

# Pilot Devices

## 8.2 Modular Range



KA1



MA1-8015



KA1-8010



MA1-8053



MEP2-0



MEPY1-0

### Accessories

Description	Type	Order code
<b>30 mm adaptors for 22 mm operator (1.5-4 mm panels) For pushbuttons, selector switches, pilot lights, potentiometers and buzzers</b>		
Black plastic	KA1-8029	1SFA616920R8029
Chrome metal	KA1-8030	1SFA616920R8030

### Mounting tool for operator

Mounting tool for tightening the locking nut	MA1-8015	1SFA611920R8015
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### Protective cover

Protective cover	KA1-8010	1SFA616920R8010
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Note: For flush pushbutton to prevent accidental operation. Cannot be used together with Legend plate holder.

### Shroud for emergency stop

Yellow	MA1-8053	1SFA611920R8053
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Note: For 40 mm emergency stop pushbuttons. To prevent accidental operation. With anti rotation tabs and slot for pad-lock and with water drainage.

### Enclosures

Description	Type	Order code
1 seat - dark grey / light grey	MEP1-0	1SFA611811R1000
2 seats - dark grey / light grey	MEP2-0	1SFA611812R1000
3 seats - dark grey / light grey	MEP3-0	1SFA611813R1000
4 seats - dark grey / light grey	MEP4-0	1SFA611814R1000
6 seats - dark grey / light grey	MEP6-0	1SFA611816R1000
1 seat - yellow / light grey	MEPY1-0	1SFA611821R1000



## SECTION 9

**Electronic Products and Relays****Timers**

CT-D Range	9.1
CT-C Range	9.2
CT-S Range	9.3
CT-PAC.22	9.4

**Measuring and Monitoring Relays**

Current and voltage monitoring relays - single phase	9.5
Current and voltage monitoring relays - three phase	9.6
Grid feeding monitoring relays	9.7
Insulation monitoring relays	9.8
Thermistor motor protection relays	9.9
Temperature monitoring relays	9.10
Liquid level monitors and controls	9.11
Current transformers	9.12

**Primary Switch Mode Power Supplies**

CP-D Range	9.13
CP-E Range	9.14
CP-T Range	9.15
CP-C1 Range	9.16
CP-S1 Range	9.17

**Interface relays**

CR-S Range: Slim Relays and Optocouplers	9.18
CR-P Range: Pluggable PCB Relays	9.19
CR-M Range: Pluggable Miniature Relays	9.20
CR-U Range: Pluggable Universal Relays	9.21
R600 Series Interface Relays and Optocouplers	9.22

## Electronic Timers

### 9.1 CT-D Range



CT-MFD.12

#### Description

The CT-D range with a width of only 17.5 mm fits into all domestic installation and distribution panels.

The devices offer 4 or 7 time ranges from 0.05 seconds up to 100 hours.

Offers LEDs for status indication.

Timing function	Rated control supply voltage	Time ranges	Control input	Output	Type	Order Code
Multifunctional <sup>1)</sup>	24-240 VAC 24-48 VDC	7 (0.05 s – 100 h)	■	1 c/o	CT-MFD.12	1SVR500020R0000
Multifunctional <sup>1)</sup>	12-240 VAC/DC	7 (0.05 s – 100 h)	■	2 c/o	CT-MFD.21	1SVR500020R1100
ON-delay			□	1 c/o	CT-ERD.12	1SVR500100R0000
			□	2 c/o	CT-ERD.22	1SVR500100R0100
OFF-delay		7 (0.05 s – 100 h)	■	1 c/o	CT-AHD.12	1SVR500110R0000
			■	2 c/o	CT-AHD.22	1SVR500110R0100
Impulse- ON	24-240 VAC 24-48 VDC		□		CT-VWD.12	1SVR500130R0000
Flasher starting with ON			□	1 c/o	CT-EBD.12	1SVR500150R0000
Pulse generator		2 x 7 (0.05s – 100 h)	■		CT-TGD.122)	1SVR500160R0000
			■	2 c/o	CT-TGD.222)	1SVR500160R0100
Star-delta change- over		4 (0.05 s - 10 min)	□	2 c/o	CT-SDD.223)	1SVR500211R0100
			□		CT-SAD.224)	1SVR500210R0100

1) Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Flasher starting with ON, Flasher starting with OFF, Pulse former

2) ON and OFF times adjustable independently: 2 x 7 time ranges 0.05 s - 100 h

3) Transition time 50 ms fixed

4) Transition time adjustable

■ Control input with voltage-related triggering

□ no triggering

#### Synonyms

used expression	alternative expression(s)	used expression	alternative expression(s)
1 c/o contact	SPDT	voltage-related	wet / non-floating
2 c/o contacts	DPDT	volt-free	dry / floating

## Electronic Timers

### 9.2 CT-C Range



#### Description

The CT-C range combines lower cost with higher value and performance in a slim 17.5 mm-wide housing. All relays have a wide time setting range from 0.05 seconds up to 100 hours. Combined with a wide voltage range they are the perfect choice for applications worldwide.

Timing function	Rated control supply voltage	Time ranges	Control input	Output	Type	Order Code
Multi <sup>1)</sup>	12-240 V AC/DC		■	Solid state	CT-MKC.31	1SVR508010R1300
Multi <sup>1)</sup>	24-240 V AC 24-48 V DC	7 (0.05 s - 100h)	■	1 c/o	CT-MFC.12	1SVR508020R0000
Multi <sup>1)</sup>	12-240 V AC DC		■	2 c/o	CT-MFC.21	1SVR508020R1100
Dual <sup>2)</sup>	24-240 V AC 24-48 V DC	4 (0.05 s - 100h)	-	1 c/o	CT-ARC.12	1SVR508120R0000
ON-delay			-	1 c/o	CT-ERC.12	1SVR508100R0000
			-	2 c/o	CT-ERC.22	1SVR508100R0100
OFF-delay		7 (0.05 s - 100h)	■	1 c/o	CT-AHC.12	1SVR508110R0000
			■	2 c/o	CT-AHC.22	1SVR508110R0100
Impulse-ON	24-240 V AC 24-48 V DC		-		CT-VWC.12	1SVR508130R0000
Flasher <sup>3)</sup>			-	1 c/o	CT-EBC.12	1SVR508150R0000
Pulse generator		2x 7 (0.05 s - 100h)	■		CT-TGC.12 <sup>4)</sup>	1SVR508160R0000
			■	2 c/o	CT-TGC.22 <sup>4)</sup>	1SVR508160R0100
Star-delta change-over		4 (0.05 s - 100h)	-		CT-SDC.22 <sup>5)</sup>	1SVR508211R0100
			-	2 n/o	CT-SAC.22 <sup>6)</sup>	1SVR508210R0100
Alternating without time delay	24-240 V AC 24-48 V DC	-	-	2 n/o	CT-PAC.22	1SVR508180R0100

- 1) Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Flasher starting with ON, Flasher starting with OFF, Pulse former
- 2) OFF-delay without aux. voltage (True OFF-delay), True Impulse-OFF
- 3) Flasher starting with ON, Flasher starting with OFF
- 4) ON and OFF times adjustable independently: 2 x 7 time ranges 0.05 s - 100 h
- 5) Transition time 50 ms fixed
- 6) Transition time adjustable

- Control input with voltage-related triggering
- No triggering

# Electronic Timers

## 9.3 CT-S Range



CT-MVS.21P

### Description

This range is diverse and offers:

- 8 multifunction timers
- 13 single function timers

Innovative connection technology with double chamber cage connection terminals.

The easy connect technology uses push-in terminals which means tool free wiring.

Timing function	Rated control supply voltage	Time ranges	Control input	Output	Type	Order Code	
Multifunctional <sup>5)</sup>	24- 240 V AC/DC	10 (0.05 - 300 h)	■	2 c/o	CT-MVS.21S <small>1) 2) 3)</small>	1SVR730020R0200	
					CT-MVS.21P <small>1) 2) 3)</small>	1SVR740020R0200	
	24-48 V DC, 24-240 V AC				CT-MVS.22S	1SVR730020R3300	
					CT-MVS.22P	1SVR740020R3300	
	380-440 V AC				CT-MVS.23S	1SVR730021R2300	
		CT-MVS.23P	1SVR740021R2300				
Multifunctional <sup>6)</sup>	24-48 V DC, 24-240 V AC	10 (0.05 s - 300 h)	■	1 c/o	CT-MVS.12S	1SVR730020R3100	
					CT-MVS.12P	1SVR740020R3100	
Multifunctional <sup>7)</sup>	24-48 V DC, 24-240 V AC	2×10 (0.05 s - 300 h)	■	2 c/o	CT-MXS.22S <sup>4)</sup>	1SVR730030R3300	
					CT-MXS.22P <sup>4)</sup>	1SVR740030R3300	
Multifunctional <sup>8)</sup>	24-240 V AC/DC	10 (0.05 s - 300 h)	□	2 c/o	CT-MFS.21S <small>1) 2) 3)</small>	1SVR730010R0200	
					CT-MFS.21P <small>1) 2) 3)</small>	1SVR740010R0200	
	24-48 V DC, 24-240 V AC		10 (0.05 s - 300 h)	□ / □	2 c/o	CT-MBS.22S <small>2) 3)</small>	1SVR730010R3200
						CT-MBS.22P <small>2) 3)</small>	1SVR740010R3200
Multifunctional <sup>9)</sup>	24-48 V DC, 24-240 V AC	10 (0.05 s - 300 h)	□	2 c/o	CT-WBS.22S	1SVR730040R3300	
					CT-WBS.22P	1SVR740040R3300	

**S:** screw connection **P:** push-in / easy connect

- Control input with voltage-related triggering
- Control input with volt-free triggering
- / □ two control input with volt-free triggering
- no triggering

<sup>1)</sup> Extended temperature range -40 °C

<sup>2)</sup> Remote potentiometer connection

<sup>3)</sup> 2nd c/o contact selectable as instantaneous contact

<sup>4)</sup> 2 remote potentiometer connections

<sup>5)</sup> Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Symmetrical ON- and OFF-delay, Flasher starting with ON or OFF, Star-delta change-over with impulse, Pulse former, Accumulative ON-delay, ON/OFF-function

