

Power supply unit - TRIO-PS/3AC/24DC/20 - 2866394

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Primary-switched TRIO POWER power supply for DIN rail mounting, input: 3-phase, output: 24 V DC/20 A

Product Description


TRIO POWER power supplies with standard functionality
TRIO POWER is particularly suited to standard machine production, thanks to 1- and 3-phase versions up to 960 W. The wide-range input and the international approval package enable worldwide use.
The robust metal housing, the high electric strength, and the wide temperature range ensure a high level of power supply reliability.

Your advantages

- ✔ Use the third negative terminal block as a grounding terminal block and minimize installation costs
- ✔ Maximum operational reliability thanks to high MTBF (mean time between failures) of more than 500,000 hours and high dielectric strength of up to 300 V AC
- ✔ Rugged design with metal housing and wide temperature range from -25 to +70°C
- ✔ Compensation of voltage drops by means of output voltage that can be adjusted on the front



Key Commercial Data

| | |
|--------------------------------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 046671 |
| GTIN | 4046356046671 |
| Weight per Piece (excluding packing) | 2,000.000 g |
| Custom tariff number | 85044030 |
| Country of origin | China |

Technical data

Dimensions

| | |
|--------|----------|
| Width | 115 mm |
| Height | 130 mm |
| Depth | 152.5 mm |

Ambient conditions

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Ambient conditions

| | |
|--|--|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -25 °C ... 70 °C (> 55° C derating : 2.5%/K) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Max. permissible relative humidity (operation) | ≤ 95 % (at 25 °C, non-condensing) |
| Climatic class | 3K3 (in acc. with EN 60721) |
| Degree of pollution | 2 |

Input data

| | |
|-------------------------------------|---|
| Nominal input voltage range | 3x 400 V AC ... 500 V AC |
| Input voltage range | 3x 320 V AC ... 575 V AC (Derating < 360 V AC: 1,5 %/V) |
| | 2x 360 V AC ... 575 V AC (for 2-phase operation) |
| AC frequency range | 45 Hz ... 65 Hz |
| Discharge current to PE | < 3.5 mA |
| Current consumption | 3x 1.1 A (400 V AC) |
| | 3x 0.8 A (480 V AC) |
| Nominal power consumption | 793 VA |
| Inrush surge current | < 15 A |
| Mains buffering | > 17 ms (3x 400 V AC) |
| Choice of suitable circuit breakers | 6 A ... 16 A (Characteristics B, C, D, K) |
| Power factor (cos phi) | 0.67 |
| Type of protection | Transient surge protection |
| Protective circuit/component | Varistor |

Output data

| | |
|---|---|
| Nominal output voltage | 24 V DC ±1 % |
| Setting range of the output voltage (U _{Set}) | 22.5 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted) |
| Nominal output current (I _N) | 20 A (U _{OUT} = 24 V DC) |
| Derating | 55 °C ... 70 °C (2.5%/K) |
| Connection in parallel | Yes, for redundancy and increased capacity |
| Connection in series | yes |
| Feedback resistance | 35 V DC |
| Protection against surge voltage on the output | < 35 V DC |
| Max. capacitive load | Unlimited |
| Active current limitation | Approx. 25 A |
| Control deviation | < 1 % (change in load, static 10 % ... 90 %) |
| | < 2 % (change in load, dynamic 10 % ... 90 %) |
| | < 0.1 % (change in input voltage ±10 %) |
| Residual ripple | < 10 mV _{PP} |
| Output power | 480 W |
| Typical response time | < 1 s |
| Peak switching voltages nominal load | < 30 mV _{PP} |

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Output data

| | |
|--|--------|
| Maximum power dissipation in no-load condition | < 6 W |
| Power loss nominal load max. | < 48 W |

General

| | |
|---------------------------------|--|
| Net weight | 2 kg |
| Operating voltage display | Green LED |
| Efficiency | 91 % (at 400 V AC and nominal values) |
| Insulation voltage input/output | 4 kV AC (type test) |
| | 2 kV AC (routine test) |
| Insulation voltage input / PE | 2 kV AC (type test) |
| | 2 kV AC (routine test) |
| Insulation voltage output / PE | 500 V DC (routine test) |
| Protection class | I (with PE connection) |
| Degree of protection | IP20 |
| MTBF (IEC 61709, SN 29500) | > 1190000 h |
| Mounting position | horizontal DIN rail NS 35, EN 60715 |
| Assembly instructions | alignable: horizontally 0 mm, vertically 50 mm |

Connection data, input

| | |
|---------------------------------------|---------------------|
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 14 |
| Stripping length | 9 mm |
| Screw thread | M2,5 |

Connection data, output

| | |
|---------------------------------------|---------------------|
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.5 mm ² |
| Conductor cross section solid max. | 6 mm ² |
| Conductor cross section flexible min. | 0.5 mm ² |
| Conductor cross section flexible max. | 4 mm ² |
| Conductor cross section AWG min. | 12 |
| Conductor cross section AWG max. | 10 |
| Stripping length | 14 mm |
| Screw thread | M3 |

