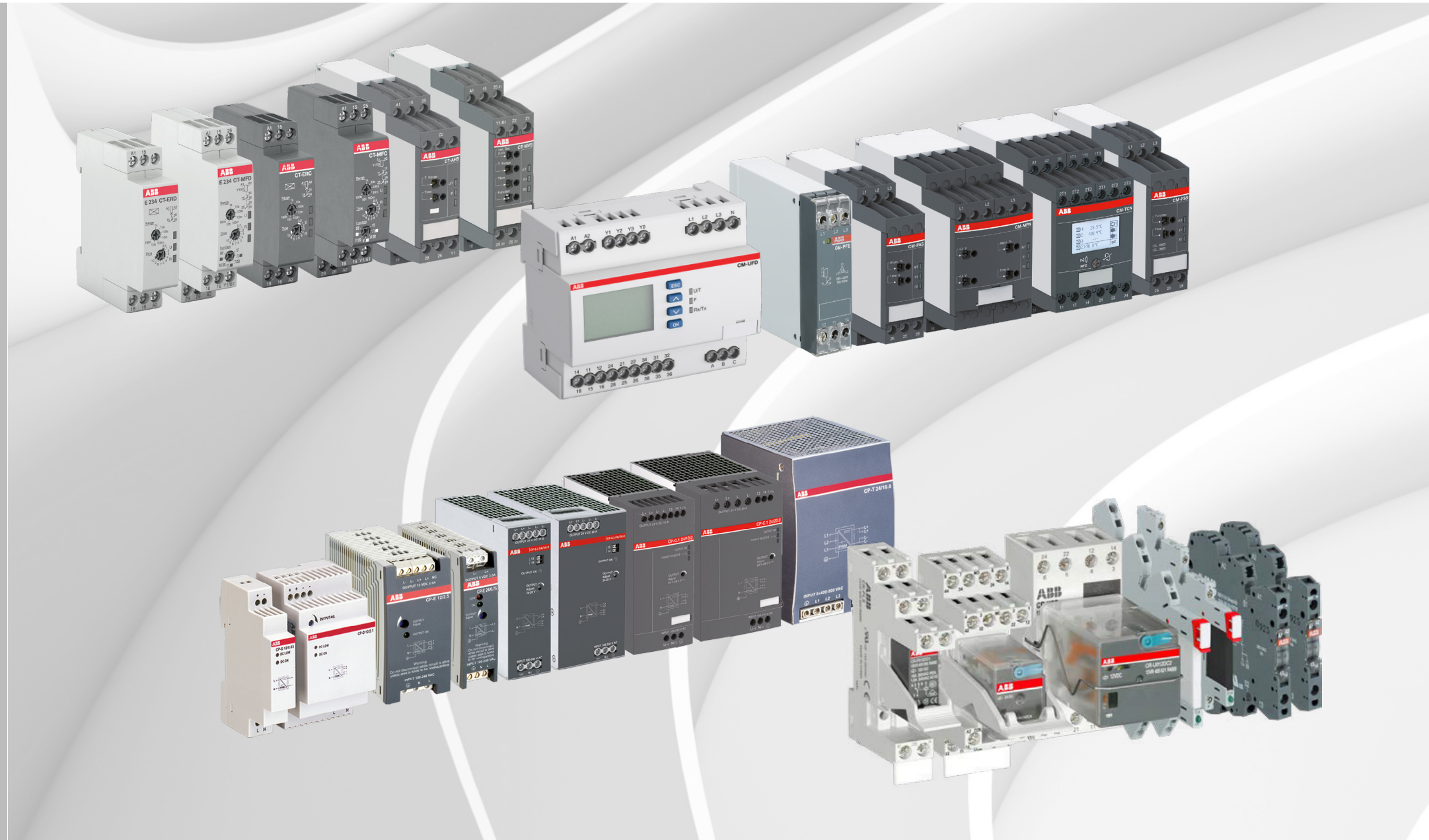


Electronic relays and control

Selection tables

- › Time relays
- › Measuring and monitoring relays
- › Primary switch mode power supplies
- › Interface relays and optocouplers



**Time relays for
industrial applications**

**Time relays for
building applications**

Time relays

CT-C, CT-S, CT-D

- ① Time relays
- ② Measuring and monitoring relays
- ③ Primary switch mode power supplies
- ④ Interface relays and optocouplers



Time relays for industrial applications

Time relays for building applications



The CT-C range combines lower cost with higher value and performance by offering essential functions in a 17.5 mm housing, freeing up room in any control cabinet. The range includes 15 devices, offering both single and multifunctional types, with a time range from 0.05 seconds to 100 hours. Equipped with wide voltage ranges, CT-C time relays allow for use across a huge variety of applications worldwide.

- ⌕ Time relays
- ⌕ Measuring and monitoring relays
- ⌕ Primary switch mode power supplies
- ⌕ Interface relays and optocouplers



Time relays for industrial applications

Time relays for building applications

	Type	Order number
	CT-MKC.31	1SVR508010R1300
	CT-MFC.12	1SVR508020R0000
	CT-MFC.21	1SVR508020R1100
	CT-ARC.12	1SVR508120R0000
	CT-ERC.12	1SVR508100R0000
	CT-ERC.22	1SVR508100R0100
	CT-AHC.12	1SVR508110R0000
	CT-AHC.22	1SVR508110R0100
	CT-VWC.12	1SVR508130R0000
	CT-EBC.12	1SVR508150R0000
	CT-TGC.12	1SVR508160R0000
	CT-TGC.22	1SVR508160R0100
	CT-SAC.22	1SVR508210R0100
	CT-SDC.22	1SVR508211R0100
	CT-PAC.22	1SVR508180R0100

Timing function																	
ON-delay		■	■	■	■	■	■	■	■								
OFF-delay with aux. voltage		■	■	■				■	■								
OFF-delay w/o aux. voltage					■												
Impulse-ON		■	■	■					■								
Impulse-OFF with aux. voltage		■	■	■													
Impulse-OFF w/o aux. voltage					■												
Flasher starting with ON		■	■	■						■							
Flasher starting with OFF		■	■	■						■							
Pulse generator starting with ON or OFF											■	■					
Pulse former		■	■	■													
Star-delta change-over													■	■			
Alternating w/o time delay																	■

	Type	Order number
	CT-MKC.31	1SVR508010R1300
	CT-MFC.12	1SVR508020R0000
	CT-MFC.21	1SVR508020R1100
	CT-ARC.12	1SVR508120R0000
	CT-ERC.12	1SVR508100R0000
	CT-ERC.22	1SVR508100R0100
	CT-AHC.12	1SVR508110R0000
	CT-AHC.22	1SVR508110R0100
	CT-VWC.12	1SVR508130R0000
	CT-EBC.12	1SVR508150R0000
	CT-TGC.12	1SVR508160R0000
	CT-TGC.22	1SVR508160R0100
	CT-SAC.22	1SVR508210R0100
	CT-SDC.22	1SVR508211R0100
	CT-PAC.22	1SVR508180R0100

Features																			
Control input, voltage-related triggering	■	■	■						■	■					■	■			
Time range																			
0.05 s - 100 h		■	■	■					■	■	■	■	■	■	■	2	2		
0.05 s - 10 min					■												■	■	
Supply voltage																			
12-240 V AC/DC		■		■															
24-48 V DC			■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	
24-240 V AC			■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Output																			
Solid state		■																	
c/o contact			1	2	1	1	2	1	2	1	2	1	1	1	2				
n/o contact																	2	2	2

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Time relays for industrial applications

Time relays for building applications



The advanced CT-S range includes 22 single-function devices and 16 multifunction timers with up to 13 functions. The devices feature seven or ten time ranges, which are adjustable from 0.05 seconds to 300 hours. Every device is available in two different connection technologies: double-chamber cage connection terminals or ABB's vibration-resistant Push-in Technology.

- ⌵ Time relays
- ⌵ Measuring and monitoring relays
- ⌵ Primary switch mode power supplies
- ⌵ Interface relays and optocouplers

Time relays for industrial applications

Time relays for building applications

CT-S range

	Type*	Order number*
	CT-MVS.21	1SVR7#0020R0200
	CT-MVS.22	1SVR7#0020R3300
	CT-MVS.23	1SVR7#0021R2300
	CT-MVS.12	1SVR7#0020R3100
	CT-MXS.22	1SVR7#0030R3300
	CT-MFS.21	1SVR7#0010R0200
	CT-MBS.22	1SVR7#0010R3200
	CT-WBS.22	1SVR7#0040R3300
	CT-ERS.21	1SVR7#0100R0300
	CT-ERS.22	1SVR7#0100R3300
	CT-ERS.12	1SVR7#0100R3100
	CT-APS.21	1SVR7#0180R0300
	CT-APS.22	1SVR7#0180R3300
	CT-APS.12	1SVR7#0180R3100
	CT-AHS.22	1SVR7#0110R3300
	CT-ARS.11	1SVR7#0120R3100
	CT-ARS.21	1SVR7#0120R3300
	CT-SDS.22	1SVR7#0210R3300
	CT-SDS.23	1SVR7#0211R2300

Timing function	CT-MVS.21	CT-MVS.22	CT-MVS.23	CT-MVS.12	CT-MXS.22	CT-MFS.21	CT-MBS.22	CT-WBS.22	CT-ERS.21	CT-ERS.22	CT-ERS.12	CT-APS.21	CT-APS.22	CT-APS.12	CT-AHS.22	CT-ARS.11	CT-ARS.21	CT-SDS.22	CT-SDS.23
ON-delay	■	■	■	■	■	■	■	■	■	■	■								
ON-delay, accumulative	■	■	■	■	■	■	■	■	■	■	■								
OFF-delay w. aux. voltage	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
OFF-delay w. aux. voltage, accumulative	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
OFF-delay w/o aux. voltage	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
ON- and OFF-delay, symmetrical	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
ON- and OFF-delay, symmetrical, accumulative	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
ON- and OFF-delay, asymmetrical	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
ON/OFF function	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Impulse-ON	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Impulse-ON, accumulative	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Impulse-OFF w. aux. voltage	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Impulse-OFF w. aux. voltage, accumulative	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Impulse-ON and OFF	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Fixed impulse with adjustable time delay	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Adjustable impulse with fixed time delay	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Flasher starting with ON	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Flasher with reset, starting with ON	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Flasher starting with OFF	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Flasher with reset, starting with OFF	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Flasher starting with ON or OFF	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Pulse generator starting with ON or OFF	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Single pulse generator	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Pulse former	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Star-delta change-over	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Star-delta change-over with impulse	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

	Type*	Order number*
	CT-MVS.21	1SVR7#0020R0200
	CT-MVS.22	1SVR7#0020R3300
	CT-MVS.23	1SVR7#0021R2300
	CT-MVS.12	1SVR7#0020R3100
	CT-MXS.22	1SVR7#0030R3300
	CT-MFS.21	1SVR7#0010R0200
	CT-MBS.22	1SVR7#0010R3200
	CT-WBS.22	1SVR7#0040R3300
	CT-ERS.21	1SVR7#0100R0300
	CT-ERS.22	1SVR7#0100R3300
	CT-ERS.12	1SVR7#0100R3100
	CT-APS.21	1SVR7#0180R0300
	CT-APS.22	1SVR7#0180R3300
	CT-APS.12	1SVR7#0180R3100
	CT-AHS.22	1SVR7#0110R3300
	CT-ARS.11	1SVR7#0120R3100
	CT-ARS.21	1SVR7#0120R3300
	CT-SDS.22	1SVR7#0210R3300
	CT-SDS.23	1SVR7#0211R2300

Features	CT-MVS.21	CT-MVS.22	CT-MVS.23	CT-MVS.12	CT-MXS.22	CT-MFS.21	CT-MBS.22	CT-WBS.22	CT-ERS.21	CT-ERS.22	CT-ERS.12	CT-APS.21	CT-APS.22	CT-APS.12	CT-AHS.22	CT-ARS.11	CT-ARS.21	CT-SDS.22	CT-SDS.23
Control input, voltage-related triggering	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Control input, volt-free triggering						2	1												
Remote potentiometer connection	■				2	■	■												
2nd c/o contact selectable as instantaneous contact	■					■	■												
Extended temperature range (-40...+60 °C)	■					■	■		■			■							
Time range																			
0.05 s - 10 min																			
0.05 s - 300 h	■	■	■	■	2	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Supply voltage																			
24-48 V DC		■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
24-240 V AC		■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
24-240 V AC/DC	■					■			■			■			■				
380-440 V AC			■																■
Output																			
c/o contact	2	2	2	1	2	2	2	2	2	2	1	2	2	1	2	1	2		
n/o contact																		2	2

Order number and type
 All devices are available either with push-in terminals (P-type) or double-chamber cage connection terminals (S-type).