<sup>6)</sup> Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Symmetrical ON- and OFF-delay, Flasher starting with ON or OFF, Pulse former, Accumulative ON-delay, ON/OFF-function

<sup>7)</sup> Functions: Select function via DIP switches behind the marker label on the front of the unit, asymmetrical ON- and OFF-delay, Impulse-ON/OFF, Pulse generator starting with ON or OFF, Single pulse generator, ON/OFF-function

<sup>8)</sup> Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Symmetrical ON- and OFF-delay, Flasher starting with ON, Flasher starting with OFF, Star-delta change-over with impulse, Pulse former, ON/OFF-function

<sup>9)</sup> Functions: Flasher starting with ON, Flasher starting with OFF, Impulse-ON, ON-delay, fixed impulse with adjustable time delay, Adjustable impulse with fixed time delay, ON/OFF-function

## Electronic Timers

### 9.3 CT-S Range



CT-ERS.21P

Timing Function	Rated Control Supply Voltage	Time Ranges	Control Input	Output	Type	Order Code
ON-delay	24-240 V AC/DC	10 (0.05 s - 300 h)	□	2 c/o	CT-ERS.21S <sup>1)</sup>	1SVR730100R0300
					CT-ERS.21P <sup>1)</sup>	1SVR740100R0300
	24-48 V DC, 24-240 V AC			CT-ERS.22S	1SVR730100R3300	
				CT-ERS.22P	1SVR740100R3300	
OFF-delay	24-240 V AC/DC	10 (0.05 s - 300 h)	■	2 c/o	CT-APS.21S <sup>1)</sup>	1SVR730180R0300
					CT-APS.21P <sup>1)</sup>	1SVR740180R0300
	24-48 V DC, 24-240 V AC			CT-APS.22S	1SVR730180R3300	
				CT-APS.22P	1SVR740180R3300	
OFF-delay <sup>5)</sup>	24-240 V AC/DC	7 (0.05 s - 10 min)	■	1 c/o	CT-APS.12S	1SVR730180R3100
					CT-APS.12P	1SVR740180R3100
	24-48 V DC, 24-240 V AC			CT-AHS.22S	1SVR730110R3300	
				CT-AHS.22P	1SVR740110R3300	
Star-delta change-over <sup>6)</sup>	24-48 V DC, 24-240 V AC	7 (0.05 s - 10 min)	□	2 c/o	CT-ARS.11S	1SVR730120R3100
					CT-ARS.11P	1SVR740120R3100
	380-440 V AC			CT-ARS.21S	1SVR730120R3300	
				CT-ARS.21P	1SVR740120R3300	
Star-delta change-over <sup>6)</sup>	24-48 V DC, 24-240 V AC	7 (0.05 s - 10 min)	□	2 n/o	CT-SDS.22S	1SVR730210R3300
					CT-SDS.22P	1SVR740210R3300
	380-440 V AC			CT-SDS.23S	1SVR730211R2300	
				CT-SDS.23P	1SVR740211R2300	

S: screw connection P: push-in / easy connect

<sup>1)</sup> Extended temperature range -40 °C

<sup>2)</sup> Remote potentiometer connection

<sup>3)</sup> 2nd c/o contact selectable as instantaneous contact

<sup>4)</sup> 2 remote potentiometer connections

<sup>5)</sup> Without auxiliary voltage

<sup>6)</sup> 50 ms transition time

<sup>7)</sup> For DC contactor coils

<sup>8)</sup> With gold-plated contacts

■ Control input with voltage-related triggering  
□ no triggering

## Electronic Timers

### 9.4 Alternating Relay CT-PAC.22



#### Description

The alternating relay CT-PAC.22 is designed to evenly use the electromechanical resource of a twin pump, dual compressors and generators. The alternating relay has two normally open contacts. When the control supply voltage is applied to A1-A2 terminals, one of the normally open contacts remains open, whereas the other closes and maintains its respective positions until the control supply voltage is disconnected. Once connected again, the position of the relay contacts alternates and continues to do so for every power cycle.

Rated Control Supply Voltage	Type	Order Code
24-240 V AC	CT-PAC.22	1SVR508180R0100
24-48 V DC		

# Measuring and Monitoring Relays

## 9.5 Single-phase Current Monitoring Relays



CM-SRS.22S

### Description

- Monitoring of DC and AC currents: 3mA-15A
- Overcurrent and undercurrent monitoring
- 2 different terminal versions
- screw connection (double chamber cage)
- push in terminals (completely tool-free easy connect)

Rated Control Supply Voltage	Measuring Range	Function	Tripping delay T <sub>v</sub>	Type	Order Code
24-240 V AC/DC					1SVR730840R0200
110-130 V AC				CM-SRS.11S	1SVR730841R0200
220-240 V AC	3-30 mA	<input checked="" type="checkbox"/>	without		1SVR730841R1200
24-240 V AC/DC	10-100 mA 0.1-1 A	<input checked="" type="checkbox"/>			1SVR740840R0200
110-130 V AC				CM-SRS.11P	1SVR740841R0200
220-240 V AC					1SVR740841R1200
24-240 V AC/DC					1SVR730840R0300
110-130 V AC	0.3-1.5 A	<input checked="" type="checkbox"/>	without	CM-SRS.12S	1SVR730841R0300
220-240 V AC	1-5 A 3-15 A	<input checked="" type="checkbox"/>			1SVR730841R1300
24-240 V AC/DC					1SVR730840R0400
110-130 V AC				CM-SRS.21S	1SVR730841R0400
220-240 V AC	3-30 mA	<input checked="" type="checkbox"/>	adjustable 0 or 0.1-30 s		1SVR730841R1400
24-240 V AC/DC	10-100 mA 0.1-1 A	<input checked="" type="checkbox"/>			1SVR740840R0400
110-130 V AC				CM-SRS.21P	1SVR740841R0400
220-240 V AC					1SVR740841R1400
24-240 V AC/DC					1SVR730840R0500
110-130 V AC	0.3-1.5 A	<input checked="" type="checkbox"/>	adjustable 0 or 0.1-30 s	CM-SRS.22S	1SVR730841R0500
220-240 V AC	1-5 A 3-15 A	<input checked="" type="checkbox"/>			1SVR730841R1500
24-240 V AC/DC	3-30 mA	<input checked="" type="checkbox"/>	adjustable 0 or 0.1-30 s	CM-SRS.M1S	1SVR730840R0600
	10-100 mA 0.1-1 A	<input checked="" type="checkbox"/>		CM-SRS.M1P	1SVR740840R0600
24-240 V AC/DC	0.3-1.5 A	<input type="checkbox"/>	adjustable 0 or 0.1-30 s	CM-SRS.M2S	1SVR730840R0700
	1-5 A 3-15 A	<input type="checkbox"/>			
24-240 V AC/DC	3-30 mA	<input checked="" type="checkbox"/>	adjustable 0 or 0.1-30 s	CM-SFS.21S	1SVR730760R0400
	10-100 mA 0.1-1 A	<input checked="" type="checkbox"/>		CM-SFS.21P	1SVR740760R0400
24-240 V AC/DC	0.3-1.5 A	<input checked="" type="checkbox"/>	adjustable 0 or 0.1-30 s	CM-SFS.22S	1SVR730760R0500
	1-5 A 3-15 A	<input checked="" type="checkbox"/>			

S: SCREW CONNECTION; P: PUSH-IN

- Overcurrent monitoring
- Undercurrent monitoring
- Without latching
- With latching
- 1x2 c/o (SPDT) contacts
- 2x1 c/o (SPDT) contact



# Measuring and Monitoring Relays

## 9.5 Single-phase Voltage Monitoring Relays



CM-ESS.MP

### Description

- Monitoring of DC and AC voltages: 3-600V
- Overvoltage and undervoltage monitoring
- 4 measuring ranges:  
3-30V; 6-60V; 30-300V; 60-600V

Rated Control Supply Voltage	Measuring Range	Function	Tripping delay $T_V$	Type	Order Code
24-240 V AC/DC					1SVR730830R0300
110-130 V AC				CM-ESS.1S	1SVR730831R0300
220-240 V AC	3-30 V	<input checked="" type="checkbox"/>	without		1SVR730831R1300
24-240 V AC/DC	6-60 V	<input checked="" type="checkbox"/>			1SVR740830R0300
110-130 V AC	30-300 V	<input checked="" type="checkbox"/>			1SVR740831R0300
220-240 V AC	60-600 V	<input checked="" type="checkbox"/>			1SVR740831R1300
24-240 V AC/DC					1SVR730830R0400
110-130 V AC				CM-ESS.2S	1SVR730831R0400
220-240 V AC	3-30 V	<input checked="" type="checkbox"/>	adjustable 0 or 0.1-30 s		1SVR730831R1400
24-240 V AC/DC	6-60 V	<input checked="" type="checkbox"/>			1SVR740830R0400
110-130 V AC	30-300 V	<input checked="" type="checkbox"/>			1SVR740831R0400
220-240 V AC	60-600 V	<input checked="" type="checkbox"/>			1SVR740831R1400
24-240 V AC/DC	3-30 V	<input checked="" type="checkbox"/>	adjustable 0 or 0.1-30 s	CM-ESS.MS	1SVR730830R0500
	6-60 V	<input checked="" type="checkbox"/>		CM-ESS.MP	1SVR740830R0500
	30-300 V	<input checked="" type="checkbox"/>			
	60-600 V	<input checked="" type="checkbox"/>			
24-240 V AC/DC	3-30 V	<input checked="" type="checkbox"/>	adjustable 0 or 0.1-30 s	CM-EFS.2S	1SVR730750R0400
	6-60 V	<input checked="" type="checkbox"/>		CM-EFS.2P	1SVR740750R0400
	30-300 V	<input checked="" type="checkbox"/>			
	60-600 V	<input checked="" type="checkbox"/>			

