for U_{nom} | |
| Output voltage | |
| Continuous output current @ $U_{Nominal}$ | |
| Residual ripple, breaking spikes | |
| Capacitive load | |
| General data | |
| Degree of efficiency | |
| Power loss idling / nominal load | |
| Power loss, nominal load | |
| Protection against reverse voltages from the load | |
| Depth x width x height | |
| Net weight | |
| Approvals | |
| Approvals | |

| |
|---|
| 100 - 240 V AC / 120 - 340 V DC |
| 85...264 V AC (derating at 100 V AC) |
| 0.25 A @ 230 V AC / 0.45 A @ 100 V AC |
| 45...65 Hz |
| 95...370 V DC |
| 0.08 A @ 370V DC / 0.22 A @ 120 V DC |
| max. 40 A |
| 24 V DC \pm 1 % |
| 0.7 A @ 55 °C |
| 22...28 V (adjustable via potentiometer on front) |
| 0.7 A @ 55 °C, 0.43 A @ 70 °C |
| < 50 mVss @ U_{Nemo} , Full Load |
| unrestricted |
| 82.5 % |
| 0.4 W |
| 3.6 W |
| 30...35 V DC |
| 60 / 22.5 / 90.5 mm |
| 82 g |
| cCSAus; TUEV |

| |
|---|
| 100 - 240 V AC / 120 - 340 V DC |
| 85...264 V AC (derating at 100 V AC) |
| 0.5 A @ 230 V AC / 1.0 A @ 100 V AC |
| 45...65 Hz |
| 95...370 V DC |
| 0.2 A @ 370 V DC / 0.5 A @ 120 V DC |
| max. 40 A |
| 5 V DC \pm 2 % |
| 6 A @ 55 °C |
| 7...4 V (adjustable via potentiometer on front) |
| 6 A @ 55 °C, 3.75 A @ 70 °C |
| < 50 mVss @ U_{Nemo} , Full Load |
| unrestricted |
| 82 % |
| 0.45 W |
| 5.4 W |
| 8...10 V DC |
| 60 / 72 / 90 mm |
| 256 g |
| cCSAus; TUEV |

| Connection data | |
|---------------------------------------|-----------------|
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| Input | Output |
|------------|------------|
| PUSH IN | PUSH IN |
| 2 (L,N) | 2 (+ / -) |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 24 / 12 | 24 / 12 |

| Input | Output |
|------------|------------|
| PUSH IN | PUSH IN |
| 2 (L,N) | 4 (++ / -) |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 24 / 12 | 24 / 12 |

Ordering data

| Type | Qty. | Order No. |
|------------------------|------|------------|
| PRO INSTA 16W 24V 0.7A | 1 | 2580180000 |
| Note | | |

| Type | Qty. | Order No. |
|---------------------|------|------------|
| PRO INSTA 30W 5V 6A | 1 | 2580210000 |
| Note | | |

| Type | Qty. | Order No. |
|---------------------|------|------------|
| PRO INSTA 30W 5V 6A | 1 | 2580210000 |
| Note | | |

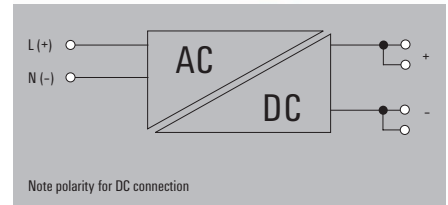
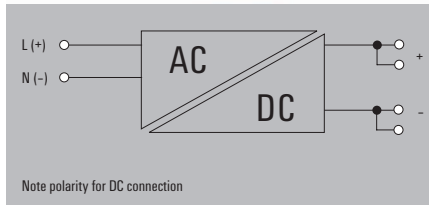
connectPower INSTA POWER

connectPower INSTA POWER

- 1-phase power supplies

PRO INSTA 30 W 12 V 2.6 A

PRO INSTA 30 W 24 V 1.3 A



Technical data

| Input | |
|---|--|
| Rated input voltage | |
| Input voltage range AC | |
| AC current consumption | |
| Frequency range AC | |
| DC input voltage range | |
| DC current consumption | |
| Inrush current | |
| Output | |
| Rated output voltage | |
| Nominal output current for U_{nom} | |
| Output voltage | |
| Continuous output current @ $U_{Nominal}$ | |
| Residual ripple, breaking spikes | |
| Capacitive load | |
| General data | |
| Degree of efficiency | |
| Power loss idling / nominal load | |
| Power loss, nominal load | |
| Protection against reverse voltages from the load | |
| Depth x width x height | |
| Net weight | |
| Approvals | |
| Approvals | |

| |
|--|
| 100 - 240 V AC / 120 - 340 V DC |
| 85...264 V AC (derating at 100 V AC) |
| 0.5 A @ 230 V AC / 1.0 A @ 100 V AC |
| 45...65 Hz |
| 95...370 V DC |
| 0.2 A @ 370 V DC / 0.5 A @ 120 V DC |
| max. 40 A |
| 12 V DC \pm 1 % |
| 2.6 A @ 55 °C |
| 16...9 V (adjustable via potentiometer on front) |
| 2.6 A @ 55 °C, 1.625 A @ 55 °C |
| < 50 mVss @ U_{Ntemp} , Full Load |
| unrestricted |
| 85 % |
| 0.45 W |
| 5.29 W |
| 18...25 V DC |
| 60 / 54 / 90 mm |
| 192 g |
| cCSAus; TUEV |

| |
|---|
| 100 - 240 V AC / 120 - 340 V DC |
| 85...264 V AC (derating at 100 V AC) |
| 0.5 A @ 230 V AC / 1.0 A @ 100 V AC |
| 45...65 Hz |
| 95...370 V DC |
| 0.2 A @ 370 V DC / 0.5 A @ 120 V DC |
| max. 40 A |
| 24 V DC \pm 1 % |
| 1.3 A @ 55 °C |
| 22...28 V (adjustable via potentiometer on front) |
| 1.3 A @ 55 °C, 0.8 A @ 70 °C |
| < 50 mVss @ U_{Ntemp} , Full Load |
| unrestricted |
| 86% |
| 0.45 W |
| 4.88 W |
| 30...35 V DC |
| 60 / 54 / 90 mm |
| 192 g |
| cCSAus; TUEV |

| Connection data | |
|---------------------------------------|-----------------|
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| Input | Output |
|------------|------------|
| PUSH IN | PUSH IN |
| 2 (L,N) | 4 (++ / -) |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 24 / 12 | 24 / 12 |

| Input | Output |
|------------|------------|
| PUSH IN | PUSH IN |
| 2 (L,N) | 4 (++ / -) |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 24 / 12 | 24 / 12 |

Ordering data

| Type | Qty. | Order No. |
|------------------------|------|------------|
| PRO INSTA 30W 12V 2.6A | 1 | 2580220000 |
| Note | | |

| Type | Qty. | Order No. |
|------------------------|------|------------|
| PRO INSTA 30W 24V 1.3A | 1 | 2580190000 |
| Note | | |

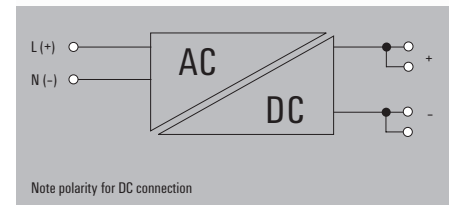
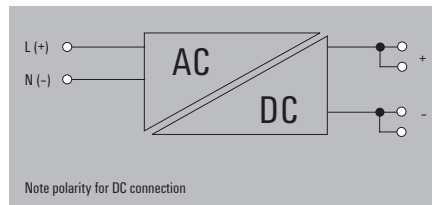
| Type | Qty. | Order No. |
|------------------------|------|------------|
| PRO INSTA 30W 24V 1.3A | 1 | 2580190000 |
| Note | | |

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- 1-phase power supplies

PRO INSTA 60 W 12 V 5 A

PRO INSTA 60 W 24 V 2.5 A



Technical data

| Input | |
|---|--|
| Rated input voltage | |
| Input voltage range AC | |
| AC current consumption | |
| Frequency range AC | |
| DC input voltage range | |
| DC current consumption | |
| Inrush current | |
| Output | |
| Rated output voltage | |
| Nominal output current for U_{nom} | |
| Output voltage | |
| Continuous output current @ $U_{Nominal}$ | |
| Residual ripple, breaking spikes | |
| Capacitive load | |
| General data | |
| Degree of efficiency | |
| Power loss idling / nominal load | |
| Power loss, nominal load | |
| Protection against reverse voltages from the load | |
| Depth x width x height | |
| Net weight | |
| Approvals | |
| Approvals | |

| |
|--|
| 100 - 240 V AC / 120 - 340 V DC |
| 85...264 V AC (derating at 100 V AC) |
| 0.7 A @ 230 V AC / 1.5 A @ 100 V AC |
| 45...65 Hz |
| 95...370 V DC |
| 0.25 A @ 370 V DC / 0.8 A @ 120 V DC |
| max. 40 A |
| 12 V DC \pm 1 % |
| 5 A @ 55 °C |
| 16...9 V (adjustable via potentiometer on front) |
| 5 A @ 55 °C, 3.75 A @ 70 °C |
| < 50 mVss @ U_{Ntemp} , Full Load |
| unrestricted |
| 86% |
| 0.42 W |
| 8.4 W |
| 18...25 V DC |
| 60 / 72 / 90 mm |
| 258 g |
| cCSAus; TUEV |

| |
|---|
| 100 - 240 V AC / 120 - 340 V DC |
| 85...264 V AC (derating at 100 V AC) |
| 0.7 A @ 230 V AC / 1.5 A @ 100 V AC |
| 45...65 Hz |
| 95...370 V DC |
| 0.25 A @ 370 V DC / 0.8 A @ 120 V DC |
| max. 40 A |
| 24 V DC \pm 1 % |
| 2.5 A @ 55 °C |
| 22...28 V (adjustable via potentiometer on front) |
| 2.5 A @ 55 °C, 1.56 A @ 70 °C |
| < 50 mVss @ U_{Ntemp} , Full Load |
| unrestricted |
| 89% |
| 0.44 W |
| 6.6 W |
| 30...35 V DC |
| 60 / 72 / 90 mm |
| 258 g |
| cCSAus; TUEV |

| Connection data | |
|---------------------------------------|-----------------|
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| Input | Output |
|------------|------------|
| PUSH IN | PUSH IN |
| 2 (L,N) | 4 (++ / -) |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 24 / 12 | 24 / 12 |

| Input | Output |
|------------|------------|
| PUSH IN | PUSH IN |
| 2 (L,N) | 4 (++ / -) |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 24 / 12 | 24 / 12 |

Ordering data

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO INSTA 60W 12V 5A | 1 | 2580240000 |
| Note | | |

| Type | Qty. | Order No. |
|------------------------|------|------------|
| PRO INSTA 60W 24V 2.5A | 1 | 2580230000 |
| Note | | |

| Type | Qty. | Order No. |
|------------------------|------|------------|
| PRO INSTA 60W 24V 2.5A | 1 | 2580230000 |
| Note | | |

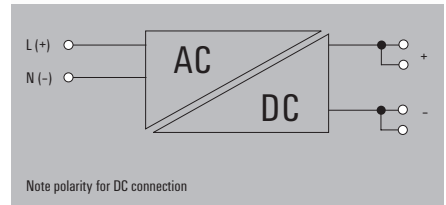
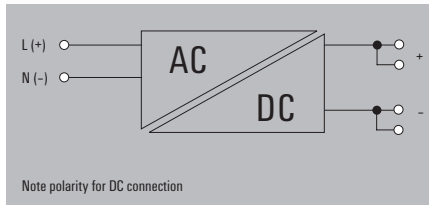
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- 1-phase power supplies

PRO INSTA 90 W 24 V 3.8 A

PRO INSTA 96 W 24 V 4 A



Technical data

| Input | |
|---|--|
| Rated input voltage | |
| Input voltage range AC | |
| AC current consumption | |
| Frequency range AC | |
| DC input voltage range | |
| DC current consumption | |
| Inrush current | |
| Output | |
| Rated output voltage | |
| Nominal output current for U_{nom} | |
| Output voltage | |
| Continuous output current @ $U_{Nominal}$ | |
| Residual ripple, breaking spikes | |
| Capacitive load | |
| General data | |
| Degree of efficiency | |
| Power loss idling / nominal load | |
| Power loss, nominal load | |
| Protection against reverse voltages from the load | |
| Depth x width x height | |
| Net weight | |
| Approvals | |
| Approvals | |

| |
|---|
| 100 - 240 V AC / 120 - 340 V DC |
| 85...264 V AC (derating at 100 V AC) |
| 1.2 A @ 230 V AC / 2.4 A @ 100 V AC |
| 45...65 Hz |
| 95...370 V DC |
| 0.4 A @ 370 V DC / 1.3 A @ 120 V DC |
| max. 40 A |
| 24 V DC ± 1 % |
| 3.8 A @ 55 °C |
| 22...25 V (adjustable via potentiometer on front) |
| 3.8 A @ 55 °C, 2.38 A @ 70 °C |
| < 50 mVss @ U_{Nemo} , Full Load |
| unrestricted |
| 87 % |
| 0.45 W |
| 11.7 W |
| 30...35 V DC |
| 60 / 90 / 90 mm |
| 352 g |
| cCSAus; TUEV |

| |
|---|
| 100 - 240 V AC / 120 - 340 V DC |
| 85...264 V AC (derating at 100 V AC) |
| 1.2 A @ 230 V AC / 2.5 A @ 100 V AC |
| 45...65 Hz |
| 95...370 V DC |
| 0.4 A @ 370 V DC / 1.35 A @ 120 V DC |
| max. 40 A |
| 24 V DC ± 1 % |
| 4 A @ 55 °C |
| 22...28 V (adjustable via potentiometer on front) |
| 4 A @ 55 °C, 2.5 A @ 70 °C |
| < 50 mVss @ U_{Nemo} , Full Load |
| unrestricted |
| 87 % |
| 0.45 W |
| 12.48 W |
| 30...35 V DC |
| 60 / 90 / 90 mm |
| 352 g |
| cCSAus; TUEV |

| Connection data | |
|---------------------------------------|-----------------|
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| Input | Output |
|------------|------------|
| PUSH IN | PUSH IN |
| 2 (L,N) | 4 (++ / -) |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 24 / 12 | 24 / 12 |

| Input | Output |
|------------|------------|
| PUSH IN | PUSH IN |
| 2 (L,N) | 4 (++ / -) |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 24 / 12 | 24 / 12 |

Ordering data

| Type | Qty. | Order No. |
|------------------------|------|------------|
| PRO INSTA 90W 24V 3.8A | 1 | 2580250000 |
| Note | | |

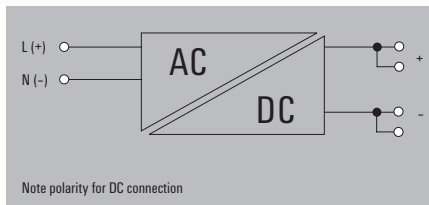
| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO INSTA 96W 24V 4A | 1 | 2580260000 |
| Note | | |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO INSTA 96W 24V 4A | 1 | 2580260000 |
| Note | | |

connectPower INSTA POWER

- 1-phase power supplies

PRO INSTA 96 W 48 V 2 A



Technical data

| Input | |
|---|---|
| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
| Input voltage range AC | 85...264 V AC (derating at 100 V AC) |
| AC current consumption | 1.2 A @ 230 V AC / 2.5 A @ 100 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 95...370 V DC |
| DC current consumption | 0.4 A @ 370 V DC / 1.35 A @ 120 V DC |
| Inrush current | max. 40 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Nominal output current for U_{nom} | 2 A @ 55 °C |
| Output voltage | 56...35 V (adjustable via potentiometer on front) |
| Continuous output current @ $U_{Nominal}$ | 2 A @ 55 °C, 1.25 A @ 70 °C |
| Residual ripple, breaking spikes | < 50 mV _{rms} @ U_{Nemo} , Full Load |
| Capacitive load | unrestricted |
| General data | |
| Degree of efficiency | 89% |
| Power loss idling / nominal load | 0.45 W |
| Power loss, nominal load | 10.56 W |
| Protection against reverse voltages from the load | 58...62 V DC |
| Depth x width x height | 60 / 90 / 90 mm |
| Net weight | 361 g |
| Approvals | |
| Approvals | cCSAus; TUEV |

| Rated input voltage | 100 - 240 V AC / 120 - 340 V DC |
|---|---|
| Input voltage range AC | 85...264 V AC (derating at 100 V AC) |
| AC current consumption | 1.2 A @ 230 V AC / 2.5 A @ 100 V AC |
| Frequency range AC | 45...65 Hz |
| DC input voltage range | 95...370 V DC |
| DC current consumption | 0.4 A @ 370 V DC / 1.35 A @ 120 V DC |
| Inrush current | max. 40 A |
| Output | |
| Rated output voltage | 48 V DC ± 1 % |
| Nominal output current for U_{nom} | 2 A @ 55 °C |
| Output voltage | 56...35 V (adjustable via potentiometer on front) |
| Continuous output current @ $U_{Nominal}$ | 2 A @ 55 °C, 1.25 A @ 70 °C |
| Residual ripple, breaking spikes | < 50 mV _{rms} @ U_{Nemo} , Full Load |
| Capacitive load | unrestricted |
| General data | |
| Degree of efficiency | 89% |
| Power loss idling / nominal load | 0.45 W |
| Power loss, nominal load | 10.56 W |
| Protection against reverse voltages from the load | 58...62 V DC |
| Depth x width x height | 60 / 90 / 90 mm |
| Net weight | 361 g |
| Approvals | |
| Approvals | cCSAus; TUEV |

| Connection data | |
|---------------------------------------|----------------------------|
| Connection system | PUSH IN |
| Number of terminals | 4 (++, -) |
| Wire cross-section, rigid min/max | 0.25 / 2.5 mm ² |
| Wire cross-section, flexible min/max | 0.25 / 2.5 mm ² |
| Wire cross-section, AWG/kcmil min/max | 24 / 12 |
| Note | |

| Input | Output |
|------------|------------|
| PUSH IN | PUSH IN |
| 2 (L,N) | 4 (++, -) |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 0.25 / 2.5 | 0.25 / 2.5 |
| 24 / 12 | 24 / 12 |

Ordering data

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO INSTA 96W 48V 2A | 1 | 2580270000 |

| Type | Qty. | Order No. |
|----------------------|------|------------|
| PRO INSTA 96W 48V 2A | 1 | 2580270000 |

| Note |
|------|
| |

Small screwdriver



| Type | Size/AF | a | b | c | Order No. |
|------------------|---------|-----|---|-----|------------|
| SDIS 0.5X3.0X100 | | 0.5 | 3 | 100 | 2749800000 |

Markers



| Type | Colour | Qty. | Order No. |
|----------------------|--------|------|------------|
| SM 18/9.5 K MC NE WS | white | 200 | 1248580000 |

End bracket

For DIN rail TS 35



| Polyamide with fibre glass, screwable | Colour | Torque | Qty. | Order No. |
|---------------------------------------|--------|--------|------|------------|
| WEW 35/1 SW | black | 1.2 Nm | 50 | 1162600000 |

Electronic load monitoring

| | | |
|-----------------------------------|----------|-----|
| Electronic load monitoring | Overview | B.2 |
| | topGUARD | B.3 |
| | maxGUARD | B.8 |

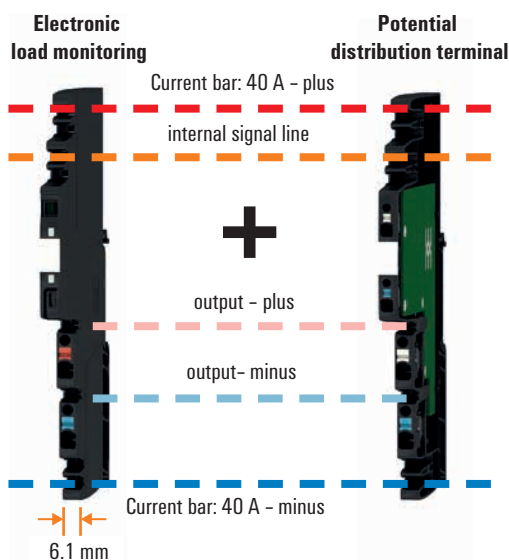
Control current distribution further developed

Load monitoring and potential distribution in one overall solution

New ways in the control current distribution increase the efficiency in the operation of machines and plants. The combination of load monitoring and potential distribution terminals saves up to 50 % space and up to 20 % wiring costs, while the free combinability of numerous single-channel and four-channel variants optimizes material costs. Benefit from the advantages of a modular system that offers you high flexibility and adapts optimally to any application.



Combination of load monitoring and potential distribution



- Three main connection channels: positive, negative and internal signals
- Simple to increase the number of contacts thanks to crossconnection option in the potential distribution terminals



Intelligent protection of DC loads

topGUARD load monitoring system with communication via IO-LINK

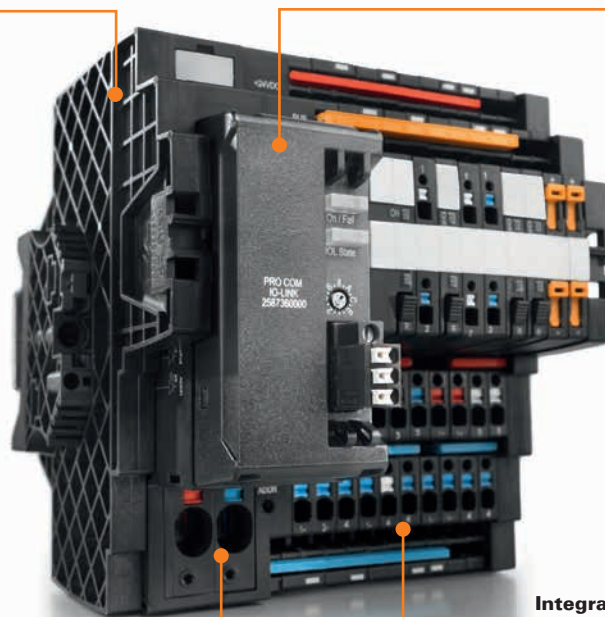
Modern machines and plants require load monitoring systems capable of communication. The IO-Link-capable load monitoring system topGUARD offers remote control options, full data transparency, and reliable protection of the 24 V system voltage.

topGUARD is an outstanding supplement to the IO-LINK-capable PROtop power supplies for innovative power management systems. It saves space and time during device installation through an innovative approach to integrated distribution of potential. Parameterisation, control, and provision of all operating data are carried out by plugging in the IO-Link module and integrating an IODD file. The module can be used for PROtop power supplies as well as for topGUARD load monitoring.

IO-LINK capable

The IO-Link-capable load monitoring system topGUARD offers remote control options, provides operating data for optimal condition monitoring, and enables entirely new control solutions.

Data transparency and remote control thanks to IO-Link.



Modular and innovative

The modular concept enables custom-fit solutions. The first of its kind, voltage-adaptive class 2 load monitoring allows the continued use of 18 to 30 V DC operating voltage.