Terminal	Type	Order number
Push-in	■ = P	● = 4
Screw	■ = S	● = 3

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Time relays for industrial applications

Time relays for building applications



The CT-D range is ideal for building applications and installation panels, due to its compact modular housing. For maximum flexibility in operation, nine single-function as well as two multifunction devices with seven timing functions are available. The devices offer four or seven time ranges from 0.05 seconds up to 100 hours. Their wide supply voltage range allows their use in applications worldwide.

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Time relays for industrial applications

Time relays for building applications

CT-D range

	Type	Order number
	CT-MFD.12	1SVR500020R0000
	CT-MFD.21	1SVR500020R1100
	CT-ERD.12	1SVR500100R0000
	CT-ERD.22	1SVR500100R0100
	CT-AHD.12	1SVR500110R0000
	CT-AHD.22	1SVR500110R0100
	CT-VVD.12	1SVR500130R0000
	CT-EBD.12	1SVR500150R0000
	CT-TGD.12	1SVR500160R0000
	CT-TGD.22	1SVR500160R0100
	CT-SAD.22	1SVR500210R0100
	CT-SDD.22	1SVR500211R0100

Timing function	CT-MFD.12	CT-MFD.21	CT-ERD.12	CT-ERD.22	CT-AHD.12	CT-AHD.22	CT-VVD.12	CT-EBD.12	CT-TGD.12	CT-TGD.22	CT-SAD.22	CT-SDD.22
ON-delay	☒	■	■	■	■							
OFF-delay with aux. voltage	■	■			■	■						
Impulse-ON	1┌┐	■	■				■					
Impulse-OFF with aux. voltage	1┌┐	■	■									
Flasher starting with ON	┌┐	■	■				■					
Flasher starting with OFF	┌┐	■	■									
Pulse generator starting with ON or OFF	┌┐							■	■			
Pulse former	□	■	■									
Star-delta change-over	△										■	■

	Type	Order number
	CT-MFD.12	1SVR500020R0000
	CT-MFD.21	1SVR500020R1100
	CT-ERD.12	1SVR500100R0000
	CT-ERD.22	1SVR500100R0100
	CT-AHD.12	1SVR500110R0000
	CT-AHD.22	1SVR500110R0100
	CT-VVD.12	1SVR500130R0000
	CT-EBD.12	1SVR500150R0000
	CT-TGD.12	1SVR500160R0000
	CT-TGD.22	1SVR500160R0100
	CT-SAD.22	1SVR500210R0100
	CT-SDD.22	1SVR500211R0100

Features	CT-MFD.12	CT-MFD.21	CT-ERD.12	CT-ERD.22	CT-AHD.12	CT-AHD.22	CT-VVD.12	CT-EBD.12	CT-TGD.12	CT-TGD.22	CT-SAD.22	CT-SDD.22
Control input, voltage-related triggering	■	■			■	■			■	■		
Time range												
0.05 s - 100 h	■	■	■	■	■	■	■	■	2	2		
0.05 s - 10 min											■	■
Supply voltage												
12-240 V AC/DC		■										
24-48 V DC	■		■	■	■	■	■	■	■	■	■	■
24-240 V AC	■		■	■	■	■	■	■	■	■	■	■
Output												
c/o contact	1	2	1	2	1	2	1	1	1	2		
n/o contact											2	2

- ⌵ Time relays
- ⌵ Measuring and monitoring relays
- ⌵ Primary switch mode power supplies
- ⌵ Interface relays and optocouplers

Measuring and monitoring relays

- ① Time relays
- ② Measuring and monitoring relays
- ③ Primary switch mode power supplies
- ④ Interface relays and optocouplers

—
No matter what measuring or monitoring function is needed – physical or electrical – ABB protects your equipment and ensures processes run smoothly.

Choose from a large range of products that provide reliable protection, cost savings and maximum availability for processes and equipment. No matter what the environment, ABB's high quality products are built and tested to give you uninterrupted monitoring.

Single-phase monitoring relays



For the monitoring of currents and voltages in single-phase AC/DC systems, ABB's CM-range contains a wide selection of powerful and compact devices, all in an only 22.5 mm wide housing. This product range includes current and voltage monitoring relays for over- and undercurrent and voltage protection – from 3 mA to 15 A, and from 3 V to 600 V.



Selection tables > Single-phase voltage monitoring relays

- Time relays
- Measuring and monitoring relays
- Primary switch mode power supplies
- Interface relays and optocouplers

Single-phase current monitoring relays

	Type	Order number	CM-SRS.11S	CM-SRS.11P	CM-SRS.11S	CM-SRS.11P	CM-SRS.11S	CM-SRS.11P	CM-SRS.11S	CM-SRS.11P	CM-SRS.11S	CM-SRS.11P	CM-SRS.12S	CM-SRS.12S	CM-SRS.12S	CM-SRS.21S	CM-SRS.21P	CM-SRS.21S	CM-SRS.21P	CM-SRS.21S	CM-SRS.21P	CM-SRS.21S	CM-SRS.21P	CM-SRS.22S	CM-SRS.22S	CM-SRS.22S	CM-SRS.22S	CM-SRS.M1S	CM-SRS.M1P	CM-SRS.M2S	CM-SFS.21S	CM-SFS.21P	CM-SFS.22S		
Rated control supply voltage U_c																																			
24 - 240 V AC/DC			■	■								■				■	■											■	■	■	■	■	■	■	
110 - 130 V AC					■	■							■				■	■						■											
220 - 240 V AC							■	■					■						■	■				■											
Measuring ranges AC/DC																																			
3 - 30 mA			■	■	■	■	■	■								■	■	■	■	■	■	■						■	■			■	■		
10 - 100 mA			■	■	■	■	■	■								■	■	■	■	■	■	■						■	■			■	■		
0.1 - 1 A			■	■	■	■	■	■								■	■	■	■	■	■	■						■	■			■	■		
0.3 - 1.5 A													■	■	■										■	■	■			■				■	
1 - 5 A													■	■	■										■	■	■			■				■	
3 - 15 A													■	■	■										■	■	■			■				■	
Monitoring function																																			
Over- or undercurrent			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
Window current monitoring																																■	■	■	
Latching																																sel	sel	sel	sel
Open-circuit or closed-circuit principle																																sel	sel	sel	sel
Timing functions for tripping delay																																			
ON-delay, 0.1 - 30 s																adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj				
ON- or OFF-delay, 0.1 - 30 s																																	sel	sel	sel
Output																																			
c/o contact			1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Connection type																																			
Push-in terminals				■			■				■						■				■								■					■	
Double-chamber cage connection terminals			■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■

adj: adjustable
sel: selectable

- Time relays
- Measuring and monitoring relays
- Primary switch mode power supplies
- Interface relays and optocouplers

Single-phase voltage monitoring relays

Type	Order number	15VR730830R0300	15VR740830R0300	15VR730831R0300	15VR740831R0300	15VR730831R1300	15VR740831R1300	15VR730830R0400	15VR740830R0400	15VR730831R0400	15VR740831R0400	15VR730831R1400	15VR740831R1400	15VR730830R0500	15VR740830R0500	15VR730750R0400	15VR740750R0400
Rated control supply voltage U_c																	
24 - 240 V AC/DC		■	■					■	■					■	■	■	■
110 - 130 V AC				■	■					■	■						
220 - 240 V AC						■	■					■	■				
Measuring ranges AC/DC																	
3 - 30 V		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
6 - 60 V		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
30 - 300 V		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
60 - 600 V		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Monitoring function																	
Over- or undervoltage		■	■	■	■	■	■	■	■	■	■	■	■	■	■		
Windows voltage monitoring																■	■
Latching														sel	sel	sel	sel
Open-circuit or closed-circuit principle														sel	sel	sel	sel
Timing functions for tripping delay																	
ON-delay, 0.1 - 30 s								adj	adj	adj	adj	adj	adj	adj	adj		
ON- or OFF-delay, 0.1 - 30 s																sel	sel
Output																	
c/o contact		1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2
Connection type																	
Push-in terminals			■		■		■		■		■		■		■		■
Double-chamber cage connection terminals		■		■		■		■		■		■		■		■	



adj: adjustable
sel: selectable





- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Three-phase monitoring relays



For the monitoring of voltages in a three-phase system or network, ABB's CM range contains a wide selection of powerful and compact devices. This product range includes voltage monitoring relays for phase sequence, phase loss, unbalance and monitoring of over- and under voltage from 160 V to 820 V.

- 
[Selection tables > Three-phase monitoring relays | singlefunctional](#)
- 
[Selection tables > Three-phase monitoring relays | multifunctional](#)

-  Time relays
-  Measuring and monitoring relays
-  Primary switch mode power supplies
-  Interface relays and optocouplers

Three-phase voltage monitoring relays – singlefunctional

Type	Order number
CM-PBE	1SVR550881R9400
CM-PBE	1SVR550882R9500
CM-PVE	1SVR550870R9400
CM-PVE	1SVR550871R9500
CM-PFE	1SVR550824R9100
CM-PFE.2	1SVR550826R9100
CM-PFS.S	1SVR730824R9300
CM-PFS.P	1SVR740824R9300
CM-PSS.31S	1SVR730784R2300
CM-PSS.31P	1SVR740784R2300
CM-PSS.41S	1SVR730784R3300
CM-PSS.41P	1SVR740784R3300
CM-PVS.31S	1SVR730794R1300
CM-PVS.31P	1SVR740794R1300
CM-PVS.41S	1SVR730794R3300
CM-PVS.41P	1SVR740794R3300
CM-PVS.81S	1SVR730794R2300
CM-PVS.81P	1SVR740794R2300
CM-PAS.31S	1SVR730774R1300
CM-PAS.31P	1SVR740774R1300
CM-PAS.41S	1SVR730774R3300
CM-PAS.41P	1SVR740774R3300

Rated control supply voltage U _c	
Phase to phase	
160-300 V AC	
200-400 V AC	
200-500 V AC	
208-440 V AC	
300-500 V AC	
320-460 V AC	
380 V AC	
380-440 V AC	
400 V AC	
Phase to neutral	
185-265 V AC	
220-240 V AC	
Rated frequency	
50/60 Hz	
Suitable for monitoring	
Single-phase mains	
Three-phase mains	

Type	Order number
CM-PBE	1SVR550881R9400
CM-PBE	1SVR550882R9500
CM-PVE	1SVR550870R9400
CM-PVE	1SVR550871R9500
CM-PFE	1SVR550824R9100
CM-PFE.2	1SVR550826R9100
CM-PFS.S	1SVR730824R9300
CM-PFS.P	1SVR740824R9300
CM-PSS.31S	1SVR730784R2300
CM-PSS.31P	1SVR740784R2300
CM-PSS.41S	1SVR730784R3300
CM-PSS.41P	1SVR740784R3300
CM-PVS.31S	1SVR730794R1300
CM-PVS.31P	1SVR740794R1300
CM-PVS.41S	1SVR730794R3300
CM-PVS.41P	1SVR740794R3300
CM-PVS.81S	1SVR730794R2300
CM-PVS.81P	1SVR740794R2300
CM-PAS.31S	1SVR730774R1300
CM-PAS.31P	1SVR740774R1300
CM-PAS.41S	1SVR730774R3300
CM-PAS.41P	1SVR740774R3300

Monitoring function	
Phase failure	
Phase sequence	
Overvoltage	
Undervoltage	
Unbalance	
Neutral ⁽¹⁾	
Thresholds	
adjustable (adj) or fixed (fix)	fix fix fix fix fix fix fix fix fix fix adj adj adj adj adj adj adj adj adj adj
Timing functions for tripping delay	
ON delay	fix fix adj adj adj adj adj adj adj adj adj adj sel sel sel sel
On and OFF delay	fix fix fix fix fix fix adj adj adj adj adj adj adj adj adj
Connection type	
Push-in terminals	
Double-chamber cage connection terminals	

⁽¹⁾The external conductor voltage towards the neutral conductor is measured (1)

adj: adjustable
sel: selectable
fix: fixed

- ⊞ Time relays
- ⊞ Measuring and monitoring relays
- ⊞ Primary switch mode power supplies
- ⊞ Interface relays and optocouplers