**S:** SCREW CONNECTION; **P:** PUSH-IN

- Overcurrent monitoring
- Undercurrent monitoring
- Without latching
- With latching
- 1x2 c/o (SPDT) contacts
- 2x1 c/o (SPDT) contact

# Measuring and Monitoring Relays

## 9.6 Three-phase monitoring relays



CM-PBE

### Description

- Phase failure detection
- Phase sequence monitoring
- Phase unbalance monitoring
- Overvoltage and undervoltage monitoring

### Single Function

Rated Control Supply Voltage = Measuring Voltage	Monitoring Function	Neutral Monitoring	Type	Order Code
3x380-440 V AC, 220-240 V AC	Phase failure detection (Single- and three-phase)	■	CM-PBE <sup>1)</sup>	1SVR550881R9400
			CM-PBE	1SVR550882R9500
3x320-460 V AC, 185-265 V AC	Over- / under-voltage and phase failure detection (Single- and three-phase)	■	CM-PVE <sup>1)</sup>	1SVR550870R9400
			CM-PVE	1SVR550871R9500
3x208-440 V AC	Phase sequence monitoring and phase failure detection (Three-phase)		CM-PFE <sup>2)</sup>	1SVR550824R9100



CM-PAS.31P

### Single Function

Rated Control Supply Voltage = Measuring Voltage	Monitoring Function	Type	Order Code
3x200-500 V AC	Phase sequence monitoring and phase failure detection (Three-phase)	CM-PFS.S	1SVR730824R9300
		CM-PFS.P	1SVR740824R9300
3x380 V AC	Over- / undervoltage with fixed threshold values $\pm 10\%$	CM-PSS.31S	1SVR730784R2300
		CM-PSS.31P	1SVR740784R2300
3x400 V AC	Over- / undervoltage with fixed threshold values $\pm 10\%$	CM-PSS.41S	1SVR740784R3300
		CM-PSS.41P	1SVR730784R3300
3x160-300 V AC	Over- and undervoltage with adjustable threshold values (Three-phase)	CM-PVS.31S	1SVR730794R1300
		CM-PVS.31P	1SVR740794R1300
3x300-500 V AC	Over- and undervoltage with adjustable threshold values (Three-phase)	CM-PVS.41S	1SVR730794R3300
		CM-PVS.41P	1SVR740794R3300
3x200-400 V AC	Over- and undervoltage with adjustable threshold values (Three-phase)	CM-PVS.81S	1SVR730794R2300
		CM-PVS.81P	1SVR740794R2300
3x160-300 V AC	Phase unbalance (Three-phase)	CM-PAS.31S	1SVR730774R1300
		CM-PAS.31P	1SVR740774R1300
3x300-500 V AC	Phase unbalance (Three-phase)	CM-PAS.41S	1SVR730774R3300
		CM-PAS.41P	1SVR740774R3300

**S:** SCREW CONNECTION; **P:** PUSH-IN

<sup>1)</sup> The version with neutral monitoring is also suitable for monitoring single-phase mains. For this, all three external conductors (L1,L2,L3) have to be jumpered and connected as one single conductor.

<sup>2)</sup> For applications where a reverse fed voltage >60% is expected, we recommend to use our three-phase monitoring relays for unbalanced loads CM-PAS.

# Measuring and Monitoring Relays

## 9.6 Three-phase monitoring relays



CM-MPN.52P

### Multifunctional

Rated Control Supply Voltage = Measuring Voltage	DIP Switch	Monitoring Function	Neutral Monitoring	Type	Order Code	
90-170 V AC		Multifunctional (Three-phase phase failure detection, Phase sequence monitoring, overvoltage, undervoltage, Phase unbalance)	■	CM-MPS.11S	1SVR730885R1300	
				CM-MPS.11P	1SVR740885R1300	
				CM-MPS.21S	1SVR730885R3300	
				CM-MPS.21P	1SVR740885R3300	
				CM-MPS.31S	1SVR730884R1300	
				CM-MPS.31P	1SVR740884R1300	
180-280 V AC	☒	Multifunctional(Three-phase phase failure detection, Phasesequence monitoring, overvoltage, undervoltage, Phase unbalance)	■	CM-MPS.41S	1SVR730884R3300	
	■			CM-MPS.41P	1SVR740884R3300	
3x160-300 V AC	☐				CM-MPS.23S	1SVR730885R4300
	☐				CM-MPS.23P	1SVR740885R4300
3x300-500 V AC	☐				CM-MPS.43S	1SVR730884R4300
	☐				CM-MPS.43P	1SVR740884R4300
3x300-500 V AC	☐	Multifunctional(Three-phase phase failure detection, Phasesequence monitoring, overvoltage, undervoltage, Phase unbalance)		CM-MPN.52S	1SVR750487R8300	
	■			CM-MPN.52P	1SVR760487R8300	
	☐			CM-MPN.62S	1SVR750488R8300	
	☐			CM-MPN.62P	1SVR760488R8300	
3x450-720 V AC	☐			CM-MPN.72S	1SVR750489R8300	
	☐			CM-MPN.72P	1SVR760489R8300	

**S:** screw connection **P:** push-in / easy connect

- ☒ ON-delayed
- OFF-delayed
- ☐ Phase sequence monitoring activated
- ☐ Phase sequence monitoring deactivated
- ☐ Phase sequence correction activated
- ☐ Phase sequence correction deactivated
- ☐ 2x1 c/o (SPDT) contacts
- ☐ 1x2 c/o (SPDT) contacts

## Grid feeding monitoring relays

### 9.7 Voltage and frequency monitoring functions



#### Application

The multifunctional grid feeding monitoring relays are designed to monitor several grid parameters when feeding energy into the public grid.

The intention is to trip a section switch which is connected between the distributed generation and the public grid in order to disconnect the distributed generation in case of problems (e.g. unstable grid), faults or maintenance on the grid.

#### Description

- Monitoring of voltage and frequency in single and three-phase mains 2-wire, 3-wire or 4-wire
- Overvoltage and undervoltage monitoring, 10 minutes average value
- Over frequency and under frequency monitoring, 10 minutes average value
- Interrupted neutral detection
- 3 control inputs for remote trip, feedback signal and external signal
- LEDs for the indication of operational states

#### Characteristics of CM-UFD.M22

- Rate of change of frequency monitoring (ROCOF)

#### Characteristics of CM-UFD.M31

- Rate of change of frequency monitoring (ROCOF)
- Vector shift detection

#### Characteristics of CM-UFD.M33

- Rate of change of frequency monitoring (ROCOF)
- Vector shift detection
- Default setting according to G59/3; G83/2 standard

#### Characteristics of CM-UFD.M34M

- Rate of change of frequency monitoring (ROCOF)
- Vector shift detection
- Default settings in accordance with the DRRG standard of DEWA
- Modbus RTU communication interface

#### Ordering details

Rated control supply voltage = measuring voltage	Standard	Type	Order code
24-240 V AC/DC	CEI 0-21: 2014-09 + CEI 0-21, V1: 2014-1	CM-UFD.M22	1SVR560730R3400
24-240 V AC/DC	VDE-AR-N 4105 and BDEW	CM-UFD.M31	1SVR560730R3401
24-240 V AC/DC	G59/3; G83/2	CM-UFD.M33	1SVR560730R3402
24-240 V AC/DC	CEI 0-21	CM-UFD.M22M with Modbus RTU	1SVR560731R3700
24-240 V AC/DC	VDE-AR-N 4105	CM-UFD.M31M with Modbus RTU	1SVR560731R3701
24-240 V AC/DC	G59/3; G83/2	CM-UFD.M33M with Modbus RTU	1SVR560731R3702
24-240 V AC/DC	DRRG standard of DEWA	CM-UFD.M34M with Modbus RTU	1SVR560731R3703

■ Prices on request (POR). Please contact ABB.

## Measuring and Monitoring Relays

### 9.8 Insulation monitoring relays



CM-IWS.1

#### Description

- For monitoring the insulation resistance of unearthed IT systems up 400V AC and 600V DC.
- CM-IWN.4.5.6: specifically for applications with high system leakage capacitances, for example in photovoltaic environments
- 1 or 2 measuring ranges (1-100kΩ or 2-200kΩ)
- 3 LEDs for status indication

Rated control supply voltage = measuring voltage	Nominal voltage $U_n$ of the	System leakage capacitance, max	Adjustment range of the specified response value $R_{an}$ (threshold)	Type	Order code
	0-250 V AC / 0-300 V DC	10 $\mu$ F	1-100 k $\Omega$	CM-IWS.1S	1SVR730660R0100
				CM-IWS.1P	1SVR740660R0100
24-240 V AC/DC	0-400 V AC	10 $\mu$ F	1-100 k $\Omega$	CM-IWS.2S	1SVR730670R0200
				CM-IWS.2P	1SVR740670R0200
	0-400 V AC / 0-600 V DC	20 $\mu$ F	1-100 k $\Omega$	CM-IWN.1S	1SVR750660R0200
				CM-IWN.1P	1SVR760660R0200

# Thermistor motor protection relays

## 9.9 Ordering details



CM-MSS.12S

### Description

The thermistor motor protection relay CM-MSS monitors the winding temperature and thus protects the motor from overheating, overload and insufficient cooling in accordance to the product standard IEC 60947-8.