Integrated distribution of potential

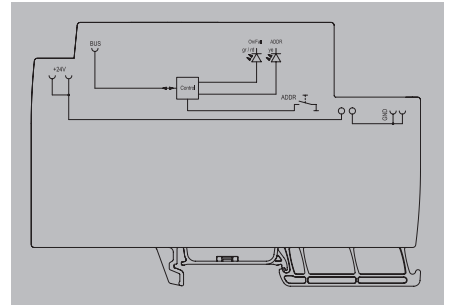
The integrated distribution of potential, well known from the maxGUARD concept, takes up significantly less space and saves valuable time during installation.



topGUARD

topGUARD – power-feed module

TGD FIM-C



B

Technical data

| |
|--|
| Input |
| Input fuse (internal) |
| DC input voltage range |
| Rated input voltage |
| max. admissible residual ripple at the input |
| General data |
| Protection degree |
| Surge protection input, bus |
| Overvoltage category |
| Signalling |
| Yellow LED |
| LED green/red |
| Connection data |
| Number of terminals |
| Wire cross-section, AWG/kcmil min/max |
| Wire cross-section, flexible min/max |
| Wire cross-section, rigid min/max |
| Screwdriver blade |
| Approvals |
| Approvals |
| Note |

| |
|--|
| No |
| 18...30 V DC |
| 24 V DC |
| 100 mVpp |
| IP20 |
| Suppressor diode |
| III |
| Address is assigned, Addresses being assigned (slow flashing, 1.5 Hz), Address error (fast flashing, 13 Hz) |
| Station ok (slow flashing green, 1.5 Hz), Device ok (fast flashing green, 13 Hz), Station error (slow flashing red, 1.5 Hz), Device error (fast flashing red, 13 Hz) |
| 2 (+,-) |
| 18..6 |
| 0.75...16 mm ² |
| 0.75...10 mm ² |
| 1.2 x 6.5 |
| cULus; CE |

Ordering data

| |
|----------------------|
| Rated current |
| Note |

| Type | Qty. | Order No. |
|-----------|------|-------------------|
| TGD FIM-C | 1 | 2625000000 |

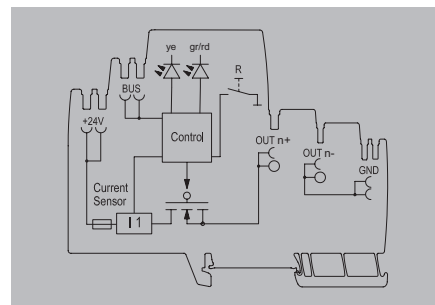
Accessories

| |
|-------------|
| Note |
|-------------|

| Type | Qty. | Order No. |
|-----------------|------|-------------------|
| PRO COM IO-LINK | 1 | 2587360000 |

topGUARD – load monitoring adjustable

TGD ELM-12



Technical data

| |
|--|
| Input |
| Input fuse (internal) |
| DC input voltage range |
| Rated input voltage |
| max. admissible residual ripple at the input |
| Output |
| Connection system |
| Triggering characteristic |
| Adjustable range |
| adjustable rated current |
| Capacitive load |
| Function key |
| Function key |
| General data |
| Relay to activate the output |
| Protection degree |
| Surge protection input, output, bus |
| Overvoltage category |
| Signalling |
| Yellow LED |
| LED green |
| Red LED |
| Connection data |
| Number of terminals |
| Wire cross-section, AWG/kcmil min/max |
| Wire cross-section, flexible min/max |
| Wire cross-section, rigid min/max |
| Screwdriver blade |
| Approvals |
| Approvals |
| Note |

| |
|---|
| Yes |
| 18...30 V DC |
| 24 V DC |
| 100 mVpp |
| PUSH IN |
| see characteristic curve |
| 4-12 A |
| Yes |
| 20,000 µF |
| Activation time < 3s, Reset, ON |
| No |
| IP20 |
| Suppressor diode |
| III |
| Address is assigned, Address is being assigned (flashing) |
| Operation (failure-free), Early warning: I Out > 90% I Rated (flashing) |
| Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| 4 (++ / -) |
| 26...12 |
| 0.14...2.5 mm ² |
| 0.14...2.5 mm ² |
| 0.6 x 3.5 |
| cULus; CE |

Ordering data

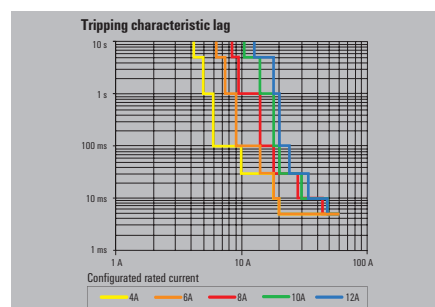
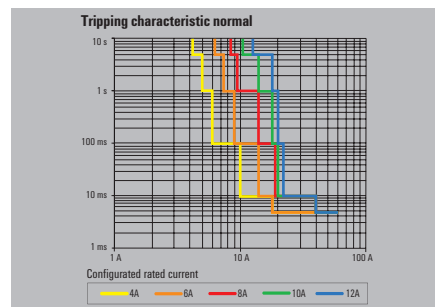
| | |
|----------------------|------|
| Rated current | 12 A |
| Note | |

| Type | Qty. | Order No. |
|------------|------|------------|
| TGD ELM-12 | 1 | 2624990000 |

Accessories

| |
|-------------|
| Note |
|-------------|

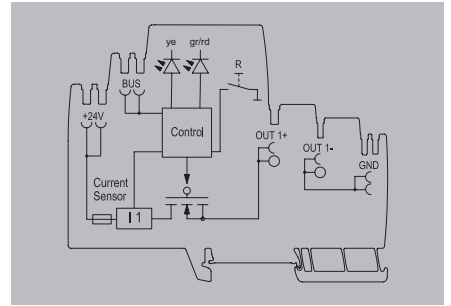
| Type | Qty. | Order No. |
|---------|------|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |



topGUARD

topGUARD – Adjustable load monitoring

TGD ELM-6



B

Technical data

| |
|--|
| Input |
| Input fuse (internal) |
| DC input voltage range |
| Rated input voltage |
| max. admissible residual ripple at the input |
| Output |
| Connection system |
| Triggering characteristic |
| Adjustable range |
| Capacitive load |
| adjustable rated current |
| Function key |
| Function key |
| General data |
| Relay to activate the output |
| Protection degree |
| Surge protection input, output, bus |
| Overvoltage category |
| Signalling |
| Yellow LED |
| LED green |
| Red LED |
| Connection data |
| Number of terminals |
| Wire cross-section, AWG/kcmil min/max |
| Wire cross-section, flexible min/max |
| Wire cross-section, rigid min/max |
| Screwdriver blade |
| Approvals |
| Approvals |
| Note |

| |
|---|
| Yes |
| 18...30 V DC |
| 24 V DC |
| 100 mVpp |
| PUSH IN |
| see characteristic curve |
| 1- 6 A |
| 15,000 µF |
| Yes |
| Activation time < 3s, Reset, ON |
| No |
| IP20 |
| Suppressor diode |
| III |
| Address is assigned, Address is being assigned (flashing) |
| Operation (failure-free), Early warning: I Out > 90% I Rated (flashing) |
| Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| 2 (+ / -) |
| 26...12 |
| 0.14...2.5 mm ² |
| 0.14...2.5 mm ² |
| 0.6 x 3.5 |
| cULus; CE |

Ordering data

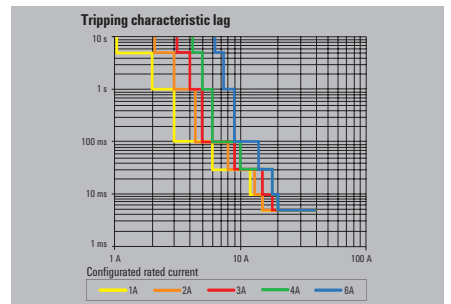
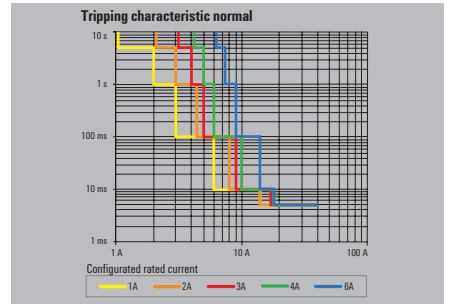
| | |
|----------------------|-----|
| Rated current | 6 A |
| Note | |

| Type | Qty. | Order No. |
|-----------|------|------------|
| TGD ELM-6 | 1 | 2624980000 |

Accessories

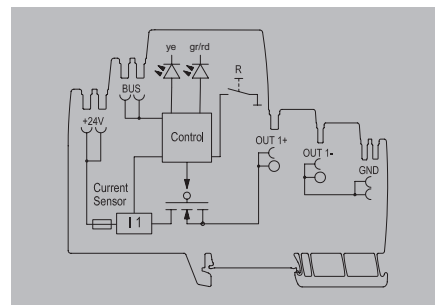
| |
|-------------|
| Note |
|-------------|

| Type | Qty. | Order No. |
|---------|------|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |



topGUARD – Load monitoring class2

TGD ELM-4 CL2



Technical data

| |
|--|
| Input |
| Input fuse (internal) |
| DC input voltage range |
| Rated input voltage |
| max. admissible residual ripple at the input |
| Output |
| Connection system |
| Triggering characteristic |
| Capacitive load |
| adjustable rated current |
| Function key |
| Function key |
| General data |
| Relay to activate the output |
| Protection degree |
| Surge protection input, output, bus |
| Overvoltage category |
| Signalling |
| Yellow LED |
| LED green |
| Red LED |
| Connection data |
| Number of terminals |
| Wire cross-section, AWG/kcmil min/max |
| Wire cross-section, flexible min/max |
| Wire cross-section, rigid min/max |
| Screwdriver blade |
| Approvals |
| Approvals |
| Note |

| |
|---|
| Yes |
| 18...30 V DC |
| 24 V DC |
| 100 mVpp |
| PUSH IN |
| see characteristic curve |
| 4.700 µF |
| Yes |
| Activation time < 3s, Reset, ON |
| No |
| IP20 |
| Suppressor diode |
| III |
| Address is assigned, Address is being assigned (flashing) |
| Operation (failure-free), Early warning: I Out > 90% I Rated (flashing) |
| Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| 2 (+ / -) |
| 26...12 |
| 0.14...2.5 mm ² |
| 0.14...2.5 mm ² |
| 0.6 x 3.5 |
| cULus; CE |

Ordering data

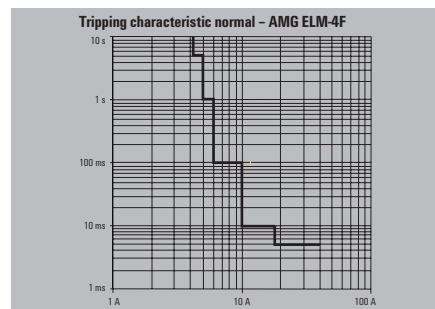
| | |
|----------------------|-----|
| Rated current | 4 A |
| Note | |

| Type | Qty. | Order No. |
|---------------|------|------------|
| TGD ELM-4 CL2 | 1 | 2656670000 |

Accessories

| |
|-------------|
| Note |
|-------------|

| Type | Qty. | Order No. |
|---------|------|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |



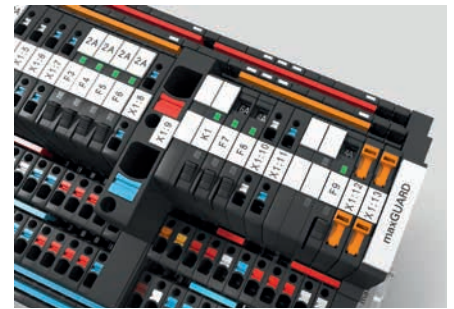
High level of modularity for optimal adaptability

Customised solutions made simple with maxGUARD

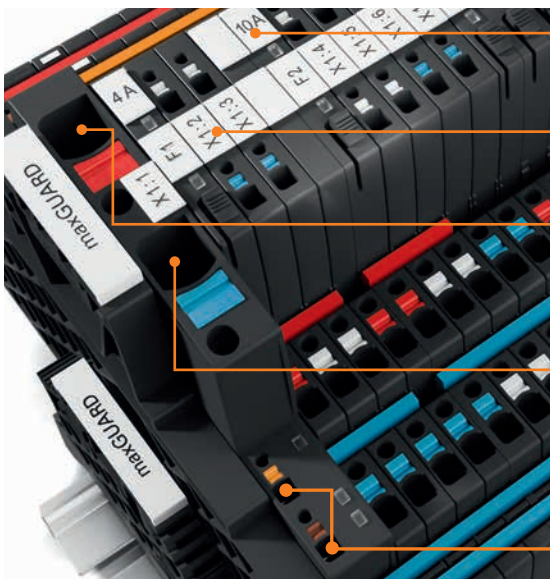
Fail-safe and maintenance-friendly control voltage distributions that can be installed in a time- and space-saving manner are a must for efficient machine and facility operation. With the new maxGUARD system, the terminal blocks (previously installed separately) for distributing potential to the outputs of the electronic load monitors become an integral part of a 24 V DC control voltage distribution solution. The new combination of load monitoring and potential distribution saves time during installation, increases safety against failure and reduces the amount of space required on the terminal rail by 50 %.

Extreme ease of servicing

Sophisticated operating, testing and connection elements permit safe access to all voltage potentials and load circuits during commissioning and maintenance.



Sophisticated arrangement of connections and markers ensures clarity



Markers for current strength

Continuous marker channel for equipment ID

Supply terminal (positive): 16 mm²

Supply terminal (negative): 16 mm²

Reset input and alarm output for connecting to the PLC

Integrated test point

Consistently integrated test points in the maxGUARD control voltage distribution's input and output speed up troubleshooting operations.



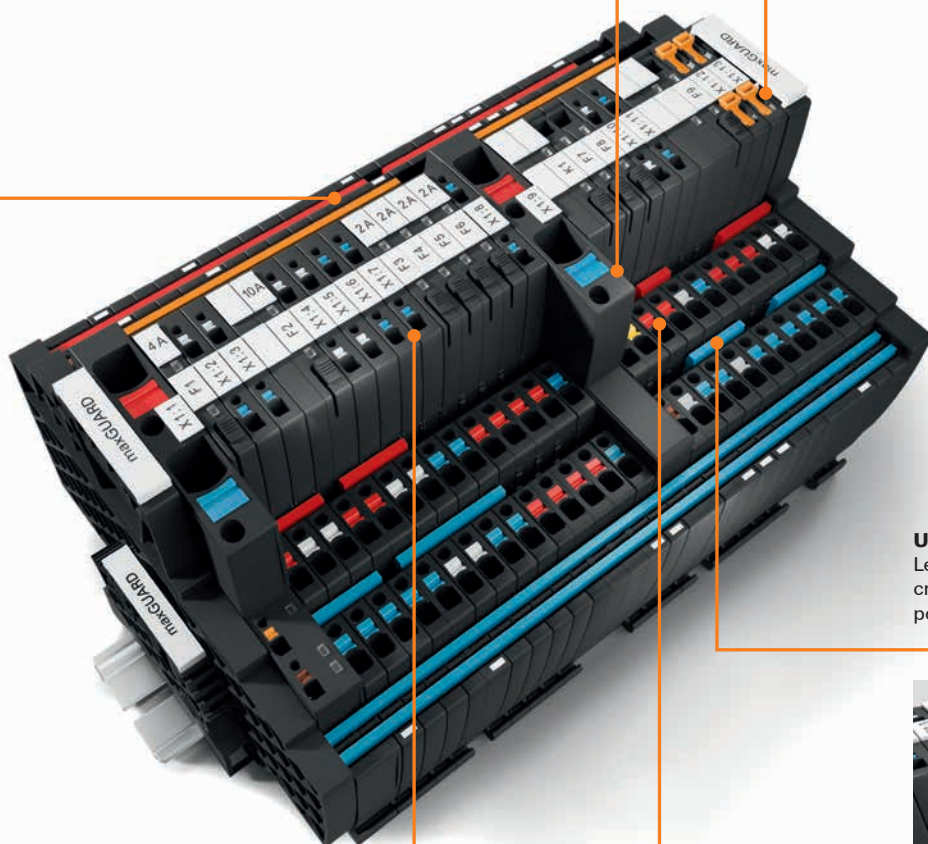
New approvals:
**Marine,
Class 2, Ex**

Practical disconnecting lever

Potential distributor with a disconnecting lever for simple galvanic isolation of the load circuit for testing and checking purposes.



B



Unique cross-connectors

Less time and effort needed for wiring due to cross-connections between load monitoring and potential distribution terminals.



Time saving
of up to
20 %

Particularly space-saving

Electronic load monitors and potential distributors with a 6.1 mm pitch.

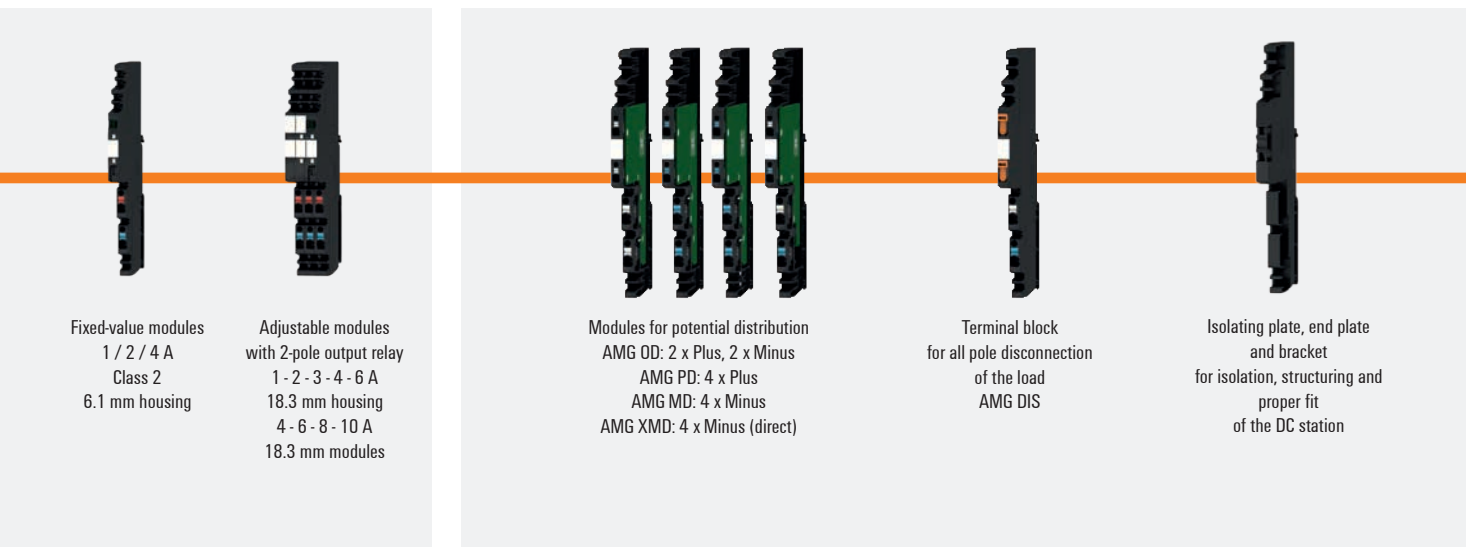


Space saving
up to
50 %

Can be used in a customised way

The sheer range of variants and the very different potential distribution terminals and additional components enable customised solutions at all times.

Potential distribution and accessories



Fixed-value modules
1 / 2 / 4 A
Class 2
6.1 mm housing

Adjustable modules
with 2-pole output relay
1 - 2 - 3 - 4 - 6 A
18.3 mm housing
4 - 6 - 8 - 10 A
18.3 mm modules

Modules for potential distribution
AMG OD: 2 x Plus, 2 x Minus
AMG PD: 4 x Plus
AMG MD: 4 x Minus
AMG XMD: 4 x Minus (direct)

Terminal block
for all pole disconnection
of the load
AMG DIS

Isolating plate, end plate
and bracket
for isolation, structuring and
proper fit
of the DC station

Load monitoring (fixed value)
Class 2

Electronic load monitoring with fixed rated current (without I > 90 % pre warning)
Class 2 Approval

Load monitoring with relay

Electronic load monitoring with 2-pole output relay for allpole load disconnection; triggering current and triggering characteristic adjustable (with I > 90% function)

Potential distributor

Flexible application through various potential distributor.

End plate and Separation plate

End plate for mechanical stabilization. Separation plate for logical subdivision.

| Type | Order No. |
|----------------|------------|
| AMG ELM-1F CL2 | 2491270000 |
| AMG ELM-2F CL2 | 2491280000 |
| AMG ELM-4F CL2 | 2491290000 |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| Type | Order No. |
|----------------|------------|
| AMG ELM-6D CO | 2082440000 |
| AMG ELM-10D CO | 2082470000 |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| Type | Order No. |
|------------|------------|
| AMG MD | 2122930000 |
| AMG MD EX | 2495040000 |
| AMG OD | 2122910000 |
| AMG OD EX | 2495090000 |
| AMG PD | 2122920000 |
| AMG PD EX | 2495070000 |
| AMG XMD | 2122940000 |
| AMG XMD EX | 2495080000 |
| AMG DIS | 2123050000 |
| AMG DIS EX | 2495100000 |
| | |
| | |

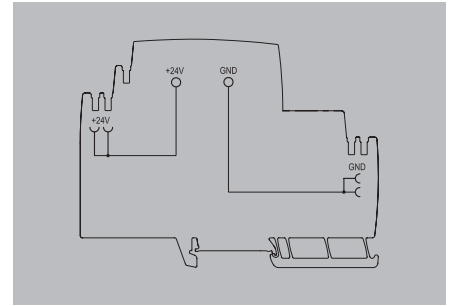
| Type | Order No. |
|------------|------------|
| AMG PP | 2123000000 |
| AMG EP | 2495380000 |
| AMG EP KIT | 2500760000 |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

maxGUARD

maxGUARD – power-feed module

Passive power-feed module

AMG FIM-0



B

Technical data

| Input | |
|--|---------------------------|
| Input fuse (internal) | No |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| max. admissible residual ripple at the input | 100 mVpp |
| General data | |
| Protection degree | IP20 |
| Control inputs | No |
| Overvoltage category | III |
| Connection data | |
| Number of terminals | 2 (+,-) |
| Wire cross-section, AWG/kcmil min/max | 18...6 |
| Wire cross-section, flexible min/max | 0.75...16 mm ² |
| Wire cross-section, rigid min/max | 0.75...10 mm ² |
| Screwdriver blade | 1.2 x 6.5 |
| Approvals | |
| Approvals | CE; cULus; EAC; TUEV |
| Note | |

| | | |
|--|---------------------------|--|
| Input | | |
| Input fuse (internal) | No | |
| DC input voltage range | 18...30 V DC | |
| Rated input voltage | 24 V DC | |
| max. admissible residual ripple at the input | 100 mVpp | |
| General data | | |
| Protection degree | IP20 | |
| Control inputs | No | |
| Overvoltage category | III | |
| Connection data | | |
| Number of terminals | 2 (+,-) | |
| Wire cross-section, AWG/kcmil min/max | 18...6 | |
| Wire cross-section, flexible min/max | 0.75...16 mm ² | |
| Wire cross-section, rigid min/max | 0.75...10 mm ² | |
| Screwdriver blade | 1.2 x 6.5 | |
| Approvals | | |
| Approvals | CE; cULus; EAC; TUEV | |
| Note | | |

Ordering data

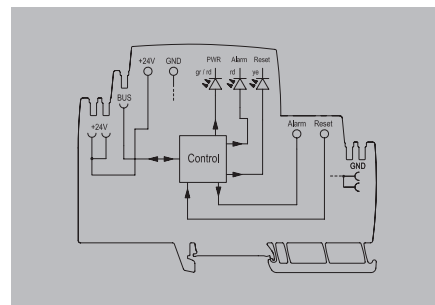
| Rated current | |
|---------------|--|
| Note | |

| Type | Qty. | Order No. |
|-----------|------|------------|
| AMG FIM-0 | 1 | 2081870000 |

maxGUARD – power-feed module

Active power-feed module with reset and alarm function

AMG FIM-C



Technical data

| Input | |
|--|---|
| Input fuse (internal) | No |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 20 mA |
| Current consumption (full load) | 120 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| General data | |
| Protection degree | IP20 |
| Control inputs | Reset |
| Surge protection input, output, bus | Suppressor diode |
| Overtoltage category | III |
| Signalling | |
| Yellow LED | External reset is signalled, Alarm is signalled |
| LED green | Operating voltage OK |
| Red LED | Alarm |
| Transistor output, positive-switching | Alarm |
| Connection data | |
| Number of terminals | 2 (+,-) |
| Wire cross-section, AWG/kcmil min/max | 18...6 |
| Wire cross-section, flexible min/max | 0.75...16 mm ² |
| Wire cross-section, rigid min/max | 0.75...10 mm ² |
| Screwdriver blade | 1.2 x 6.5 |
| Approvals | |
| Approvals | CE; cULus; EAC; TUEV |
| Note | |

| Input | | |
|---|--|--|
| No | | |
| 18...30 V DC | | |
| 24 V DC | | |
| 20 mA | | |
| 120 mA | | |
| 100 mVpp | | |
| General data | | |
| IP20 | | |
| Reset | | |
| Suppressor diode | | |
| III | | |
| Signalling | | |
| External reset is signalled, Alarm is signalled | | |
| Operating voltage OK | | |
| Alarm | | |
| Alarm | | |
| Connection data | | |
| 2 (+,-) | | |
| 18...6 | | |
| 0.75...16 mm ² | | |
| 0.75...10 mm ² | | |
| 1.2 x 6.5 | | |
| Approvals | | |
| CE; cULus; EAC; TUEV | | |
| Note | | |

Ordering data

| Rated current | |
|---------------|--|
| | |
| Note | |
| | |

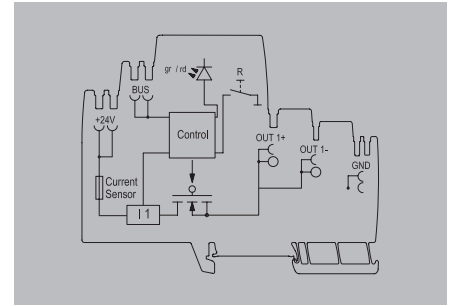
| Type | Qty. | Order No. |
|-----------|------|------------|
| AMG FIM-C | 1 | 2081880000 |
| | | |

maxGUARD

maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed current (without I > 90% function > 90 %)

AMG ELM - xF



B

Technical data

| Input | |
|--|--|
| Input fuse (internal) | Yes |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) / Current consumption (full load) | 25 mA / I _{OUT} +30 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| Output | |
| Connection system | PUSH IN |
| Triggering characteristic | see characteristic curve |
| Switch-on delay | 1 s |
| Capacitive load | 2080420000: 10,000 µF; 2080480000: 10,000 µF; 2080490000: 10,000 µF; 2080500000: 15,000 µF |
| Function key | |
| LED initial state | LED green, in operation LED flashing red, load monitoring has triggered (disconnected) LED red (permanently lit) |
| Pressing the button | > 0.1 to 2 s (manual disconnect) > 0.1 to 2 s (confirm and reset) > 0.1 to 2 s (restart) |
| LED, subsequent state | Red LED switched off Red LED switched off LED green switched on |
| General data | |
| Relay to activate the output | No |
| Surge protection input, output, bus | Suppressor diode |
| Protection degree / Overvoltage category | IP20 / III |
| Signalling | |
| LED green | Operation (failure-free) |
| Red LED | Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| Connection data | |
| Number of terminals | 2 (+ / -) |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | CE; cULus; EAC; TUEV |
| Note | |

Ordering data

| Rated current | |
|---------------|--|
| 1 A | |
| 2 A | |
| 4 A | |
| 6 A | |

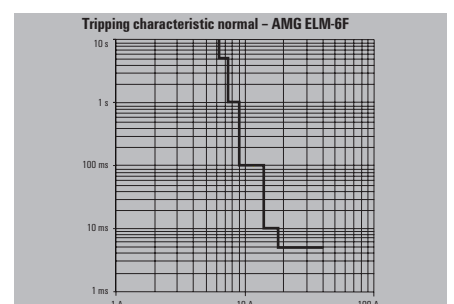
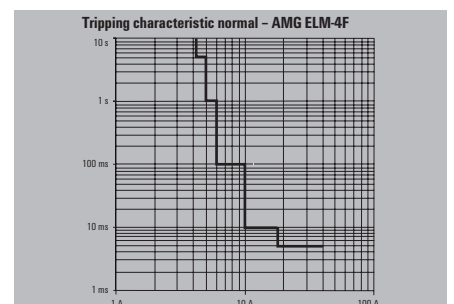
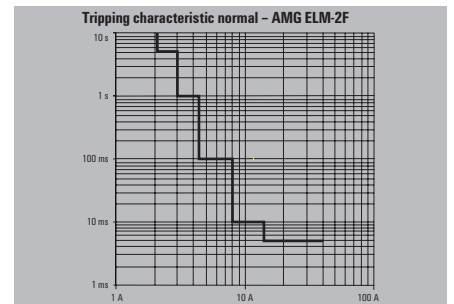
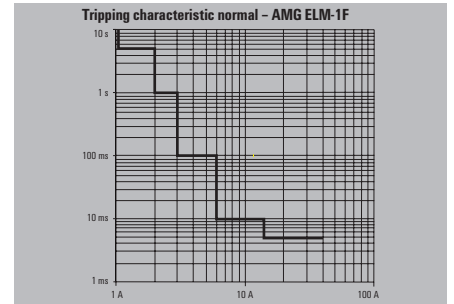
Note

Accessories

| Type | Qty. | Order No. |
|---------|------|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |

Note

| Type | Qty. | Order No. |
|------------|------|------------|
| AMG ELM-1F | 1 | 2080420000 |
| AMG ELM-2F | 1 | 2080480000 |
| AMG ELM-4F | 1 | 2080490000 |
| AMG ELM-6F | 1 | 2080500000 |



maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed rated current (without I > 90 % pre warning > 90 %)

Technical data

| Input | |
|--|---|
| Input fuse (internal) | Yes |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 25 mA |
| Current consumption (full load) | I _{OUT} +30 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| Output | |
| Connection system | PUSH IN |
| Triggering characteristic | see characteristic curve |
| Switch-on delay | 1 s |
| Capacitive load | 208060000: 15,000 µF; 208065000: 20,000 µF |
| Function key | |
| LED initial state | LED green, in operation |
| Pressing the button | > 0.1 to 2 s (manual disconnect) |
| LED, subsequent state | LED flashing red, load monitoring has triggered (disconnected) |
| Output, subsequent state | LED red (permanently lit) |
| General data | |
| Relay to activate the output | No |
| Protection degree | IP20 |
| Surge protection input, output, bus | Suppressor diode |
| Oversvoltage category | III |
| Signalling | |
| LED green | Operation (failure-free) |
| Red LED | Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| Connection data | |
| Number of terminals | 4 (++ / -) |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | CE; cULus; EAC; TUEV |
| Note | |