Three-phase voltage monitoring relays – multifunctional

Type	Order number	CM-MPS.11S	CM-MPS.11P	CM-MPS.21S	CM-MPS.21P	CM-MPS.31S	CM-MPS.31P	CM-MPS.41S	CM-MPS.41P	CM-MPS.23S	CM-MPS.23P	CM-MPS.43S	CM-MPS.43P	CM-MPN.52S	CM-MPN.52P	CM-MPN.62S	CM-MPN.62P	CM-MPN.72S	CM-MPN.72P
		1SVR730885R1300	1SVR740885R1300	1SVR730885R3300	1SVR740885R3300	1SVR730884R1300	1SVR740884R1300	1SVR730884R3300	1SVR740884R3300	1SVR730885R4300	1SVR740885R4300	1SVR730884R4300	1SVR740884R4300	1SVR750487R8300	1SVR760487R8300	1SVR750488R8300	1SVR760488R8300	1SVR750489R8300	1SVR760489R8300
Rated control supply voltage U_c																			
Phase to phase																			
160-300 V AC						■	■												
300-500 V AC								■	■			■	■						
350-580 V AC														■	■				
450-720 V AC																■	■		
530-820 V AC																		■	■
Phase to neutral																			
90-170 V AC		■	■																
180-280 V AC				■	■					■	■								
Rated frequency																			
50/60 Hz		■	■	■	■	■	■	■	■					■	■	■	■	■	■
50/60/400 Hz										■	■	■	■						
Suitable for monitoring																			
Mains with harmonic content										■	■	■	■						
Single-phase mains		■	■	■	■					■	■								
Three-phase mains		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Type	Order number	CM-MPS.11S	CM-MPS.11P	CM-MPS.21S	CM-MPS.21P	CM-MPS.31S	CM-MPS.31P	CM-MPS.41S	CM-MPS.41P	CM-MPS.23S	CM-MPS.23P	CM-MPS.43S	CM-MPS.43P	CM-MPN.52S	CM-MPN.52P	CM-MPN.62S	CM-MPN.62P	CM-MPN.72S	CM-MPN.72P
Monitoring function																			
Phase failure		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Phase sequence		sel	sel	sel	sel	sel	sel	sel	sel	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj
Automatic phase sequence correction										adj	adj	adj	adj	adj	adj	adj	adj	adj	adj
Overtoltage		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Undervoltage		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Unbalance		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Interrupted neutral monitoring ¹⁾		■	■	■	■					■	■								
Thresholds																			
Adjustable (adj)		adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj
Timing functions for tripping delay																			
On- or OFF delay		adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj	adj
Connection type																			
Push-in terminals			■		■		■		■		■		■		■		■		■
Double-chamber cage connection terminals		■		■		■		■		■		■		■		■		■	

¹⁾ The relay detects by means of a phase unbalance the interruption of the neutral conductor. The external conductor voltage towards the neutral conductor is measured too

adj: adjustable
sel: selectable

- Time relays
- Measuring and monitoring relays
- Primary switch mode power supplies
- Interface relays and optocouplers

Grid feeding monitoring relays



ABB's grid feeding monitoring relays detect unusual events in the public power grid and keeps it stable by automatically disconnecting and reconnecting the renewable power plant. The CM-UFD displays all relevant measuring data and events and can communicate them via a build-in communication interface. The cloud-based service Ability™ EDCS enables customers to monitor the conditions in real-time, send the values into the cloud and access the diagnostics remotely.

Selection tables

- Time relays
- Measuring and monitoring relays
- Primary switch mode power supplies
- Interface relays and optocouplers

Grid feeding monitoring relays

	Type	Order number				
	CM-UFD.M22M	15VR560731R3700				
	CM-UFD.M31	15VR560730R3401				
	CM-UFD.M31M	15VR560731R3701				
	CM-UFD.M33	15VR560730R3402				
	CM-UFD.M33M	15VR560731R3702				
	CM-UFD.M34M	15VR560731R3703				
Rated control supply voltage U_c						
24-240 V AC/DC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Standard						
CEI 0-21	<input checked="" type="checkbox"/>					
VDE AR-N 4105, VDE AR-N 4110, VDE AR-N 4120		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
ENA G98, G99				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
DRRG standard of DEWA						<input checked="" type="checkbox"/>
Rated frequency						
DC or 50/60 Hz	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Modbus RTU						
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Suitable for monitoring						
Single-phase mains	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Three-phase mains	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring function						
Over-/undervoltage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Over-/underfrequency	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ROCOF (rate of change of frequency)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10 minutes average value	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Vector shift		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Thresholds	adj	adj	adj	adj	adj	adj





- Time relays
- Measuring and monitoring relays
- Primary switch mode power supplies
- Interface relays and optocouplers

Insulation monitoring relays



The insulation monitoring relays of the CM-IWx range guarantee a continuous insulation monitoring of an IT system. The devices recognize insulation faults as they develop and warn immediately if the value has fallen below the minimum set threshold. This ensures a reliable operation of the system and prevents operational interruption caused by a second, more severe, insulation fault which may lead to a short circuit tripping the main circuit breaker.

 [Selection tables](#)

-  Time relays
-  Measuring and monitoring relays
-  Primary switch mode power supplies
-  Interface relays and optocouplers

Insulation monitoring relays

Type	Order number	CM-IWS.2S	CM-IWS.2P	CM-IWS.1S	CM-IWS.1P	CM-IWN.1S	CM-IWN.1P	CM-IWM.10	CM-IWM.11
	1SVR730670R0200								
	1SVR740670R0200								
	1SVR7306660R0100								
	1SVR7406660R0100								
	1SVR7506660R0200								
	1SVR7606660R0200								
	1SVR470670R1000								
	1SVR470670R1100								
Rated control supply voltage U_c									
24 - 240 V AC/DC		■	■	■	■	■	■		
24 V DC								■	■
Measuring voltages									
250 V AC (L-PE)				■	■				
400 V AC (L-PE)		■	■			■	■		
690 V AC (L-PE)						■ ⁽¹⁾	■ ⁽¹⁾	■ ⁽²⁾	
1000 V AC (L-PE)									■ ⁽³⁾
300 V DC (L-PE)				■	■				
600 V DC (L-PE)						■	■		
690 V DC (L-PE)								■ ⁽²⁾	
1000 V DC (L-PE)						■ ⁽¹⁾	■ ⁽¹⁾		■ ⁽³⁾
Measuring range									
1 - 100 kΩ		■	■	■	■	■	■		
2 - 200 kΩ						■	■		
2 - 250 kΩ								■	■
System leakage capacitance, max.									
10 μF		■	■	■	■				
20 μF						■	■		
1000 μF								■	
3000 μF									■

Type	Order number	CM-IWS.2S	CM-IWS.2P	CM-IWS.1S	CM-IWS.1P	CM-IWN.1S	CM-IWN.1P	CM-IWM.10	CM-IWM.11
	1SVR730670R0200								
	1SVR740670R0200								
	1SVR7306660R0100								
	1SVR7406660R0100								
	1SVR7506660R0200								
	1SVR7606660R0200								
	1SVR470670R1000								
	1SVR470670R1100								
Output									
1 c/o		■	■	■	■				
1 x 2 c/o or 2 x 1 c/o						■	■		
2 c/o								■	■
Operating principle									
Open-circuit principle		■	■	■	■			■	■
Open- or closed-circuit principle adjustable						■	■		
Test									
Front-face button or control input		■	■	■	■	■	■	■	■
Reset									
Front-face button or control input		■	■	■	■	■	■	■	■
Fault storage / latching configurable		■	■	■	■	■	■		
Non volatile storage configurable		■	■	■	■	■	■		
Interrupted wire detection						■	■	■	■
Threshold values configurable		1	1	1	1	2	2	2	2
Control input (measuring input deactivation)									■
Connection type									
Push-in terminals			■		■		■		
Double-chamber cage connection terminals		■		■		■			
Screw terminals								■	■

1) With coupling unit CM-IVN screw version CM-IVN.S: 1SVR7506669R9400
 push-in version CM-IVN.P: 1SVR7606669R9400

2) Allowed voltage range of the supervised network: 0-760 V AC / 0-1000 V

3) Allowed voltage range of the supervised network: 0-1100 V AC / 0-1500 V DC





- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

— Thermistor motor protection relays



The thermistor motor protection relays of the CM-MSx range protect motors with PTC sensors against high temperature. These sensors are incorporated in the motor windings, thus measuring the motor heat directly.

 [Selection tables](#)

-  Time relays
-  Measuring and monitoring relays
-  Primary switch mode power supplies
-  Interface relays and optocouplers

Thermistor motor protection relays

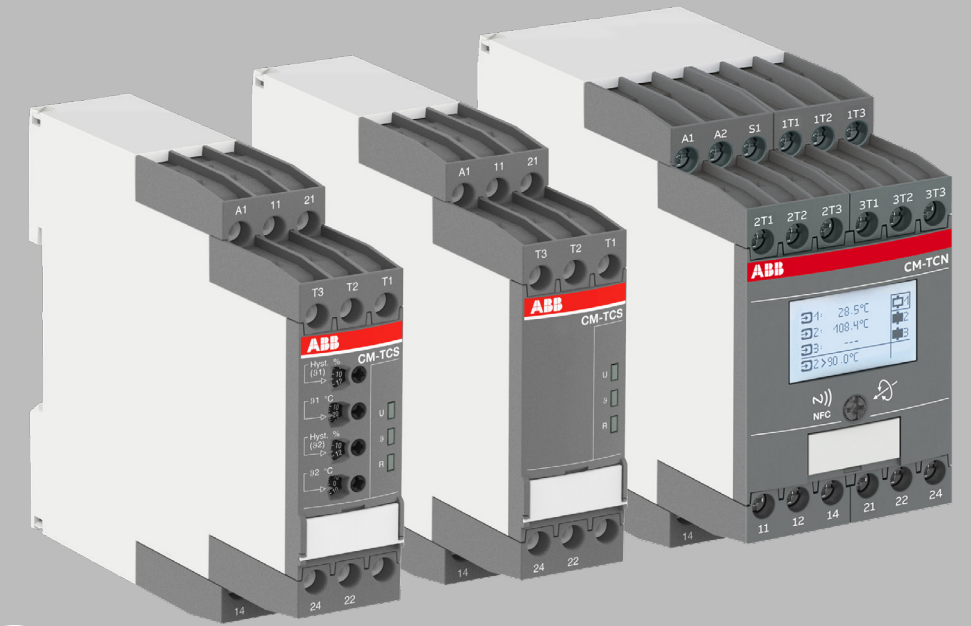
Type	Order code	CM-MSE	CM-MSE	CM-MSE	CM-MSS.11P	CM-MSS.11S	CM-MSS.12P	CM-MSS.12S	CM-MSS.13P	CM-MSS.13S	CM-MSS.21P	CM-MSS.21S	CM-MSS.22P	CM-MSS.22S	CM-MSS.23P	CM-MSS.23S	CM-MSS.31P	CM-MSS.31S	CM-MSS.32P	CM-MSS.32S	CM-MSS.33P	CM-MSS.33S	CM-MSS.41P	CM-MSS.41S	CM-MSS.51P	CM-MSS.51S			
	1SVR50805R9300	1SVR50800R9300	1SVR50801R9300	1SVR740720R1400	1SVR730720R1400	1SVR740700R0100	1SVR730700R0100	1SVR740700R0200	1SVR730700R0200	1SVR740722R1400	1SVR730722R1400	1SVR740700R0200	1SVR730700R0200	1SVR740712R1400	1SVR730712R1400	1SVR740712R0200	1SVR730712R0200	1SVR740712R2200	1SVR730712R2200	1SVR740712R1200	1SVR730712R1200	1SVR740712R1300	1SVR730712R1300						
Characteristics																													
ATEX approval			■	■							■	■					■	■	■	■	■	■	■	■	■	■	■		
Number of sensor circuits	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2			
Single or accumulative evaluation																									■	■			
Number of LEDs				3	3	2	2	2	2	2	3	3	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3		
Contacts																													
1 c/o (SPDT) contact						■	■	■	■																				
2 c/o (SPDT) contacts													■	■	■	■			■	■	■	■	■	■					
1 n/o	■	■	■																										
1 n/c and 1 n/o				■	■						■	■					■	■											
2 x 1 c/o or 1 x 2 c/o contacts, configurable																									■	■			
Reset																													
Manual													■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Remote													■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Auto	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Test button																													
Functions																													
Short-circuit detection											■	■					■	■	■	■	■	■							
Short-circuit detection, configurable																									■	■	■	■	
Dynamic interrupted wire detection				■	■						■	■					■	■	■	■	■	■	■	■	■	■	■	■	
Non-volatile fault storage				■	■						■	■					■	■											
Non-volatile fault storage, configurable																									■	■	■	■	

Type	Order code	CM-MSE	CM-MSE	CM-MSE	CM-MSS.11P	CM-MSS.11S	CM-MSS.12P	CM-MSS.12S	CM-MSS.13P	CM-MSS.13S	CM-MSS.21P	CM-MSS.21S	CM-MSS.22P	CM-MSS.22S	CM-MSS.23P	CM-MSS.23S	CM-MSS.31P	CM-MSS.31S	CM-MSS.32P	CM-MSS.32S	CM-MSS.33P	CM-MSS.33S	CM-MSS.41P	CM-MSS.41S	CM-MSS.51P	CM-MSS.51S			
Rated control supply voltage U_c																													
24 V AC		■																											
110-130 V AC			■																										
220-240 V AC				■																									
24-240 V AC/DC					■	■																							
24 V AC/DC																													
110-130 V AC, 220-240 V AC																													
Connection type																													
Push-in terminals					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Double-chamber cage connection terminals						■																							
Screw	■	■	■																										

For automatic reset, connect terminals S1 to T2 (1)
 For automatic reset, connect Terminals S1 to 1T2/2T2 (2)

- Time relays
- Measuring and monitoring relays
- Primary switch mode power supplies
- Interface relays and optocouplers

Temperature monitoring relays



ABB's portfolio of temperature monitoring relays is designed to measure the temperatures of solids, liquids and gaseous media using a variety of different sensors. Temperature monitoring relays are used in a wide array of applications. In conjunction with temperature sensors, such as PT100, PT1000, NTC or PTC sensors, they monitor the temperature of electric motors, control cabinets, busbars and protect transformers from overheating.