Signaling

| | |
|------------------------|--|
| Status display | "DC OK" LED green |
| Note on status display | U _{OUT} > 21.5 V: LED lights up |

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Standards and Regulations

| | |
|--|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Noise immunity | EN 61000-6-2:2005 |
| Connection in acc. with standard | CUL |
| Standards/regulations | EN 61000-4-2 |
| Contact discharge | 4 kV (Test Level 2) |
| Standards/regulations | EN 61000-4-3 |
| Frequency range | 80 MHz ... 1 GHz |
| Test field strength | 10 V/m |
| Frequency range | 1.4 GHz ... 2 GHz |
| Test field strength | 3 V/m |
| Standards/regulations | EN 61000-4-4 |
| Comments | Criterion B |
| Standards/regulations | EN 61000-6-3 |
| | EN 61000-4-6 |
| Frequency range | 0.15 MHz ... 80 MHz |
| Voltage | 10 V (Test Level 3) |
| Standards/regulations | EN 61000-4-11 |
| Low Voltage Directive | Conformance with LV directive 2006/95/EC |
| Standard - Electrical safety | EN 60950-1/VDE 0805 (SELV) |
| Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations | EN 50178/VDE 0160 (PELV) |
| Standard – Safety extra-low voltage | EN 60950-1 (SELV) |
| | EN 60204 (PELV) |
| Standard - Safe isolation | DIN VDE 0100-410 |
| Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment | EN 50178 |
| Standard – Limitation of mains harmonic currents | EN 61000-3-2 |
| UL approvals | UL/C-UL listed UL 508 |
| | UL/C-UL Recognized UL 60950-1 |
| Shock | 18 ms, 30g, in each space direction (according to IEC 60068-2-27) |
| Vibration (operation) | < 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6) |
| | 15 Hz ... 150 Hz, 2.3g, 90 min. |

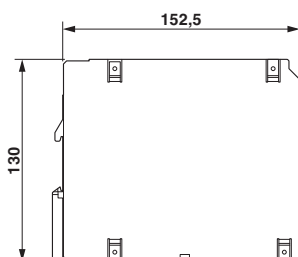
Environmental Product Compliance

| | |
|------------|---|
| China RoHS | Environmentally Friendly Use Period = 25; |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

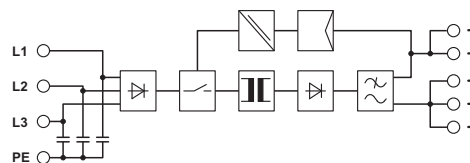
Drawings

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Dimensional drawing



Block diagram



Classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 4.0 | 27040702 |
| eCl@ss 4.1 | 27040702 |
| eCl@ss 5.0 | 27049002 |
| eCl@ss 5.1 | 27049000 |
| eCl@ss 6.0 | 27049000 |
| eCl@ss 7.0 | 27049002 |
| eCl@ss 8.0 | 27049002 |
| eCl@ss 9.0 | 27040701 |

ETIM

| | |
|----------|----------|
| ETIM 2.0 | EC001039 |
| ETIM 3.0 | EC001039 |
| ETIM 4.0 | EC000599 |
| ETIM 5.0 | EC002540 |
| ETIM 6.0 | EC002540 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211502 |
| UNSPSC 7.0901 | 39121004 |
| UNSPSC 11 | 39121004 |
| UNSPSC 12.01 | 39121004 |
| UNSPSC 13.2 | 39121004 |

Approvals

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UL Listed / UL Recognized / cUL Recognized / cUL Listed / EAC / EAC / cULus Recognized / cULus Listed

Ex Approvals

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Approvals

Approval details

| | | | |
|------------------|--|---|--------------------------|
| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
| UL Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 211944 |
| cUL Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 211944 |
| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
| EAC | | | EAC-Zulassung |
| EAC | | | RU C- DE.A*30.B.01082 |
| cULus Recognized | | | |
| cULus Listed | | | |

Accessories

Accessories

Assembly adapter

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Accessories

Assembly adapters - UWA 182/52 - 2938235



Universal wall adapter for securely mounting the power supply in the event of strong vibrations. The power supply is screwed directly onto the mounting surface. The universal wall adapter is attached at the top/bottom.

Device protection

Type 3 surge protection device - PLT-SEC-T3-3S-230-FM - 2905230



Plug-in device protection, according to type 3/class III, for 3-phase power supply networks with separate N and PE (5-conductor system: L1, L2, L3, N, PE), with integrated surge-proof fuse and remote indication contact.

Type 3 surge protection device - PLT-SEC-T3-24-FM-UT - 2907916



Type 3 surge protection, consisting of protective plug and base element, with integrated status indicator and remote signaling for single-phase power supply networks. Nominal voltage 24 V AC/DC.

Mounting rail adapter

DIN rail adapter - UTA 107 - 2853983

Universal DIN rail adapter