Ordering data

| Rated current | |
|---------------|------|
| | 8 A |
| | 10 A |
| Note | |

Accessories

| Note | |
|------|--|
|------|--|

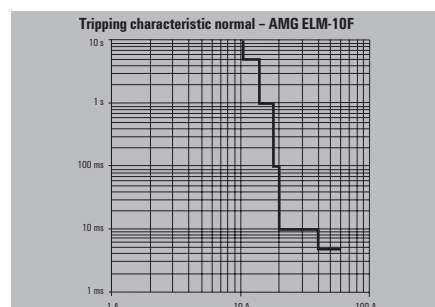
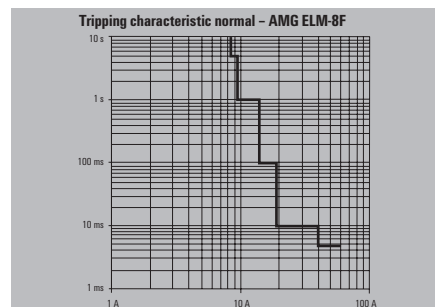
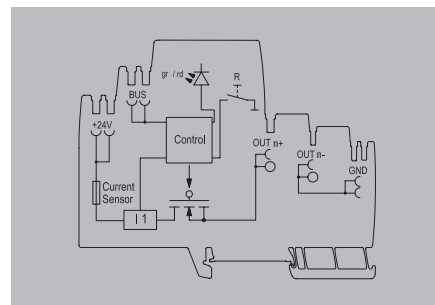
AMG ELM - xF



| Tripping characteristic normal – AMG ELM-8F | | |
|--|------|-------|
| 10 s | 10 A | 100 A |
| 1 s | | |
| 100 ms | | |
| 10 ms | | |
| 1 ms | | |
| 1 A | 10 A | 100 A |
| Tripping characteristic normal – AMG ELM-10F | | |
| 10 s | 10 A | 100 A |
| 1 s | | |
| 100 ms | | |
| 10 ms | | |
| 1 ms | | |
| 1 A | 10 A | 100 A |

| Type | Qty. | Order No. |
|-------------|------|-----------|
| AMG ELM-8F | 1 | 208060000 |
| AMG ELM-10F | 1 | 208065000 |

| Type | Qty. | Order No. |
|---------|------|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |



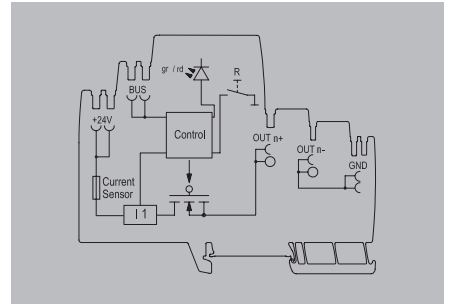
maxGUARD

maxGUARD – load monitoring (fixed value), Class 2

Electronic load monitoring with fixed rated current (without I > 90 % pre warning)

- Class 2 Approval

AMG ELM - xF CL2



Technical data

| Input | |
|--|--|
| Input fuse (internal) | Yes |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 25 mA |
| Current consumption (full load) | I _{OUT} +30 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| Output | |
| Connection system | PUSH IN |
| Triggering characteristic | see characteristic curve |
| Switch-on delay | 1 s |
| Capacitive load | 2491270000: 4.700 µF; 2491280000: 4.700 µF; 2491290000: 4.700 µF |
| Function key | |
| LED initial state | LED green, in operation LED flashing red, load monitoring has triggered (disconnected) LED red (permanently lit) |
| Pressing the button | > 0.1 to 2 s (manual disconnect) > 0.1 to 2 s (confirm and reset) > 0.1 to 2 s (restart) |
| LED, subsequent state | Red LED switched off Red LED switched off LED green switched on |
| General data | |
| Relay to activate the output | No |
| Protection degree | IP20 |
| Surge protection input, output, bus | Suppressor diode |
| Overvoltage category | III |
| Signalling | |
| LED green | Operation (failure-free) |
| Red LED | Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| Connection data | |
| Number of terminals | 2 (+ / -) |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | CE; cULus; TUEV |
| Note | |

Ordering data

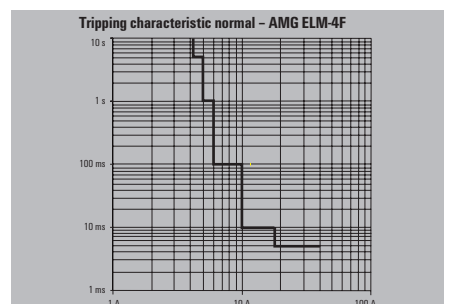
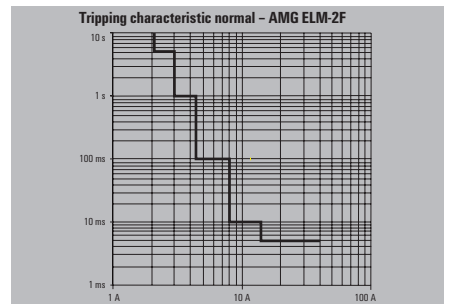
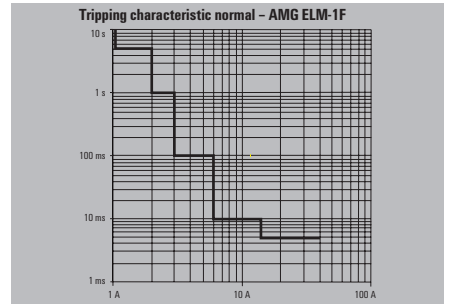
| | 1 A |
|------|-----|
| | 2 A |
| | 4 A |
| Note | |

Accessories

| Note | |
|------|--|
|------|--|

| Type | Qty. | Order No. |
|----------------|------|------------|
| AMG ELM-1F CL2 | 1 | 2491270000 |
| AMG ELM-2F CL2 | 1 | 2491280000 |
| AMG ELM-4F CL2 | 1 | 2491290000 |

| Type | Qty. | Order No. |
|---------|------|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |



maxGUARD – load monitoring adjustable

Electronic load monitoring with adjustable triggering current and triggering characteristic

Technical data

| | |
|--|--|
| Input | |
| Input fuse (internal) | Yes |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 25 mA |
| Current consumption (full load) | I _{OUT} +30 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| Output | |
| Connection system | PUSH IN |
| Triggering characteristic | see characteristic curve |
| Adjustable range | 1- 6 A |
| Switch-on delay | 1 s |
| Capacitive load | 15,000 µF |
| adjustable rated current | Yes |
| Function key | |
| LED initial state | LED green, in operation LED flashing red, load monitoring has triggered (disconnected) LED red (permanently lit) |
| Pressing the button | > 0.1 to 2 s (manual disconnect) > 0.1 to 2 s (confirm and reset) > 0.1 to 2 s (restart) |
| LED, subsequent state | Red LED switched off Red LED switched off LED green switched on |
| Output, subsequent state | |
| General data | |
| Relay to activate the output | No |
| Protection degree | IP20 |
| Surge protection input, output, bus | Suppressor diode |
| Overvoltage category | III |
| Signalling | |
| LED green | Operation (failure-free), Early warning: I _{Out} > 90% I _{Rated} (flashing) |
| Red LED | Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| Connection data | |
| Number of terminals | 2 (+ / -) |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | CE; cULus; EAC; TUEV |
| Note | |

Ordering data

| | |
|----------------------|-----|
| Rated current | 6 A |
| Note | |

Accessories

| | |
|-------------|--|
| Note | |
|-------------|--|

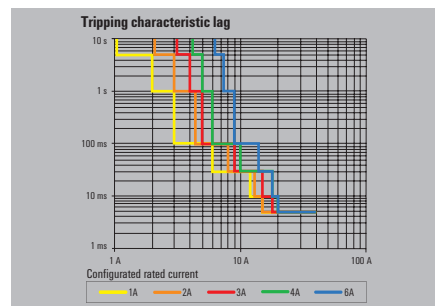
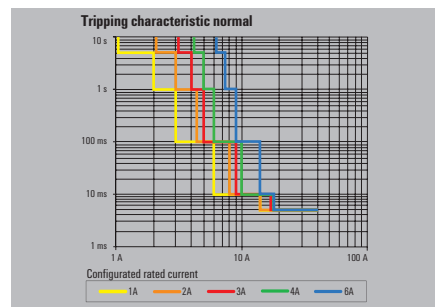
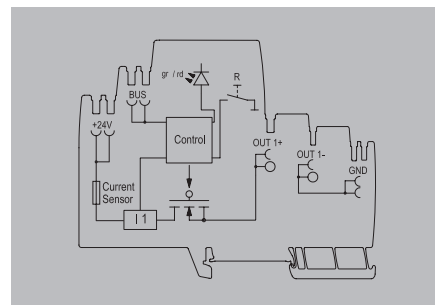
AMG ELM-6



| | |
|--|---|
| Input | Yes |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 25 mA |
| Current consumption (full load) | I _{OUT} +30 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| Output | PUSH IN |
| Triggering characteristic | see characteristic curve |
| Adjustable range | 1- 6 A |
| Switch-on delay | 1 s |
| Capacitive load | 15,000 µF |
| adjustable rated current | Yes |
| LED green, in operation | LED flashing red, load monitoring has triggered (disconnected) |
| LED flashing red, load monitoring has triggered (disconnected) | LED red (permanently lit) |
| > 0.1 to 2 s (manual disconnect) | > 0.1 to 2 s (confirm and reset) |
| > 0.1 to 2 s (confirm and reset) | > 0.1 to 2 s (restart) |
| Red LED switched off | Red LED switched off |
| Red LED switched off | LED green switched on |
| General data | No |
| Protection degree | IP20 |
| Surge protection input, output, bus | Suppressor diode |
| Overvoltage category | III |
| Signalling | Operation (failure-free), Early warning: I _{Out} > 90% I _{Rated} (flashing) |
| LED green | Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| Red LED | |
| Connection data | 2 (+ / -) |
| Number of terminals | 26...12 |
| Wire cross-section, AWG/kcmil min/max | 0.14...2.5 mm ² |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.6 x 3.5 |
| Screwdriver blade | |
| Approvals | CE; cULus; EAC; TUEV |
| Approvals | |
| Note | |

| Type | Qty. | Order No. |
|-----------|------|------------|
| AMG ELM-6 | 1 | 2080360000 |

| Type | Qty. | Order No. |
|---------|------|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |

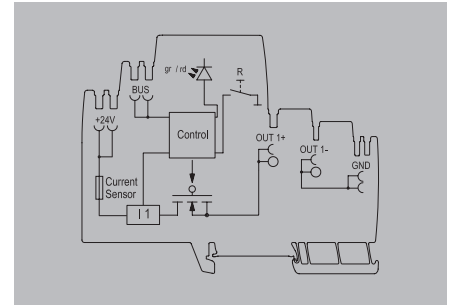


maxGUARD

maxGUARD – load monitoring adjustable

Electronic load monitoring with adjustable trigger current and characteristic (with I > 90 % pre warning > 90 %)

AMG ELM-12



Technical data

| Input | |
|--|---|
| Input fuse (internal) | Yes |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 25 mA |
| Current consumption (full load) | I _{OUT} +30 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| Output | |
| Connection system | PUSH IN |
| Triggering characteristic | see characteristic curve |
| Adjustable range | 4-12 A |
| Switch-on delay | 1 s |
| adjustable rated current | Yes |
| Capacitive load | 20,000 µF |
| Function key | |
| LED initial state | LED green, in operation |
| Pressing the button | > 0.1 to 2 s (manual disconnect) > 0.1 to 2 s (confirm and reset) > 0.1 to 2 s (restart) |
| LED, subsequent state | Red LED switched off |
| Output, subsequent state | Red LED switched off LED green switched on |
| General data | |
| Relay to activate the output | No |
| Protection degree | IP20 |
| Surge protection input, output, bus | Suppressor diode |
| Overvoltage category | III |
| Signalling | |
| LED green | Operation (failure-free), Early warning: I Out > 90% I Rated (flashing) |
| Red LED | Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| Connection data | |
| Number of terminals | 4 (++ / -) |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | CE; cULus; EAC; TUEV |
| Note | |

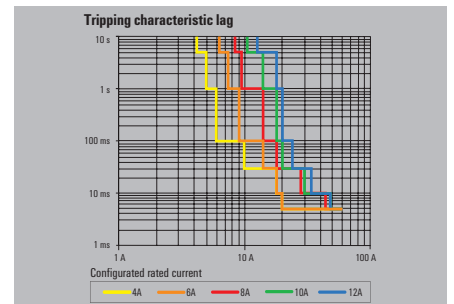
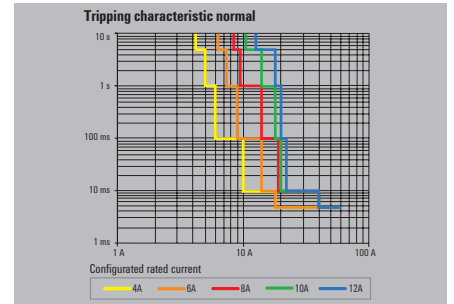
Ordering data

| Rated current | 12 A |
|---------------|------|
| Note | |

Accessories

| Type | Qty. | Order No. |
|---------|------|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |
| Note | | |

| Type | Qty. | Order No. |
|------------|------|------------|
| AMG ELM-12 | 1 | 2080410000 |



maxGUARD – load monitoring with relay

Electronic load monitoring with 2-pole output relay for all-pole load disconnection; triggering current and triggering characteristic adjustable.

Technical data

| | |
|--|--|
| Input | |
| Input fuse (internal) | Yes |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 40 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| Output | |
| Connection system | PUSH IN |
| Triggering characteristic | see characteristic curve |
| Adjustable range | 2082470000: 4- 10 A 2082440000: 1- 6 A |
| Switch-on delay | 1 s |
| adjustable rated current | Yes |
| Capacitive load | 2082470000: 20,000 µF 2082440000: 15,000 µF |
| Function key | |
| LED initial state | LED green, in operation LED flashing red, load monitoring has triggered (disconnected) LED red (permanently lit) |
| Pressing the button | > 0.1 to 2 s (manual disconnect) > 0.1 to 2 s (confirm and reset) > 0.1 to 2 s (restart) |
| LED, subsequent state | Red LED switched off Red LED switched off LED green switched on |
| Output, subsequent state | |
| General data | |
| Relay to activate the output | Yes |
| Protection degree / Surge protection | IP20 / Suppressor diode |
| Conformal coating | Yes |
| Surge protection input, output, bus | Suppressor diode |
| Signalling | |
| LED green | Operation (failure-free), Early warning: I Out > 90% I Rated (flashing) |
| Red LED | Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| Connection data | |
| Number of terminals | 6 (3x + / 3x -) |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | ABS; BURVER; CE; cULus; DNVGL; EAC; LLOYDSREG; RINA; TUEV |
| Note | |

Ordering data

| | |
|----------------------|------|
| Rated current | 6 A |
| | 10 A |
| Note | |

Accessories

| | |
|-------------|--|
| Note | |
|-------------|--|

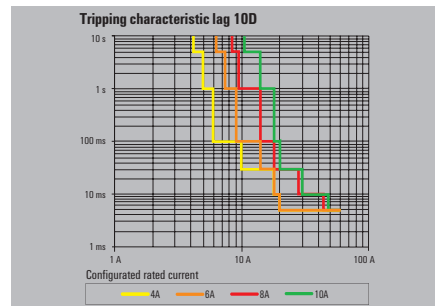
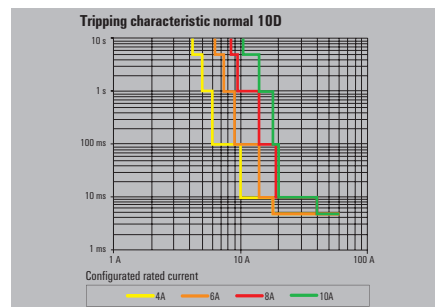
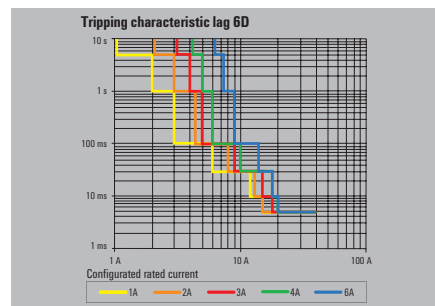
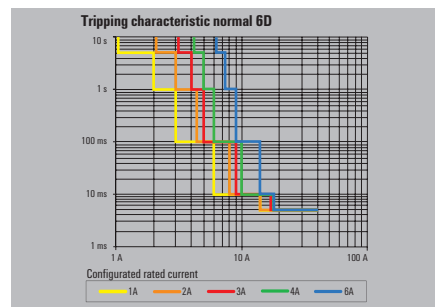
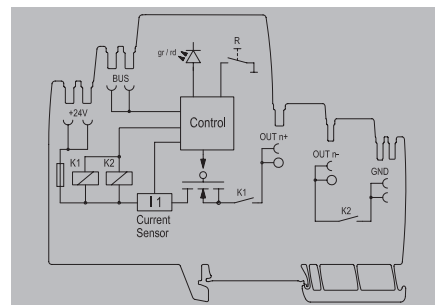
AMG ELM – adjustable with output relay



| | | |
|---|--|---------------------------|
| Input | | |
| Yes | | |
| 18...30 V DC | | |
| 24 V DC | | |
| 40 mA | | |
| 100 mVpp | | |
| Output | | |
| PUSH IN | | |
| see characteristic curve | | |
| 2082470000: 4- 10 A 2082440000: 1- 6 A | | |
| 1 s | | |
| Yes | | |
| 2082470000: 20,000 µF 2082440000: 15,000 µF | | |
| LED green, in operation | LED flashing red, load monitoring has triggered (disconnected) | LED red (permanently lit) |
| > 0.1 to 2 s (manual disconnect) | > 0.1 to 2 s (confirm and reset) | > 0.1 to 2 s (restart) |
| Red LED switched off | Red LED switched off | LED green switched on |
| General data | | |
| Yes | | |
| IP20 / Suppressor diode | | |
| Yes | | |
| Suppressor diode | | |
| Signalling | | |
| Operation (failure-free), Early warning: I Out > 90% I Rated (flashing) | | |
| Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) | | |
| Connection data | | |
| 6 (3x + / 3x -) | | |
| 26...12 | | |
| 0.14...2.5 mm ² | | |
| 0.14...2.5 mm ² | | |
| 0.6 x 3.5 | | |
| Approvals | | |
| ABS; BURVER; CE; cULus; DNVGL; EAC; LLOYDSREG; RINA; TUEV | | |
| Note | | |

| Type | Qty. | Order No. |
|----------------|------|------------|
| AMG ELM-6D CD | 1 | 2082440000 |
| AMG ELM-10D CD | 1 | 2082470000 |

| Type | Qty. | Order No. |
|---------|------|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |

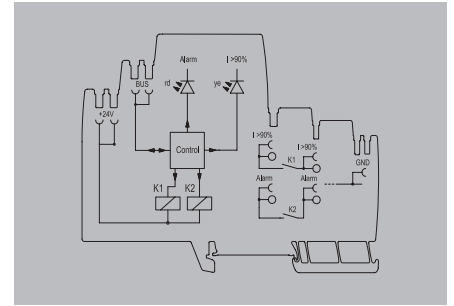


maxGUARD

maxGUARD – Alarm module

Alarm module with potential-free contacts for the “Alarm” and “I>90%” signals > 90 %.

AMG AM



Technical data

| Input | |
|--|---|
| Input fuse (internal) | No |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 25 mA |
| Current consumption (full load) | 30 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| General data | |
| Protection degree | IP20 |
| Surge protection input, bus | Suppressor diode |
| Overvoltage category | III |
| Signalling | |
| Yellow LED | Current > 90% Inom (flashing) |
| Red LED | Alarm |
| Floating contact | Yes |
| Status relay (max. load) | Alarm (24 V / 0.1 A), I > 90 % (24 V / 0.1 A) |
| Connection data | |
| Number of terminals | 4 (2 x NO) |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | CE; cULus; EAC; TUEV |
| Note | |

| Input | | |
|--|---|--|
| Input fuse (internal) | No | |
| DC input voltage range | 18...30 V DC | |
| Rated input voltage | 24 V DC | |
| Current consumption (idle) | 25 mA | |
| Current consumption (full load) | 30 mA | |
| max. admissible residual ripple at the input | 100 mVpp | |
| General data | | |
| Protection degree | IP20 | |
| Surge protection input, bus | Suppressor diode | |
| Overvoltage category | III | |
| Signalling | | |
| Yellow LED | Current > 90% Inom (flashing) | |
| Red LED | Alarm | |
| Floating contact | Yes | |
| Status relay (max. load) | Alarm (24 V / 0.1 A), I > 90 % (24 V / 0.1 A) | |
| Connection data | | |
| Number of terminals | 4 (2 x NO) | |
| Wire cross-section, AWG/kcmil min/max | 26...12 | |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² | |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² | |
| Screwdriver blade | 0.6 x 3.5 | |
| Approvals | | |
| Approvals | CE; cULus; EAC; TUEV | |
| Note | | |

Ordering data

| Rated current | |
|---------------|--|
| Note | |

| Type | Qty. | Order No. |
|--------|------|------------|
| AMG AM | 1 | 2081890000 |

Accessories

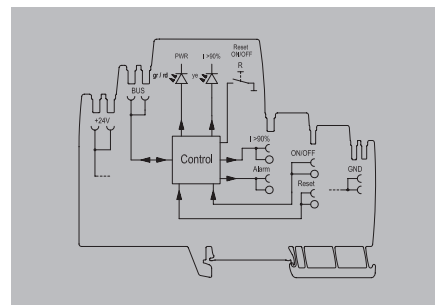
| Plug-in cross-connection | |
|--------------------------|--|
| 50-pole | |
| 50-pole / red | |
| 50-pole / blue | |
| 2-pole | |
| 2-pole / red | |
| 2-pole / blue | |
| Note | |

| Type | Qty. | Order No. |
|--------------|------|------------|
| ZQV 4N/50 | 5 | 1528130000 |
| ZQV 4N/50 RD | 5 | 2460730000 |
| ZQV 4N/50 BL | 5 | 1528240000 |
| ZQV 4N/2 | 60 | 1527930000 |
| ZQV 4N/2 RD | 60 | 2460450000 |
| ZQV 4N/2 BL | 60 | 1528040000 |

maxGUARD – control module

Control module with extended control function: alarm, reset, I >90% connection/disconnection

AMG CM



Technical data

| Input | |
|--|---|
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 25 mA |
| Current consumption (full load) | 225 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| Output | |
| Connection system | PUSH IN |
| General data | |
| Relay to activate the output | No |
| Protection degree | IP20 |
| Control inputs | ON/ OFF, Reset |
| Surge protection input, output, bus | Suppressor diode |
| Overvoltage category | III |
| Signalling | |
| LED green | Operation (failure-free), Early warning: I Out > 90% I Rated (flashing) |
| Red LED | Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| Transistor output, positive-switching | Pre-warning, Alarm |
| Connection data | |
| Number of terminals | 2 (Reset / ON) |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | CE; cULus; EAC; TUEV |
| Note | |

| Type | Qty. | Order No. |
|--------|------|------------|
| AMG CM | 1 | 2081900000 |

Ordering data

| Rated current | |
|---------------|--|
| Note | |

| Type | Qty. | Order No. |
|--------------|------|------------|
| ZQV 4N/50 | 5 | 1528130000 |
| ZQV 4N/50 RD | 5 | 2460730000 |
| ZQV 4N/50 BL | 5 | 1528240000 |
| ZQV 4N/2 | 60 | 1527930000 |
| ZQV 4N/2 RD | 60 | 2460450000 |
| ZQV 4N/2 BL | 60 | 1528040000 |

Accessories

| Plug-in cross-connection | |
|--------------------------|--|
| 50-pole | |
| 50-pole / red | |
| 50-pole / blue | |
| 2-pole | |
| 2-pole/ red | |
| 2-pole / blue | |
| Note | |

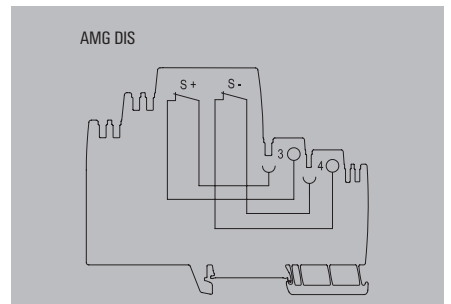
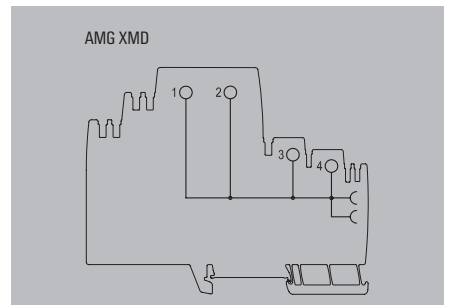
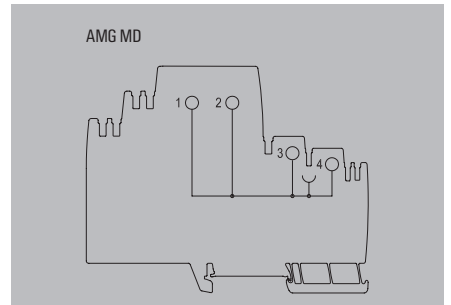
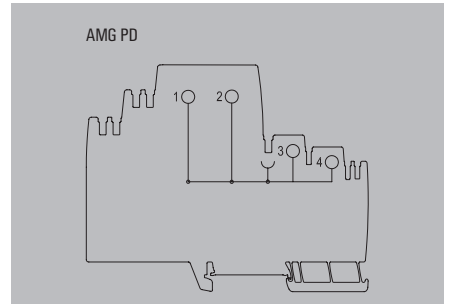
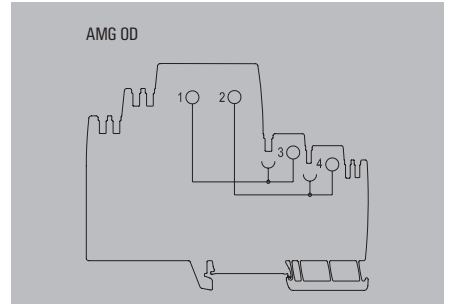
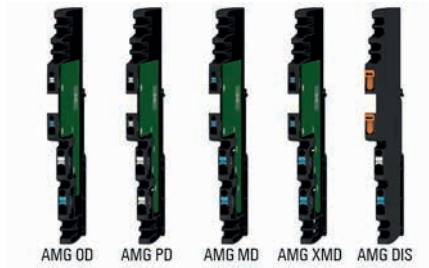
| Type | Qty. | Order No. |
|--------------|------|------------|
| ZQV 4N/50 | 5 | 1528130000 |
| ZQV 4N/50 RD | 5 | 2460730000 |
| ZQV 4N/50 BL | 5 | 1528240000 |
| ZQV 4N/2 | 60 | 1527930000 |
| ZQV 4N/2 RD | 60 | 2460450000 |
| ZQV 4N/2 BL | 60 | 1528040000 |

maxGUARD

maxGUARD – Potential distributor

Potential distribution in combination with the electronic load monitoring.