[Selection tables](#)

- Time relays
- Measuring and monitoring relays
- Primary switch mode power supplies
- Interface relays and optocouplers

Temperature monitoring relays

	Type	Order number
	CM-TCS.21S	1SVR730740R9100
	CM-TCS.21P	1SVR740740R9100
	CM-TCS.11S	1SVR730740R0100
	CM-TCS.11P	1SVR740740R0100
	CM-TCS.22S	1SVR730740R9200
	CM-TCS.22P	1SVR740740R9200
	CM-TCS.12S	1SVR730740R0200
	CM-TCS.12P	1SVR740740R0200
	CM-TCS.23S	1SVR730740R9300
	CM-TCS.23P	1SVR740740R9300
	CM-TCS.13S	1SVR730740R0300
	CM-TCS.13P	1SVR740740R0300
	CM-TCN.011S	1SVR750740R0110
	CM-TCN.011P	1SVR760740R0110
	CM-TCN.012S	1SVR760740R0120
	CM-TCN.012P	1SVR750740R0120

Rated control supply voltage U _s		
24 V AC/DC	■	■
24-240 V AC/DC		■

Sensor circuits (2 or 3 wire)		
Number of temperature sensors	1	1
Number of thresholds	2	2

Sensor types		
PT100	■	■
PT1000		■
NTC		■
PTC		■
Bi-metal switch		■

Measuring temperature range		
-50...+50 °C	■	■
0...+100 °C		■
0...+200 °C		■
-200...+850 °C		■

Interface		
Potentiometers	■	■
Display		■
NFC		■
Modbus RTU		■

* CM-TCN.011: supply voltage 24-240 V AC/DC for revision G or later and supply voltage 24 V AC/DC for revision F or earlier.

	Type	Order number
	CM-TCS.21S	1SVR730740R9100
	CM-TCS.21P	1SVR740740R9100
	CM-TCS.11S	1SVR730740R0100
	CM-TCS.11P	1SVR740740R0100
	CM-TCS.22S	1SVR730740R9200
	CM-TCS.22P	1SVR740740R9200
	CM-TCS.12S	1SVR730740R0200
	CM-TCS.12P	1SVR740740R0200
	CM-TCS.23S	1SVR730740R9300
	CM-TCS.23P	1SVR740740R9300
	CM-TCN.011S	1SVR750740R0110
	CM-TCN.011P	1SVR760740R0110
	CM-TCN.012S	1SVR760740R0120
	CM-TCN.012P	1SVR750740R0120

Monitoring function		
Overtemperature	■	■
Undertemperature	■	■
Window temperature	■	■
Temperature difference		■

Operating principle		
open or closed-circuit principle	■	■

Output contacts		
c/o	2	2

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Liquid level monitoring relays



ABB's liquid level monitoring relays are the ideal solution to regulate and control liquid levels and ratios of mixtures of conductive fluids. The assortment includes single- or multifunctional devices which can be used for overflow protection, dry-running protection of pumps, filling and draining applications as well as max. and min. level alarming.

[Selection tables](#)

- Time relays
- Measuring and monitoring relays
- Primary switch mode power supplies
- Interface relays and optocouplers

Liquid level monitoring relays

Type	Order code
CM-ENE MIN	1SVR550855R9500
CM-ENE MIN	1SVR550850R9500
CM-ENE MIN	1SVR550851R9500
CM-ENE MAX	1SVR550855R9400
CM-ENE MAX	1SVR550850R9400
CM-ENE MAX	1SVR550851R9400
CM-ENS.11S	1SVR730850R0100
CM-ENS.11P	1SVR740850R0100
CM-ENS.13S	1SVR730850R2100
CM-ENS.13P	1SVR740850R2100
CM-ENS.21S	1SVR730850R0200
CM-ENS.21P	1SVR740850R0200
CM-ENS.23S	1SVR730850R2200
CM-ENS.23P	1SVR740850R2200
CM-ENS.31S	1SVR730850R0300
CM-ENS.31P	1SVR740850R0300

Rated control supply voltage U _c	CM-ENE MIN	CM-ENE MIN	CM-ENE MIN	CM-ENE MAX	CM-ENE MAX	CM-ENE MAX	CM-ENS.11S	CM-ENS.11P	CM-ENS.13S	CM-ENS.13P	CM-ENS.21S	CM-ENS.21P	CM-ENS.23S	CM-ENS.23P	CM-ENS.31S	CM-ENS.31P
24-240 V AC/DC							■	■			■	■			■	■
24 V AC	■			■												
110-130 V AC		■			■				■	■			■	■		
220-240 V AC			■			■			■	■			■	■		

Sensor circuit	CM-ENE MIN	CM-ENE MIN	CM-ENE MIN	CM-ENE MAX	CM-ENE MAX	CM-ENE MAX	CM-ENS.11S	CM-ENS.11P	CM-ENS.13S	CM-ENS.13P	CM-ENS.21S	CM-ENS.21P	CM-ENS.23S	CM-ENS.23P	CM-ENS.31S	CM-ENS.31P
Number of electrodes (including ground reference)	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3

Response sensitivity range	CM-ENE MIN	CM-ENE MIN	CM-ENE MIN	CM-ENE MAX	CM-ENE MAX	CM-ENE MAX	CM-ENS.11S	CM-ENS.11P	CM-ENS.13S	CM-ENS.13P	CM-ENS.21S	CM-ENS.21P	CM-ENS.23S	CM-ENS.23P	CM-ENS.31S	CM-ENS.31P
0-100 kΩ	■	■	■	■	■	■										
5-100 kΩ							adj	adj	adj	adj						
0.1-1000 kΩ											adj	adj	adj	adj	adj	adj

Monitoring function	CM-ENE MIN	CM-ENE MIN	CM-ENE MIN	CM-ENE MAX	CM-ENE MAX	CM-ENE MAX	CM-ENS.11S	CM-ENS.11P	CM-ENS.13S	CM-ENS.13P	CM-ENS.21S	CM-ENS.21P	CM-ENS.23S	CM-ENS.23P	CM-ENS.31S	CM-ENS.31P
Dry running protection	■	■	■				■	■	■	■	■	■	■	■	■	■
Overflow protection				■	■	■	■	■	■	■	■	■	■	■	■	■
Liquid level control				■	■	■	■	■	■	■	■	■	■	■	■	■

Operating principle	CM-ENE MIN	CM-ENE MIN	CM-ENE MIN	CM-ENE MAX	CM-ENE MAX	CM-ENE MAX	CM-ENS.11S	CM-ENS.11P	CM-ENS.13S	CM-ENS.13P	CM-ENS.21S	CM-ENS.21P	CM-ENS.23S	CM-ENS.23P	CM-ENS.31S	CM-ENS.31P
Open-circuit principle	■	■	■				■	■	■	■						
Closed-circuit principle				■	■	■										
Open- or closed-circuit principle											sel	sel	sel	sel	sel	sel

Type	Order code
CM-ENE MIN	1SVR550855R9500
CM-ENE MIN	1SVR550850R9500
CM-ENE MIN	1SVR550851R9500
CM-ENE MAX	1SVR550855R9400
CM-ENE MAX	1SVR550850R9400
CM-ENE MAX	1SVR550851R9400
CM-ENS.11S	1SVR730850R0100
CM-ENS.11P	1SVR740850R0100
CM-ENS.13S	1SVR730850R2100
CM-ENS.13P	1SVR740850R2100
CM-ENS.21S	1SVR730850R0200
CM-ENS.21P	1SVR740850R0200
CM-ENS.23S	1SVR730850R2200
CM-ENS.23P	1SVR740850R2200
CM-ENS.31S	1SVR730850R0300
CM-ENS.31P	1SVR740850R0300

Adjustable ON-/OFF-delay	CM-ENE MIN	CM-ENE MIN	CM-ENE MIN	CM-ENE MAX	CM-ENE MAX	CM-ENE MAX	CM-ENS.11S	CM-ENS.11P	CM-ENS.13S	CM-ENS.13P	CM-ENS.21S	CM-ENS.21P	CM-ENS.23S	CM-ENS.23P	CM-ENS.31S	CM-ENS.31P
0.1-10 s																

Output contacts	CM-ENE MIN	CM-ENE MIN	CM-ENE MIN	CM-ENE MAX	CM-ENE MAX	CM-ENE MAX	CM-ENS.11S	CM-ENS.11P	CM-ENS.13S	CM-ENS.13P	CM-ENS.21S	CM-ENS.21P	CM-ENS.23S	CM-ENS.23P	CM-ENS.31S	CM-ENS.31P
n/o	1	1	1	1	1	1										
c/o (SPDT)									1	1	1	1	1	1	1	1

Connection type	CM-ENE MIN	CM-ENE MIN	CM-ENE MIN	CM-ENE MAX	CM-ENE MAX	CM-ENE MAX	CM-ENS.11S	CM-ENS.11P	CM-ENS.13S	CM-ENS.13P	CM-ENS.21S	CM-ENS.21P	CM-ENS.23S	CM-ENS.23P	CM-ENS.31S	CM-ENS.31P
Push-in terminals											■		■		■	
Double-chamber cage connection terminals									■		■		■		■	
Screw	■	■	■	■	■	■										

adj: adjustable
sel: selectable

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

**Power supplies for
industrial applications**

**Power supplies for
building applications**

Primary switch mode power supplies

CP-D, CP-E, CP-T, CP-S.1, CP-C.1

- ⌕ Time relays
- ⌕ Measuring and monitoring relays
- ⌕ Primary switch mode power supplies
- ⌕ Interface relays and optocouplers

Available in five different ranges to cover every application requirement, CP range power supplies are used to empower your valued assets worldwide. Their excellent reliability in daily use has under the toughest of conditions and harshest of environments is proven.

Choose ABB as your power supply partner and leverage our wide variety of product options. From economic to high-end solutions, the CP range offers maximum value.

Power supplies for industrial applications

Power supplies for building applications

CP-E range



ABB's CP-E range offers enhanced functionality and a simpler, more rational selection process. All power supply units can be operated at an ambient temperature of up to +70 °C (158 °F).