### Ordering details CM-MSx

Characteristics	Type	Order code
	CM-MSE	1SVR550805R9300
	CM-MSE	1SVR550800R9300
	CM-MSE	1SVR550801R9300
	CM-MSS.11P	1SVR740720R1400
	CM-MSS.11S	1SVR730720R1400
	CM-MSS.12P	1SVR740700R0100
	CM-MSS.12S	1SVR730700R0100
	CM-MSS.13P	1SVR740700R2100
	CM-MSS.13S	1SVR730700R2100
	CM-MSS.21P	1SVR740722R1400
	CM-MSS.21S	1SVR730722R1400
	CM-MSS.22P	1SVR740700R0200
	CM-MSS.22S	1SVR730700R0200
	CM-MSS.23P	1SVR740700R2200
	CM-MSS.23S	1SVR730700R2200
	CM-MSS.31P	1SVR740712R1400
	CM-MSS.31S	1SVR730712R1400
	CM-MSS.32P	1SVR740712R0200
	CM-MSS.32S	1SVR730712R0200
	CM-MSS.33P	1SVR740712R2200
	CM-MSS.33S	1SVR730712R2200
	CM-MSS.41P	1SVR740712R1200
	CM-MSS.41S	1SVR730712R1200
	CM-MSS.51P	1SVR740712R1300
	CM-MSS.51S	1SVR730712R1300

See "Selection table CM-MSx range" on page 14

S: screw connection P: push-in connection

### Ordering details CM-MSS accessories



C011-70

Rated response temperature $T_{NF}$	Color coding	Type	Order code
70 °C	white-brown	C011-70 <sup>1)</sup>	GHC0110003R0001
80 °C	white-white	C011-80 <sup>1)</sup>	GHC0110003R0002
90 °C	green-green	C011-90 <sup>1)</sup>	GHC0110003R0003
100 °C	red-red	C011-100 <sup>1)</sup>	GHC0110003R0004
110 °C	brown-brown	C011-110 <sup>1)</sup>	GHC0110003R0005
120 °C	gray-gray	C011-120 <sup>1)</sup>	GHC0110003R0006
130 °C	blue-blue	C011-130 <sup>1)</sup>	GHC0110003R0007
140 °C	white-blue	C011-140 <sup>1)</sup>	GHC0110003R0011
150 °C	black-black	C011-150 <sup>1)</sup>	GHC0110003R0008
160 °C	blue-red	C011-160 <sup>1)</sup>	GHC0110003R0009
170 °C	white-green	C011-170 <sup>1)</sup>	GHC0110003R0010
150 °C	black-black	C011-3-150 <sup>2)</sup>	GHC0110033R0008

<sup>1)</sup> Temperature sensor C011, standard version acc. to DIN 44081

<sup>2)</sup> Triple temperature sensor C011-3

# Temperature monitoring relays

## 9.10 Ordering details



CM-TCS

### Description

The temperature monitoring relays of CM-TCS and C51x range are able to measure temperatures of solids, liquids and gaseous media using different types of sensors. Overtemperature and undertemperature monitoring as well as open- or closed-circuit principle is configurable for all devices. As soon as the temperature falls below or exceeds the set threshold value the output relays change their positions according to the configured functionality and the front-face LED's display the current status.

### Ordering details - Temperature monitoring relays CM-TCS

Rated control supply voltage	Measuring range	Temperature sensors	Type	Order code
24-240 V AC/DC	-50...+50 °C	PT100	CM-TCS.11S	1SVR730740R0100
			CM-TCS.11P	1SVR740740R0100
	0...+100 °C		CM-TCS.12S	1SVR730740R0200
			CM-TCS.12P	1SVR740740R0200
	0...+200 °C		CM-TCS.13S	1SVR730740R0300
			CM-TCS.13P	1SVR740740R0300
24 V AC/DC	-50...+50 °C	CM-TCS.21S	1SVR730740R9100	
		CM-TCS.21P	1SVR740740R9100	
	0...+100 °C	CM-TCS.22S	1SVR730740R9200	
		CM-TCS.22P	1SVR740740R9200	
	0...+200 °C	CM-TCS.23S	1SVR730740R9300	
		CM-TCS.23P	1SVR740740R9300	

S: screw connection P: push-in connection



### Description

The temperature monitoring relays CM-TCN are able to measure temperatures of solids, liquids and gaseous media within up to three sensor circuits using different types of sensors, such as PT100, PT1000, PTC or NTC within the same time. Different types of sensors, e.g. PT100 and PTC sensors, can be monitored simultaneously. The temperature is obtained by the sensors in the medium, evaluated by the device and monitored to determine whether it is within an operating range (range monitoring function) or has exceeded or fallen below a threshold. Depending on the parametrization, up to three output relays signalize the changes in the measuring circuits.

### Ordering details - Smart temperature monitoring relays CM-TCN

Rated control supply voltage	Display & NFC	Temperature sensors	Type	Order code
24-240 V AC/DC	Yes	PT100, PTC, PT1000, NTC	CM-TCN.011S	1SVR750740R0110
			CM-TCN.011P	1SVR740740R0100

S: screw connection P: push-in connection

## Liquid level monitors and controls

### 9.11 Ordering details



CM-ENE MIN

#### Description

The liquid level monitoring relay CM-ENS monitors and controls the liquid level and ratios of mixtures of conductive fluids. It is used for filling and draining applications, to protect pumps against dry-running, tanks against overflow and for signalization of the status of the monitored liquid level.

#### Liquid level monitoring relays are

Suitable for		Not suitable for	
spring water	acids, bases	chemically pure water	ethylene glycol
drinking water	liquid fertilizers	fuel	concentrated alcohol
sea water	milk, beer, coffee	oils	paraffin
sewage	non-concentrated alcohol	explosive areas (liquid gas)	lacquers

#### Ordering details

Characteristics	Type	Order code
See "Selection" on page 18	CM-ENE MIN	1SVR550855R9500
		1SVR550850R9500
		1SVR550851R9500
	CM-ENE MAX	1SVR550855R9400
		1SVR550850R9400
		1SVR550851R9400



CM-ENS.11S

#### Ordering details

Characteristics	Type	Order code
See "Selection" on page 18	CM-ENS.11S	1SVR730850R0100
	CM-ENS.11P	1SVR730850R2100
	CM-ENS.13S	1SVR740850R0100
	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

S: screw connection P: push-in connection

#### Ordering details - Bar electrodes

Description	Material no.	Type	Order code
Compact support for 3 bar electrodes		CM-KH-3	1SVR450056R6000
Distance plate for 3 bar electrodes	-	CM-AH-3	1SVR450056R7000
Counter nut for 1" thread		CM-GM-1	1SVR450056R8000
Length: 300 mm	1.4301	CM-SE-300	1SVR450056R0000
Length: 600 mm	1.4301	CM-SE-600	1SVR450056R0100
Length: 1000 mm	1.4301	CM-SE-1000	1SVR450056R0200

#### Ordering details - Suspension electrodes

Description	Material no.	Type	Order code
CM-HE suspension electrode	1.4104	CM-HE	1SVR402902R0000
CM-HC suspension electrode	1.4104	CM-HC	1SVR402902R1000
CM-HCT suspension electrode suitable for drink water	1.4301	CM-HCT	1SVR402902R2000



## Monitoring Relays

### 9.12 CM-CT current transformers

#### Plug-in current transformers CM-CT

- Without primary conductor though with foot angle, insulating protective cap and bar fastening screws
- Primary / rated current from 50 A to 600 A
- Secondary current of 1 A to 5 A
- Class 1

#### Ordering details



CM-CT



CM-CT with  
mounted  
accessories

Rated Primary Current	Secondary Current	Burden Class	Type	Order Code
50 A	1 A	1 VA / 1	CM-CT 50/1	1SVR450116R1000
75 A		1.5 VA / 1	CM-CT 75/1	1SVR450116R1100
100 A		2.5 VA / 1	CM-CT 100/1	1SVR450116R1200
150 A		2.5 VA / 1	CM-CT 150/1	1SVR450116R1300
200 A		2.5 VA / 1	CM-CT 200/1	1SVR450116R1400
300 A		5 VA / 1	CM-CT 300/1	1SVR450117R1100
400 A		5 VA / 1	CM-CT 400/1	1SVR450117R1200
500 A		5 VA / 1	CM-CT 500/1	1SVR450117R1300
600 A		5 VA / 1	CM-CT 600/1	1SVR450117R1400
50 A		5 A	1 VA / 1	CM-CT 50/5
75 A	1.5 VA / 1		CM-CT 75/5	1SVR450116R5100
100 A	2.5 VA / 1		CM-CT 100/5	1SVR450116R5200
150 A	2.5 VA / 1		CM-CT 150/5	1SVR450116R5300
200 A	5 VA / 1		CM-CT 200/5	1SVR450116R5400
300 A	5 VA / 1		CM-CT 300/5	1SVR450117R5100
400 A	5 VA / 1		CM-CT 400/5	1SVR450117R5200
500 A	5 VA / 1		CM-CT 500/5	1SVR450117R5300
600 A	5 VA / 1		CM-CT 600/5	1SVR450117R5400

## Primary Switch Mode Power Supplies

### 9.13 CP-D range

#### Description

The CP-D range of modular power supply units in MDRC design (modular DIN rail components) is ideally suited for installation in distribution panels. This range offers devices with output voltages of 12 V DC and 24 V DC at output currents of 0.42 A to 4.2 A.



CP-D 24/2.5

Input voltage (V)		Rated output		Type	Order code
AC	DC	Voltage	Current		
90-264	120-375	12VDC	0.83A	CP-D 12/0.83	1SVR427041R1000
90-264	120-375	12VDC	2.1A	CP-D 12/2.1	1SVR427043R1200
90-264	120-375	24VDC	0.42A	CP-D 24/0.42	1SVR427041R0000
90-264	120-375	24VDC	1.3A	CP-D 24/1.3	1SVR427043R0100
90-264	120-375	24VDC	2.5A	CP-D 24/2.5	1SVR427044R0200
90-264	120-375	24VDC	4.2A	CP-D 24/4.2	1SVR427045R0400

## Primary Switch Mode Power Supplies

### 9.14 CP-E < 100W

#### Description

This range offers types with output voltages from 5 V DC to 48 V DC at output currents of 0.625 A to 20 A. The high thermal efficiency of up to 90 %, corresponding to very low power and heat dissipation, allows operation without forced cooling.