AMG



Technical data

General data

Protection degree
Total current load per potential

Current load per contact point

Connection data

Connection system
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade

Approvals

Approvals

Note

IP20

2122910000: 12 A;
2122920000: 12 A;
2122930000: 12 A;
2122940000: 24 A;
2123050000: 12 A

12 A

PUSH IN

4 (++) / (-), 2 x 1.5 mm², 2 x 2.5 mm²
26...12

0.14...2.5 mm²

0.14...2.5 mm²

0.6 x 3.5

CE; cULus; EAC; TUEV

Ordering data

| Type | Qty. | Order No. |
|---------|------|-------------------|
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |
| AMG MD | 10 | 2122930000 |
| AMG XMD | 10 | 2122940000 |
| AMG DIS | 10 | 2123050000 |

Note

Accessories

Plug-in cross-connection

50-pole
50-pole / red
50-pole / blue
2-pole
2-pole/ red
2-pole / blue

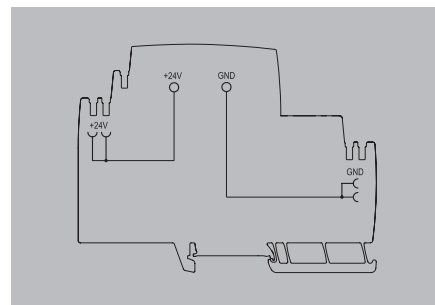
| Type | Qty. | Order No. |
|--------------|------|-------------------|
| ZQV 4N/50 | 5 | 1528130000 |
| ZQV 4N/50 RD | 5 | 2460730000 |
| ZQV 4N/50 BL | 5 | 1528240000 |
| ZQV 4N/2 | 60 | 1527930000 |
| ZQV 4N/2 RD | 60 | 2460450000 |
| ZQV 4N/2 BL | 60 | 1528040000 |

Note

maxGUARD – power-feed module

Passive power-feed module

AMG FIM-0 Ex



Technical data

| Input | |
|--|---|
| Input fuse (internal) | No |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| max. admissible residual ripple at the input | 100 mVpp |
| General data | |
| Protection degree | IP20 |
| Control inputs | No |
| Overvoltage category | III |
| Connection data | |
| Number of terminals | 2 (+,-) |
| Wire cross-section, AWG/kcmil min/max | 18...6 |
| Wire cross-section, flexible min/max | 0.75...16 mm ² |
| Wire cross-section, rigid min/max | 0.75...10 mm ² |
| Screwdriver blade | 1.2 x 6.5 |
| Approvals | |
| Approvals | ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV |
| Note | |

| Technical data | | |
|--|--|---|
| Input fuse (internal) | | No |
| DC input voltage range | | 18...30 V DC |
| Rated input voltage | | 24 V DC |
| max. admissible residual ripple at the input | | 100 mVpp |
| General data | | |
| Protection degree | | IP20 |
| Control inputs | | No |
| Overvoltage category | | III |
| Connection data | | |
| Number of terminals | | 2 (+,-) |
| Wire cross-section, AWG/kcmil min/max | | 18...6 |
| Wire cross-section, flexible min/max | | 0.75...16 mm ² |
| Wire cross-section, rigid min/max | | 0.75...10 mm ² |
| Screwdriver blade | | 1.2 x 6.5 |
| Approvals | | |
| Approvals | | ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV |
| Note | | |

Ordering data

| Rated current | |
|---------------|--|
| Note | |

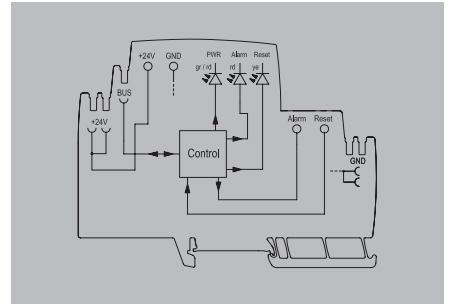
| Type | Qty. | Order No. |
|--------------|------|------------|
| AMG FIM-0 EX | 1 | 2082530000 |

maxGUARD

maxGUARD – power-feed module

Active power-feed module with reset and alarm function

AMG FIM-C Ex



Technical data

| | |
|--|---|
| Input | |
| Input fuse (internal) | No |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 20 mA |
| Current consumption (full load) | 120 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| General data | |
| Protection degree | IP20 |
| Control inputs | Reset |
| Surge protection input, output, bus | Suppressor diode |
| Overtoltage category | III |
| Signalling | |
| Yellow LED | External reset is signalled, Alarm is signalled |
| LED green | Operating voltage OK |
| Red LED | Alarm |
| Transistor output, positive-switching | Alarm |
| Connection data | |
| Number of terminals | 2 (+,-) |
| Wire cross-section, AWG/kcmil min/max | 18...6 |
| Wire cross-section, flexible min/max | 0.75...16 mm ² |
| Wire cross-section, rigid min/max | 0.75...10 mm ² |
| Screwdriver blade | 1.2 x 6.5 |
| Approvals | |
| Approvals | ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV |
| Note | |
| | |
| Ordering data | |
| Rated current | |
| | |
| Note | |
| | |

| | | |
|------------------------|---|------------------|
| Input | | |
| | No | |
| | 18...30 V DC | |
| | 24 V DC | |
| | 20 mA | |
| | 120 mA | |
| | 100 mVpp | |
| General data | | |
| | IP20 | |
| | Reset | |
| | Suppressor diode | |
| | III | |
| Signalling | | |
| | External reset is signalled, Alarm is signalled | |
| | Operating voltage OK | |
| | Alarm | |
| | Alarm | |
| Connection data | | |
| | 2 (+,-) | |
| | 18...6 | |
| | 0.75...16 mm ² | |
| | 0.75...10 mm ² | |
| | 1.2 x 6.5 | |
| Approvals | | |
| | ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV | |
| Note | | |
| | | |
| Ordering data | | |
| Type | Qty. | Order No. |
| AMG FIM-C EX | 1 | 2082540000 |
| Note | | |
| | | |

maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed current (without I > 90% function)

Technical data

Input

Input fuse (internal)
 DC input voltage range
 Rated input voltage
 Current consumption (idle) / Current consumption (full load)
 max. admissible residual ripple at the input

Output

Connection system
 Triggering characteristic
 Switch-on delay
 Capacitive load

Function key

LED initial state

Pressing the button

LED, subsequent state
 Output, subsequent state

General data

Relay to activate the output
 Surge protection input, output, bus
 Protection degree / Overvoltage category

Signalling

LED green
 Red LED

Connection data

Number of terminals
 Wire cross-section, AWG/kcmil min/max
 Wire cross-section, flexible min/max
 Wire cross-section, rigid min/max
 Screwdriver blade

Approvals

Approvals

Note

Ordering data

Rated current

| |
|-----|
| 1 A |
| 2 A |
| 4 A |
| 6 A |

Note

Accessories

Type

| | | |
|---------|----|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |

Note

AMG ELM - xF Ex



Input

Yes
 18...30 V DC
 24 V DC
 25 mA / I_{out} +30 mA
 100 mVpp

Output

PUSH IN
 see characteristic curve
 1 s

2082040000: 10,000 µF;
 2082050000: 10,000 µF;
 2082060000: 10,000 µF;
 2082310000: 15,000 µF

Function key

LED green, in operation
 LED flashing red, load monitoring has triggered (disconnected)
 LED red (permanently lit)

> 0.1 to 2 s (manual disconnect)
 > 0.1 to 2 s (confirm and reset)
 > 0.1 to 2 s (restart)

Red LED switched off
 Red LED switched off
 LED green switched on

General data

No
 Suppressor diode
 IP20 / III

Operation (failure-free)

Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)

Connection data

2 (+ / -)
 26...12
 0.14...2.5 mm²
 0.14...2.5 mm²
 0.6 x 3.5

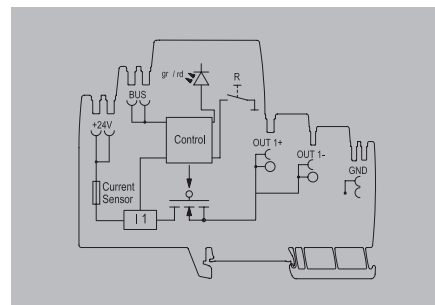
ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV

Type

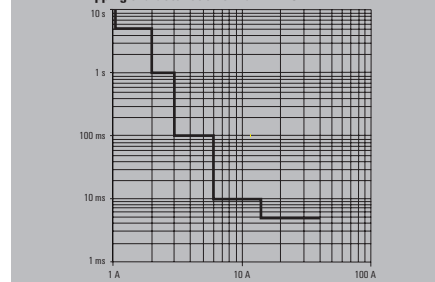
| | | |
|---------------|--------|----------------------|
| AMG ELM-1F EX | Qty. 1 | Order No. 2082040000 |
| AMG ELM-2F EX | Qty. 1 | Order No. 2082050000 |
| AMG ELM-4F EX | Qty. 1 | Order No. 2082060000 |
| AMG ELM-6F EX | Qty. 1 | Order No. 2082310000 |

Type

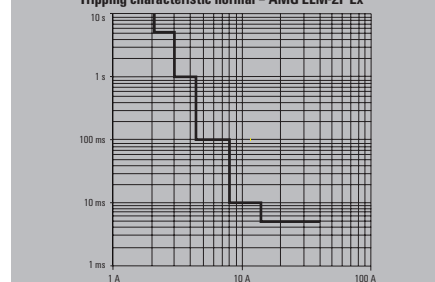
| | | |
|---------|---------|----------------------|
| AMG DIS | Qty. 10 | Order No. 2123050000 |
| AMG MD | Qty. 10 | Order No. 2122930000 |
| AMG OD | Qty. 10 | Order No. 2122910000 |
| AMG PD | Qty. 10 | Order No. 2122920000 |



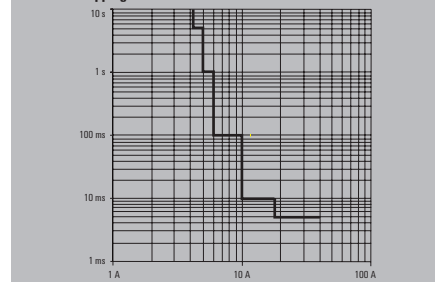
Tripping characteristic normal – AMG ELM-1F Ex



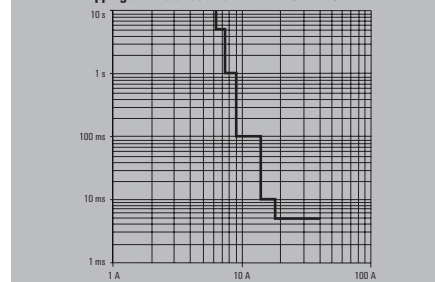
Tripping characteristic normal – AMG ELM-2F Ex



Tripping characteristic normal – AMG ELM-4F Ex



Tripping characteristic normal – AMG ELM-6F Ex

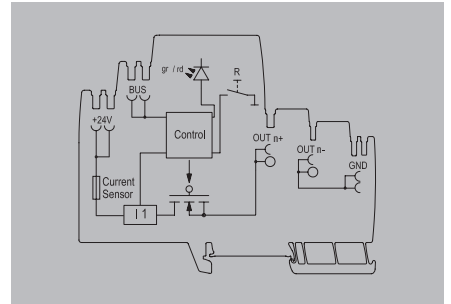


maxGUARD

maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed rated current (without I > 90 % pre warning)

AMG ELM - xF Ex



B

Technical data

| Input | |
|--|---|
| Input fuse (internal) | Yes |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 25 mA |
| Current consumption (full load) | I _{OUT} +30 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| Output | |
| Connection system | PUSH IN |
| Triggering characteristic | see characteristic curve |
| Switch-on delay | 1 s |
| Capacitive load | 2082320000: 15,000 µF; 2082430000: 20,000 µF |
| Function key | |
| LED initial state | LED green, in operation |
| Pressing the button | > 0.1 to 2 s (manual disconnect) |
| LED, subsequent state | LED flashing red, load monitoring has triggered (disconnected) |
| Output, subsequent state | LED red (permanently lit) |
| General data | |
| Relay to activate the output | No |
| Protection degree | IP20 |
| Surge protection input, output, bus | Suppressor diode |
| Oversvoltage category | III |
| Signalling | |
| LED green | Operation (failure-free) |
| Red LED | Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| Connection data | |
| Number of terminals | 4 (++ / -) |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV |
| Note | |

Ordering data

| Rated current | |
|---------------|------|
| | 8 A |
| | 10 A |
| Note | |

Accessories

| Note | |
|------|--|
|------|--|

| Tripping characteristic normal – AMG ELM-8F Ex | | |
|---|------|-------|
| 10 s | 10 A | 100 A |
| 1 s | | |
| 100 ms | | |
| 10 ms | | |
| 1 ms | | |
| 1 A | 10 A | 100 A |
| Tripping characteristic normal – AMG ELM-10F Ex | | |
| 10 s | 10 A | 100 A |
| 1 s | | |
| 100 ms | | |
| 10 ms | | |
| 1 ms | | |
| 1 A | 10 A | 100 A |

| Type | Qty. | Order No. |
|----------------|------|------------|
| AMG ELM-8F EX | 1 | 2082320000 |
| AMG ELM-10F EX | 1 | 2082430000 |

| Type | Qty. | Order No. |
|---------|------|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |

maxGUARD – load monitoring adjustable

Electronic load monitoring with adjustable triggering current and triggering characteristic

AMG ELM-6 Ex



Technical data

Input

- Input fuse (internal)
- DC input voltage range
- Rated input voltage
- Current consumption (idle)
- Current consumption (full load)
- max. admissible residual ripple at the input

Output

- Connection system
- Triggering characteristic
- Adjustable range
- Switch-on delay
- Capacitive load
- adjustable rated current

Function key

LED initial state

Pressing the button

LED, subsequent state
Output, subsequent state

General data

- Relay to activate the output
- Protection degree
- Surge protection input, output, bus
- Overvoltage category

Signalling

- LED green
- Red LED

Connection data

- Number of terminals
- Wire cross-section, AWG/kcmil min/max
- Wire cross-section, flexible min/max
- Wire cross-section, rigid min/max
- Screwdriver blade

Approvals

Approvals

Note

Ordering data

Rated current 6 A

Note

Accessories

Note

Input

- Yes
- 18...30 V DC
- 24 V DC
- 25 mA
- I_{OUT} +30 mA
- 100 mVpp

Output

- PUSH IN
- see characteristic curve
- 1- 6 A
- 1 s
- 15,000 µF
- Yes

LED

LED green, in operation LED flashing red, load monitoring has triggered (disconnected) LED red (permanently lit)

> 0.1 to 2 s (manual disconnect) > 0.1 to 2 s (confirm and reset) > 0.1 to 2 s (restart)

Red LED switched off Red LED switched off LED green switched on

No

IP20

Suppressor diode

III

Operation (failure-free), Early warning: I_{Out} > 90% I_{Rated} (flashing)
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)

2 (+ / -)

26...12

0.14...2.5 mm²

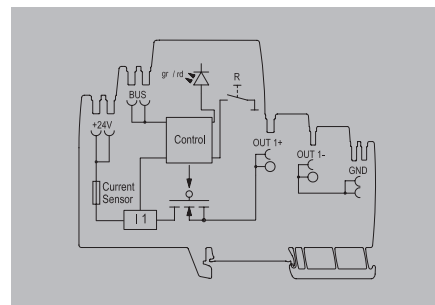
0.14...2.5 mm²

0.6 x 3.5

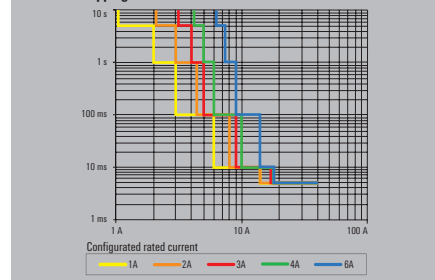
ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV

| Type | Qty. | Order No. |
|--------------|------|------------|
| AMG ELM-6 EX | 1 | 2082000000 |

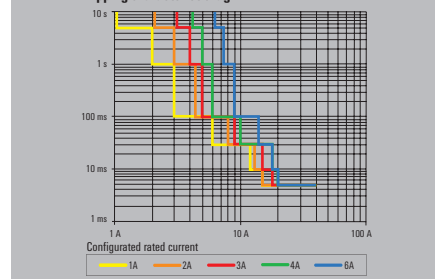
| Type | Qty. | Order No. |
|---------|------|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |



Tripping characteristic normal



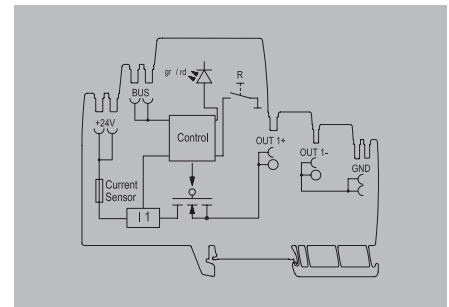
Tripping characteristic lag



maxGUARD – load monitoring adjustable

Electronic load monitoring with adjustable trigger current and characteristic (with I > 90 % pre warning)

AMG ELM-12 Ex



Technical data

| Input | |
|--|--|
| Input fuse (internal) | Yes |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 25 mA |
| Current consumption (full load) | I _{OUT} +30 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| Output | |
| Connection system | PUSH IN |
| Triggering characteristic | see characteristic curve |
| Adjustable range | 4-12 A |
| Switch-on delay | 1 s |
| adjustable rated current | Yes |
| Capacitive load | 20,000 µF |
| Function key | |
| LED initial state | LED green, in operation LED flashing red, load monitoring has triggered (disconnected) LED red (permanently lit) |
| Pressing the button | > 0.1 to 2 s (manual disconnect) > 0.1 to 2 s (confirm and reset) > 0.1 to 2 s (restart) |
| LED, subsequent state | Red LED switched off Red LED switched off LED green switched on |
| General data | |
| Relay to activate the output | No |
| Protection degree | IP20 |
| Surge protection input, output, bus | Suppressor diode |
| Overvoltage category | III |
| Signalling | |
| LED green | Operation (failure-free), Early warning: I Out > 90% I Rated (flashing) |
| Red LED | Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| Connection data | |
| Number of terminals | 4 (++ / -) |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV |
| Note | |

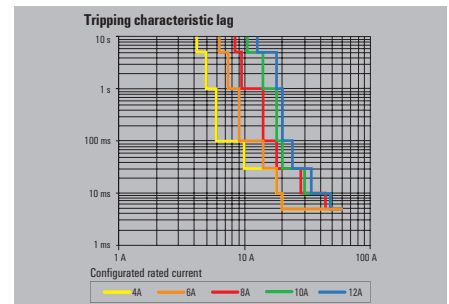
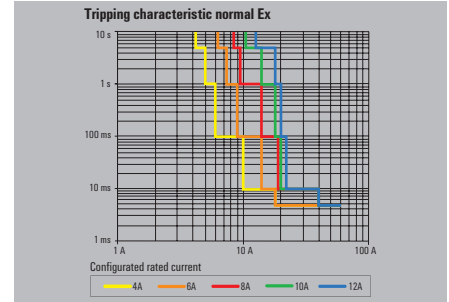
Ordering data

| Rated current | 12 A |
|---------------|------|
| Note | |

Accessories

| Type | Qty. | Order No. |
|---------|------|------------|
| AMG DIS | 10 | 2123050000 |
| AMG MD | 10 | 2122930000 |
| AMG OD | 10 | 2122910000 |
| AMG PD | 10 | 2122920000 |
| Note | | |

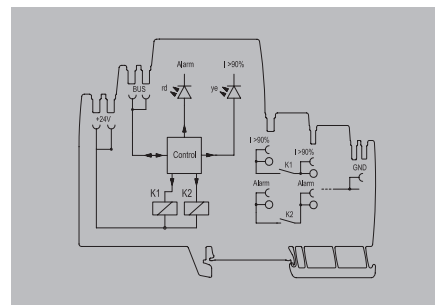
| Type | Qty. | Order No. |
|---------------|------|------------|
| AMG ELM-12 EX | 1 | 2082010000 |



maxGUARD – Alarm module

Alarm module with potential-free contacts for the “Alarm” and “I>90%” signals.

AMG AM CO



Technical data

| Input | |
|--|---|
| Input fuse (internal) | No |
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 25 mA |
| Current consumption (full load) | 30 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| General data | |
| Protection degree | IP20 |
| Surge protection input, bus | Suppressor diode |
| Overvoltage category | III |
| Signalling | |
| Yellow LED | Current > 90% Inom (flashing) |
| Red LED | Alarm |
| Floating contact | Yes |
| Status relay (max. load) | Alarm (24 V / 0.1 A), I > 90 % (24 V / 0.1 A) |
| Connection data | |
| Number of terminals | 4 (2 x NO) |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | ABS; BURVER; CE; cULus; DNVGL; EAC; LLOYDSREG; RINA; TUEV |
| Note | |

Ordering data

| Rated current | |
|---------------|--|
| Note | |

| Type | Qty. | Order No. |
|-----------|------|------------|
| AMG AM CO | 1 | 2082770000 |

Accessories

| Plug-in cross-connection | |
|--------------------------|----------------|
| | 50-pole |
| | 50-pole / red |
| | 50-pole / blue |
| | 2-pole |
| | 2-pole / red |
| | 2-pole / blue |
| Note | |

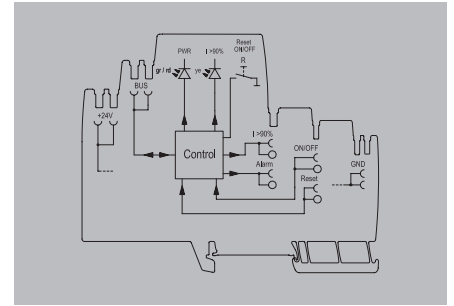
| Type | Qty. | Order No. |
|--------------|------|------------|
| ZQV 4N/50 | 5 | 1528130000 |
| ZQV 4N/50 RD | 5 | 2460730000 |
| ZQV 4N/50 BL | 5 | 1528240000 |
| ZQV 4N/2 | 60 | 1527930000 |
| ZQV 4N/2 RD | 60 | 2460450000 |
| ZQV 4N/2 BL | 60 | 1528040000 |

maxGUARD

maxGUARD – control module

Control module with extended control function: Alarm, Reset, I>90%, ON/OFF

AMG CM Ex



Technical data

| Input | |
|--|---|
| DC input voltage range | 18...30 V DC |
| Rated input voltage | 24 V DC |
| Current consumption (idle) | 25 mA |
| Current consumption (full load) | 225 mA |
| max. admissible residual ripple at the input | 100 mVpp |
| Output | |
| Connection system | PUSH IN |
| General data | |
| Relay to activate the output | No |
| Protection degree | IP20 |
| Surge protection input, output, bus | Suppressor diode |
| Control inputs | ON/ OFF, Reset |
| Overtoltage category | III |
| Signalling | |
| LED green | Operation (failure-free), Early warning: I Out > 90% I Rated (flashing) |
| Red LED | Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing) |
| Transistor output, positive-switching | Pre-warning, Alarm |
| Connection data | |
| Number of terminals | 2 (Reset / ON) |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV |
| Note | |

| Type | Qty. | Order No. |
|-----------|------|------------|
| AMG CM EX | 1 | 2083360000 |

Ordering data

| Rated current | |
|---------------|--|
| Note | |

Accessories

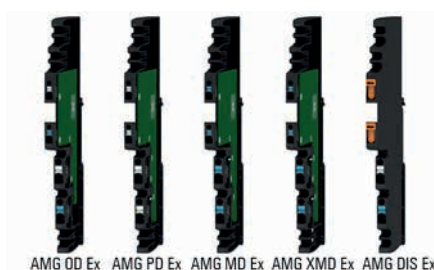
| Plug-in cross-connection | |
|--------------------------|----------------|
| | 50-pole |
| | 50-pole / red |
| | 50-pole / blue |
| | 2-pole |
| | 2-pole/ red |
| | 2-pole / blue |
| Note | |

| Type | Qty. | Order No. |
|--------------|------|------------|
| ZQV 4N/50 | 5 | 1528130000 |
| ZQV 4N/50 RD | 5 | 2460730000 |
| ZQV 4N/50 BL | 5 | 1528240000 |
| ZQV 4N/2 | 60 | 1527930000 |
| ZQV 4N/2 RD | 60 | 2460450000 |
| ZQV 4N/2 BL | 60 | 1528040000 |

maxGUARD – Potential distributor

Potential distribution in combination with the electronic load monitoring.