- ⌂ Time relays
- ⌂ Measuring and monitoring relays
- ⌂ Primary switch mode power supplies
- ⌂ Interface relays and optocouplers

Power supplies for industrial applications

CP-E range

Power supplies for building applications

		Order number	1SVR427033R3000	1SVR427032R1000	1SVR427035R1000	1SVR427030R0000	1SVR427031R0000	1SVR427032R0000	1SVR427034R0000	1SVR427035R0000	1SVR427036R0000	1SVR427030R2000	1SVR427031R2000	1SVR427034R0000	1SVR427035R2000		
			Single-phase														
Rated output voltage	5 V DC		■														
	12 V DC			■	■												
	24 V DC					■	■	■	■	■	■						
	48 V DC											■	■	■	■		
Rated output current	0.42 A																
	0.625 A											■					
	0.75 A																
	0.83 A																
	1.25 A													■			
	1.3 A																
	2.1 A																
	2.5 A																
	3 A																
	4.2 A																
	5 A																
10 A																	
20 A																	
40 A																	
Rated output power	10 W																
	15 W																
	18 W																
	25 W																
	30 W																
	60 W																
	72 W																
	100 W																
	120 W																
	240 W																
480 W																	
960 W																	

		Order number	1SVR427033R3000	1SVR427032R1000	1SVR427035R1000	1SVR427030R0000	1SVR427031R0000	1SVR427032R0000	1SVR427034R0000	1SVR427035R0000	1SVR427036R0000	1SVR427030R2000	1SVR427031R2000	1SVR427034R0000	1SVR427035R2000	
			Single-phase													
Rated input voltage	100-240 V AC		■	■		■	■	■					■	■		
	110-240 V AC															
	115/230 V AC auto select															
	115-230 V AC															
DC input voltage range	90-300 V DC															
	90-375 V DC															
	100-250 V DC															
	110-250 V DC															
	120-375 V DC															
	210-375 V DC															
Features	Power reserve design															
	Adjustable output voltage		■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Integrated input fuse		■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Short-circuit stable		■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Fold-forward behavior (U/I)			■	■	■	■	■	■	■	■	■	■	■	■	■
	Fold-back behavior (hiccup)		■													
	Power factor correction															
	Signalling contact															
	Extended temp. range			■	■											
	Parallel connection		■	■	3	■	■	■	3	3	3	■	■	3	3	
Serial connection		■	■	2	■	■	■	2	2	2	■	■	2	2		
Coated PCBA																

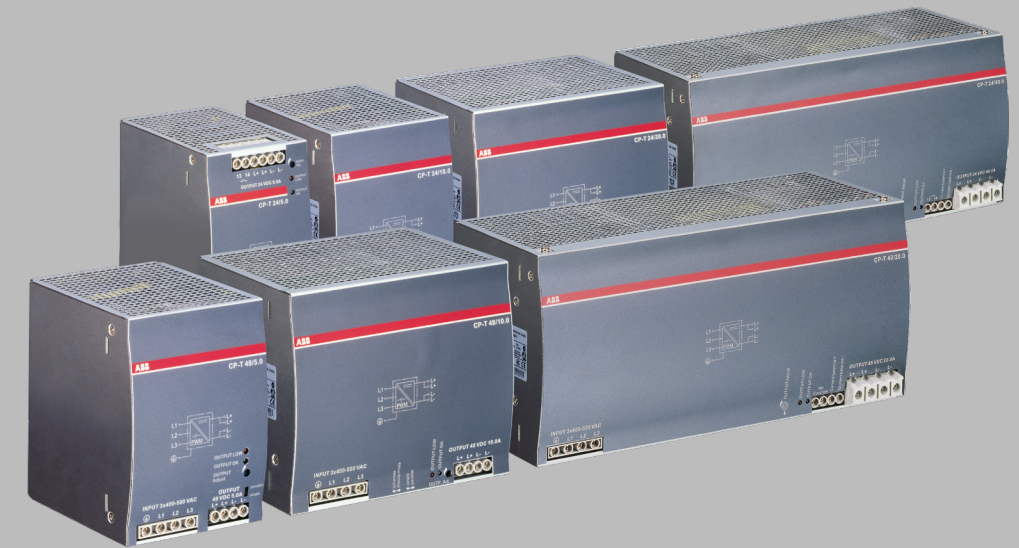
pas = passive, act = active

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Power supplies for industrial applications

Power supplies for building applications

CP-T range



ABB's CP-T range of three-phase power supply units perfectly complements our existing power supply offering in terms of design and functionality, giving you more advanced options for your three-phase applications.



Selection tables

- ⌵ Time relays
- ⌵ Measuring and monitoring relays
- ⌵ Primary switch mode power supplies
- ⌵ Interface relays and optocouplers

Power supplies for industrial applications

Power supplies for building applications

CP-T range

		Order number	1SVR427054R0000	1SVR427055R0000	1SVR427056R0000	1SVR427057R0000	1SVR427054R2000	1SVR427055R2000	1SVR427056R2000
		Three-phase							
		CP-T							
Rated output voltage	24 V DC	■	■	■	■				
	48 V DC					■	■	■	
Rated output current	5 A	■					■		
	10 A		■					■	
	20 A			■					■
	40 A				■				
Rated output power	120 W	■							
	240 W		■			■			
	480 W			■			■		
	960 W				■			■	
Rated input voltage	3 x 400-500 V AC	■	■	■	■	■	■	■	■
DC input voltage range	480-820 V DC	■	■	■	■	■	■	■	■
Features	Adjustable output voltage	■	■	■	■	■	■	■	■
	Integrated input fuse	■	■	■	■	■	■	■	■
	Short-circuit stable	■	■	■	■	■	■	■	■
	Fold forward behavior (U/I)	■	■	■		■	■		
	Fold back behavior (hiccup)	■	■	■	■	■	■	■	■
	Extended temp. range	■	■	■	■	■	■	■	■
	Signalling contact	■	■	■	■				
	Parallel connection		2	2	2	2	2	2	2
Serial connection		2	2	2	2	2	2	2	

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Power supplies for industrial applications

Power supplies for building applications

CP-S.1 range



CP-S.1 power supplies: high efficiency and reliability delivered in a compact footprint. Designed for a huge variety of applications, including machine building segments, this advanced range boosts an integrated 150 % power reserve for five seconds and operates at an efficiency of up to 94 %. With overheat protection, active power factor correction, a broad certified AC and DC input range and extensive worldwide approvals including marine, the all-new CP-S.1 power supplies are a preferred choice for multiple industrial applications.

[Selection tables](#)

- Time relays
- Measuring and monitoring relays
- Primary switch mode power supplies
- Interface relays and optocouplers

Power supplies for industrial applications

CP-S.1 range

Power supplies for building applications

	Order number	15VR320361R1000	15VR320561R1000	15VR320661R1000	15VR320761R1000	15VR320861R1000
		Single-phase				
Rated output voltage	5 V DC					
	12 V DC					
	24 V DC	■	■	■	■	■
	48 V DC					
Rated output current	0.42 A					
	0.625 A					
	0.75 A					
	0.83 A					
	1.25 A					
	1.3 A					
	2.1 A					
	2.5 A					
	3 A	■				
	4.2 A					
	5 A		■			
	10 A			■		
	20 A				■	
40 A					■	
Rated output power	10 W					
	15 W					
	18 W					
	25 W					
	30 W					
	60 W					
	72 W	■				
	100 W					
	120 W		■			
	240 W			■		
480 W				■		
960 W					■	

	Order number	15VR320361R1000	15VR320561R1000	15VR320661R1000	15VR320761R1000	15VR320861R1000
		Single-phase				
Rated input voltage	100-240 V AC	■	■	■	■	
	110-240 V AC					■
	115/230 V AC auto select					
	115-230 V AC					
DC input voltage range	90-300 V DC					
	90-375 V DC					
	100-250 V DC	■	■	■	■	
	110-250 V DC					■
	120-375 V DC					
	210-375 V DC					
Features	Power reserve design	■	■	■	■	■
	Adjustable output voltage	■	■	■	■	■
	Integrated input fuse	■	■	■	■	■
	Short-circuit stable	■	■	■	■	■
	Fold-forward behavior (U/I)	■	■	■	■	■
	Fold-back behavior (hiccup)					
	Power factor correction	no	act	act	act	act
	Signalling contact	■	■	■	■	■
	Extended temp. range					
	Parallel connection	3	3	3	3	3
Serial connection	2	2	2	2	2	
Coated PCBA	■	■	■	■	■	

pas = passive, act = active

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Power supplies for industrial applications

Power supplies for building applications

CP-C.1 range



The high-performance CP-C.1 power supplies are ABB's most advanced range. With excellent efficiency, high reliability and innovative functionality, it is ready to take on the most demanding of industrial applications. These power supplies have a 150 % integrated power reserve, operate at an efficiency of up to 94 % and are equipped with overheat protection and active power factor correction. Combined with a broad AC and DC input range and extensive worldwide approvals, CP-C.1 power supplies are the preferred choice for professional DC applications. ATEX and IECEx approvals are available for the use in hazardous areas.

[Selection tables](#)

- Time relays
- Measuring and monitoring relays
- Primary switch mode power supplies
- Interface relays and optocouplers

Power supplies for industrial applications

CP-C.1 range

Power supplies for building applications

		Order number	1SVR360563R1001	1SVR360663R1001	1SVR360763R1001	1SVR360563R2001	1SVR360663R2001	1SVR360763R2001	1SVR361563R1001	1SVR361663R1001	1SVR361763R1001
			Single-phase								
Rated output voltage	5 V DC										
	12 V DC										
	24 V DC	■	■	■	■	■	■	■	■	■	■
	48 V DC										
Rated output current	0.42 A										
	0.625 A										
	0.75 A										
	0.83 A										
	1.25 A										
	1.3 A										
	2.1 A										
	2.5 A										
	3 A										
	4.2 A										
	5 A	■			■			■			
	10 A		■			■			■		
20 A			■			■			■		
40 A										■	
Rated output power	10 W										
	15 W										
	18 W										
	25 W										
	30 W										
	60 W										
	72 W										
	100 W										
	120 W	■			■			■			
	240 W		■			■			■		
480 W			■			■			■		
960 W										■	

		Order number	1SVR360563R1001	1SVR360663R1001	1SVR360763R1001	1SVR360563R2001	1SVR360663R2001	1SVR360763R2001	1SVR361563R1001	1SVR361663R1001	1SVR361763R1001
			Single-phase								
Rated input voltage	100-240 V AC	■	■	■	■	■	■	■	■	■	■
	110-240 V AC										
	115/230 V AC auto select										
	115-230 V AC										
DC input voltage range	90-300 V DC	■	■	■	■	■	■	■	■	■	■
	90-375 V DC										
	100-250 V DC										
	110-250 V DC										
	120-375 V DC										
	210-375 V DC										
Features	Power reserve design	■	■	■	■	■	■	■	■	■	■
	Adjustable output voltage	■	■	■	■	■	■	■	■	■	■
	Integrated input fuse	■	■	■	■	■	■	■	■	■	■
	Short-circuit stable	■	■	■	■	■	■	■	■	■	■
	Fold-forward behavior (U/I)	■	■	■	■	■	■	■	■	■	■
	Fold-back behavior (hiccup)										
	Power factor correction	act	act	act	act	act	act	act	act	act	act
	Signalling contact	■	■	■	■	■	■	■	■	■	■
	Extended temp. range				■	■	■				
	Parallel connection	5	5	5	5	5	5	5	5	5	5
Serial connection	2	2	2	2	2	2	2	2	2	2	
Coated PCBA				■	■	■					

pas = passive, act = active

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Power supplies for industrial applications





Power supplies for building applications

CP-D range



Thanks to its compact modular housing, the CP-D range is ideal for building applications and installation. For maximum flexibility in operation, six different versions are available, from 10 W up to 100 W. Their wide input voltage range allows their use in global applications.