CP-E 12/2.5

Input voltage (V)		Rated output		Type	Order code
AC	DC	Voltage	Current		
90-264	120-375	5VDC	3A	CP-E 5/3.0	1SVR427033R3000
85-264	90-375	12VDC	2.5A	CP-E 12/2.5	1SVR427032R1000
90-132 ; 180-264	210-375	12VDC	10A	CP-E 12/10.0	1SVR427035R1000
90-264	120-375	24VDC	0.75A	CP-E 24/0.75	1SVR427030R0000
85-264	90-375	24VDC	1.25A	CP-E 24/1.25	1SVR427031R0000
85-264	90-375	24VDC	2.5A	CP-E 24/2.5	1SVR427032R0000

## Primary Switch Mode Power Supplies

### 9.14 CP-E > 100W



CP-E 48.10.0

Input voltage (V)		Rated output		Type	Order code
AC	DC	Voltage	Current		
90-132 ; 180-264	210-375	24VDC	5A	CP-E 24/5.0	1SVR427034R0000
90-132 ; 180-264	210-375	24VDC	10A	CP-E 24/10.0	1SVR427035R0000
90-264	120-375	24VDC	20A	CP-E 24/20.0	1SVR427036R0000
85-264	90-375	48VDC	0.625A	CP-E 48/0.62	1SVR427030R2000
85-264	90-375	48VDC	1.25A	CP-E 48/1.25	1SVR427031R2000
90-132 ; 180-264	210-375	48VDC	5A	CP-E 48/5.0	1SVR427034R2000
90-264	120-375	48VDC	10A	CP-E 48/10.0	1SVR427035R2000

## Primary Switch Mode Power Supplies

### 9.15 CP-T Range



CP-T 24/10.0,  
CP-T 48/5.0

#### Description

The CP-T range of three-phase power supply units are designed for an ambient temperature of up to 70°C and efficiency of up to 92%.

Input voltage (V)		Rated output		Type	Order code
AC	DC	Voltage	Current		
340-575	480-820	24VDC	5A	CP-T 24/5.0	1SVR427054R0000
340-575	480-820	24VDC	10A	CP-T 24/10.0	1SVR427055R0000
340-575	480-820	24VDC	20A	CP-T 24/20.0	1SVR427056R0000
340-575	480-820	24VDC	40A	CP-T 24/40.0	1SVR427057R0000
340-575	480-820	48VDC	5A	CP-T 48/5.0	1SVR427054R2000
340-575	480-820	48VDC	10A	CP-T 48/10.0	1SVR427055R2000
340-575	480-820	48VDC	20A	CP-T 48/20.0	1SVR427056R2000

## Primary Switch Mode Power Supplies

### 9.16 CP-C.1 Range



CP-C.1 24/5.0



CP-C.1 24/5.0-L

#### Description

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 industrial applications. These power supplies have up to 50 % integrated power reserve and operate at an efficiency of up to 94 %. They are equipped with overheat protection and active power factor correction. Combined with a broad AC and DC input range and extensive worldwide approvals, the CP-C.1 power supplies are the DC application preferred choice for professional

Input voltage (V)		Rated output		Colour	Type	Order code
AC	DC	Voltage	Current			
85-264 V	90-300 V	24 V DC	5 A	dark grey	CP-C.1 24/5.0	1SVR360563R1001
85-264 V	90-300 V	24 V DC	10 A	dark grey	CP-C.1 24/10.0	1SVR360663R1001
85-264 V	90-300 V	24 V DC	20 A	dark grey	CP-C.1 24/20.0	1SVR360763R1001
85-264 V	90-300 V	24 V DC	5 A	light grey	CP-C.1 24/5.0-L	1SVR361563R1001
85-264 V	90-300 V	24 V DC	10 A	light grey	CP-C.1 24/10.0-L	1SVR361663R1001
85-264 V	90-300 V	24 V DC	20 A	light grey	CP-C.1 24/20.0-L	1SVR361763R1001

## Primary Switch Mode Power Supplies

### 9.17 CP-S.1 Range



CP-S.1 24/5.0



CP-S.1 24/20.0

#### Description

CP-S.1 power supplies deliver high efficiency and reliability in a compact footprint. Designed for a huge variety of applications, including machine building segments, this advanced range boasts 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.

Input voltage (V)		Rated output		Output Power	Type	Order code
AC	DC	Voltage	Current			
100-240 V	100-250 V	24 V DC	3.0 A	72 W	CP-S.1 24/3.0	1SVR320361R1000
100-240 V	100-250 V	24 V DC	5.0 A	120 W	CP-S.1 24/5.0	1SVR320561R1000
100-240 V	100-250 V	24 V DC	10.0 A	240 W	CP-S.1 24/10.0	1SVR320661R1000
100-240 V	100-250 V	24 V DC	20.0 A	480 W	CP-S.1 24/20.0	1SVR320761R1000
110-240 V	110-250 V	24 V DC	40.0 A	960 W	CP-S.1 24/40.0	1SVR320861R1000
	10 - 56 V	12 - 48 V DC	2 x 20 A or 1 x 40 A	-	CP-C.1-A-RU	1SVR360060R1001

## Pluggable interface relays

### 9.18 Ordering details - CR-S range



CR-S Interface relay

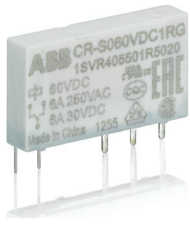
#### Ordering details - CR-S range pluggable interface relays

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
5 V DC	1 c/o (SPDT) standard contacts	250 V, 6 A	CR-S005VDC1R	1SVR405501R1010
12 V DC			CR-S012VDC1R	1SVR405501R2010
24 V DC			CR-S024VDC1R	1SVR405501R3010
48 V DC			CR-S048VDC1R	1SVR405501R4010
60 V DC			CR-S060VDC1R	1SVR405501R5010
5 V DC	1 c/o (SPDT) gold plated contacts	12 V, 250 mA (3W) <sup>1)</sup>	CR-S005VDC1RG	1SVR405501R1020
12 V DC			CR-S012VDC1RG	1SVR405501R2020
24 V DC			CR-S024VDC1RG	1SVR405501R3020
48 V DC			CR-S048VDC1RG	1SVR405501R4020
60 V DC			CR-S060VDC1RG	1SVR405501R5020

#### Ordering details - CR-S range pluggable optocoupler

Rated control supply voltage	Outputs	Type	Order code
24 V DC	Transistor, 100 mA - 48 V DC	CR-S024VDC1TRA	1SVR405510R3050
	MOS-FET, 2 A - 24 V DC	CR-S024VDC1MOS	1SVR405510R3060
	Triac, 2 A - 240 V AC	CR-S024VDC1TRI	1SVR405510R3070

S = screw connection type Z = spring connection type



CR-S060VDC1RG

#### Ordering details - CR-S range complete interface relays (relay + socket)

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
24 V AC/DC	1 c/o (SPDT) standard contacts	250 V, 6 A	CR-S024VADC1CRS	1SVR405541R3110
			CR-S024VADC1CRZ	1SVR405541R3210
110 V AC/DC			CR-S110VADC1CRS	1SVR405541R6110
			CR-S110VADC1CRZ	1SVR405541R6210
230 V AC/DC			CR-S230VADC1CRS	1SVR405541R7110
			CR-S230VADC1CRZ	1SVR405541R7210
24 V AC/DC	1 c/o (SPDT) gold plated contacts	12 V, 250 mA (3W) <sup>1)</sup>	CR-S024VADC1CRGS	1SVR405541R3120
			CR-S024VADC1CRGZ	1SVR405541R3220
110 V AC/DC			CR-S110VADC1CRGS	1SVR405541R6120
			CR-S110VADC1CRGZ	1SVR405541R6220
230 V AC/DC			CR-S230VADC1CRGS	1SVR405541R7120
			CR-S230VADC1CRGZ	1SVR405541R7220

<sup>1)</sup> If specified maximum values exceeded, the gold plating is destroyed. The maximum values of the standard contacts are then valid.

#### Ordering details - CR-S range sockets

Rated control supply voltage	Connection type	Type	Order code
6-24 V DC	Screw	CR-S006/024VDC1SS	1SVR405521R1100
	Spring	CR-S006/024VDC1SZ	1SVR405521R1200
12-24 V AC/DC	Screw	CR-S012/024VADC1SS	1SVR405521R3100
	Spring	CR-S012/024VADC1SZ	1SVR405521R3200
48-60 V AC/DC	Screw	CR-S048/060VADC1SS	1SVR405521R5100
	Spring	CR-S048/060VADC1SZ	1SVR405521R5200
110-125 V AC/DC	Screw	CR-S110/125VADC1SS	1SVR405521R6100
	Spring	CR-S110/125VADC1SZ	1SVR405521R6200
220-240 V AC/DC	Screw	CR-S220/240VADC1SS	1SVR405521R7100
	Spring	CR-S220/240VADC1SZ	1SVR405521R7200

#### Ordering details - CR-S range accessories

Version	Type	Order code
Jumper bar 20 pole, blue color	CR-SJB20-BLUE	1SVR405598R0700
Jumper bar 20 pole, red color	CR-SJB20-RED	1SVR405598R0800
Jumper bar 20 pole, black color	CR-SJB20-BLACK	1SVR405598R0900
Separator	CR-SSEP	1SVR405599R0000

## Pluggable interface relays

### 9.19 Ordering details - CR-P range



CR-P

#### Ordering details - CR-P range

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
12 V DC			CR-P012DC1	1SVR405600R4000
24 V DC			CR-P024DC1	1SVR405600R1000
48 V DC			CR-P048DC1	1SVR405600R6000
110 V DC			CR-P110DC1	1SVR405600R8000
24 V AC	1 c/o (SPDT)	250 V, 16 A	CR-P024AC1	1SVR405600R0000
48 V AC			CR-P048AC1	1SVR405600R5000
110 V AC			CR-P110AC1	1SVR405600R7000
120 V AC			CR-P120AC1	1SVR405600R2000
230 V AC			CR-P230AC1	1SVR405600R3000
12 V DC			CR-P012DC2	1SVR405601R4000
24 V DC			CR-P024DC2	1SVR405601R1000
48 V DC			CR-P048DC2	1SVR405601R6000
110 V DC			CR-P110DC2	1SVR405601R8000
24 V AC	2 c/o (SPDT)	250 V, 8 A	CR-P024AC2	1SVR405601R0000
48 V AC			CR-P048AC2	1SVR405601R5000
110 V AC			CR-P110AC2	1SVR405601R7000
120 V AC			CR-P120AC2	1SVR405601R2000
230 V AC			CR-P230AC2	1SVR405601R3000