AMG



AMG OD Ex AMG PD Ex AMG MD Ex AMG XMD Ex AMG DIS Ex

Technical data

| General data | |
|---------------------------------------|--|
| Protection degree | IP20 |
| Total current load per potential | 2495090000: 12 A; 2495070000: 12 A; 2495040000: 12 A; 2495080000: 24 A; 2495100000: 12 A |
| Current load per contact point | 12 A |
| Connection data | |
| Connection system | PUSH IN |
| Number of terminals | 4 (++) / -, 2 x 1.5 mm ² , 2 x 2.5 mm ² |
| Wire cross-section, AWG/kcmil min/max | 26...12 |
| Wire cross-section, flexible min/max | 0.14...2.5 mm ² |
| Wire cross-section, rigid min/max | 0.14...2.5 mm ² |
| Screwdriver blade | 0.6 x 3.5 |
| Approvals | |
| Approvals | ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV |
| Note | |

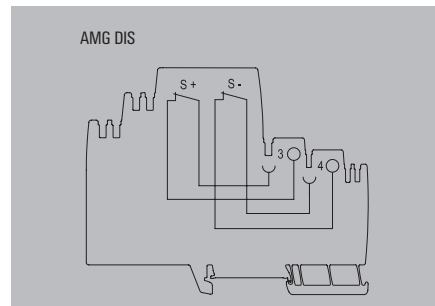
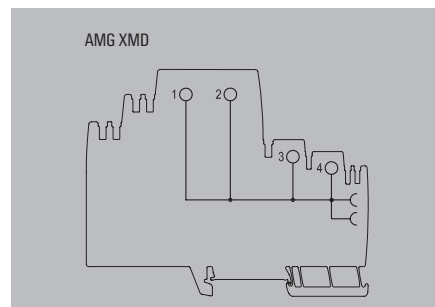
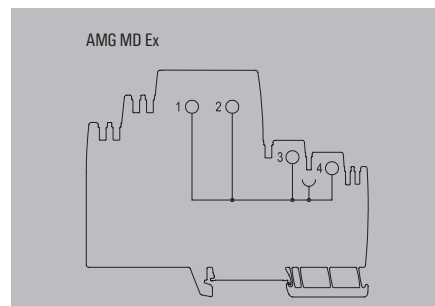
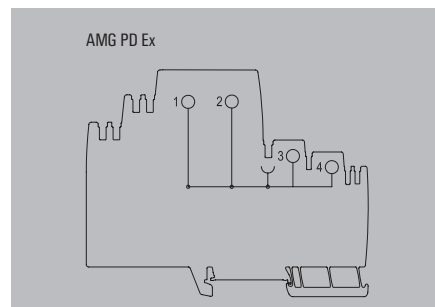
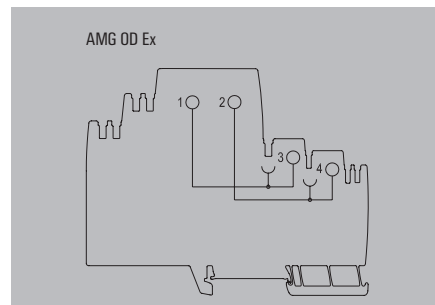
Ordering data

| Type | Qty. | Order No. |
|------------|------|------------|
| AMG OD EX | 10 | 2495090000 |
| AMG PD EX | 10 | 2495070000 |
| AMG MD EX | 10 | 2495040000 |
| AMG XMD EX | 10 | 2495080000 |
| AMG DIS EX | 10 | 2495100000 |

Accessories

| Plug-in cross-connection | |
|--------------------------|--------------|
| 50-pole | ZQV 4N/50 |
| 50-pole / red | ZQV 4N/50 RD |
| 50-pole / blue | ZQV 4N/50 BL |
| 2-pole | ZQV 4N/2 |
| 2-pole / red | ZQV 4N/2 RD |
| 2-pole / blue | ZQV 4N/2 BL |
| Note | |

| Type | Qty. | Order No. |
|--------------|------|------------|
| ZQV 4N/50 | 5 | 1528130000 |
| ZQV 4N/50 RD | 5 | 2460730000 |
| ZQV 4N/50 BL | 5 | 1528240000 |
| ZQV 4N/2 | 60 | 1527930000 |
| ZQV 4N/2 RD | 60 | 2460450000 |
| ZQV 4N/2 BL | 60 | 1528040000 |



maxGUARD – accessories

Cross-connector orange



| Type | Qty. | Order No. |
|-----------|------|------------|
| ZQV 4N/2 | 60 | 1527930000 |
| ZQV 4N/3 | 60 | 1527940000 |
| ZQV 4N/4 | 60 | 1527970000 |
| ZQV 4N/5 | 60 | 1527980000 |
| ZQV 4N/6 | 20 | 1527990000 |
| ZQV 4N/7 | 20 | 1528020000 |
| ZQV 4N/8 | 20 | 1528030000 |
| ZQV 4N/9 | 20 | 1528070000 |
| ZQV 4N/10 | 20 | 1528090000 |
| ZQV 4N/50 | 5 | 1528130000 |

Cross-connector blue



| Type | Qty. | Order No. |
|--------------|------|------------|
| ZQV 4N/2 BL | 60 | 1528040000 |
| ZQV 4N/3 BL | 60 | 1528080000 |
| ZQV 4N/4 BL | 60 | 1528120000 |
| ZQV 4N/5 BL | 60 | 1528140000 |
| ZQV 4N/6 BL | 20 | 1528170000 |
| ZQV 4N/7 BL | 20 | 1528180000 |
| ZQV 4N/8 BL | 20 | 1528190000 |
| ZQV 4N/9 BL | 20 | 1528220000 |
| ZQV 4N/10 BL | 20 | 1528230000 |
| ZQV 4N/50 BL | 5 | 1528240000 |

Cross-connector red



| Type | Qty. | Order No. |
|--------------|------|------------|
| ZQV 4N/2 RD | 60 | 2460450000 |
| ZQV 4N/3 RD | 60 | 2460810000 |
| ZQV 4N/4 RD | 60 | 2460800000 |
| ZQV 4N/5 RD | 60 | 2460790000 |
| ZQV 4N/6 RD | 20 | 2460780000 |
| ZQV 4N/7 RD | 20 | 2460770000 |
| ZQV 4N/8 RD | 20 | 2460760000 |
| ZQV 4N/9 RD | 20 | 2460750000 |
| ZQV 4N/10 RD | 20 | 2460740000 |
| ZQV 4N/50 RD | 5 | 2460730000 |

maxGUARD – accessories

Endplate and separation plate



| Type | Qty. | Order No. |
|-------------|------|------------|
| AMG PP | 40 | 2123000000 |
| AMG EP 2010 | 30 | 2495380000 |
| AMG EP KIT | 1 | 2500760000 |

End brackets



| Type | Qty. | Order No. |
|-------------------|------|------------|
| WEW 35/2 SW | 100 | 1061210000 |
| WEW 35/2 V0 GF SW | 100 | 1479000000 |

Cutting tool for ZQV



| Type | Qty. | Order No. |
|-------|------|------------|
| KT 14 | 1 | 1157820000 |

Uninterruptible power supplies

| | | |
|---------------------------------------|------------------------------|-----|
| Uninterruptible power supplies | Overview | C.2 |
| | UPS control unit | C.4 |
| | connectPower Battery modules | C.6 |
| | connectPower Buffer modules | C.8 |

Uninterruptible power supplies

Weidmüller’s uninterruptible power supplies reliably protect 24 V DC consumers from voltage drop-outs and dips, such as those that could occur as a result of mains faults. These products therefore play a key role in increasing systems availability.

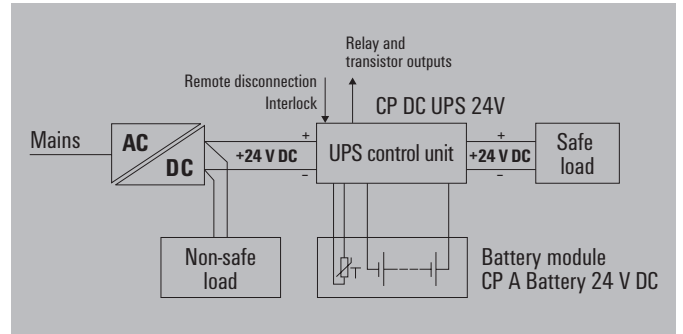
C

The buffer module is the perfect solution for bridging short-term power supply failures or dips of up to 100 ms. The capacitor-based technology enables maintenance-free operation, depending on the application, of up to 10 years.

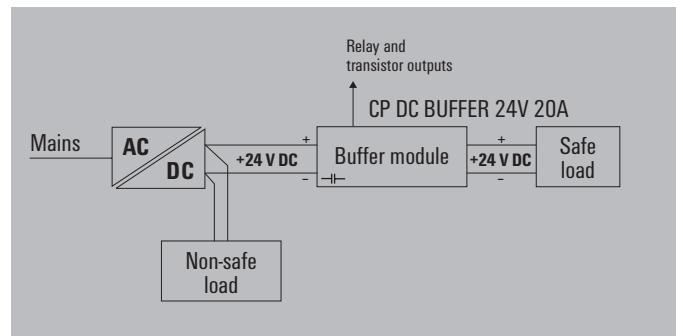
The UPS control unit, together with the accompanying battery module and the power supply, form a complete DC UPS system with support times in minutes or hours. The modular construction allows for the overall load to be distributed into non-safe and safe load circuits, such that often a smaller UPS can be designed.

A huge variety of operating types are available to suit the particular application precisely. A remote input to block battery operation, as well as multiple signal outputs, enable remote operation of the UPS.

UPS with battery module



UPS with buffer module



Space saving

The ability to mount the UPS components side-by-side in only 66 mm width saves space in the electronics cabinet.



Quick error analysis

The charging level indicator and the status and error indicators facilitate rapid error analysis.



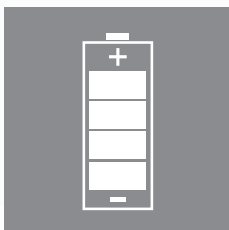
Usable around the globe

International approvals (cURus, cULus) and TÜV certification facilitate the use of these products around the world, and in different applications.



Long battery service life

The temperature-compensated characteristic charge curve ensures the best charge for the battery. This maintains the battery's long service life.



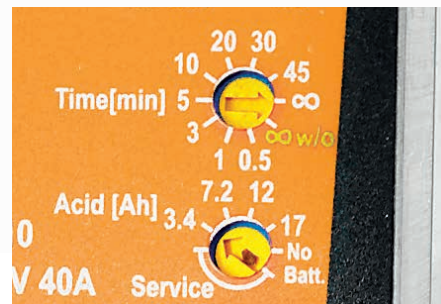
Time saving

The three additional active 24 V DC transistor outputs simplify cabling and save time.



Flexible application

Multiple operation modes optimise the use of battery power and facilitate its flexible application.



UPS control unit

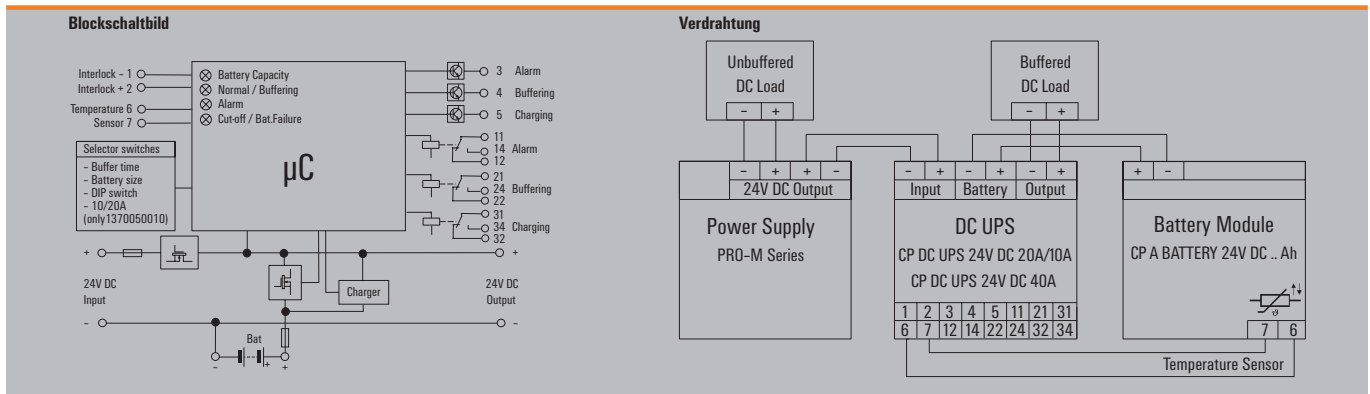
UPS control unit

- Two 24 V models in 10 A/20 A and 40 A
- Temperature-compensated charging feature for long battery life
- Integrated battery diagnostics including continuous availability test
- Status relay and additional transistor outputs for remote monitoring
- Convenient LED displays for easy error analysis

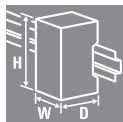


Technical data

| Signalling | |
|--|---|
| Status relay (max. load) | Fault (alarm) (30 V AC/DC 0.1 A), Battery operation (buff.) (30 V AC/DC 0.1 A), Laden (Charg.) (30V AC/DC 0,1A) |
| Transistor outputs (24...27 V DC max. load 150 mA) | Battery operation (buff.), Charging, Fault (alarm) |
| Status indicator | Green/yellow LED: normal / buffering, Yellow/red LED: temperature alarm / alarm, Yellow/red LED: switch-off / battery fault |
| General data | |
| Ambient temperature (operational) | -25 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 %, no condensation |
| Protection degree | IP20 |
| Protection class | III, with no ground connection, for SELV |
| Pollution degree | 2 |
| Overvoltage category | III |
| Insulation voltage | 1 kV DC |
| MTBF | > 500,000 h in accordance with IEC 61709 (SN29500) |
| Protection against reverse voltages from the load | 32...34 V DC |
| Parallel connection option | Yes, max. 2, Yes, with diode module |
| Housing version | Metal, corrosion resistant |
| Mounting position, installation notice | Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between. |
| Overload protection | Yes |
| Short-circuit protection | Yes |
| EMC / shock / vibration | |
| Noise emission in accordance with EN55032 | Class B |
| Interference immunity test acc. to | EN 61000-4-2 (ESD) EN 61000-4-3 and EN 61000-4-8 (fields) EN 61000-4-4 (burst) EN 61000-4-5 (surge) EN 61000-4-6 (conducted) EN 61000-4-11 (dips) |
| Resistance to vibration / Shock | 2.3 g / 30 g in all directions |
| Electrical safety (applied standards) | |
| Electrical machine equipment | Acc. to EN60204 |
| Safety transformers for switch-mode power supplies | According to EN 61558-2-16 |
| For use with electronic equipment | Acc. to EN50178 / VDE0160 |
| Safety extra-low voltage | |



UPS control unit



Technical data

| | |
|--|---|
| Input | |
| Rated input voltage | 24 V DC |
| DC input voltage range | 20...30 V DC |
| Input current | ≤ 13A (for 10A), ≤ 23A (for 20A) |
| Input fuse (internal) | Yes |
| DC current consumption | max. 200 mA (without battery), max. 0.5 A (with fully charged battery) |
| Reverse polarity protection | Yes |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | Vo = Vin - 0.2 V normal operation (Imax), Vo = Vin - 0.3 V battery supply (I max) |
| Nominal output current for U _{nom} | 20 A @ 60 °C |
| Integrated battery charger | |
| Charging feature | IU characteristic curve |
| Charging voltage (temperature compensated) | 27, 48 V @ 20°C |
| Temperature coefficient | - 48 mV / °C |
| Charging current | 0.15 CA |
| Battery availability test | every minute |
| Battery module | |
| Rated voltage | 24 V |
| Storage medium | 1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, Selectable with rotary switch |
| Parallel connection option | Yes, max. 2 |
| Operating elements and control inputs | |
| Output current selector switch | 20 A, 10 A |
| Selector switch battery | 1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, No Battery, Service |
| Selector switch buffer times | 0.5 min, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min, 45 min, ∞, ∞ w/0 |
| DIP switch | Inversion of transistor outputs, Operation without temperature probe |
| Remote disconnection (Interlock) | Yes |
| Temperature probe | NTC 100 kΩ |
| General data | |
| Buffer times | Depending on the connected battery |
| Degree of efficiency | ≥ 96% normal mode, battery is being charged, ≥ 98% normal mode, battery is charged, ≥ 98% buffer mode |
| Power loss | < 10 W |
| Depth x width x height / Net weight | 150 / 66 / 130 mm / 1146 g |
| Approvals | |
| Approvals | CE; cULus; DNVGL; EAC; TUEV |

| | |
|---------------------------------------|--------------------------|
| Connection data | |
| Wire connection method | Screw connection |
| Wire cross-section, rigid min/max | 0.5 / 16 mm ² |
| Wire cross-section, flexible min/max | 0.5 / 16 mm ² |
| Wire cross-section, AWG/kcmil min/max | 26 / 6 |
| Tightening torque | 1.2...1.5 Nm |
| Note | |

Ordering data

| | |
|-----------------------|------------|
| Type | |
| CP DC UPS 24V 20A/10A | 1370050010 |
| Note | |

CP DC UPS 24V 20A/10A



| | |
|--|---|
| Input | |
| Rated input voltage | 24 V DC |
| DC input voltage range | 20...30 V DC |
| Input current | ≤ 13A (for 10A), ≤ 23A (for 20A) |
| Input fuse (internal) | Yes |
| DC current consumption | max. 200 mA (without battery), max. 0.5 A (with fully charged battery) |
| Reverse polarity protection | Yes |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | Vo = Vin - 0.2 V normal operation (Imax), Vo = Vin - 0.3 V battery supply (I max) |
| Nominal output current for U _{nom} | 20 A @ 60 °C |
| Integrated battery charger | |
| Charging feature | IU characteristic curve |
| Charging voltage (temperature compensated) | 27, 48 V @ 20°C |
| Temperature coefficient | - 48 mV / °C |
| Charging current | 0.15 CA |
| Battery availability test | every minute |
| Battery module | |
| Rated voltage | 24 V |
| Storage medium | 1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, Selectable with rotary switch |
| Parallel connection option | Yes, max. 2 |
| Operating elements and control inputs | |
| Output current selector switch | 20 A, 10 A |
| Selector switch battery | 1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, No Battery, Service |
| Selector switch buffer times | 0.5 min, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min, 45 min, ∞, ∞ w/0 |
| DIP switch | Inversion of transistor outputs, Operation without temperature probe |
| Remote disconnection (Interlock) | Yes |
| Temperature probe | NTC 100 kΩ |
| General data | |
| Buffer times | Depending on the connected battery |
| Degree of efficiency | ≥ 96% normal mode, battery is being charged, ≥ 98% normal mode, battery is charged, ≥ 98% buffer mode |
| Power loss | < 10 W |
| Depth x width x height / Net weight | 150 / 66 / 130 mm / 1146 g |
| Approvals | |
| Approvals | CE; cULus; DNVGL; EAC; TUEV |

| | | | |
|-----------------------------|-----------|------------------|-----------|
| Input/output/battery | | Signal | |
| Screw connection | | Screw connection | |
| 0.5 / 16 | 0.2 / 1.5 | 0.5 / 16 | 0.2 / 1.5 |
| 0.5 / 16 | 0.2 / 1.5 | 26 / 6 | 30 / 15 |
| 26 / 6 | 30 / 15 | 1.2...1.5 | |

| | | |
|-----------------------|-------------|------------------|
| Type | Qty. | Order No. |
| CP DC UPS 24V 20A/10A | 1 | 1370050010 |

| | |
|-------------|--|
| Note | |
|-------------|--|

CP DC UPS 24V 40A



| | |
|--|---|
| Input | |
| Rated input voltage | 24 V DC |
| DC input voltage range | 20...30 V DC |
| Input current | ≤ 43 A |
| Input fuse (internal) | Yes |
| DC current consumption | max. 200 mA (without battery), max. 0.5 A (with fully charged battery) |
| Reverse polarity protection | Yes |
| Output | |
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | Vo = Vin - 0.2 V normal operation (Imax), Vo = Vin - 0.3 V battery supply (I max) |
| Nominal output current for U _{nom} | 40 A @ 60 °C |
| Integrated battery charger | |
| Charging feature | IU characteristic curve |
| Charging voltage (temperature compensated) | 27, 48 V @ 20°C |
| Temperature coefficient | - 48 mV / °C |
| Charging current | 0.15 CA |
| Battery availability test | every minute |
| Battery module | |
| Rated voltage | 24 V |
| Storage medium | 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, Selectable with rotary switch |
| Parallel connection option | Yes, max. 2 |
| Operating elements and control inputs | |
| Output current selector switch | 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, No Battery, Service |
| Selector switch battery | 0.5 min, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min, 45 min, ∞, ∞ w/0 |
| Selector switch buffer times | 0.5 min, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min, 45 min, ∞, ∞ w/0 |
| DIP switch | Inversion of transistor outputs, Operation without temperature probe |
| Remote disconnection (Interlock) | Yes |
| Temperature probe | NTC 100 kΩ |
| General data | |
| Buffer times | Depending on the connected battery |
| Degree of efficiency | ≥ 96% normal mode, battery is being charged, ≥ 98% normal mode, battery is charged, ≥ 98% buffer mode |
| Power loss | < 10 W |
| Depth x width x height / Net weight | 150 / 66 / 130 mm / 1051.8 g |
| Approvals | |
| Approvals | CE; cULus; DNVGL; EAC; TUEV |

| | | | |
|-----------------------------|-----------|------------------|-----------|
| Input/output/battery | | Signal | |
| Screw connection | | Screw connection | |
| 0.5 / 16 | 0.2 / 1.5 | 0.5 / 16 | 0.2 / 1.5 |
| 0.5 / 16 | 0.2 / 1.5 | 26 / 6 | 30 / 15 |
| 26 / 6 | 30 / 15 | 1.2...1.5 | |

| | | |
|-------------------|-------------|------------------|
| Type | Qty. | Order No. |
| CP DC UPS 24V 40A | 1 | 1370040010 |

| | |
|-------------|--|
| Note | |
|-------------|--|

connectPower Battery modules

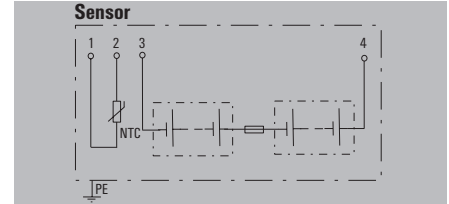
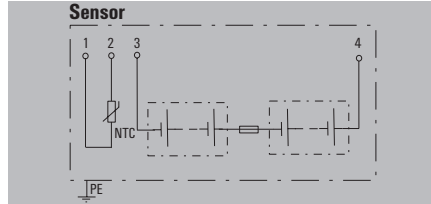
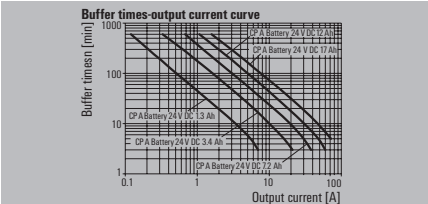
Battery modules

- Maintenance-free lead-acid batteries from 3.4 Ah to 17 Ah
- Integrated temperature sensor for optimal battery charging
- Capacity up to 40 A / 30 min or 1 A / 30 hrs
- Robust metal housing for wall mounting

CP A BATTERY 24V DC1.3AH



CP A BATTERY 24V DC3.4AH



Technical data

- Rated input voltage
- Nominal capacity
- Charging current, max.
- Overload and short circuit protection
- Buffer time 10A
- Buffer time 20A
- Output current, max.
- Parallel connection option
- Series switching capability
- Temperature probe

General data

- Battery type
- Operating life
- Ambient temperature
- Storage temperature
- Latest commissioning
- Max. perm. air humidity (operational)
- Protection class
- Protection degree
- Vibration DIN rail/wall in accordance with IEC 68-2-6
- Shock wall acc. to IEC 68227
- Depth x width x height / Net weight

Approvals

Approvals

24 V DC
1.3 Ah
0.2 A
15 A fuse

15 A
Yes
No
NTC 100 kΩ

Maintenance-free AGM lead-acid battery
6...9 years at 20°C
0°...+40°C (Charging); -15°...+50°C (Discharging)
-15 °C...40 °C
9 months
5 %...95 % RH
III, with no ground connection, for SELV
IP20
0.7 / 0.7 g
30 g
124 / 52 / 148 mm / 1650 g

cULus; DNVGL; EAC

24 V DC
3.4 Ah
0.51 A
25 A fuse

11.3 min
5 min
25 A
Yes
No
NTC 100 kΩ

Maintenance-free AGM lead-acid battery
6...9 years at 20°C
0°...+40°C (Charging); -15°...+50°C (Discharging)
-15 °C...40 °C
9 months
5 %...95 % RH
III, with no ground connection, for SELV
IP20
0.7 / 0.7 g
30 g
137 / 108 / 144 mm / 3478 g

cULus; DNVGL; EAC

Connection data

| | |
|---------------------------------------|-----------------|
| Wire connection method | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Tightening torque | Nm |

Note

Input/output/battery

| Input/output/battery | Signal |
|----------------------|----------------------------|
| | Pluggable screw connection |
| 0.2 / 4 | 0.2 / 4 |
| 0.2 / 4 | 0.2 / 4 |
| 30 / 12 | 30 / 12 |
| 0.5...0.5 | |

Input/output/battery

| Input/output/battery | Signal |
|----------------------|----------------------------|
| | Pluggable screw connection |
| 0.2 / 6 | 0.2 / 1.5 |
| 0.5 / 6 | 0.2 / 1.5 |
| 22 / 10 | 28 / 16 |
| 0.5...0.6 | |

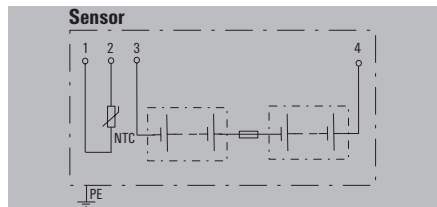
Ordering data

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| CP A BATTERY 24V DC1.3AH | 1 | 1406930000 |

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| CP A BATTERY 24V DC3.4AH | 1 | 1251070000 |

Note

CP A BATTERY 24V DC7.2AH

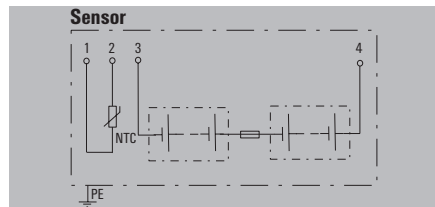


| |
|---|
| 24 V DC |
| 7.2 Ah |
| 1.08 A |
| 2x25 A fuse |
| 26.5 min |
| 11.5 min |
| 50 A |
| Yes |
| No |
| NTC 100 kΩ |
| Maintenance-free AGM lead-acid battery |
| 9...12 years at 20°C |
| 0°...+40°C (Charging); -15°...+50°C (Discharging) |
| -15 °C...40 °C |
| 9 months |
| 5 %...95 % RH |
| III, with no ground connection, for SELV |
| IP20 |
| - / 0.7 g |
| 30 g |
| 134 / 162 / 155 mm / 6200 g |
| cULus; DNVGL; EAC |

| Input/output/battery | Signal |
|----------------------|----------------------------|
| 0.2 / 16 | Pluggable screw connection |
| 0.2 / 1.5 | 0.2 / 1.5 |
| 0.5 / 16 | 0.2 / 1.5 |
| 22 / 6 | 28 / 16 |
| 1.2...1.5 | |

| Type | Qty. | Order No. |
|--------------------------|------|------------|
| CP A BATTERY 24V DC7.2AH | 1 | 1251080000 |

CP A BATTERY 24V DC12AH

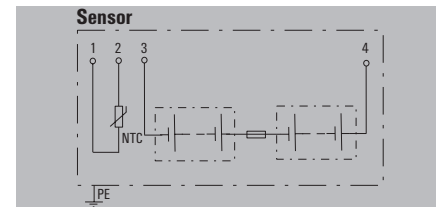


| |
|---|
| 24 V DC |
| 12 Ah |
| 1.8 A |
| 2x25 A fuse |
| 51 min |
| 22.7 min |
| 50 A |
| Yes |
| No |
| NTC 100 kΩ |
| Maintenance-free AGM lead-acid battery |
| 6...9 years at 20°C |
| 0°...+40°C (Charging); -15°...+50°C (Discharging) |
| -15 °C...40 °C |
| 9 months |
| 5 %...95 % RH |
| III, with no ground connection, for SELV |
| IP20 |
| - / 0.7 g |
| 30 g |
| 134 / 229 / 155 mm / 9120 g |
| cULus; DNVGL; EAC |

| Input/output/battery | Signal |
|----------------------|----------------------------|
| 0.2 / 16 | Pluggable screw connection |
| 0.2 / 1.5 | 0.2 / 1.5 |
| 0.5 / 16 | 0.2 / 1.5 |
| 22 / 6 | 28 / 16 |
| 1.2...1.5 | |

| Type | Qty. | Order No. |
|-------------------------|------|------------|
| CP A BATTERY 24V DC12AH | 1 | 1251090000 |