 [Selection tables](#)

-  Time relays
-  Measuring and monitoring relays
-  Primary switch mode power supplies
-  Interface relays and optocouplers

Power supplies for industrial applications

Power supplies for building applications

CP-D range

		Order number	1SVR427041R1000	1SVR427043R1200	1SVR427041R0000	1SVR427043R0100	1SVR427044R0200	1SVR427045R0400
			Single-phase					
Rated output voltage	5 V DC							
	12 V DC	■	■					
	24 V DC			■	■	■	■	
	48 V DC							
Rated output current	0.42 A			■				
	0.625 A							
	0.75 A							
	0.83 A	■						
	1.25 A							
	1.3 A				■			
	2.1 A		■					
	2.5 A					■		
	3 A							
	4.2 A							■
	5 A							
	10 A							
	20 A							
40 A								
Rated output power	10 W	■		■				
	15 W							
	18 W							
	25 W		■					
	30 W				■			
	60 W					■		
	72 W							
	100 W						■	
	120 W							
	240 W							
480 W								
960 W								

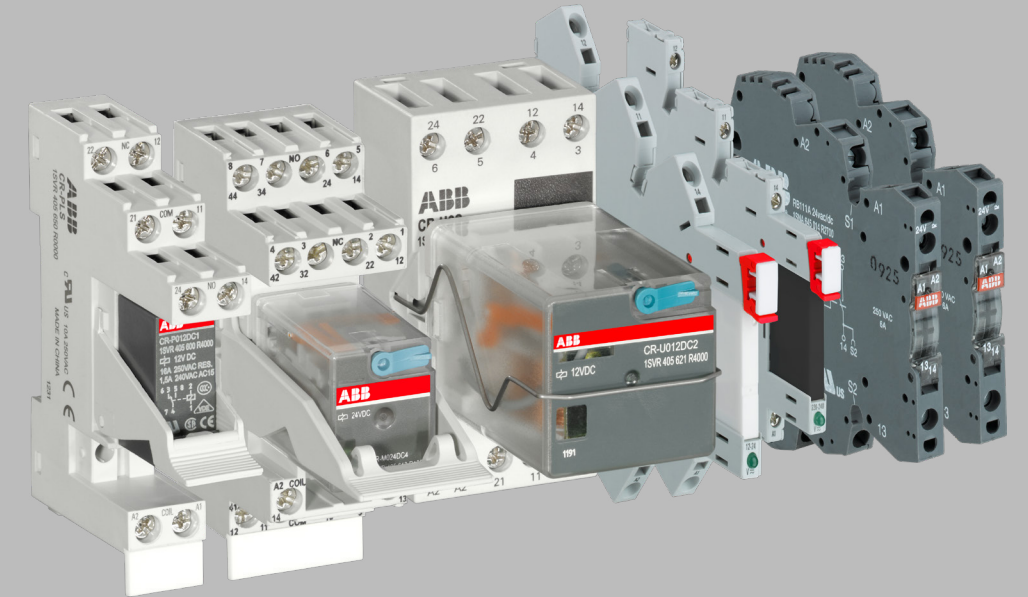
		Order number	1SVR427041R1000	1SVR427043R1200	1SVR427041R0000	1SVR427043R0100	1SVR427044R0200	1SVR427045R0400
			Single-phase					
Rated input voltage	100-240 V AC	■	■	■	■	■	■	■
	110-240 V AC							
	115/230 V AC auto select							
	115-230 V AC							
DC input voltage range	90-300 V DC							
	90-375 V DC							
	100-250 V DC							
	110-250 V DC							
	120-375 V DC	■	■	■	■	■	■	■
	210-375 V DC							
Features	Power reserve design							
	Adjustable output voltage		■		■	■	■	■
	Integrated input fuse	■	■	■	■	■	■	■
	Short-circuit stable	■	■	■	■	■	■	■
	Fold-forward behavior (U/I)		■		■	■	■	■
	Fold-back behavior (hiccup)	■		■				
	Power factor correction							
	Signalling contact							
	Extended temp. range	■	■	■	■	■	■	■
	Parallel connection							
Serial connection	■	■	■	■	■	■	■	
Coated PCBA								

pas = passive, act = active

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Pluggable interface relays

Boxed interface relays
and optocouplers



Interface relays and optocouplers

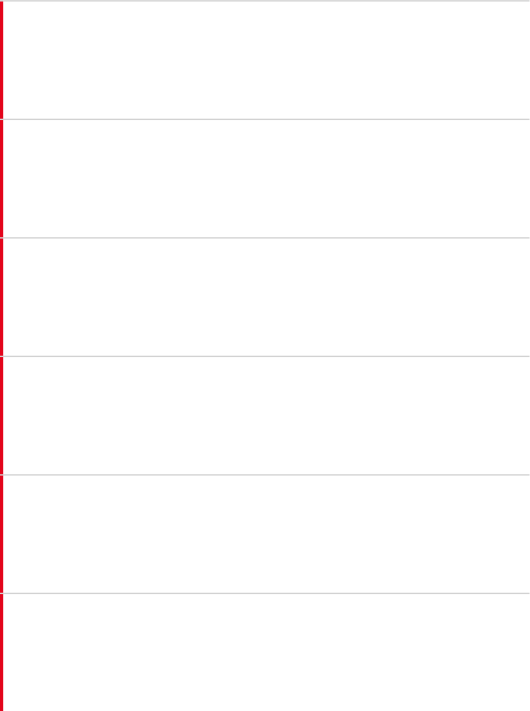
CR-S, CR-P, CR-M, CR-U, R600

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

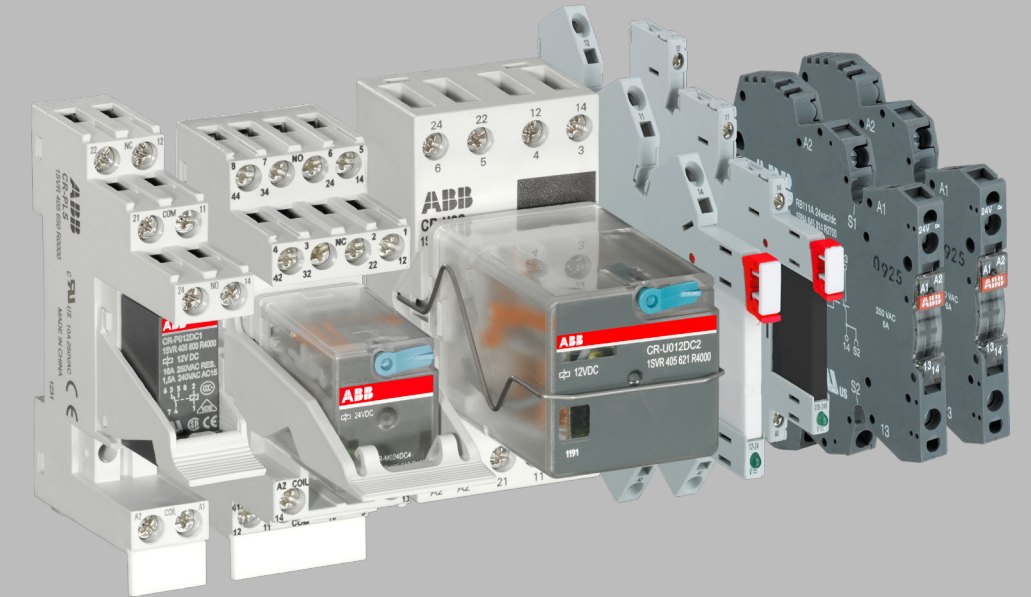
ABB offers a complete range of interface relays and optocouplers for increased flexibility and choice. This portfolio includes pluggable relays for easy interchangeability and optocouplers for an extended electrical life.

Furthermore, interface relays with gold plated contacts suitable for sensitive applications are available. This wide selection of relays adheres to the highest global standards and satisfies the requirements for a diverse number of applications and needs.

Pluggable interface relays



Boxed interface relays and optocouplers



— CR-S, CR-P, CR-M, CR-U

ABB's interface relays and optocouplers ensure a reliable voltage conversion between process peripherals and higher level control systems. These relays ensure reliable signal switching and provide electrical isolation for sensitive electronics such as PLCs. The wide variety of pluggable interface relays with accompanied by standard or logic sockets may be used for switching AC or DC loads. Suitable for extreme environments, ABB's interface relays are offered across a wide spectrum of coil voltages, with a variety of optional function modules.

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Pluggable interface relays

CR-S range relay assemblies



How to use the selection table

Choose the desired control supply voltage from the column "Control voltage", e.g. "5 V DC".
 Choose the desired kind of connection terminal from the column "Connection terminal", e.g. "spring".
 Choose the desired material of contact from the column "Contact Material" e.g. "gold plated".

Control voltage	Connection terminal	Contact material	Socket type	Socket order code	Relay type	Relay order code
5 V DC	screw	standard	CR-S006/024VDC1SS	1SVR405521R1100	CR-S005VDC1R	1SVR405501R1010
		gold plated	CR-S006/024VDC1SS	1SVR405521R1100	CR-S005VDC1RG	1SVR405501R1020
	spring	standard	CR-S006/024VDC1SZ	1SVR405521R1200	CR-S005VDC1R	1SVR405501R1010
		gold plated	CR-S006/024VDC1SZ	1SVR405521R1200	CR-S005VDC1RG	1SVR405501R1020
12 V AC	screw	standard	CR-S012/024VADC1SS	1SVR405521R3100	CR-S012VDC1R	1SVR405501R2010
		gold plated	CR-S012/024VADC1SS	1SVR405521R3100	CR-S012VDC1RG	1SVR405501R2020
	spring	standard	CR-S012/024VADC1SZ	1SVR405521R3200	CR-S012VDC1R	1SVR405501R2010
		gold plated	CR-S012/024VADC1SZ	1SVR405521R3200	CR-S012VDC1RG	1SVR405501R2020



Example

When you have chosen 5 V DC as control supply voltage, spring connection as connection terminal and gold plated as contact material the following order codes and type designators are valid:

Socket: CR-S006/024VDC1SZ, 1SVR405521R1200
 Relay: CR-S005VDC1RG, 1SVR405501R1020

Control voltage	Connection terminal	Contact material	Socket type	Socket order code	Relay type	Relay order code
5 V DC	screw	standard	CR-S006/024VDC1SS	1SVR405521R1100	CR-S005VDC1R	1SVR405501R1010
		gold plated	CR-S006/024VDC1SS	1SVR405521R1100	CR-S005VDC1RG	1SVR405501R1020
	spring	standard	CR-S006/024VDC1SZ	1SVR405521R1200	CR-S005VDC1R	1SVR405501R1010
		gold plated	CR-S006/024VDC1SZ	1SVR405521R1200	CR-S005VDC1RG	1SVR405501R1020
12 V DC	screw	standard	CR-S006/024VDC1SS or CR-S012/024VADC1SS	1SVR405521R1100 or 1SVR405521R3100	CR-S012VDC1R	1SVR405501R2010
		gold plated	CR-S006/024VDC1SS or CR-S012/024VADC1SS	1SVR405521R1100 or 1SVR405521R3100	CR-S012VDC1RG	1SVR405501R2020
	spring	standard	CR-S006/024VDC1SZ or CR-S012/024VADC1SZ	1SVR405521R1200 or 1SVR405521R3200	CR-S012VDC1R	1SVR405501R2010
		gold plated	CR-S006/024VDC1SZ or CR-S012/024VADC1SZ	1SVR405521R1200 or 1SVR405521R3200	CR-S012VDC1RG	1SVR405501R2020
12 V AC	screw	standard	CR-S012/024VADC1SS	1SVR405521R3100	CR-S012VDC1R	1SVR405501R2010
		gold plated	CR-S012/024VADC1SS	1SVR405521R3100	CR-S012VDC1RG	1SVR405501R2020
	spring	standard	CR-S012/024VADC1SZ	1SVR405521R3200	CR-S012VDC1R	1SVR405501R2010
		gold plated	CR-S012/024VADC1SZ	1SVR405521R3200	CR-S012VDC1RG	1SVR405501R2020
24 V DC	screw	standard	CR-S006/024VDC1SS or CR-S012/024VADC1SS	1SVR405521R1100 or 1SVR405521R3100	CR-S024VDC1R	1SVR405501R3010
		gold plated	CR-S006/024VDC1SS or CR-S012/024VADC1SS	1SVR405521R1100 or 1SVR405521R3100	CR-S024VDC1RG	1SVR405501R3020
	spring	standard	CR-S006/024VDC1SZ or CR-S012/024VADC1SZ	1SVR405521R1200 or 1SVR405521R3200	CR-S024VDC1R	1SVR405501R3010
		gold plated	CR-S006/024VDC1SZ or CR-S012/024VADC1SZ	1SVR405521R1200 or 1SVR405521R3200	CR-S024VDC1RG	1SVR405501R3020
24 V AC	screw	standard	CR-S012/024VADC1SS	1SVR405521R3100	CR-S024VDC1R	1SVR405501R3010
		gold plated	CR-S012/024VADC1SS	1SVR405521R3100	CR-S024VDC1RG	1SVR405501R3020
	spring	standard	CR-S012/024VADC1SZ	1SVR405521R3200	CR-S024VDC1R	1SVR405501R3010
		gold plated	CR-S012/024VADC1SZ	1SVR405521R3200	CR-S024VDC1RG	1SVR405501R3020
48 V AC/DC	screw	standard	CR-S048/060VADC1SS	1SVR405521R5100	CR-S048VDC1R	1SVR405501R4010
		gold plated	CR-S048/060VADC1SS	1SVR405521R5100	CR-S048VDC1RG	1SVR405501R4020
	spring	standard	CR-S048/060VADC1SZ	1SVR405521R5200	CR-S048VDC1R	1SVR405501R4010
		gold plated	CR-S048/060VADC1SZ	1SVR405521R5200	CR-S048VDC1RG	1SVR405501R4020

- Time relays
- Measuring and monitoring relays
- Primary switch mode power supplies
- Interface relays and optocouplers