CR-P024DC2

#### Ordering details - CR-P range with gold contacts

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
24 V DC			CR-P024DC2	1SVR405606R1000
24 V AC	2 c/o (SPDT) gold contact	250 V, 8 A	CR-P024AC2G	1SVR405606R0000
110 V AC			CR-P110AC2G	1SVR405606R7000
230 V AC			CR-P230AC2G	1SVR405606R3000



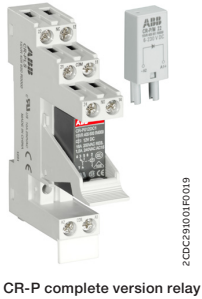
CR-PLS

#### Ordering details - Accessories

Version	Connection terminal	Type	Order code
Logical socket with protective separation	screw	CR-PLS	1SVR405650R0000
Logical socket	screw	CR-PLSx	1SVR405650R0100
	spring	CR-PLC	1SVR405650R0200
Standard socket	screw	CR-PSS	1SVR405650R1000
Plastic holder for socket		CR-PH	1SVR405659R0000
Jumper bar for sockets with screw connection		CR-PJ	1SVR405658R5000
Marker		CR-PM	1SVR405658R0000

## Pluggable interface relays

### 9.19 Ordering details - CR-P range



Ordering details - CR-P range complete version

Rated control supply voltage	Outputs	Description	Socket Type	Connection terminal	Type	Order code
12 V DC	2 c/o	Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-P012DC2SS42V*	1SVR405601R4010
		Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-P024DC2SS42V*	1SVR405601R1010
24 V DC	2 c/o	Reverse polarity protection and free-wheeling diode, LED red, Holder	logical	screw	CR-P024DC2LS42*	1SVR405601R1013
		Reverse polarity protection and free-wheeling diode, LED green, Holder	logical	screw	CR-P024DC2LS42V*	1SVR405601R1011
		Reverse polarity protection and free-wheeling diode, LED red, Holder	logical	spring	CR-P024DC2LC42*	1SVR405601R1012
24 V DC	2 c/o gold plated	Reverse polarity protection and free-wheeling diode, LED green, Holder	logical	spring	CR-P024DC2GLC42V*	1SVR405606R1010
		Varistor, LED green, Holder	logical	spring	CR-P024DC2GLC62C*	1SVR405606R1013
		Varistor, LED green, Holder	logical	spring	CR-P024DC2GLC62CV*	1SVR405606R1011
110 V DC	2 c/o	Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-P110DC2SS42CV*	1SVR405601R8010
24 V AC	2 c/o	Varistor, LED green, Holder	standard	screw	CR-P024AC2SS62CV*	1SVR405601R0010
120 V AC	2 c/o	Varistor, LED green, Holder	standard	screw	CR-P120AC2SS92CV*	1SVR405601R2010
230 V AC	2 c/o	Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-P230AC2SS92CV*	1SVR405601R3110
		Varistor, LED green, Holder	logical	screw	CR-P230AC2LS92CV*	1SVR405601R3011
		Varistor, LED red, Holder	logical	spring	CR-P230AC2LC92*	1SVR405601R3012
230 V AC	2 c/o gold plated	Varistor, LED red, Holder	logical	spring	CR-P230AC2GLC92*	1SVR405606R3013
		Varistor, LED red, Holder	logical	spring	CR-P230AC2GLC92C*	1SVR405606R3012
		Varistor, LED green, Holder	logical	spring	CR-P230AC2GLC92CV*	1SVR405606R3010

\*Contact ABB for availability. Prices on Request (POR).

## Pluggable interface relays

### 9.20 Ordering details - CR-M range



CR-M024DC2

#### Ordering details - CR-M range without LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code		
12 V DC	2 c/o (SPDT)	250 V, 12 A	CR-M012DC2	1SVR405611R4000		
24 V DC			CR-M024DC2	1SVR405611R1000		
48 V DC			CR-M048DC2	1SVR405611R6000		
60 V DC			CR-M060DC2	1SVR405611R4200		
110 V DC			CR-M110DC2	1SVR405611R8000		
125 V DC			CR-M125DC2	1SVR405611R8200		
220 V DC			CR-M220DC2	1SVR405611R9000		
24 V AC			CR-M024AC2	1SVR405611R0000		
48 V AC			CR-M048AC2	1SVR405611R5000		
110 V AC			CR-M110AC2	1SVR405611R7000		
120 V AC			CR-M120AC2	1SVR405611R2000		
230 V AC			CR-M230AC2	1SVR405611R3000		
12 V DC			3 c/o (SPDT)	250 V, 10 A	CR-M012DC3	1SVR405612R4000
24 V DC					CR-M024DC3	1SVR405612R1000
48 V DC					CR-M048DC3	1SVR405612R6000
60 V DC					CR-M060DC3	1SVR405612R4200
110 V DC					CR-M110DC3	1SVR405612R8000
125 V DC					CR-M125DC3	1SVR405612R8200
220 V DC	CR-M220DC3	1SVR405612R9000				
24 V AC	CR-M024AC3	1SVR405612R0000				
48 V AC	CR-M048AC3	1SVR405612R5000				
60 V AC	CR-M060AC3	1SVR405612R5200				
110 V AC	CR-M110AC3	1SVR405612R7000				
120 V AC	CR-M120AC3	1SVR405612R2000				
230 V AC	CR-M230AC3	1SVR405612R3000				
12 V DC	4 c/o (SPDT)	250 V, 6 A			CR-M012DC4	1SVR405613R4000
24 V DC					CR-M024DC4	1SVR405613R1000
48 V DC					CR-M048DC4	1SVR405613R6000
60 V DC					CR-M060DC4	1SVR405613R4200
110 V DC					CR-M110DC4	1SVR405613R8000
125 V DC			CR-M125DC4	1SVR405613R8200		
220 V DC			CR-M220DC4	1SVR405613R9000		
24 V AC			CR-M024AC4	1SVR405613R0000		
48 V AC			CR-M048AC4	1SVR405613R5000		
110 V AC			CR-M110AC4	1SVR405613R7000		
120 V AC			CR-M120AC4	1SVR405613R2000		
230 V AC			CR-M230AC4	1SVR405613R3000		



## Pluggable interface relays

### 9.20 Ordering details - CR-M range



CR-M with LED

#### Ordering details - CR-M range with LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code		
12 V DC	2 c/o (SPDT)	250 V, 12 A	CR-M012DC2L	1SVR405611R4100		
24 V DC			CR-M024DC2L	1SVR405611R1100		
48 V DC			CR-M048DC2L	1SVR405611R6100		
60 V DC			CR-M060DC2L	1SVR405611R4300		
110 V DC			CR-M110DC2L	1SVR405611R8100		
125 V DC			CR-M125DC2L	1SVR405611R8300		
220 V DC			CR-M220DC2L	1SVR405611R9100		
24 V AC			CR-M024AC2L	1SVR405611R0100		
48 V AC			CR-M048AC2L	1SVR405611R5100		
110 V AC			CR-M110AC2L	1SVR405611R7100		
120 V AC			CR-M120AC2L	1SVR405611R2100		
230 V AC			CR-M230AC2L	1SVR405611R3100		
12 V DC			3 c/o (SPDT)	250 V, 10 A	CR-M012DC3L	1SVR405612R4100
24 V DC					CR-M024DC3L	1SVR405612R1100
48 V DC					CR-M048DC3L	1SVR405612R6100
60 V DC					CR-M060DC3L	1SVR405612R4300
110 V DC					CR-M110DC3L	1SVR405612R8100
125 V DC					CR-M125DC3L	1SVR405612R8300
220 V DC					CR-M220DC3L	1SVR405612R9100
24 V AC	CR-M024AC3L	1SVR405612R0100				
48 V AC	CR-M048AC3L	1SVR405612R5100				
110 V AC	CR-M110AC3L	1SVR405612R7100				
120 V AC	CR-M120AC3L	1SVR405612R2100				
230 V AC	CR-M230AC3L	1SVR405612R3100				
12 V DC	4 c/o (SPDT)	250 V, 6 A			CR-M012DC4L	1SVR405613R4100
24 V DC					CR-M024DC4L	1SVR405613R1100
48 V DC					CR-M048DC4L	1SVR405613R6100
60 V DC					CR-M060DC4L	1SVR405613R4300
110 V DC					CR-M110DC4L	1SVR405613R8100
125 V DC					CR-M125DC4L	1SVR405613R8300
220 V DC					CR-M220DC4L	1SVR405613R9100
24 V AC			CR-M024AC4L	1SVR405613R0100		
48 V AC			CR-M048AC4L	1SVR405613R5100		
110 V AC			CR-M110AC4L	1SVR405613R7100		
120 V AC			CR-M120AC4L	1SVR405613R2100		
230 V AC			CR-M230AC4L	1SVR405613R3100		

#### Ordering details - CR-M range with LED and free-wheeling diode

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
24 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M024DC4LD	1SVR405614R1100

#### Ordering details - CR-M range with gold contacts

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
24 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M024DC4G	1SVR405618R1000
24 V AC			CR-M024AC4G	1SVR405618R0000
110 V AC			CR-M110AC4G	1SVR405618R7000
230 V AC			CR-M230AC4G	1SVR405618R3000

## Pluggable interface relays

### 9.20 Ordering details - CR-M range



CR-M with gold contacts and LED

#### Ordering details – CR-M range with gold contacts and LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
12 V DC	4 c/o (SPDT)	250 V / 6 A	CR-M012DC4LG	1SVR405618R4100
24 V DC			CR-M024DC4LG	1SVR405618R1100
48 V DC			CR-M048DC4LG	1SVR405618R6100
60 V DC			CR-M060DC4LG	1SVR405618R4300
110 V DC			CR-M110DC4LG	1SVR405618R8100
125 V DC			CR-M125DC4LG	1SVR405618R8300
220 V DC			CR-M220DC4LG	1SVR405618R9100
24 V AC			CR-M024AC4LG	1SVR405618R0100
48 V AC			CR-M048AC4LG	1SVR405618R5100
110 V AC			CR-M110AC4LG	1SVR405618R7100
120 V AC			CR-M120AC4LG	1SVR405618R2100
230 V AC			CR-M230AC4LG	1SVR405618R3100

#### Ordering details - Accessories

Version	Connection terminal	Type	Order code
Logical socket for 2 c/o	screw	CR-M2LS	1SVR405651R1100
Logical socket for 3 c/o		CR-M3LS	1SVR405651R2100
Logical socket for 2/4 c/o		CR-M4LS	1SVR405651R3100
Logical socket for 2 c/o		spring	CR-M2LC
Logical socket for 2/4 c/o	CR-M4LC		1SVR405651R3200
Standard socket for 2 c/o	screw	CR-M2SS	1SVR405651R1000
Standard socket for 3 c/o		CR-M3SS	1SVR405651R2000
Standard socket for 2/4 c/o		CR-M4SS	1SVR405651R3000
Standard socket for 2 c/o	fork type	CR-M2SF	1SVR405651R1300
Standard socket for 2/4 c/o		CR-M4SF	1SVR405651R3300
Plastic holder		CR-MH	1SVR405659R1000
Metal holder		CR-MH1	1SVR405659R1100
Jumper bar for sockets with screw connection		CR-MJ	1SVR405658R6000
Marker		CR-MM	1SVR405658R1000



CR-M4SS



CR-MJ

## Pluggable interface relays

### 9.20 Ordering details CR-P/M functional modules



CR-P/M ...