CP A BATTERY 24V DC17AH



| |
|---|
| 24 V DC |
| 17 Ah |
| 2.55 A |
| 2x25 A fuse |
| 81 min |
| 34.2 min |
| 50 A |
| Yes |
| No |
| NTC 100 kΩ |
| Maintenance-free AGM lead-acid battery |
| 6...9 years at 20°C |
| 0°...+40°C (Charging); -15°...+50°C (Discharging) |
| -15 °C...40 °C |
| 9 months |
| 5 %...95 % RH |
| III, with no ground connection, for SELV |
| IP20 |
| - / 0.7 g |
| 30 g |
| 160 / 242 / 178 mm / 13330 g |
| cULus; EAC |

| Input/output/battery | Signal |
|----------------------|----------------------------|
| 0.2 / 16 | Pluggable screw connection |
| 0.2 / 1.5 | 0.2 / 1.5 |
| 0.5 / 16 | 0.2 / 1.5 |
| 22 / 6 | 28 / 16 |
| 1.2...1.5 | |

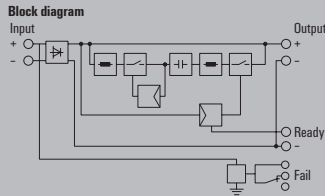
| Type | Qty. | Order No. |
|-------------------------|------|------------|
| CP A BATTERY 24V DC17AH | 1 | 1251110000 |

connectPower Buffer modules

Buffer modules

- Maintenance-free UPS on a capacitor basis, with a capacity of 20 A / 260 ms
- Parallel switching to increase the output current or buffer time
- Status notification via LED and relay contact

CP DC BUFFER 24V 20A



Technical data

| | |
|-------------------------------------|---|
| Input | |
| Rated input voltage | 24 V DC |
| Input current | 0...22 A |
| Max. approved input current | 22 A |
| Surge protection | 31 - 34 V (only at discharge) |
| Output | |
| Output voltage | 24 V |
| Output current | 20A |
| Output current, max. | 22 A |
| Parallel connection option | Yes, without diode module |
| Overload protection | ≥ 22 A (only at discharge) |
| Surge protection | 31 - 34 V (only at discharge) |
| Status relay (max. load) | Input voltage OK (30 V AC/DC 2A), Ready for operation (24 V AC/DC 300 mA) |
| Display | |
| Status indicator | Green LED |
| General data | |
| Degree of efficiency | 95 % |
| Insulation voltage, input/output | 1 kV |
| Storage medium | Internal condenser |
| Buffer times | 250 ms at 20 A, 6 s at 1 A |
| MTBF | > 500,000 h in accordance with IEC 61709 (SN29500) |
| Ambient temperature (operational) | -25 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Humidity | 5...95 %, no condensation |
| Depth x width x height / Net weight | 150 / 66 / 130 mm / 1280 g |
| For use with electronic equipment | Acc. to EN50178 / VDE0160 |
| Approvals | |
| Approvals | cURus; EAC |

| | | | |
|------------------|--|---------------|--|
| Input | | Output | |
| Screw connection | | | |
| 0.5 / 16 | | 0.6 / 16 | |
| 0.5 / 16 | | 0.5 / 16 | |
| 26 / 6 | | 26 / 6 | |

| | |
|---------------------------------------|-----------------|
| Connection data | |
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| | | | |
|------------------|--|---------------|--|
| Input | | Output | |
| Screw connection | | | |
| 0.5 / 16 | | 0.6 / 16 | |
| 0.5 / 16 | | 0.5 / 16 | |
| 26 / 6 | | 26 / 6 | |

Ordering data

| | |
|-------------|--|
| Note | |
|-------------|--|

| Type | Qty. | Order No. |
|----------------------|------|------------|
| CP DC BUFFER 24V 20A | 1 | 1251220000 |

| | |
|-------------|--|
| Note | |
|-------------|--|

| | |
|-------------|--|
| Note | |
|-------------|--|

Small metal foot



| Type | Order No. |
|-----------|------------|
| MTA 30 MF | 1251320000 |

Large metal foot



| Type | Order No. |
|-----------|------------|
| MTA 45 MF | 1251310000 |

Small plastic foot



| Type | Order No. |
|-----------|------------|
| MTA 30 BK | 1168970000 |

Large plastic foot



| Type | Order No. |
|-----------|------------|
| MTA 45 BK | 1962250000 |

Small wall mounting



| Type | Order No. |
|------------------------|------------|
| CP A WALLADAPTER 30 MM | 1461870000 |

Large wall mounting



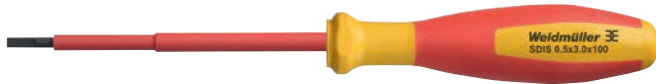
| Type | Order No. |
|------------------------|------------|
| CP A WALLADAPTER 45 MM | 1461850000 |

Temperature probe



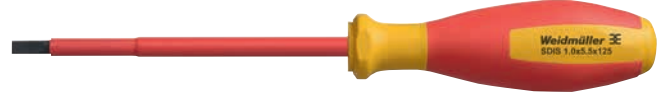
| Type | Kabellänge | Order No. |
|----------------|------------|------------|
| CP DC UPS TF25 | 2.5 m | 1444540000 |
| CP DC UPS TF05 | 0.5 m | 1444480000 |

Small screwdriver



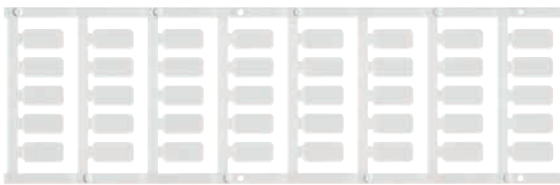
| Type | Size/AF | a | b | c | Order No. |
|------------------|---------|-----|---|-----|------------|
| SDIS 0.5X3.0X100 | | 0.5 | 3 | 100 | 2749800000 |

Large screwdriver



| Type | Size/AF | a | b | c | Order No. |
|------------------|---------|---|-----|-----|------------|
| SDIS 1.0X5.5X125 | | 1 | 5.5 | 125 | 2749850000 |

Markers



| Type | Colour | Qty. | Order No. |
|----------------------|--------|------|------------|
| SM 18/9.5 K MC NE WS | white | 200 | 1248580000 |

End bracket

For DIN rail TS 35



| Polyamide with fibre glass, screwable | Colour | Torque | Qty. | Order No. |
|---------------------------------------|--------|--------|------|------------|
| WEW 35/1 SW | black | 1.2 Nm | 50 | 1162600000 |

DC/DC converters

| | | |
|-------------------------|------------------------------|-----|
| DC/DC converters | Overview | D.2 |
| | connectPower DC/DC converter | D.4 |

Stabilise control voltages in 24 V DC systems

Compact and powerful DC/DC converters for an everlasting supply

Maximum supply reliability and minimum downtimes indicate a good power supply system. However, the increasing complexity of supply solutions and the increased use of battery back-up systems can have a negative impact on the stability of the DC control voltage. Supply disruptions, e. g. voltage fluctuations as a result of different potentials or voltage drops as a result of long cables may occur as a result. These issues can often lead to cost-intensive production disruptions.

D

The DC/DC converter balances out voltage fluctuations, such as those arising as a result of unregulated voltage supplies. Voltage drops at the end of long cables are also balanced out. With protection class III for floating systems and galvanic isolation, the DC/DC converters are particularly well-suited for use with independent supply systems.

As well as having above-average performance characteristics, the DC/DC converter also stands out thanks to its slim design, ease of servicing and high degree of efficiency of up to 94 %. It also has a wide range of safety functions and can be combined with PROtop, PROeco or PROmax power supplies. It is also possible to combine UPS components, diode and redundancy modules with the DC/DC converter in order to establish a redundant power supply. All of these features make the DC converter a real all-rounder when it comes to 24 V DC supply voltages.

Your special advantages:

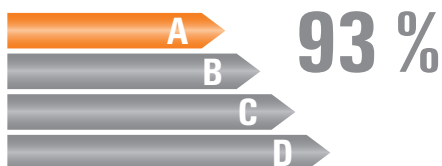
- Reliable and powerful
- The long-lasting Power Boost of up to 120 % and high peak currents of up to 600 % of the rated current for 16 ms guarantee reliable starting and safe operation even within limit ranges.



In floating voltage systems, e. g. with emergency power battery systems in marine engineering, the control voltage needs to be galvanically isolated from the battery voltage

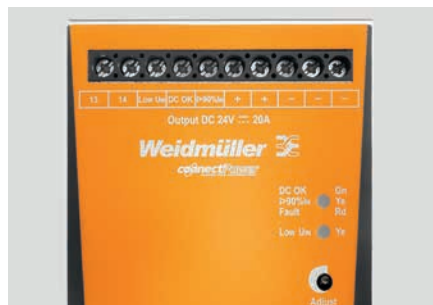
Extremely compact and energy-efficient

The compact design saves up to 30 % space in the control cabinet. The high degree of efficiency of up to 93 % ensures low energy costs.



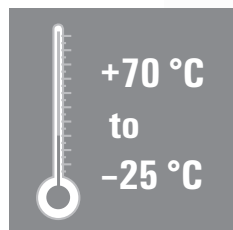
Quick status diagnostics and maintenance

The preventative function monitoring via LED display, the status relay and transistor outputs make it easier to carry out status and error analyses during commissioning and operation.



Robust and reliable

Weidmüller DC/DC converters function reliably over a large temperature range of between -25 °C and +70 °C (start-up: -40 °C), and with a high MTBF value of over 1,000,000 hours.



All-purpose usage

Variants with 5 A, 10 A and 20 A and international approvals (e. g. cULus, Class I, Div. 2, ATEX, GL, DNV) allow for global use in a range of different applications.



ConnectPower DC/DC converter

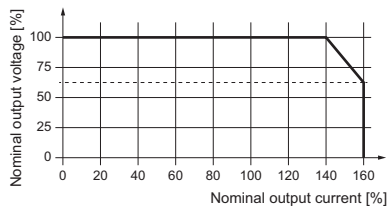
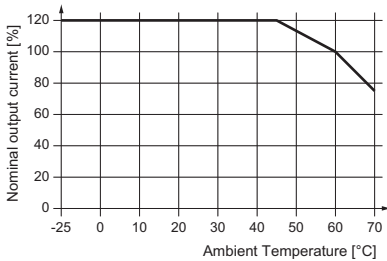


Derating curve

| Event | LED (Gr/Ye/Rd) | LED (Ye) | Transistor status outputs | | | Status relay |
|------------------------------|----------------|----------|---------------------------|----------------|---------------|--------------|
| | | | DC OK | $i > 90\% I_N$ | I low u_N | |
| $U_{in} < 14 V$ | OFF | ON | Low | Low | Low | OFF |
| $U_{in} = 14...19.2 V$ *) | $I < 90\% I_N$ | Gr | ON | High | Low | ON |
| | $I > 90\% I_N$ | Ye | ON | High | High | ON |
| $U_{in} > 19.2 V$ | $U < 20.4 V$ | Rd | ON | Low | Low | OFF |
| | $U > 20.4 V$ | Rd | OFF | High | Low | High |
| $U_{in} > 19.2 V$ | $I < 90\% I_N$ | Gr | OFF | High | Low | High |
| | $I > 90\% I_N$ | Ye | OFF | High | High | ON |
| $U_{in} > 19.2 V$ | $U < 20.4 V$ | Rd | OFF | Low | Low | High |
| | $U > 20.4 V$ | Rd | OFF | Low | Low | High |

Gr = grün / green / verde / verde / verde / verde / 绿色
 Ye = gelb / yellow / jaune / giallo / amarillo / amarillo / 黄色
 Rd = rot / red / rouge / rosso / rojo / vermelho / 红色
 *) während des Betriebes / during operations / en cours de fonctionnement / durante l'esercizio / durante el servicio / durante a operação / 运行过程中

Signal states



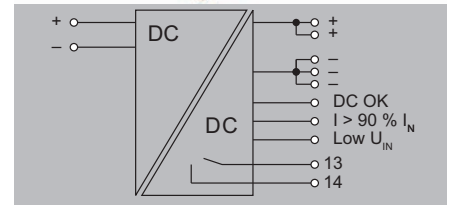
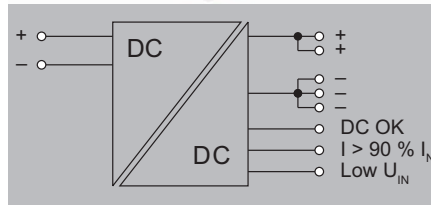
Technical data

| General data | |
|--|---|
| Current limiting | 150% I_{out} |
| Insulation voltage input / earth | 1.5 kV |
| Insulation voltage output / earth | 0.5 kV |
| Insulation voltage, input/output | 1.5 kV |
| Ambient temperature (operational) / Storage temperature / Start-up | -25 °C...70 °C / -40 °C...85 °C / ≥ -40 °C |
| Humidity at operating temperature | 5...95 %, no condensation |
| Protection class / Pollution degree | III, with no ground connection, for SELV / 2 |
| MTBF | 1250000 |
| Housing version | Metal, corrosion resistant |
| Mounting position, installation notice | Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between., 50 mm clearance at top and bottom for free air circulation, mountable side by side without clearance |
| EMC / shock / vibration | |
| Interference immunity test acc. to | EN 61000-4-2 (ESD), EN 61000-4-4 (burst), EN 61000-4-5 (surge), EN 61000-4-6 (conducted), EN61000-4-3 (HF field) |
| Shock | 30 g in all directions |
| Resistance to vibration | 2.3 g (15 Hz...150 Hz) |
| Electrical safety (applied standards) | |
| Electrical machine equipment | Acc. to EN60204 |
| Safety transformers for switch-mode power supplies | According to EN 61558-2-16 |
| For use with electronic equipment | Acc. to EN50178 / VDE0160 |
| Protective separation / protection against electrical shock | VDE0100-410 / acc. to DIN57100-410 |
| Protection against dangerous shock currents | Acc. to VDE0106-101 |

ConnectPower DC/DC converter

PRO DCDC 120W 24V 5A

PRO DCDC 240W 24V 10A



Technical data

| Input | |
|--|--|
| Rated input voltage | 24 V DC |
| DC input voltage range | 14...32 V (during operation), 18...32 V (commissioning) |
| Input fuse (internal) | Yes |
| Inrush current / Inrush Current Limitation | Max. 10 A / Yes |
| Recommended back-up fuse | 10 A, Char. B circuit breaker, 10 A, Char. C circuit breaker |

| Output | |
|--|---|
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...29.5 V (adjustable via potentiometer on front) |
| Continuous output current @ U _{Nominal} | 5 A @ 40 °C, 6 A @ 45°C, 3,75 A @ 70°C |
| Output power | 120 W |
| Ramp-up time | ≤ 9 ms (U _{out} : 10%...90%) |
| Capacitive load | unrestricted |
| Parallel connection option | yes, max. 5 (without diode module) |
| Reserve capacity @ U _{Nominal} | 600% IN for 16 ms |
| Residual ripple, breaking spikes | max. 20 mVpp @ 24 VDC, IN |
| Protection against inverse voltage / Overload protection | Yes / Yes |

| General data | |
|---|------------------------|
| AC failure bridging time @ I _{load} | > 10 ms @ 24 V DC |
| Protection against reverse voltages from the load | 33...34 V DC |
| Start-up | ≥ -40 °C |
| Current limiting | 150% I _{load} |
| Power loss idling / nominal load | 2 W / 11 W |
| Degree of efficiency | Typ.: 92 % |

| Signalling | |
|---------------------------------------|---|
| Transistor output, positive-switching | DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof |

| | |
|-----------------------------|---|
| Floating contact | / |
| Relay on/off / Contact load | / |

| Approvals | |
|-----------|---|
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; LLOYDSREG; RINA |

| Connection data | |
|---------------------------------------|--------------------------------------|
| Connection system | Screw connection: pluggable |
| Number of terminals | 2 for (+, -) 8 (+ / - / signal) |
| Wire cross-section, rigid min/max | 0.2 / 4 0.2 / 2.5 |
| Wire cross-section, flexible min/max | 0.2 / 4 0.2 / 2.5 |
| Wire cross-section, AWG/kcmil min/max | 30 / 12 24 / 14 |

| Note | |
|------|--|
| | |

Ordering data

| Type | Qty. | Order No. |
|----------------------|------|-----------|
| PRO DCDC 120W 24V 5A | 1 | 200180000 |

| Note | |
|------|--|
| | |

| Input | |
|--|--|
| Rated input voltage | 24 V DC |
| DC input voltage range | 14...32 V (during operation), 18...32 V (commissioning) |
| Input fuse (internal) | Yes |
| Inrush current / Inrush Current Limitation | Max. 10 A / Yes |
| Recommended back-up fuse | 10 A, Char. B circuit breaker, 10 A, Char. C circuit breaker |

| Output | |
|--|---|
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...29.5 V (adjustable via potentiometer on front) |
| Continuous output current @ U _{Nominal} | 5 A @ 40 °C, 6 A @ 45°C, 3,75 A @ 70°C |
| Output power | 120 W |
| Ramp-up time | ≤ 9 ms (U _{out} : 10%...90%) |
| Capacitive load | unrestricted |
| Parallel connection option | yes, max. 5 (without diode module) |
| Reserve capacity @ U _{Nominal} | 600% IN for 16 ms |
| Residual ripple, breaking spikes | max. 20 mVpp @ 24 VDC, IN |
| Protection against inverse voltage / Overload protection | Yes / Yes |

| General data | |
|---|------------------------|
| AC failure bridging time @ I _{load} | > 10 ms @ 24 V DC |
| Protection against reverse voltages from the load | 33...34 V DC |
| Start-up | ≥ -40 °C |
| Current limiting | 150% I _{load} |
| Power loss idling / nominal load | 2 W / 11 W |
| Degree of efficiency | Typ.: 92 % |

| Signalling | |
|---------------------------------------|---|
| Transistor output, positive-switching | DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof |

| | |
|-----------------------------|---|
| Floating contact | / |
| Relay on/off / Contact load | / |

| Approvals | |
|-----------|---|
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; LLOYDSREG; RINA |

| Connection data | |
|---------------------------------------|--------------------------------------|
| Connection system | Screw connection: pluggable |
| Number of terminals | 2 for (+, -) 8 (+ / - / signal) |
| Wire cross-section, rigid min/max | 0.2 / 4 0.2 / 2.5 |
| Wire cross-section, flexible min/max | 0.2 / 4 0.2 / 2.5 |
| Wire cross-section, AWG/kcmil min/max | 30 / 12 24 / 14 |

| Note | |
|------|--|
| | |

| Type | Qty. | Order No. |
|----------------------|------|-----------|
| PRO DCDC 120W 24V 5A | 1 | 200180000 |

| Note | |
|------|--|
| | |

| Input | |
|--|--|
| Rated input voltage | 24 V DC |
| DC input voltage range | 14...32 V (during operation), 18...32 V (commissioning) |
| Input fuse (internal) | Yes |
| Inrush current / Inrush Current Limitation | max. 15 A / Yes |
| Recommended back-up fuse | 25 A, Char.B circuit breaker, 25 A, Char.C circuit breaker |

| Output | |
|--|---|
| Rated output voltage | 24 V DC ± 1 % |
| Output voltage | 22.5...29.5 V (adjustable via potentiometer on front) |
| Continuous output current @ U _{Nominal} | 10 A @ 40 °C, 12 A @ 45°C, 7,5 A @ 70°C |
| Output power | 240 W |
| Ramp-up time | ≤ 9 ms (U _{out} : 10%...90%) |
| Capacitive load | unrestricted |
| Parallel connection option | yes, max. 5 (without diode module) |
| Reserve capacity @ U _{Nominal} | 600% IN for 16 ms |
| Residual ripple, breaking spikes | max. 20 mVpp @ 24 VDC, IN |
| Protection against inverse voltage / Overload protection | Yes / Yes |

| General data | |
|---|------------------------|
| AC failure bridging time @ I _{load} | > 12 ms @ 24 V DC |
| Protection against reverse voltages from the load | 33...34 V DC |
| Start-up | ≥ -40 °C |
| Current limiting | 150% I _{load} |
| Power loss idling / nominal load | 2 W / 22 W |
| Degree of efficiency | Typ.: 92 % |

| Signalling | |
|---------------------------------------|---|
| Transistor output, positive-switching | DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof |

| | |
|-----------------------------|---|
| Floating contact | Yes |
| Relay on/off / Contact load | Output voltage > 21.6 V / < 20.4 V / max. 30 V DC / 0.5 A |

| Approvals | |
|-----------|---|
| Approvals | ABS; BURVER; cULus; cULusEX; DNVGL; LLOYDSREG; RINA |

| Connection data | |
|---------------------------------------|---------------------------------------|
| Connection system | Screw connection: pluggable |
| Number of terminals | 2 for (+, -) 10 (+ / - / signal) |
| Wire cross-section, rigid min/max | 0.08 / 4 0.2 / 2.5 |
| Wire cross-section, flexible min/max | 0.08 / 4 0.2 / 2.5 |
| Wire cross-section, AWG/kcmil min/max | 30 / 12 24 / 14 |

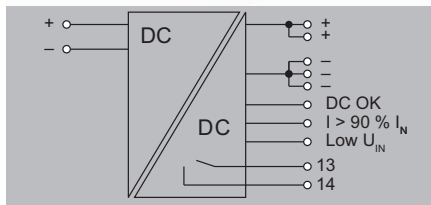
| Note | |
|------|--|
| | |

| Type | Qty. | Order No. |
|-----------------------|------|-----------|
| PRO DCDC 240W 24V 10A | 1 | 200181000 |

| Note | |
|------|--|
| | |

ConnectPower DC/DC converter

PRO DCDC 480W 24V 20A



Technical data

| Input |
|--|
| Rated input voltage |
| DC input voltage range |
| Input fuse (internal) |
| Inrush current / Inrush Current Limitation |
| Recommended back-up fuse |

| Output |
|--|
| Rated output voltage |
| Output voltage |
| Continuous output current @ $U_{Nominal}$ |
| Output power |
| Ramp-up time |
| Capacitive load |
| Parallel connection option |
| Reserve capacity @ $U_{Nominal}$ |
| Residual ripple, breaking spikes |
| Protection against inverse voltage / Overload protection |

| General data |
|---|
| AC failure bridging time @ I_{load} |
| Protection against reverse voltages from the load |
| Start-up |
| Current limiting |
| Power loss idling / nominal load |
| Degree of efficiency |

| Signalling |
|---------------------------------------|
| Transistor output, positive-switching |

| |
|-----------------------------|
| Floating contact |
| Relay on/off / Contact load |

| Approvals |
|-----------|
| Approvals |

| Connection data | |
|---------------------------------------|-----------------|
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |

| Note |
|------|
| |

Ordering data

| |
|--|
| |
|--|

| Note |
|------|
| |

| |
|--|
| 24 V DC |
| 14...32 V (during operation), 18...32 V (commissioning) |
| Yes |
| max. 30 A / Yes |
| 40 A, Char. B circuit breaker, 40 A, Char. C circuit breaker |

| |
|---|
| 24 V DC ± 1 % |
| 22.5...29.5 V (adjustable via potentiometer on front) |
| 20 A @ 60 °C, 24 A @ 45°C, 15 A @ 70°C |
| 480 W |
| ≤ 9 ms (Uout: 10%...90%) |
| unrestricted |
| yes, max. 3 |
| 600% IN for 16 ms |
| max. 20 mVpp @ 24 VDC, IN |
| Yes / Yes |

| |
|-------------------|
| > 10 ms @ 24 V DC |
| 33...34 V DC |
| ≥ -40 °C |
| 150% I_{load} |
| 3 W / 40 W |
| typ. > 93% |

| |
|--|
| DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U_{IN} : 20 mA max., short-circuit-proof |
|--|

| |
|---|
| Yes |
| Output voltage > 21.6 V / < 20.4 V / max. 30 V DC / 0.5 A |

| |
|---|
| ABS; BURVER; cULus; cULusEX; DNVGL; LLOYDSREG; RINA |
|---|

| Input | Output |
|------------------|---------------------|
| Screw connection | |
| 2 for (+, -) | 10 (+ / - / signal) |
| 0.5 / 16 | 0.18 / 6 |
| 0.5 / 16 | 0.18 / 6 |
| 22 / 8 | 26 / 10 |

| Type | Qty. | Order No. |
|-----------------------|------|------------|
| PRO DCDC 480W 24V 20A | 1 | 2001820000 |

| |
|--|
| |
|--|

Redundancy, diode and capacity modules

| | | |
|---|---------------------------------|-----|
| Redundancy, diode and capacity modules | Overview | E.2 |
| | connectPower redundancy modules | E.4 |
| | connectPower diode modules | E.6 |
| | connectPower capacity module | E.7 |

Reliable protection of sensitive system components

Redundancy, diode and capacity modules

In many automation applications, power supply systems are required that function reliably even if a power supply unit fails. With our optimally coordinated supplementary modules, a permanent supply concept is created. Weidmüller's diodes and redundancy modules connect two power supplies to each other in order to compensate for the failure of one device. In addition, Weidmüller has a capacity module that has sufficient energy reserves to, for example, connect a miniature circuit breaker to the power supply. quickly and purposefully.

Diode modules

The diode modules allow with 20 A or 40 A output current to the construction of safe power supply systems.



Redundancy modules

Redundancy modules increase system availability is decisive. Each redundant branch is able to supply full output load. The 24-V control voltage remains stable in the event of a power supply failure. The use of MOSFETs in our redundancy modules allows for a optimum efficiency.

Capacity module

The capacity modules provide sufficient energy reserves ready, for example, to meet the demand for a motor start. and I'll cover for you. In addition, the reserve enables the selective circuit breaker tripping in the case of an Short-circuit.