Pluggable interface relays

CR-S range relay assemblies

Control voltage	Connection terminal	Contact material	Socket type	Socket order code	Relay type	Relay order code
60 V AC/DC	screw	standard	CR-S048/060VADC1SS	1SVR405521R5100	CR-S060VDC1R	1SVR405501R5010
		gold plated	CR-S048/060VADC1SS	1SVR405521R5100	CR-S060VDC1RG	1SVR405501R5020
	spring	standard	CR-S048/060VADC1SZ	1SVR405521R5200	CR-S060VDC1R	1SVR405501R5010
		gold plated	CR-S048/060VADC1SZ	1SVR405521R5200	CR-S060VDC1RG	1SVR405501R5020
110-125 V AC/DC	screw	standard	CR-S110/125VADC1SS	1SVR405521R6100	CR-S060VDC1R	1SVR405501R5010
		gold plated	CR-S110/125VADC1SS	1SVR405521R6100	CR-S060VDC1RG	1SVR405501R5020
	spring	standard	CR-S110/125VADC1SZ	1SVR405521R6200	CR-S060VDC1R	1SVR405501R5010
		gold plated	CR-S110/125VADC1SZ	1SVR405521R6200	CR-S060VDC1RG	1SVR405501R5020
220-240 V AC/DC	screw	standard	CR-S220/240VADC1SS	1SVR405521R7100	CR-S060VDC1R	1SVR405501R5010
		gold plated	CR-S220/240VADC1SS	1SVR405521R7100	CR-S060VDC1RG	1SVR405501R5020
	spring	standard	CR-S220/240VADC1SZ	1SVR405521R7200	CR-S060VDC1R	1SVR405501R5010
		gold plated	CR-S220/240VADC1SZ	1SVR405521R7200	CR-S060VDC1RG	1SVR405501R5020

CR-S optocoupler range relay assemblies

Control voltage	Connection terminal	Output characteristics	Socket type	Socket order code	Opto type	Opto order code
24 V DC	screw	Transistor 100 mA - 48 V DC	CR-S012/024VADC1SS	1SVR405521R3100	CR-S024VDC1TRA	1SVR405510R3050
			CR-S012/024VADC1SZ	1SVR405521R3200	CR-S024VDC1TRA	1SVR405510R3050
	spring	MOS-FET 2 A - 24 V DC	CR-S012/024VADC1SS	1SVR405521R3100	CR-S024VDC1MOS	1SVR405510R3060
			CR-S012/024VADC1SZ	1SVR405521R3200	CR-S024VDC1MOS	1SVR405510R3060
	screw	Triac 2 A - 240 V AC	CR-S012/024VADC1SS	1SVR405521R3100	CR-S024VDC1TRI	1SVR405510R3070
			CR-S012/024VADC1SZ	1SVR405521R3200	CR-S024VDC1TRI	1SVR405510R3070

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Pluggable interface relays

CR-P range

Pluggable relays and optocouplers

Type	Order code
CR-P012DC1	1SVR405600R4000
CR-P024DC1	1SVR405600R1000
CR-P048DC1	1SVR405600R6000
CR-P110DC1	1SVR405600R8000
CR-P024AC1	1SVR405600R0000
CR-P048AC1	1SVR405600R5000
CR-P110AC1	1SVR405600R7000
CR-P120AC1	1SVR405600R2000
CR-P230AC1	1SVR405600R3000
CR-P012DC2	1SVR405601R4000
CR-P024DC2	1SVR405601R1000
CR-P048DC2	1SVR405601R6000
CR-P110DC2	1SVR405601R8000
CR-P012AC2	1SVR405601R0200
CR-P024AC2	1SVR405601R0000
CR-P048AC2	1SVR405601R5000
CR-P110AC2	1SVR405601R7000
CR-P120AC2	1SVR405601R2000
CR-P230AC2	1SVR405601R3000
CR-P024DC2G	1SVR405606R1000
CR-P024AC2G	1SVR405606R0000
CR-P110AC2G	1SVR405606R7000
CR-P230AC2G	1SVR405606R3000
CR-P024MOS1	1SVR405610R4060
CR-P024TRI1	1SVR405610R4070

Control voltage	
12 V DC	■
24 V DC	■
48 V DC	■
110 V DC	■
12 V AC	■
24 V AC	■
48 V AC	■
110 V AC	■
120 V AC	■
230 V AC	■

Output rating	
35 V DC 5 A	■
250 V AC 16 A	■
250 V AC 8 A	■
275 V AC 3 A	■

Output contacts	
c/o	1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2
Gold plated contacts	■
MOS-FET	■
TRIAC 3 A	■

Boxed interface relays and optocouplers

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Complete versions

Type	Order code
CR-P012DC1SS42V	1SVR405600R4010
CR-P024DC1SS42V	1SVR405600R1010
CR-P048DC1LC42V	1SVR405600R1011
CR-P024DC1LC62C	1SVR405600R1013
CR-P110DC1SS42CV	1SVR405600R8010
CR-P024AC1SS62CV	1SVR405600R0010
CR-P120AC1SS92CV	1SVR405600R2010
CR-P230AC1SS92CV	1SVR405600R3110
CR-P230AC1LS	1SVR405600R3011
CR-P230AC1LC92CV	1SVR405600R3010
CR-P012DC2SS42V	1SVR405601R4010
CR-P024DC2SS42V	1SVR405601R1010
CR-P024DC2LS42	1SVR405601R1013
CR-P024DC2LS42V	1SVR405601R1011
CR-P024DC2LC42	1SVR405601R1012
CR-P024DC2GLC42V	1SVR405606R1010
CR-P024DC2GLC62C	1SVR405606R1013
CR-P024DC2GLC62CV	1SVR405606R1011
CR-P110DC2SS42CV	1SVR405601R8010
CR-P024AC2SS62CV	1SVR405601R0010
CR-P120AC2SS92CV	1SVR405601R2010
CR-P230AC2SS92CV	1SVR405601R3110
CR-P230AC2LS92CV	1SVR405601R3011
CR-P230AC2LC92	1SVR405601R3012
CR-P230AC2GLC92	1SVR405606R3013
CR-P230AC2GLC92C	1SVR405606R3012
CR-P230AC2GLC92CV	1SVR405606R3010

Control voltage	
12 V DC	■
24 V DC	■
48 V DC	■
110 V DC	■
12 V AC	■
24 V AC	■
48 V AC	■
110 V AC	■
120 V AC	■
230 V AC	■

Output rating	
250 V AC 16 A	■
250 V AC 8 A	■

Output contacts	
c/o	1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2
Gold plated contacts	■

Socket type	
Standard socket	■
Logical socket	■

Additional features	
LED	■
Free-wheeling diode	■

Pluggable interface relays

CR-M range

CR-M pluggable relays with Gold Plated contacts

Type	Order code	CR-M024DC4G	CR-M024AC4G	CR-M110AC4G	CR-M230AC4G	CR-M230AC4G	CR-M012DC4LG	CR-M024DC4LG	CR-M048DC4LG	CR-M060DC4LG	CR-M110DC4LG	CR-M125DC4LG	CR-M220DC4LG	CR-M024AC4LG	CR-M048AC4LG	CR-M110AC4LG	CR-M120AC4LG	CR-M230AC4LG	CR-M012DC4LDG	CR-M024DC4LDG	
Control voltage																					
12 V DC							■													■	
24 V DC	■							■													■
48 V DC									■												
60 V DC										■											
110 V DC											■										
125 V DC												■									
220 V DC													■								
24 V AC			■												■						
48 V AC																■					
60 V AC																					
110 V AC				■													■				
120 V AC																		■			
230 V AC					■	■													■		
Output rating																					
250 V AC 6 A	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
250 V AC 10 A																					
250 V AC 12 A																					
Output contacts																					
c/o	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Gold plated contacts	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Additional features																					
LED								■	■	■	■	■	■	■	■	■	■	■	■	■	■
Free-wheeling diode																			■	■	

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Boxed interface relays and optocouplers

- ⌵ Time relays
- ⌵ Measuring and monitoring relays
- ⌵ Primary switch mode power supplies
- ⌵ Interface relays and optocouplers

Pluggable interface relays

CR-M range

CR-M range complete versions

Type	Order code
CR-M012DC4LDGSS	1SVR405618R4410
CR-M024DC4SS42V	1SVR405613R1010
CR-M024DC4LS42V	1SVR405613R1011
CR-M024DC4LC42	1SVR405613R1012
CR-M024DC4GSS42V	1SVR405618R1011
CR-M024DC4GLC62CV	1SVR405618R1010
CR-M024DC4LGLC22	1SVR405618R1110
CR-M024DC4LDGSS	1SVR405618R1410
CR-M024AC4LS62CV	1SVR405613R0010
CR-M230AC4SS92CV	1SVR405613R3110
CR-M230AC4LS92CV	1SVR405613R3011
CR-M230AC4LC92	1SVR405613R3012
CR-M230AC4GSS92CV	1SVR405618R3112
CR-M230AC4LGLC	1SVR405618R3110
CR-M230AC4LGSS	1SVR405618R3111

Control voltage	CR-M012DC4LDGSS	CR-M024DC4SS42V	CR-M024DC4LS42V	CR-M024DC4LC42	CR-M024DC4GSS42V	CR-M024DC4GLC62CV	CR-M024DC4LGLC22	CR-M024DC4LDGSS	CR-M024AC4LS62CV	CR-M230AC4SS92CV	CR-M230AC4LS92CV	CR-M230AC4LC92	CR-M230AC4GSS92CV	CR-M230AC4LGLC	CR-M230AC4LGSS
12 V DC	■														
24 V DC		■	■	■	■	■	■	■							
48 V DC															
60 V DC															
110 V DC															
125 V DC															
220 V DC															
24 V AC								■							
48 V AC															
60 V AC															
110 V AC															
120 V AC															
230 V AC										■	■	■	■	■	■

Type	Order code
CR-M012DC4LDGSS	1SVR405618R4410
CR-M024DC4SS42V	1SVR405613R1010
CR-M024DC4LS42V	1SVR405613R1011
CR-M024DC4LC42	1SVR405613R1012
CR-M024DC4GSS42V	1SVR405618R1011
CR-M024DC4GLC62CV	1SVR405618R1010
CR-M024DC4LGLC22	1SVR405618R1110
CR-M024DC4LDGSS	1SVR405618R1410
CR-M024AC4LS62CV	1SVR405613R0010
CR-M230AC4SS92CV	1SVR405613R3110
CR-M230AC4LS92CV	1SVR405613R3011
CR-M230AC4LC92	1SVR405613R3012
CR-M230AC4GSS92CV	1SVR405618R3112
CR-M230AC4LGLC	1SVR405618R3110
CR-M230AC4LGSS	1SVR405618R3111

Output rating	CR-M012DC4LDGSS	CR-M024DC4SS42V	CR-M024DC4LS42V	CR-M024DC4LC42	CR-M024DC4GSS42V	CR-M024DC4GLC62CV	CR-M024DC4LGLC22	CR-M024DC4LDGSS	CR-M024AC4LS62CV	CR-M230AC4SS92CV	CR-M230AC4LS92CV	CR-M230AC4LC92	CR-M230AC4GSS92CV	CR-M230AC4LGLC	CR-M230AC4LGSS
250 V AC 6 A	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
250 V AC 10 A															
250 V AC 12 A															

Output contacts	CR-M012DC4LDGSS	CR-M024DC4SS42V	CR-M024DC4LS42V	CR-M024DC4LC42	CR-M024DC4GSS42V	CR-M024DC4GLC62CV	CR-M024DC4LGLC22	CR-M024DC4LDGSS	CR-M024AC4LS62CV	CR-M230AC4SS92CV	CR-M230AC4LS92CV	CR-M230AC4LC92	CR-M230AC4GSS92CV	CR-M230AC4LGLC	CR-M230AC4LGSS
c/o	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Gold plated contacts	■				■	■	■	■					■	■	■

Socket type	CR-M012DC4LDGSS	CR-M024DC4SS42V	CR-M024DC4LS42V	CR-M024DC4LC42	CR-M024DC4GSS42V	CR-M024DC4GLC62CV	CR-M024DC4LGLC22	CR-M024DC4LDGSS	CR-M024AC4LS62CV	CR-M230AC4SS92CV	CR-M230AC4LS92CV	CR-M230AC4LC92	CR-M230AC4GSS92CV	CR-M230AC4LGLC	CR-M230AC4LGSS
Standard socket	■	■			■			■		■			■		■
Logical socket			■	■		■	■		■		■	■		■	