#### Ordering details - CR-P/M range

Rated control supply voltage	Description	Version	Type	Order code
6-220 V DC	Diode - Reverse polarity protection/free wheeling diode	A1+, A2-	CR-P/M 22	1SVR405651R0000
6-24 V DC		red, A1+, A2-	CR-P/M 42	1SVR405652R0000
		green, A1+, A2-	CR-P/M 42V	1SVR405652R1000
24-60 V DC	Diode and LED - Reverse polarity protection/free wheeling diode	red, A1+, A2-	CR-P/M 42B	1SVR405652R4000
		green, A1+, A2-	CR-P/M 42BV	1SVR405652R4100
110 V DC		red, A1+, A2-	CR-P/M 42C	1SVR405652R9000
		green, A1+, A2-	CR-P/M 42CV	1SVR405652R9100
6-24 V AC/DC			CR-P/M 52B	1SVR405653R0000
24-60 V AC/DC	Spark quenching		CR-P/M 52D	1SVR405653R4000
110 V AC/DC			CR-P/M 52C	1SVR405653R1000
6-24 V AC/DC		red, for DC A1+, A2-	CR-P/M 62	1SVR405654R0000
		green, for DC A1+, A2-	CR-P/M 62V	1SVR405654R1000
24-60 V AC/DC	Diode, LED and reverse polarity protection	red, for DC A1+, A2-	CR-P/M 62E	1SVR405654R4000
		green, for DC A1+, A2-	CR-P/M 62EV	1SVR405654R4100
110 V DC 110-230 V AC		red, for DC A1+, A2-	CR-P/M 92	1SVR405654R0100
		green, for DC A1+, A2-	CR-P/M 92V	1SVR405654R1100
6-24 V AC/DC		red, for DC A1+, A2-	CR-P/M 62C	1SVR405655R0000
		green, for DC A1+, A2-	CR-P/M 62CV	1SVR405655R1000
24-60 V AC/DC	Varistor and LED Overvoltage protection	red, for DC A1+, A2-	CR-P/M 62D	1SVR405655R4000
		green, for DC A1+, A2-	CR-P/M 62DV	1SVR405655R4100
110 V DC 110-230 V AC		red, for DC A1+, A2-	CR-P/M 92C	1SVR405655R0100
		green, for DC A1+, A2-	CR-P/M 92CV	1SVR405655R1100
24 V AC			CR-P/M 72	1SVR405656R0000
115 V AC	Overvoltage protection		CR-P/M 72A	1SVR405656R1000
230 V AC			CR-P/M 82	1SVR405656R2000

## Pluggable interface relays

### 9.20 Ordering details CR-M range

#### Ordering details - CR-M range with LED and free-wheeling diode

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
12 V DC	2 c/o (SPDT)	250 V, 6 A	CR-M012DC2LD*	1SVR405611R4400
24 V DC			CR-M024DC2LD*	1SVR405611R1400
48 V DC			CR-M048DC2LD*	1SVR405611R6400
110 V DC			CR-M110DC2LD*	1SVR405611R8400
125 V DC			CR-M125DC2LD*	1SVR405611R8500
220 V DC			CR-M220DC2LD*	1SVR405611R9400
12 V DC	3 c/o (SPDT)	250 V, 10 A	CR-M012DC3LD*	1SVR405612R4400
24 V DC			CR-M024DC3LD*	1SVR405612R1400
48 V DC			CR-M048DC3LD*	1SVR405612R6400
110 V DC			CR-M110DC3LD*	1SVR405612R8400
125 V DC			CR-M125DC3LD*	1SVR405612R8500
220 V DC			CR-M220DC3LD*	1SVR405612R9400
12 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M012DC4LD*	1SVR405613R4400
24 V DC			CR-M024DC4LD*	1SVR405614R1100
48 V DC			CR-M048DC4LD*	1SVR405613R6400
110 V DC			CR-M110DC4LD*	1SVR405613R8400
125 V DC			CR-M125DC4LD*	1SVR405613R8500
220 V DC			CR-M220DC4LD*	1SVR405613R9400

#### Ordering details - CR-M range with gold contacts

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
24 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M024DC4G*	1SVR405618R1000
24 V AC			CR-M024AC4G*	1SVR405618R0000
110 V AC			CR-M110AC4G*	1SVR405618R7000
230 V AC			CR-M230AC4G*	1SVR405618R3000

\*Contact ABB for availability. Prices on Request (POR).

## Pluggable interface relays

### 9.20 Ordering details CR-M range



CR-M complete version relay

2CDC29102R0019

#### Ordering details - CR-M range complete version

Rated control supply voltage	Outputs	Description	Socket Type	Connection terminal	Type	Order code
12 V DC	4 c/o gold plated	LED red, Holder	standard	screw	CR-M012DC4LDGSS*	1SVR405618R4410
24 V DC	4 c/o	Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-M024DC4SS42V*	1SVR405613R1010
		Reverse polarity protection and free-wheeling diode, LED green, Holder	logical	screw	CR-M024DC4LS42V*	1SVR405613R1011
		Reverse polarity protection and free-wheeling diode, LED red, Holder	logical	spring	CR-M024DC4LC42*	1SVR405613R1012
24 V DC	4 c/o gold plated	Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-M024DC4GSS42V*	1SVR405618R1011
		Varistor, LED green, Holder	logical	spring	CR-M024DC4GLC62CV*	1SVR405618R1010
		LED, free-wheeling diode, Holder	logical	spring	CR-M024DC4LGLC22*	1SVR405618R1110
24 V AC	4 c/o	LED red, free-wheeling diode, Holder	standard	screw	CR-M024DC4LDGSS*	1SVR405618R1410
		Varistor, LED green, Holder	logical	screw	CR-M024AC4LS62CV*	1SVR405613R0010
		Varistor, LED green, Holder	standard	screw	CR-M230AC4SS92CV*	1SVR405613R3110
		Varistor, LED green, Holder	logical	screw	CR-M230AC4LS92CV*	1SVR405613R3011
230 V AC	4 c/o gold plated	Diode, LED red, Holder	logical	spring	CR-M230AC4LC92*	1SVR405613R3012
		Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-M230AC4GSS42CV*	1SVR405618R3112
		LED red, Holder	logical	screw	CR-M230AC4LGLC*	1SVR405618R3110
		LED red, Holder	standard	screw	CR-M230AC4LGSS*	1SVR405618R3111

\*Contact ABB for availability. Prices on Request (POR).

## Pluggable interface relays

### 9.21 Ordering details - CR-U range



CR-U



CR-U2S

#### Ordering details - CR-U range without LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
12 V DC	2 c/o (SPDT)	250 V, 10 A	CR-U012DC2	1SVR405621R4000
24 V DC			CR-U024DC2	1SVR405621R1000
48 V DC			CR-U048DC2	1SVR405621R6000
110 V DC			CR-U110DC2	1SVR405621R8000
220 V DC			CR-U220DC2	1SVR405621R9000
24 V AC			CR-U024AC2	1SVR405621R0000
48 V AC			CR-U048AC2	1SVR405621R5000
110 V AC			CR-U110AC2	1SVR405621R7000
120 V AC			CR-U120AC2	1SVR405621R2000
230 V AC			CR-U230AC2	1SVR405621R3000
12 V DC	3 c/o (SPDT)	250 V, 10 A	CR-U012DC3	1SVR405622R4000
24 V DC			CR-U024DC3	1SVR405622R1000
48 V DC			CR-U048DC3	1SVR405622R6000
110 V DC			CR-U110DC3	1SVR405622R8000
125 V DC			CR-U125DC3	1SVR405622R8200
220 V DC			CR-U220DC3	1SVR405622R9000
24 V AC			CR-U024AC3	1SVR405622R0000
48 V AC			CR-U048AC3	1SVR405622R5000
60 V AC			CR-U060AC3	1SVR405622R5200
110 V AC			CR-U110AC3	1SVR405622R7000
120 V AC	CR-U120AC3	1SVR405622R2000		
230 V AC	CR-U230AC3	1SVR405622R3000		