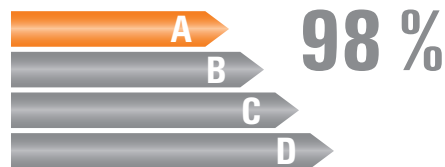


Redundancy module

- Up to 40 A per input
- Individually adjustable current warning for Overload directly at the device
- Suitable for EX areas

The space- and energy-saving system solution

- The compact design saves up to 30 % space in the switch cabinet
- The high degree of efficiency of up to 98 % ensures for low energy costs



Capacity module

- Integrated alarm relay for monitoring the input voltage
- Optical status monitoring by red/green LEDs
- Remote messages via potential-free contact

Diode module

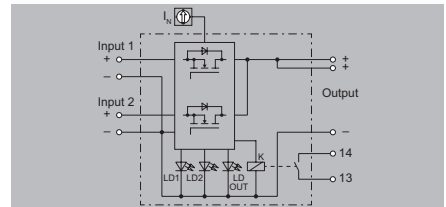
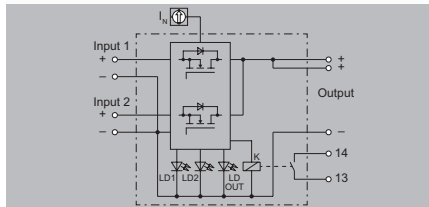
- Ideal for setting up trouble-free systems
- In versions with 20 or 40 A output current obtainable
- Also suitable for small systems

connectPower redundancy modules

connectPower redundancy modules

PRO RM 10

PRO RM 20



Technical data

| |
|---|
| Input |
| DC input voltage range |
| Input current |
| Output |
| Rated output voltage |
| Continuous output current @ $U_{Nominal}$ |
| General data |
| Ambient temperature (operational) |
| Storage temperature |
| Derating |
| Degree of efficiency |
| Mounting position, installation notice |
| Depth x width x height / Net weight |
| Approvals |

| |
|---|
| 10 ... 32 V DC |
| 2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C) |
| $V_{INPUT-typ. 0.13 V}$ |
| 1 × 24 A (-40 °C ~ +45 °C), 1 × 20 A (+45 °C ~ +60 °C), 1 × 15 A (+70 °C) |
| -40 °C...70 °C |
| -40 °C...85 °C |
| > 60°C / 75% @ 70°C |
| > 98% |
| Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between. |
| 125 / 30 / 130 mm / 497 g |
| cULus; DNVGL; EAC |

| |
|---|
| 10 ... 32 V DC |
| 2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C) |
| $V_{INPUT-typ. 0.2 V}$ |
| 1 × 48 A (-40 °C ~ +45 °C), 1 × 40 A (+45 °C ~ +60 °C), 1 × 30 A (+70 °C) |
| -40 °C...70 °C |
| -40 °C...85 °C |
| > 60°C / 75% @ 70°C |
| > 98% |
| Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between. |
| 125 / 38 / 130 mm / 558 g |
| cULus; DNVGL; EAC |

| | |
|---------------------------------------|-----------------|
| Connection data | |
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| | |
|--------------|---------------|
| Input | Output |
| PUSH IN | PUSH IN |
| 4 (+,+, -,-) | 2 (+ / -) |
| 0.2 / 2.5 | 0.2 / 10 |
| 0.2 / 2.5 | 0.2 / 6 |
| 26 / 12 | 24 / 8 |

| | |
|--------------|---------------|
| Input | Output |
| PUSH IN | PUSH IN |
| 4 (+,+, -,-) | 2 (+ / -) |
| 0.2 / 10 | 0.75 / 16 |
| 0.2 / 6 | 0.75 / 16 |
| 24 / 8 | 20 / 4 |

Ordering data

| |
|------------------|
| Screw connection |
|------------------|

| | | |
|-------------|-------------|------------------|
| Type | Qty. | Order No. |
| PRO RM 10 | 1 | 2486090000 |

| | | |
|-------------|-------------|------------------|
| Type | Qty. | Order No. |
| PRO RM 20 | 1 | 2486100000 |

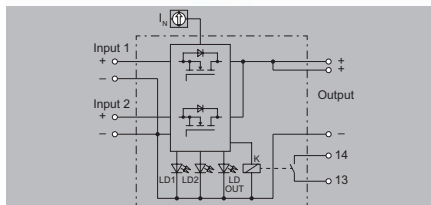
| |
|-------------|
| Note |
|-------------|

| |
|-------------|
| Note |
|-------------|

| |
|-------------|
| Note |
|-------------|

connectPower redundancy modules

PRO RM 40



Technical data

| Input | |
|---|---|
| DC input voltage range | 10 ... 32 V DC |
| Input current | 2 × 48 A (-40 °C ~ +45 °C), 2 × 40 A (+45 °C ~ +60 °C), 2 × 30 A (+70 °C) |
| Output | |
| Rated output voltage | V_{INPUT} -typ. 0.27 V |
| Continuous output current @ $U_{Nominal}$ | 1 × 96 A (-40 °C ~ +45 °C), 1 × 80 A (+45 °C ~ +60 °C), 1 × 60 A (+70 °C) |
| General data | |
| Ambient temperature (operational) | -40 °C...70 °C |
| Storage temperature | -40 °C...85 °C |
| Derating | > 60 °C / 75% @ 70 °C |
| Degree of efficiency | > 98% |
| Mounting position, installation notice | Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between. |
| Depth x width x height / Net weight | 125 / 52 / 130 mm / |
| Approvals | cULus; DNVGL; EAC |

| Connection data | | Input | Output |
|---------------------------------------|-----------------|------------------|------------------|
| Connection system | | Screw connection | Screw connection |
| Number of terminals | | 4 (+, +, -, -) | 2 (+ / -) |
| Wire cross-section, rigid min/max | mm ² | 0.2 / 16 | 0.5 / 16 |
| Wire cross-section, flexible min/max | mm ² | 0.5 / 16 | 0.5 / 35 |
| Wire cross-section, AWG/kcmil min/max | | 22 / 6 | 20 / 1 |
| Note | | | |

Ordering data

| Type | Qty. | Order No. |
|-----------|------|------------|
| PRO RM 40 | 1 | 2486110000 |

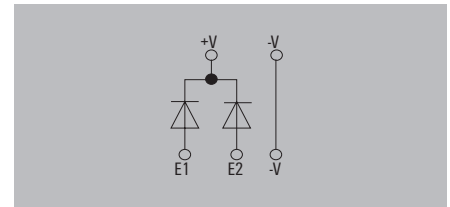
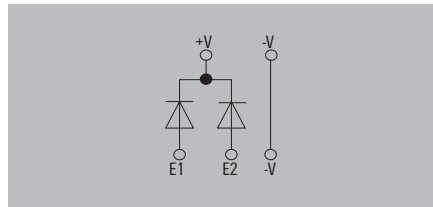
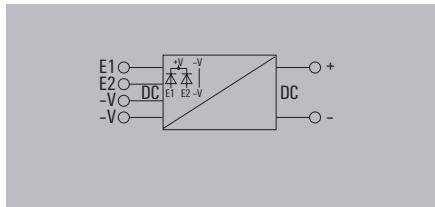
| Note |
|------------------|
| Screw connection |

connectPower diode module

connectPower diode modules

PRO DM 10

PRO DM 20



Technical data

| |
|---|
| Input |
| DC input voltage range |
| Input current |
| Output |
| Rated output voltage |
| Continuous output current @ $U_{Nominal}$ |
| General data |
| Ambient temperature (operational) |
| Storage temperature |
| Derating |
| Degree of efficiency |
| Mounting position, installation notice |
| Depth x width x height / Net weight |
| Approvals |

| |
|---|
| 0...60 V DC |
| 2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C) |
| $V_{INPUT-typ. 0.7 V}$ |
| 1 × 24 A (-40 °C ~ +45 °C), 1 × 20 A (+45 °C ~ +60 °C), 1 × 15 A (+70 °C) |
| -40 °C...70 °C |
| -40 °C...85 °C |
| > 60 °C / 75% load @ 70 °C |
| > 97% @ 24 V Input voltage |
| Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between. |
| 125 / 32 / 125 mm / 502 g |
| cULus |

| |
|---|
| 0...60 V DC |
| 2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C) |
| $V_{INPUT-typ. 0.7 V}$ |
| 1 × 48 A (-40 °C ~ +45 °C), 1 × 40 A (+45 °C ~ +60 °C), 1 × 30 A (+70 °C) |
| -40 °C...70 °C |
| -40 °C...85 °C |
| > 60 °C / 75% load @ 70 °C |
| > 97% @ 24 V Input voltage |
| Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between. |
| 125 / 32 / 125 mm / 568 g |
| cULus |

| | |
|---------------------------------------|-----------------|
| Connection data | |
| Connection system | |
| Number of terminals | |
| Wire cross-section, rigid min/max | mm ² |
| Wire cross-section, flexible min/max | mm ² |
| Wire cross-section, AWG/kcmil min/max | |
| Note | |

| | |
|--------------------|------------------|
| Input | Output |
| Screw connection | Screw connection |
| 4 (1+, 2+, 1-, 2-) | 4 (++, --) |
| 0.18 / 6 | 0.18 / 6 |
| 0.22 / 4 | 0.22 / 6 |
| 26 / 10 | 26 / 10 |

| | |
|--------------------|------------------|
| Input | Output |
| Screw connection | Screw connection |
| 4 (1+, 2+, 1-, 2-) | 4 (++, --) |
| 0.18 / 6 | 0.5 / 16 |
| 0.22 / 4 | 0.5 / 16 |
| 26 / 10 | 22 / 8 |

Ordering data

| |
|------------------|
| Screw connection |
|------------------|

| | | |
|-------------|-------------|------------------|
| Type | Qty. | Order No. |
| PRO DM 10 | 1 | 2486070000 |

| | | |
|-------------|-------------|------------------|
| Type | Qty. | Order No. |
| PRO DM 20 | 1 | 2486080000 |

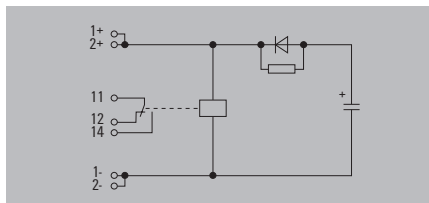
| |
|-------------|
| Note |
|-------------|

| |
|-------------|
| Note |
|-------------|

| |
|-------------|
| Note |
|-------------|

connectPower capacity modules

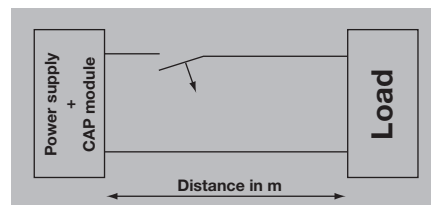
CP M CAP



Pulse triggering for circuit breakers: with the Weidmüller capacitance module

The following conditions apply to the table entries:

- Ambient temperature of 20 °C
- Inner resistance of the circuit breakers is taken into account
- Half of the rated current flows to a neighbouring circuit before the short circuit is formed
- DC-compatible circuit breakers: Siemens 5SY series



Technical data

| | |
|--|---|
| Input | Rated input voltage / DC input voltage range |
| Output | Peak current output / Recovery time for the capacitor Switching thresholds |
| | Floating contact |
| General data | Depth x width x height / Net weight Ambient temperature (operational) / Storage temperature Humidity Protection degree Protection class Pollution degree Insulation voltage MTBF Mounting position, installation notice |
| EMC / shock / vibration | Noise emission in accordance with EN55032 Interference immunity test acc. to Resistance to vibration / Shock |
| Electrical safety (applied standards) | Electrical machine equipment For use with electronic equipment |
| Approvals | Approvals |

| | |
|---|---|
| Rated input voltage / DC input voltage range | 24 V DC / 18...30 V DC |
| Peak current output / Recovery time for the capacitor | load dependent (typ. 40 A for 1 ms) / Approx. 1 sec. |
| Switching thresholds | 21.6 V DC, relay is on for Power Good, 20.4 V DC, relay is off for Power Fail |
| Floating contact | Yes |
| Depth x width x height / Net weight | / 150 / 34 / 130 mm / 725 g |
| Ambient temperature (operational) / Storage temperature | -25 °C...70 °C/40 °C...85 °C |
| Humidity | 5...95 %, no condensation |
| Protection degree | IP20 |
| Protection class | III, with no ground connection, for SELV |
| Pollution degree | 2 |
| Insulation voltage | 0.5 kV <small>Input / output - Box</small> |
| MTBF | > 500,000 h in accordance with IEC 61709 (SN29500) |
| Mounting position, installation notice | Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between. |
| Noise emission in accordance with EN55032 | Class B |
| Interference immunity test acc. to | EN 61000-4-2 (ESD) EN 61000-4-3 and EN 61000-4-8 (fields) EN 61000-4-4 (burst) EN 61000-4-5 (surge) EN 61000-4-6 (conducted) EN 61000-4-11 (dips) |
| Resistance to vibration / Shock | 1 g according to EN 50178 / 15 g in all directions |
| Electrical machine equipment | Acc. to EN60204 |
| For use with electronic equipment | Acc. to EN50178 / VDE0160 |
| Approvals | CE; cULus; DNVGL; EAC |

Fuse tripping

| Conductor cross section | B6 | B10 |
|-------------------------|-------|------|
| 0.75 mm ² | 10 m | |
| 1.0 mm ² | 14 m | 6 m |
| 1.5 mm ² | 20 m | 9 m |
| 2.5 mm ² | 30 m | 15 m |
| 4 mm ² | 50 m | 24 m |
| 6 mm ² | | |
| B16 | | |
| 0.75 mm ² | | |
| 1.0 mm ² | | |
| 1.5 mm ² | 4 m | |
| 2.5 mm ² | 6 m | |
| 4 mm ² | 10 m | |
| 6 mm ² | 16 m | |
| C2 C4 | | |
| 0.75 mm ² | 11 m | 6 m |
| 1.0 mm ² | 14 m | 8 m |
| 1.5 mm ² | 21 m | 12 m |
| 2.5 mm ² | 34 m | 19 m |
| 4 mm ² | | 32 m |
| 6 mm ² | | |
| C6 C10 | | |
| 0.75 mm ² | 3 m | |
| 1.0 mm ² | 3.5 m | 2 m |
| 1.5 mm ² | 5.5 m | 3 m |
| 2.5 mm ² | 9 m | 5 m |
| 4 mm ² | 14 m | 8 m |
| 6 mm ² | | 12 m |

| | | |
|------------------------|---|------------------------------------|
| Connection data | Wire connection method Number of terminals Wire cross-section, rigid min/max Wire cross-section, flexible min/max Wire cross-section, AWG/kcmil min/max | mm ² mm ² |
| Note | | |

| Input | Output |
|--|------------------|
| Screw connection | Screw connection |
| 4 (++-) | 3 (CO contacts) |
| 0.5 / 6 | 0.5 / 6 |
| 0.5 / 4 | 0.5 / 2.5 |
| 26 / 12 | 26 / 12 |
| For low-impedance connections we recommend 2.5 mm ² . | |

Ordering data

| | |
|-------------|--|
| | Plastic clip-in foot Metal clip-in foot |
| Note | |

| Type | Qty. | Order No. |
|----------|------|------------|
| CP M CAP | 1 | 1222240000 |
| CP M CAP | 1 | 1222240010 |

Communication modules

| | | |
|------------------------------|----------|-----|
| Communication modules | Overview | F.2 |
| | CANopen | F.4 |
| | IO-Link | F.5 |

Exploiting the potential of industry 4.0

Communication modules for continuous networking of your components

The communication capability of machines, plant components and IT systems is a basic prerequisite for exploiting the potential of industry 4.0 and increasing the future security of plants.

Weidmüller's plug-in communication modules enable individual components to exchange relevant data with the cloud. This lays the foundation for targeted process optimization using condition monitoring and remote controllability - factors that play a decisive role in increasing efficiency, quality, process stability and availability can contribute.

The communication modules are designed according to IP20 protected, can be operated without tools and can be flexibly adapted to different customisable communication protocols.



F



ProCom CANopen

ProCom CANopen connects the device-internal interface of a Weidmüller basic unit (e.g. PROtop) with the CAN bus system of a plant control system.

The CANopen fieldbus protocol is used for this purpose. The communication module is equipped with two RJ45-sockets (CAN 1-1 and 1-2) and is connected via the Basic unit supplied with power.

Range of functions:

- Read out device data and identification
- Read out process data and process alarms
- Reading event and status data
- Configuring the Base Device
- Specify operating modes and setpoints
- Display operating states



F



ProCom IO-Link

ProCom IO-Link connects the device-internal interface of a Weidmüller basic device (e.g. PROtop or topGUARD) to the communication system of a plant control system using the IO-Link communication protocol. The communication module has a three-pole connection socket for the communication cable and is supplied with power via IO-Link Master.

Range of functions:

- Read out device data and identification
- Read out process data and process alarms
- Reading event and status data
- Configuring the Base Device
- Specify operating modes and setpoints
- Display operating states

CANopen

PRO COM CANopen

PRO COM CAN OPEN



Technical data

System data

Connection type
Field bus protocol
Module type
Interface

General data

Ambient temperature (operational)
Protection degree
Weight
Depth x width x height

Approvals

Approvals

2 x RJ45 plug-in connectors

CANopen

plug-on module

PROtop interconnection interface

-25 °C...70 °C

IP20

36 g

33.6 / 35 / 74.4 mm

ABS; BURVER; DNVGL; LLOYDSREG; RINA

Note

Ordering data

| Type | Qty. | Order No. |
|------------------|------|------------|
| PRO COM CAN OPEN | 1 | 2467320000 |

Note

PRO COM IO-LINK

PRO COM IO-LINK



Technical data

System data

Connection type
IO link standard
Compatible IO-Link Master
Module type
Interface

IO-Link
IEC 61131-9
Beckhoff, GE, Rockwell, Siemens, Weidmüller
plug-on module
topGUARD interconnection interface, PROtop interconnection interface

General data

Ambient temperature (operational)
Protection degree
Weight
Depth x width x height

-25 °C...70 °C
IP20
29 g
33.6 / 35 / 74.4 mm

Approvals

Approvals

cULus

Note



Ordering data



| Type | Qty. | Order No. |
|-----------------|------|------------|
| PRO COM IO-LINK | 1 | 2587360000 |

Note



Service and support

| | | |
|----------------------------|---|-----|
| Service and support | Our expertise for your requirements | V.2 |
| | Engineering support and customised assembly | V.3 |
| | Personal Support | V.4 |

Our expertise for your requirements

Service connects – worldwide



Automation technology functions are becoming more complex in a globally-oriented world facing ambitious targets in terms of energy efficiency and smart production. We are your equal partners for the best connections in Industrial Connectivity.

Our personal support can answer any questions reliably and expertly. Our online services are available 365 day a year around the clock to provide answers to your questions on our products – from user documentation through software to planning tools.

In short: Weidmüller's global service combines our expertise with your requirements.



Your way to our service
www.weidmueller.com/service

Engineering support and customised assembly

Automation engineering and connectivity consulting belongs to our services as well as assembly of engineered products. We also support the process from the idea to the product with our Weidmüller Configurator and the Configure-to-Order process.



Consulting and engineering

The challenge for you is reducing costs and increasing efficiency. This requires intelligent, individual solutions. Whether it is modified products, pre-fitted mounting rails or complete small cabinets – our application centres provide a highly qualified custom-made engineering and production service.



Connectivity Consulting

Alongside our product offering, we support you with our range of services through all the phases of machine construction. The result of this collaboration is a reduction of up to 30% in cycle times, up to 20% more space in the control cabinet and significant fault reduction. Our experienced Connectivity Consulting team delivers a practical impetus rather than just abstract theories.



Fitted mounting rails

Your processes in panel building have to be fast, flexible and productive. This is the only way you can cut your costs and increase efficiency. Depending on the application in question, you will have different requirements with respect to the engineering service, delivery speed and flexibility to be provided.



Processed and assembled enclosures

To compete internationally, your plants need to satisfy high standards of safety, quality and performance. The smart combination of consultation, application expertise and industry know-how is our key to finding a custom-fit solution for your application. Reduce costs and increase efficiency.

Personal support

Exactly the right help and information on our solutions and products



If our products are used in your automation technology applications, you need the best possible individual support, from planning through installation to operation. For every stage of your application, we can offer the right tools and information for our products and solutions. Up-to-date, uncomplicated, comprehensive and around the clock via our service portal at www.weidmueller.com/support.

V



Your way to your local personal support
www.weidmueller.com/support



Technical downloads

All information, such as technical data, manuals, certificates and much more for the appropriate use of our products and solutions in your application.



Engineering data

For the quick integration of our products into your design, there are a lot of digital product data for engineering systems like EPLAN, Zuken E3.series, WSCAD and many others available for download.



Product software

Our software makes using and configuration of our products easier for you when it comes to operation, configuration and monitoring.



Approvals, certificates & declaration of conformity

We supply product- or company-related approvals and certificates for your documentation.



Security advisory board

Our Product Security Incident Response Team (PSIRT) continuously informs you about possible security-related vulnerabilities of our products.

Glossary/Technical appendix

| | | |
|------------------------------------|---------------------------|-----|
| Glossary/Technical appendix | Power Supplies - Overview | W.2 |
| | Standards and approvals | W.4 |
| | Glossary | W.6 |

Power Supplies – Overview

Power supplies are important links in the energy supply chain of automation systems. Unregulated power supplies or regulated switched-mode power supplies are at the heart of every electrical cabinet. 24 V DC has emerged as the standard control voltage for the supply of electrical sub-assemblies and systems. But other control voltages are also required. The correct power supply is a critical factor for the reliable operation of the supplied components. Thus it must be chosen with particular attention.

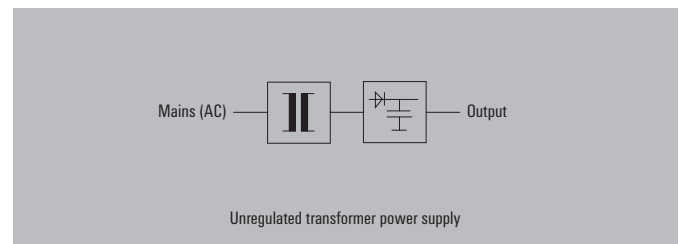
Regulated power supplies from Weidmüller have proven themselves reliable over many years in the supply of electrical sub-assemblies and systems. They perform reliably and safely – even under harsh industrial conditions – in all sectors of machine construction, industrial automation, and the power and process industries.

Weidmüller offers custom-fit solutions for practically all of your requirements:

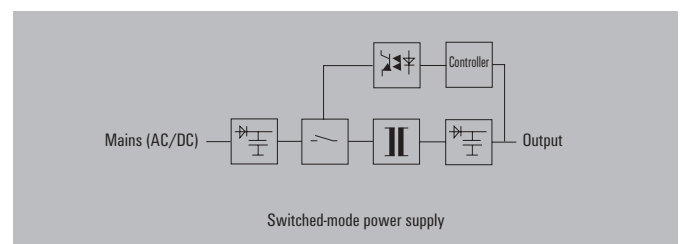
- Switch-mode power supplies
- DC/DC converters
- Diode and redundancy modules
- UPS control modules
- Electronic load monitoring

How they work

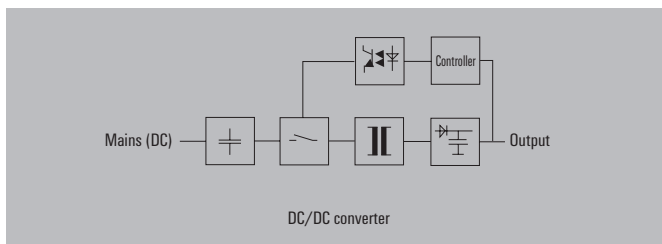
Unregulated power supply units consist of a mains power transformer that transforms the input voltage into a different AC voltage. The units then make use of a rectifier and a filter circuit to smooth out the DC output voltage.



Regulated power supply units in the range up to 1,000 W are usually designed as primary switched-mode power units. The mains AC voltage is then rectified and transformed in high frequency to the secondary side using switching transistors and power transformers. This is followed by the rectifier and filter circuit in order to generate the DC output voltage. A control circuit compares the current and voltage on the output side to the specified target values and then generates a control signal for the switching transistors. This permits compensation for load changes and mains voltage fluctuations. As a result, the output voltage remains stable. These power supply units are increasingly being operated with DC input voltages (e.g. the Weidmüller PROtop, PROeco, PROmax, etc.).



A DC/DC converter is a variation of the classic switched mode power supply. The switching strategy is similar but there is no input rectifier. Starting with a specified DC input voltage, DC/DC converters generate a different DC voltage at a similar or different level. They are used to adapt different voltage levels and also for isolating potentials.



In use around the globe

Weidmüller's power supply units have been designed for use around the world. They can be used in practically all applications throughout the world because of their CE label and many other national and international approvals. Their wide input voltage ranges and compatibility with various mains power connections increases their global appeal.

Temperature range

During operation, power supply units generate power losses. In Weidmüller's switched-mode power supplies, the resulting heat is dispersed using natural air currents only. The design, which does not make use of a ventilation fan, is an example of our uncompromised durability standard. Weidmüller's power supply units, depending on the model, can be used in temperatures ranging from -40 °C to +70 °C.

Compact and efficient design

Weidmüller's switched-mode power supplies are extra small because they take advantage of the above-average degree of efficiency offered by the latest technologies. The power supplies from Weidmüller – whether they are book-shaped with minimised base surface, or variants with reduced height for use in distributor boxes – always provide the proper cost-saving solution.