Additional features	CR-M012DC4LDGSS	CR-M024DC4SS42V	CR-M024DC4LS42V	CR-M024DC4LC42	CR-M024DC4GSS42V	CR-M024DC4GLC62CV	CR-M024DC4LGLC22	CR-M024DC4LDGSS	CR-M024AC4LS62CV	CR-M230AC4SS92CV	CR-M230AC4LS92CV	CR-M230AC4LC92	CR-M230AC4GSS92CV	CR-M230AC4LGLC	CR-M230AC4LGSS
LED	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Free-wheeling diode	■	■	■	■	■		■	■					■		■

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- ⌵ Time relays
- ⌵ Measuring and monitoring relays
- ⌵ Primary switch mode power supplies
- ⌵ Interface relays and optocouplers

Pluggable interface relays

CR-P/M function modules

	Type	Order code
	CR-P/M 22	1SVR405651R0000
	CR-P/M 42	1SVR405652R0000
	CR-P/M 42V	1SVR405652R1000
	CR-P/M 42B	1SVR405652R4000
	CR-P/M 42BV	1SVR405652R4100
	CR-P/M 42C	1SVR405652R9000
	CR-P/M 42CV	1SVR405652R9100
	CR-P/M 52B	1SVR405653R0000
	CR-P/M 52D	1SVR405653R4000
	CR-P/M 52C	1SVR405653R1000
	CR-P/M 62	1SVR405654R0000
	CR-P/M 62V	1SVR405654R1000
	CR-P/M 62E	1SVR405654R4000
	CR-P/M 62EV	1SVR405654R4100
	CR-P/M 92	1SVR405654R0100
	CR-P/M 92V	1SVR405654R1100
	CR-P/M 62C	1SVR405655R0000
	CR-P/M 62CV	1SVR405655R1000
	CR-P/M 62D	1SVR405655R4000
	CR-P/M 62DV	1SVR405655R4100
	CR-P/M 92C	1SVR405655R0100
	CR-P/M 92CV	1SVR405655R1100
	CR-P/M 72	1SVR405656R0000
	CR-P/M 72A	1SVR405656R1000
	CR-P/M 82	1SVR405656R2000
Control voltage		
6-220 V DC		■
6-24 V DC		■
24-60 V DC		■
110 V DC		■
110-230 V DC		■
6-24 V AC		■
24-60 V AC		■
110-230 V AC		■
24 V AC		■
115 V AC		■
230 V AC		■
24-240 V AC/DC		■
Function		
Diode - Reverse polarity protection / free-wheeling diode		■
Diode and LED - Reverse polarity protection / free-wheeling diode and LED to indicate energized coil		■
RC element - Spark quenching		■
Diode and LED - LED to indicate energized coil		■
Varistor and LED - Overvoltage protection and LED to indicate energized coil		■
Varistor - Overvoltage protection		■
LED red		■
LED green		■

Boxed interface relays and optocouplers

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

Pluggable interface relays

CR-U range

CR-U pluggable relays without LED

Type	Order code
CR-U012DC2	1SVR405621R4000
CR-U024DC2	1SVR405621R1000
CR-U048DC2	1SVR405621R6000
CR-U110DC2	1SVR405621R8000
CR-U220DC2	1SVR405621R9000
CR-U024AC2	1SVR405621R0000
CR-U048AC2	1SVR405621R5000
CR-U110AC2	1SVR405621R7000
CR-U120AC2	1SVR405621R2000
CR-U230AC2	1SVR405621R3000
CR-U012DC3	1SVR405622R4000
CR-U024DC3	1SVR405622R1000
CR-U048DC3	1SVR405622R6000
CR-U110DC3	1SVR405622R8000
CR-U125DC3	1SVR405622R8200
CR-U220DC3	1SVR405622R9000
CR-U024AC3	1SVR405622R0000
CR-U048AC3	1SVR405622R5000
CR-U060AC3	1SVR405622R5200
CR-U110AC3	1SVR405622R7000
CR-U120AC3	1SVR405622R2000
CR-U230AC3	1SVR405622R3000

Control voltage																				
12 V DC	■																			
24 V DC		■																		
48 V DC			■																	
110 V DC				■																
125 V DC					■															
220 V DC						■														
12 V AC																				
24 V AC							■													
48 V AC								■												
60 V AC									■											
110 V AC										■										
120 V AC											■									
230 V AC												■								

Output rating																				
250 V AC 10 A	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Output contacts																				
c/o	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3
Gold plated contacts																				

CR-U pluggable relays with LED

Type	Order code
CR-U012DC2L	1SVR405621R4100
CR-U012DC2LD	1SVR405621R4400
CR-U024DC2L	1SVR405621R1100
CR-U024DC2LD	1SVR405621R1400
CR-U048DC2L	1SVR405621R6100
CR-U048DC2LD	1SVR405621R6400
CR-U110DC2L	1SVR405621R8100
CR-U110DC2LD	1SVR405621R8400
CR-U220DC2L	1SVR405621R9100
CR-U012AC2L	1SVR405621R0300
CR-U024AC2L	1SVR405621R0100
CR-U048AC2L	1SVR405621R5100
CR-U110AC2L	1SVR405621R7100
CR-U120AC2L	1SVR405621R2100
CR-U230AC2L	1SVR405621R3100
CR-U012DC3L	1SVR405622R4100
CR-U012DC3LD	1SVR405622R4400
CR-U024DC3L	1SVR405622R1100
CR-U024DC3LD	1SVR405622R1400
CR-U048DC3L	1SVR405622R6100
CR-U048DC3LD	1SVR405622R6400
CR-U110DC3L	1SVR405622R8100
CR-U110DC3LD	1SVR405622R8400
CR-U220DC3L	1SVR405622R9100
CR-U012AC3L	1SVR405622R0300
CR-U024AC3L	1SVR405622R0100
CR-U048AC3L	1SVR405622R5100
CR-U110AC3L	1SVR405622R7100
CR-U120AC3L	1SVR405622R2100
CR-U230AC3L	1SVR405622R3100

Control voltage																				
12 V DC	■	■																		
24 V DC			■	■																
48 V DC					■	■														
110 V DC							■	■												
125 V DC									■											
220 V DC										■										
12 V AC																				
24 V AC											■									
48 V AC												■								
60 V AC													■							
110 V AC														■						
120 V AC															■					
230 V AC																■				

Output rating																				
250 V AC 10 A	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Output contacts																				
c/o	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Gold plated contacts																				

Additional features																				
LED	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Free-wheeling diode		■		■		■		■		■		■		■		■		■		■

- ⌕ Time relays
- ⌕ Measuring and monitoring relays
- ⌕ Primary switch mode power supplies
- ⌕ Interface relays and optocouplers

Pluggable interface relays

CR-U function modules

	Type	Order code
	CR-U 21	1SVR4056661R0000
	CR-U 41	1SVR4056662R0000
	CR-U 41V	1SVR4056662R1000
	CR-U 41B	1SVR4056662R4000
	CR-U 41BV	1SVR4056662R4100
	CR-U 41C	1SVR4056662R9000
	CR-U 41CV	1SVR4056662R9100
	CR-U 51B	1SVR4056663R0000
	CR-U 51D	1SVR4056663R4000
	CR-U 51C	1SVR4056663R1000
	CR-U 61	1SVR4056664R0000
	CR-U 61V	1SVR4056664R1000
	CR-U 61E	1SVR4056664R4000
	CR-U 61EV	1SVR4056664R4100
	CR-U 91	1SVR4056664R0100
	CR-U 91V	1SVR4056664R1100
	CR-U 61C	1SVR4056665R0000
	CR-U 61CV	1SVR4056665R1000
	CR-U 61D	1SVR4056665R4000
	CR-U 61DV	1SVR4056665R4100
	CR-U 91C	1SVR4056665R0100
	CR-U 91CV	1SVR4056665R1100
	CR-U 71	1SVR4056666R0000
	CR-U 71A	1SVR4056666R1000
	CR-U 81	1SVR4056666R2000
	CR-U T	1SVR4056677R0000
Control voltage		
6-220 V DC		■
6-24 V DC	■	■
24-60 V DC	■	■
110 V DC	■	■
110-230 V DC	■	■
6-24 V AC	■	■
24-60 V AC	■	■
110-230 V AC	■	■
24 V AC	■	■
115 V AC	■	■
230 V AC	■	■
24-240 V AC/DC	■	■
Function		
Diode - Reverse polarity protection / free wheeling diode	■	
Diode and LED - Reverse polarity protection / free-wheeling diode and LED to indicate energized coil	■	■
RC element - Spark quenching	■	■
Diode and LED - LED to indicate energized coil	■	■
Varistor and LED - Overvoltage protection and LED to indicate energized coil	■	■
Varistor - Overvoltage protection	■	■
Multi-function time module	■	■
LED red	■	■
LED green	■	■

Boxed interface relays and optocouplers

- ⊙ Time relays
- ⊙ Measuring and monitoring relays
- ⊙ Primary switch mode power supplies
- ⊙ Interface relays and optocouplers

**Boxed interface relays
and optocouplers**

Boxed interface relays and optocouplers R600

ABB's R600 range may be used in applications where electrical isolation, amplification and signal matching are required. The slim, compact design, incorporated with the variety of terminal connections available allow for the optimization of space within a control panel. This broad portfolio allows for the flexibility of choice and includes both electromagnetic relays and optocouplers.



- ① Time relays
- ② Measuring and monitoring relays
- ③ Primary switch mode power supplies
- ④ Interface relays and optocouplers

Boxed interface relays
and optocouplers

Boxed interface relays R600 range

Type	Order number
RB121P-5VDC	1SNA645034R2300
RB121PG-5VDC	1SNA645036R2500
RBR121P-5VDC	1SNA645534R2500
RB121-12VDC	1SNA645073R0000
RB121P-12VDC	1SNA645035R2400
RB121G-12VDC	1SNA645075R0000
RBR121P-12VDC	1SNA645535R2600
RB101R-24VUC	1SNA645019R0400
RBR101R-24VUC	1SNA645519R0600
RB111-24VUC	1SNA645014R2700
RB111R-24VUC	1SNA645018R0300
RBR111R-24VUC	1SNA645518R0500
RBR111-24VUC	1SNA645514R2100
RB121-24VUC	1SNA645001R0300
RB121G-24VUC	1SNA645005R0700
RBR121-24VUC	1SNA645501R0500
RBR121G-24VUC	1SNA645505R0100
RB122G-24VUC	1SNA645012R2500
RBR122G-24VUC	1SNA645512R2700
RB121-24VDC	1SNA645071R0000
RBR121-24VDC	1SNA645571R0000
RB121G-24VDC	1SNA645072R0000
RBR121G-24VDC	1SNA645572R0000
RB121-48-60VUC	1SNA645002R0400
RB121G-48-60VUC	1SNA645006R0000
RBR121-48-60VUC	1SNA645502R0600
RBR121G-48-60VUC	1SNA645506R0200
RB122G-48-60VUC	1SNA645040R1500
RBR122G-48-60VUC	1SNA645540R1700
RB121-115VUC	1SNA645003R0500
RB121G-115VUC	1SNA645007R0100
RB121R-115VUC	1SNA645046R0700
RBR121-115VUC	1SNA645503R0700
RBR121G-115VUC	1SNA645507R0300
RB122G-115VUC	1SNA645041R0200
RBR122G-115VUC	1SNA645541R0400
RB111-115VUC	1SNA645016R2100
RB111-230VUC	1SNA645017R2200
RB121-230VUC	1SNA645004R0400
RB121G-230VUC	1SNA645008R1200
RB121R-230VUC	1SNA645011R2400
RBR121-230VUC	1SNA645504R0000
RBR121G-230VUC	1SNA645508R1400
RBR121R-230VUC	1SNA645511R2600
RB122G-230VUC	1SNA645013R2600
RBR122G-230VUC	1SNA645513R2000
RB121-60-230VUC	1SNA645020R0100
RBR121-60-230VUC	1SNA645520R0300

Control voltage																													
5 V DC	■	■	■																										
12 V DC				■	■	■	■																						
24 V DC								■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
48-60 V DC																													
115 V DC																													
230 V DC																													
60-230 V DC																													
24 V AC																													
48-60 V AC																													
115 V AC																													
230 V AC																													
60-230 V AC																													

Output rating																													
10 mA - 6 A	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
3 mA - 6 A		■				■																							
1 mA - 8 A																													

Output contacts																													
c/o	1	1	1	1	1	1	1																						
n/o																													
n/c								1	1																				
Gold plated contacts		■				■																							

Terminal type																												
Screw	■	■		■	■	■		■		■	■		■	■		■	■		■	■		■	■		■	■		■
Spring			■			■																						

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