#### Ordering details - CR-U range with LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
12 V DC	2 c/o (SPDT)	250 V, 10 A	CR-U012DC2L	1SVR405621R4100
24 V DC			CR-U024DC2L	1SVR405621R1100
48 V DC			CR-U048DC2L	1SVR405621R6100
110 V DC			CR-U110DC2L	1SVR405621R8100
220 V DC			CR-U220DC2L	1SVR405621R9100
24 V AC			CR-U024AC2L	1SVR405621R0100
48 V AC			CR-U048AC2L	1SVR405621R5100
110 V AC			CR-U110AC2L	1SVR405621R7100
120 V AC			CR-U120AC2L	1SVR405621R2100
230 V AC			CR-U230AC2L	1SVR405621R3100
12 V DC	3 c/o (SPDT)	250 V, 10 A	CR-U012DC3L	1SVR405622R4100
24 V DC			CR-U024DC3L	1SVR405622R1100
48 V DC			CR-U048DC3L	1SVR405622R6100
110 V DC			CR-U110DC3L	1SVR405622R8100
220 V DC			CR-U220DC3L	1SVR405622R9100
24 V AC			CR-U024AC3L	1SVR405622R0100
48 V AC			CR-U048AC3L	1SVR405622R5100
110 V AC			CR-U110AC3L	1SVR405622R7100
120 V AC			CR-U120AC3L	1SVR405622R2100
230 V AC			CR-U230AC3L	1SVR405622R3100

#### Ordering details - Accessories

Version	Type	Order code
Socket for 2 c/o and module	CR-U2S	1SVR405670R0000
Socket for 3 c/o and module	CR-U3S	1SVR405660R0000
Socket small for 2 c/o	CR-U2SM	1SVR405670R1100
Socket small for 3 c/o	CR-U3SM	1SVR405660R1100
Holder for CR-U socket	CR-UH	1SVR405669R0000

## Pluggable interface relays

### 9.21 Ordering details - CR-U range

#### Ordering details - CR-U range with LED and free-wheeling diode

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
12 V DC	2 c/o (SPDT)	250 V, 10A	CR-U012DC2LD*	1SVR405621R4400
24 V DC			CR-U024DC2LD*	1SVR405621R1400
48 V DC			CR-U048DC2LD*	1SVR405621R6400
110 V DC			CR-U110DC2LD*	1SVR405621R8400
12 V DC	3 c/o (SPDT)	250 V, 10A	CR-U012DC3LD*	1SVR405622R4400
24 V DC			CR-U024DC3LD*	1SVR405623R1100
48 V DC			CR-U048DC3LD*	1SVR405622R6400
110 V DC			CR-U110DC3LD*	1SVR405622R8400

#### Ordering details - Accessories

Version	Type	Order code
Socket for 2 c/o and module	CR-U2S*	1SVR405670R0000
Socket for 3 c/o and module	CR-U3S*	1SVR405660R0000
Socket small for 2 c/o	CR-U2SM*	1SVR405670R1100
Socket small for 3 c/o	CR-U3SM*	1SVR405660R1100
Holder for CR-U socket	CR-UH*	1SVR405669R0000

\*Contact ABB for availability. Prices on Request (POR).

## Pluggable interface relays

### 9.21 Ordering details - CR-U accessories



CR-U...



CR-U T

#### Ordering details - CR-U range

Rated control supply voltage	Description	Version	Type	Order code
6-220 V DC	Diode - Reverse polarity protection/free wheeling diode	A1+, A2-	CR-U 21	1SVR405661R0000
6-24 V DC		red, A1+, A2-	CR-U 41	1SVR405662R0000
		green, A1+, A2-	CR-U 41V	1SVR405662R1000
24-60 V DC	Diode and LED - Reverse polarity protection/free wheeling diode	red, A1+, A2-	CR-U 41B	1SVR405662R4000
		green, A1+, A2-	CR-U 41BV	1SVR405662R4100
110 V DC		red, A1+, A2-	CR-U 41C	1SVR405662R9000
		green, A1+, A2-	CR-U 41CV	1SVR405662R9100
6-24 V AC/DC			CR-U 51B	1SVR405663R0000
24-60 V AC/DC	Spark quenching		CR-U 51D	1SVR405663R4000
110 V AC/DC			CR-U 51C	1SVR405663R1000
6-24 V AC/DC		red, for DC A1+, A2-	CR-U 61	1SVR405664R0000
		green, for DC A1+, A2-	CR-U 61V	1SVR405664R1000
24-60 V AC/DC	Diode and LED	red, for DC A1+, A2-	CR-U 61E	1SVR405664R4000
		green, for DC A1+, A2-	CR-U 61EV	1SVR405664R4100
110 V DC 110-230 V AC		red, for DC A1+, A2-	CR-U 91	1SVR405664R0100
		green, for DC A1+, A2-	CR-U 91V	1SVR405664R1100
6-24 V AC/DC		red, for DC A1+, A2-	CR-U 61C	1SVR405665R0000
		green, for DC A1+, A2-	CR-U 61CV	1SVR405665R1000
24-60 V AC/DC	Varistor and LED Overvoltage protection	red, for DC A1+, A2-	CR-U 61D	1SVR405665R4000
		green, for DC A1+, A2-	CR-U 61DV	1SVR405665R4100
110 V DC 110-230 V AC		red, for DC A1+, A2-	CR-U 91C	1SVR405665R0100
		green, for DC A1+, A2-	CR-U 91CV	1SVR405665R1100
24 V AC	Overvoltage protection, varistor		CR-U 71	1SVR405666R0000
115 V AC			CR-U 71A	1SVR405666R1000
230 V AC			CR-U 81	1SVR405666R2000
24-240 V AC/DC	Multifunction time module	pluggable onto CR-U2S and CR-U3S	CR-U T	1SVR405667R0000

All CR-U modules can be plugged onto sockets CR-U2S and CR-U3S.



## Interface relays and optocouplers - R600 range

### 9.22 Benefits and advantages

#### R600 series interface relays and optocouplers

- Boxed slim relays and optocouplers modules 6 mm or 12 mm
- 8 different rated control supply voltages:
  - DC versions: 5 V, 12 V, 24 V
  - AC/DC versions: 24 V, 48-60 V, 115 V, 230 V, 60-230 V
- Output relay: 1 n/c contact, 1 n/o contact, 1 c/o (SPDT) contact, 2 c/o (SPDT) contacts
- Output optocoupler: Transistor 100 mA - 58 V DC. MOS-FET 2 A / 5 A - 58 V DC, Triac 1 A / 2 A - 230 V AC
- Devices with output contacts protected by built in RC circuit, which result in increased contact life
- Devices with leakage current protection on the input side
- All products with LED for the indication of the operational state
- Screw or spring-type terminals
- Jumper bars and separator end section as accessories

## Boxed Interface relays - R600 range

### 9.22 Ordering details



R600 - 6 mm

#### 1 n/c contact: 250 V, 10 mA - 6 A, width 12 mm

Rated control supply voltage	Connection type	Particularities	Type	Order code
24 V AC/DC	Screw	RC circuit parallel to output contact	RB101R-24VUC	1SNA645019R0400
	Spring		RBR101R-24VUC	1SNA645519R0600

#### 1 n/o contact: 250 V, 10 mA - 6 A, width 6 mm

Rated control supply voltage	Connection type	Particularities	Type	Order code
24 V AC/DC	Screw		RB111-24VUC	1SNA645014R2700
115 V AC/DC	Screw		RB111-115VUC	1SNA645016R2100
230 V AC/DC	Screw		RB111-230VUC	1SNA645017R2200
24 V AC/DC	Spring		RBR111-24VUC	1SNA645514R2100

#### 1 n/o contact: 250 V, 10 mA - 6 A, width 12 mm

Rated control supply voltage	Connection type	Particularities	Type	Order code
24 V AC/DC	Screw	RC circuit parallel to output contact	RB111R-24VUC	1SNA645018R0300
	Spring		RBR111R-24VUC	1SNA645518R0500

## Boxed Interface relays - R600 range

### 9.22 Ordering details



R600 - 12 mm

#### 1 c/o (SPDT) contact: 250 V, 10 mA - 6 A, width 6 mm

Rated control supply voltage	Connection type	Particularities	Type	Order code
5 V DC	Screw	A1-A2 polarized	RB121P-5VDC	1SNA645034R2300
12 V DC	Screw	A1-A2 polarized	RB121P-12VDC	1SNA645035R2400
12 V DC	Screw		RB121-12VDC	1SNA645073R0000
24 V DC	Screw		RB121-24VDC	1SNA645071R0000
24 V AC/DC	Screw		RB121-24VUC	1SNA645001R0300
48-60 V AC/DC	Screw		RB121-48-60VUC	1SNA645002R0400
115 V AC/DC	Screw		RB121-115VUC	1SNA645003R0500
230 V AC/DC	Screw		RB121-230VUC	1SNA645004R0400
5 V DC	Spring	A1-A2 polarized	RBR121P-5VDC	1SNA645534R2500
12 V DC	Spring	A1-A2 polarized	RBR121P-12VDC	1SNA645535R2600
24 V DC	Spring		RBR121-24VDC	1SNA645571R0000
24 V AC/DC	Spring		RBR121-24VUC	1SNA645501R0500
48-60 V AC/DC	Spring		RBR121-48-60VUC	1SNA645502R0600
115 V AC/DC	Spring		RBR121-115VUC	1SNA645503R0700
230 V AC/DC	Spring		RBR121-230VUC	1SNA645504R0000

#### 1 c/o (SPDT) contact: 250 V, 3 mA - 6 A, gold-plated contacts, width 6 mm

Rated control supply voltage	Connection type	Particularities	Type	Order code
5 V DC	Screw	A1-A2 polarized	RB121PG-5VDC	1SNA645036R2500
12 V DC	Screw		RB121G-12VDC	1SNA645075R0000
24 V DC	Screw		RB121G-24VDC	1SNA645072R0000
24 V AC/DC	Screw		RB121G-24VUC	1SNA645005R0700
48-60 V AC/DC	Screw		RB121G-48-60VUC	1SNA645006R0000
115 V AC/DC	Screw		RB121G-115VUC	1SNA645007R0100
230 V AC/DC	Screw		RB121G-230VUC	1SNA645008R1200
24 V DC	Spring		RBR121G-24VDC	1SNA645572R0000
24 V AC/DC	Spring		RBR121G-24VUC	1SNA645505R0100
48-60 V AC/DC	Spring		RBR121G-48-60VUC	1SNA645506R0200
115 V AC/DC	Spring		RBR121G-115VUC	1SNA645507R0300
230 V AC/DC	Spring		RBR121G-230VUC	1SNA645508R1400