Standards and approvals

| Standard/Approval | Description |
|---|---|
| DIN EN 50178 (VDE 0160) | Electronic equipment for use in power installations |
| DIN EN 60950-1 (VDE 0805-1) | IT Equipment – Safety – Part 1: General requirements |
| DIN EN 61558-1 (VDE 0570-1) | Safety of transformers, power supply units, throttles and similar devices Part 1: General requirements and tests |
| DIN EN 61558-2-17 (VDE 0570 Part 2-17) | Safety of transformers, power supply units and similar devices Part 2-17: Special requirements for switch-mode power supply transformers |
| DIN EN 60204-1 (VDE 0113-1) | Safety of machinery – Electrical equipment of machinery – Part 1: General requirements |
| DIN VDE 0100-410 | Construction of power installations with rated voltages up to 1,000 V Part 4: Protective measures Chapter 41: Protection against electrical shock |
| DIN EN 61204-1 | Power supply units for low voltages, with direct-current-output – properties |
| DIN EN 60947-1 | Low-voltage switching devices – Part 1: General definitions |
| DIN EN 61140 | Protection against electrical shock - common requirements for facilities and operating equipment |
| IEC 38 | Supplementary notes relating to status of international standards and European harmonisation of mains voltages 230/400 V |
| 73/23 EWG | Electrical equipment for use within specific voltage limits (Low Voltage Directive) |
| 2004/108/EG (89/336 EWG) | Electromagnetic compatibility (EMC Directive) |
| 2006/42/EG (98/37 EG) | Safety of machines (directive covering mechanical equipment) |
| UL | Safety approval for the United States market |
| CSA | Safety approval for the Canadian market |
| GL | Test specifications for electrical/electronic devices and systems for use in marine technology |
| UL1310 | Class 2 power supplies (limited energy) |
| UL1604 | Electrical equipment for use in dangerous surroundings |

| Standard/Approval | Description |
|---------------------------|--|
| SEMI F47 | Resistance of electronic devices against voltage drops |
| 2006/95/EG (72/23/EWG) | Low Voltage Directive |
| EN 60721-3-2 | Classification of surrounding conditions |
| EN 60664-1 (VDE0110-1) | Insulation coordination for electrical equipment |
| C22.2 No. 107.1 | General standards for power supplies (Canadian standard) |
| EN 61000-3-2 | Limiting of mains voltage harmonic currents |
| EN 61000-4-x | Interference immunity tests |

Glossary

A

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| AC/DC converter | Conventional switched-mode power supplies generate a DC voltage from an AC voltage. For this reason they are sometimes also called AC/DC converters. Such devices are increasingly compatible for use with DC input voltages. The primary and secondary sides are typically electrically isolated. |
| Ambient temperature (operational) | The ambient operating temperature (the min. and max. values) together with the output current and voltage ratings can be used to describe the power capabilities of a power supply unit. |

B

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| Burst | A burst is a quick low-power burst pulse which can, for example, simulate welding equipment phenomena. Similar phenomena can also result from switching operations on the mains supply. This test can be used to demonstrate immunity against quick transients. |
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C

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| Class of protection | Electrical equipment is classified according to varying classes of protection. These classes define the particular safety measures that are required to avoid an electrical shock. The most widely used power supplies correspond with protection class I. The basic requirement of protection class I is for a basic insulation and for the earthing of all conductive housing parts. If the basic insulation fails, then the earthed conductive housing serves to prevent an electrical shock. For this reason, devices in protection class I are equipped with an earth (PE) connection. |
| Connecting power supply units in parallel | Power supplies can only be connected in parallel when this is clearly permitted by the manufacturer. Parallel connections are then normally tied to certain conditions. This is a typical way to increase the output power (for example, when extending a facility). Power supplies are also wired in parallel in order to design in redundant power supply systems. The parallel circuit is not wired straight though but connects using decoupling diodes. → Redundancy |
| Cooling | Cooling is used by components or devices to prevent them from overheating. A variety of cooling strategies are available – two of the most common are natural and forced-air cooling. Natural (convection-based) cooling takes advantage of the natural air currents. Manufacturers must then ensure that there is sufficient air flow by specifying the clearance gaps and mounting positions that are required above and below the ventilation openings. Forced-air cooling normally uses a fan to dissipate any heat that has been generated. When fans are used in a device, they have the effect of increasing the likelihood of device outages. For this reason, a power supply with natural cooling methods is generally preferred. |

D

| DC/DC converter | DC/DC converters are switched-mode power supplies that convert a specific DC voltage into another voltage. They are a variant of the AC/DC converter. DC/DC converters, in their simplest implementation, do not isolate voltage potentials. They are used only for adapting voltages. Improved DC/DC converters have isolated voltages. A safety isolating transformer in the power element ensures the required electrical isolation. Besides the voltage adaptation, the isolation of the voltage potentials is an important factor. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|------------------|--------------------|----|-----|----|-----|----|-----|----|----|------------------|--------------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Derating | <p>For power supply devices, derating generally refers to the reduction in power as influenced by the surrounding temperature and the input voltage. A temperature derating often occurs starting at a surrounding temperature of 50 °C. The rated power is guaranteed up to this temperature. The available power continually declines as the temperature heats up above this level. This is typically specified in %/K. A voltage-dependent specification is another form of derating. For switched-mode power supplies, the derating begins below a specific input voltage. So a switched-mode power supply with a wide input range can typically work under full power with 115 V AC input voltage. However at 85 V AC it can only produce 60 % of the power rating. The coefficient is usually specified in %/V.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="624 1115 978 1361"> <p style="text-align: center;">Temperature derating</p> <table border="1"> <caption>Temperature derating data</caption> <thead> <tr> <th>Temperature [°C]</th> <th>Max. current [%IN]</th> </tr> </thead> <tbody> <tr><td>40</td><td>100</td></tr> <tr><td>50</td><td>100</td></tr> <tr><td>60</td><td>100</td></tr> <tr><td>70</td><td>80</td></tr> </tbody> </table> </div> <div data-bbox="1066 1115 1434 1361"> <p style="text-align: center;">Voltage derating</p> <table border="1"> <caption>Voltage derating data</caption> <thead> <tr> <th>Main voltage [V]</th> <th>Max. current [%IN]</th> </tr> </thead> <tbody> <tr><td>85</td><td>60</td></tr> <tr><td>115</td><td>100</td></tr> <tr><td>130</td><td>100</td></tr> <tr><td>150</td><td>100</td></tr> <tr><td>170</td><td>100</td></tr> <tr><td>190</td><td>100</td></tr> <tr><td>210</td><td>100</td></tr> <tr><td>230</td><td>100</td></tr> <tr><td>250</td><td>100</td></tr> <tr><td>270</td><td>100</td></tr> </tbody> </table> </div> </div> | Temperature [°C] | Max. current [%IN] | 40 | 100 | 50 | 100 | 60 | 100 | 70 | 80 | Main voltage [V] | Max. current [%IN] | 85 | 60 | 115 | 100 | 130 | 100 | 150 | 100 | 170 | 100 | 190 | 100 | 210 | 100 | 230 | 100 | 250 | 100 | 270 | 100 |
| Temperature [°C] | Max. current [%IN] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 70 | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Main voltage [V] | Max. current [%IN] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 115 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 130 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 170 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 190 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 210 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 230 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 250 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 270 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Diode modules | Diode modules are used to construct a redundant power supply system. They are important for decoupling the power supply unit. Thus, a short circuit that occurs on the output of a power supply unit will not influence the output voltage. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

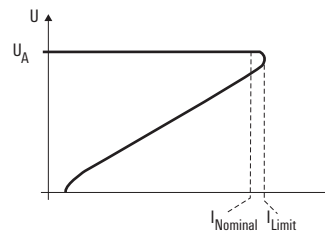
E

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| Efficiency | The degree of efficiency is equal to the ratio of output power to input power and is expressed in percent. The degree of efficiency can be between 70 and 90 %, depending on the dimensions and type of technology in use. |
| EMC (electromagnetic compatibility) | Electromagnetic compatibility describes the interference emissions caused by an electronic device and the level of immunity against external electrical influences. Interference emissions can be caused by cabling and wires or by radiated emissions. Immunity measures the resistance against such wire-based emissions and against radiated emissions such as electrostatic fields and magnetic fields. Electric devices must also be protected against electrostatic discharges. |

F

Foldback characteristic curve

The foldback characteristic curve is a special type of output curve that protects the power supply unit from overloads. When a specific current limit is exceeded (for example, by 110 or 120 % of the nominal level), the current is limited electronically and lowered to a very low, safe value. This downward-sloping characteristic curve means that it is not sufficient to simply eliminate the overload. The load must be reduced significantly more so that the adjustment control can return to the normal voltage control. Thus this solution is not suitable for many applications and is becoming less popular.



G

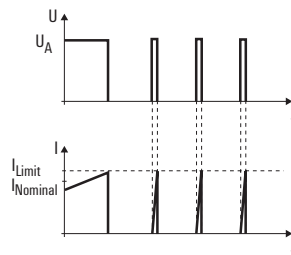
Galvanic isolation

Galvanic (electrical) isolation ensures that no electrical connections can exist between the primary and the secondary sides. Opto modules and transformers are the typical components used.

H

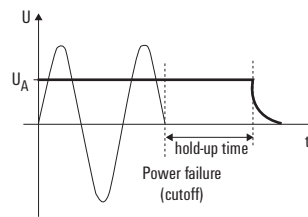
Hiccup mode

The hiccup mode is a special output characteristic curve that protects power supply units from overloads and short circuits. The unit switches off at a specified current limit (for example, 110 or 120 % on the nominal rating) and then switches back on after a certain delay. This leads to a pulsating mode of operations which can only revert to continual operations after the overload has been eliminated. The main disadvantage here is that the connected consumer load must be restarted after every pause. A restart may not be possible with motors or large capacitive loads since the restart current peak may once again exceed the defined limit.



**Hold-up time
(mains-failure bridging time)**

The hold-up time (also known as the mains-failure bridging time) is the interval from the start of the mains outage to the point in time when the output voltage can no longer be maintained at its original level. The hold-up time indicates how long a mains outage may last before it influences the output voltage. For DC power supplies, EN 61204 requires a bridging time of at least 20 ms.



Input voltage range

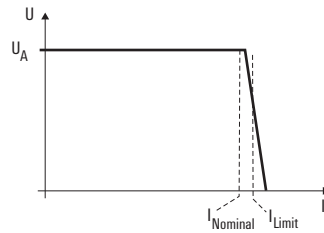
This refers to the minimum and maximum input voltage at which the rated output specifications can be maintained.

Inrush current

The inrush current refers to the peak current that occurs when turning on a consumer load. Switched-mode power supplies have storage capacitors in the input which can cause significant current peaks while the mains power is being switched on. A variety of circuitry solutions can be used to attenuate these current peaks. In the simplest solution, an inrush limiter is used. Active switching can be used in other cases. The peak current specification indicates which upstream fuse should be used in the circuit. If a fuse is selected which is too sensitive, it can trigger when the mains power is switched on.

IU characteristic curve

The IU characteristic curve is a special output characteristic curve that protects power supply units from overloads and short circuits. It offers the best performance with regards to overload and short circuit capabilities. A current limit is activated at a specific current level (for example, 110 or 120 % on the nominal rating). As the load continues to increase, the output voltage is reduced according to the current limit curve until it reaches a level approaching zero volts. Thus a pulsating mode of operations is avoided for short-term overloads. Large capacitive loads or motors are brought back up along the slope of the current-limit characteristic curve. After a short circuit or overload is fixed, the IU characteristic curve offers the advantage of immediately returning to the normal voltage control mechanism. The full output voltage is then immediately available. The IU characteristic curve is becoming the established standard for modern power supplies. Additional variants are available which pertain to the peak current capacity and the slope of the current-limit characteristic curve.



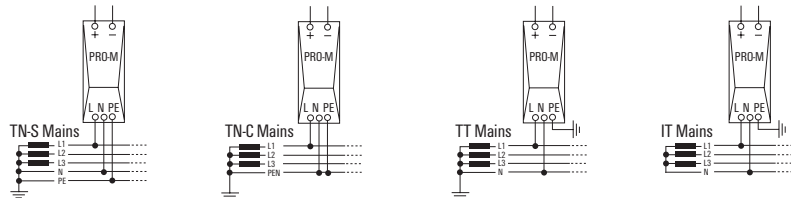
M

Mains harmonics

Power supplies can experience harmonics caused by mains rectification on the input side. These harmonics are multiples of the mains frequencies. Existing standards define specific limit values since such harmonics can significantly lower the mains quality.

Mains system types

This refers to the types of mains supply systems. Systems differ in their method of earthing and the implementation of the phase wire, PE wire and central-point wire. Common mains systems include the TN, IT and TT networks. The individual mains types can also differ in their voltage levels and frequencies.



MTBF (mean time between failure)

The MTBF is a statistical value that specifies the probability that a product will fail. It is typically specified in hours and normally assumes a temperature of 25 °C. The probability of failure depends largely on the ambient surroundings. The key variables are the type of load and the ambient temperature.

W

O

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| Output characteristic curves | <p>The output characteristic curves of power supply devices are determined by current and voltage. Unregulated devices do not have a current limit. In the case of an overload or short circuit, fuses or temperature switches are used to protect the device. Regulated devices are protected against overload and short circuits by means of various output characteristic curves. In this case, the system attempts to prevent any activation of fuses or temperature switches.</p> <p>The mandatory manual reset which follows an overload or short circuit can then be avoided. Common output characteristic curves include the hiccup mode, the foldback characteristic curve or the IU characteristic curve.</p> <p>→ Hiccup mode, foldback characteristic curve, IU characteristic curve</p> |
| Overvoltage category | <p>Power supply units are classified into overvoltage categories according to the immunity against mains surges and transient voltages.</p> |

P

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| PELV (protective extra-low voltage) | <p>This is a functional DC voltage with secure isolation according to EN 50178. As with SELV, a reinforced or double insulation is used between the primary and secondary sides. However, the secondary side is earthed.</p> |
| PFC (power factor correction) | <p>The power factor correction can be either passive or active in relation to power supply devices. The reactive power resulting from the bridge rectification puts a significant strain on the power supply network. The relatively poor power efficiency factor that results can be improved by using passive components (such as filters) or an active electronic mechanism. For switched-mode power supplies, PFC usually refers to the active variant of the power factor correction. Power factors of almost 1 can be reached when using an active PFC. Practically no reactive power is drawn from the mains supply network; therefore the strain on the mains network is relatively low.</p> |
| Pollution severity | <p>Pollution severity describes the environment and ambient conditions that a device requires in order for it to function smoothly. Significant environmental variables include condensation or air containing dust and oil.</p> |
| Power-boost or boost | <p>The power-boost function is the surge current handling capacity in the seconds to minutes range. This function is often required for starting up DC motors. DC motors have a high start-up current and often require several seconds before they have achieved their rated rotational speed. The power-boost function helps to optimise this start-up phase.</p> |
| Power factor | <p>The power factor is the ratio of reactive power to apparent power. It is an indicator of the device performance with respect to the load on the mains power network. Depending on the technology in use, the power factor for power supplies can be between 0.45 and nearly 1.</p> |

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| Power loss | For power supply units, the power loss specification indicates the thermal output emitted during nominal (rated) operations. This is a key specification used by engineers when designing the climate control systems within electrical cabinets. It is calculated as the difference between the input and output power and can also take the degree of efficiency into account. |
| Power rating | The continual output permitted under the rated conditions. |
| Power supply units connected in series | Power supplies can only be connected in series when this is clearly permitted by the manufacturer. Such series connections are then normally tied to certain conditions. They can be used to increase the output voltage. This is not widely implemented. |
| Protection degree | According to DIN EN 60529, devices can be classified according to their protection degrees. The numeric code (for example, IP 20) defines two protection degrees: protection against touch or penetration by external objects (the first digit) and protection against water penetration (the second digit). Switched-mode power supplies intended for use in electrical cabinets or similar enclosures are often designed with IP 20 protection. The first digit (in this case, 2) ensures finger protection. The second digit (0) indicates that no protection against water is provided. |
| Pulsed current capacity | The pulsed current capacity describes the dynamic performance of a switched-mode power supply. Capacitive consumer loads, with their high inrush currents, put a particular strain on a switched-mode power supply. Peak values are reached (in the ms range) which amount to levels many times higher than the mains current. If the current control mechanism reacts too quickly, this can lead to voltage drops and can cause problems for loads which are connected in parallel. For this reason, power supplies are often equipped with a surge current limiting factor based on time. This allows a high current output for only a few ms which can be much higher than the rated current. |

R

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| Rated control voltage | The nominal value of the sparkover voltage for the relay. |
| Rated input voltage | The input voltage required at which, under the normal mains voltage fluctuations, the output levels can be kept stable. It usually corresponds to the rated voltage for the electric utility's power grid. |
| Rated output current | The long-term current permitted under the rated conditions. |
| Rated output voltage | The nominal output voltage used for the rated specifications. It usually corresponds to the factory default output voltage. |

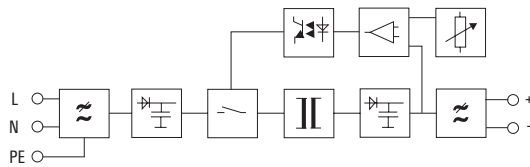
| | |
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| Redundancy | A power supply system is considered redundant if it is constructed so that it has partial power supplies which are independent of each other and each of these can individually deliver the output load. When a fault occurs, therefore, it is still possible to continue to supply the connected rated load. In reality, at least two power supplies are connected in parallel using decoupling diodes. In this way, a short circuit in the output of one power supply will not lead to the failure of the entire power supply system. → Diode modules |
| Regulated power supply units | Switched-mode power supplies, as opposed to more common power supply units, have become established as the standard for the 10–1,000 W power range. They produce a stable output voltage with minimal residual ripple, even when influenced by fluctuations in the mains voltage, mains frequency or load. Their small size and weight is a result of their superior efficiency degree. The electronic control mechanism typically ensures a constant output voltage that varies ± 1 %. |
| Residual ripple | The residual ripple describes the ratio of superimposed AC voltage to DC voltage on the output side of the power supplies. In addition to a percent specification, the superimposed ripple is often specified in mV_{SS} for switched-mode power supplies. |
| Resistance to shock | Resistance to shock refers to mechanical immunity against impacts in any direction. This is a key factor while the product is being transported. |
| Response time | The response time is the time that a power supply unit needs to compensate for a disturbance (for example, a load fluctuation). |

S

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| Switching frequency | Switched-mode power supplies are normally operated with switching frequencies from 20 to 200 kHz. The HF or power transformer is switched on and off using transistors at this switching frequency. Small, compact units can be built with this method in comparison with the traditional 50/60 Hz transformers. |
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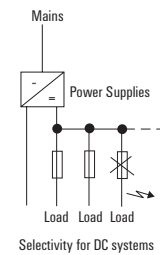
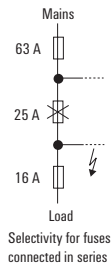
Switched-mode power supply units

The switching pulse can be either primary or secondary. Thus there are primary switched-mode and secondary switched-mode power supply units. Secondary switched-mode power supply units are no longer of much significance. The primary switched-mode power supplies are now the focus of attention. The pulse refers to the high-frequency on and off switching of the transformer or transmitter in order to transmit energy. The high frequency allows the use of extra small inductive and capacitive components, particularly for the transmitter. In comparison to transformer-based power supply units, the weight and volume required are much reduced.



Selectivity

When surge protection equipment is connected in series, selectivity refers to the ability of only one upstream fuse to trigger selectively in the event of an overload. The differentiation can take into account current or also time. With DC power supply systems, selectivity refers to the separate fusing of load circuits on the DC side. In this case as well, only the proper series fuse should trigger in the event of an overload. Fuses in DC circuits play a critical role since the power supplies must react to upcoming short circuits with a speedy cut-off or by limiting the current. Usually electronic fuses are used for this purpose.



SELV (safety extra low voltage)

SELV refers to extra-low safety voltages according to IEC/EN 60950. Reinforced or doubled insulation between the primary and secondary sides is used to prevent electric shock. The output voltage here is sufficiently low so that it does not pose an injury risk if a person comes into direct contact.

Surge

A surge is a high-power voltage pulse which can be caused by, for example, a lightning strike. The switching operations from large consumer loads can also generate such voltage surges on the mains network. The surge test is used to demonstrate the immunity against high-power voltage pulses.

T

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| Temperature range | The temperature range specifies the minimum and maximum ambient temperatures for which a device can start up and run continuously. |
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U

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| Unregulated power supply units | Unregulated power supplies consist mainly of a transformer, a rectifier and an Elkos filter. Since no controlling system is in place, mains voltage fluctuations influence the DC voltage side. Unregulated power supply units are very sturdy; they can be used in applications where a stabilised DC voltage is not necessary (for example, power supply to contactors). |
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V

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| Vibration resistance | Vibration resistance describes the resistance against constant mechanical vibrations that occur during operations. Rail and ship applications place stricter demands for vibration resistance on the device. |
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W

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| Wide-range input | Modern switched-mode power supplies often feature a wide input range. They can be run under a wide range of voltages: from min. to max. rated voltages including the tolerance limits. They do not require any manual range switching. |
|-------------------------|--|

W

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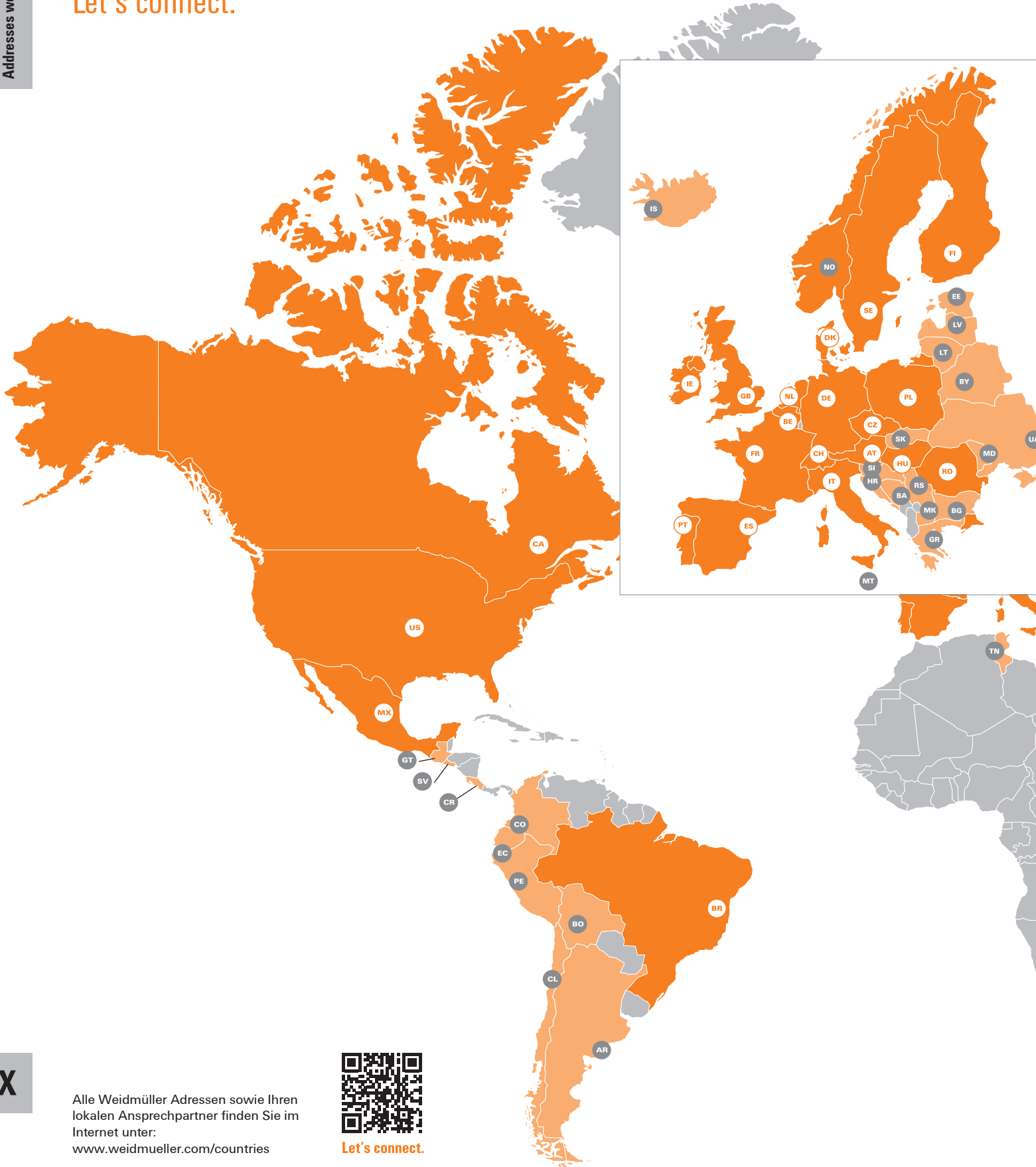
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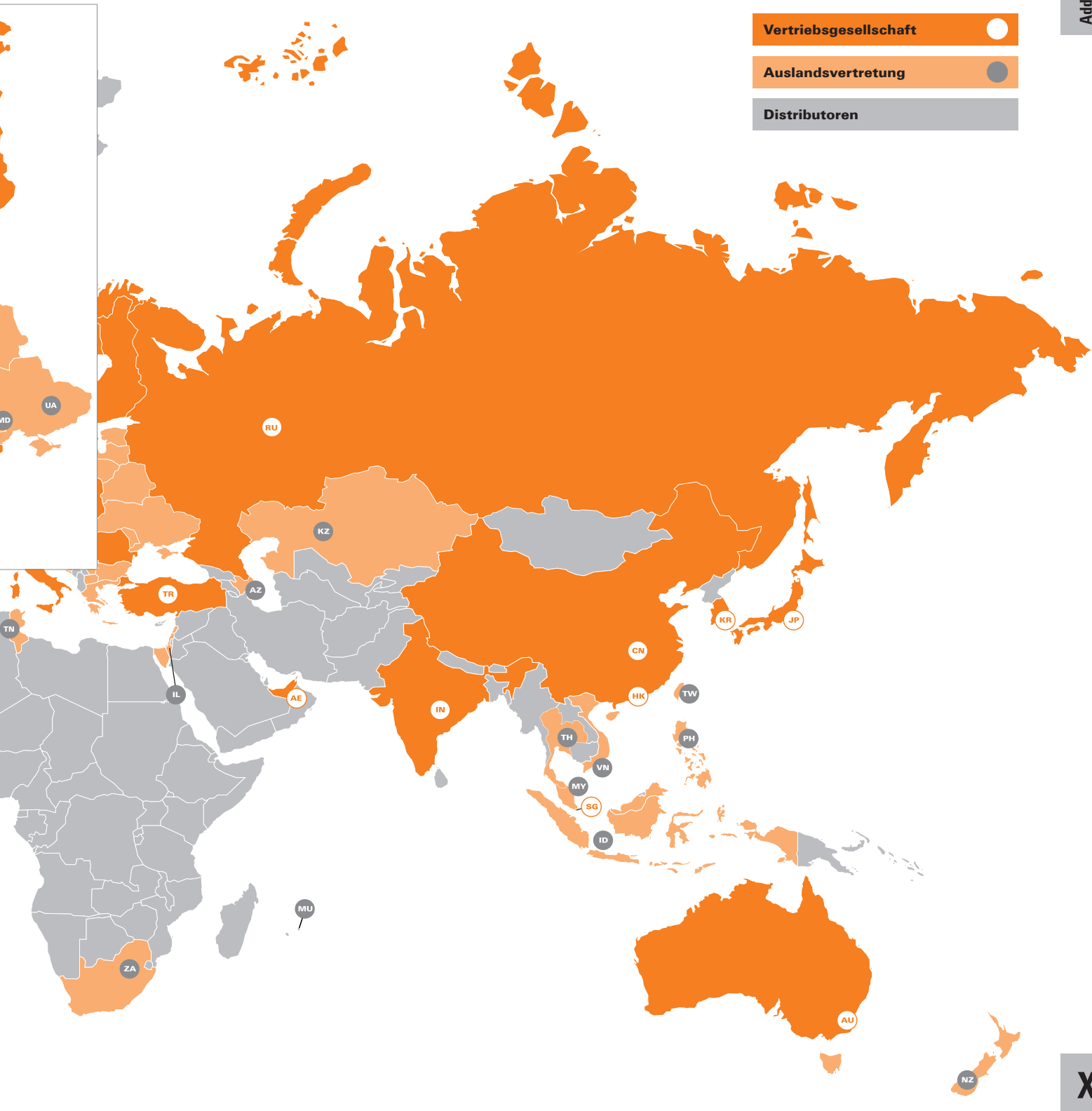


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