



Pluggable interface relays

CR-P, CR-M and CR-U range

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Pluggable interface relays CR-P, CR-M and CR-U range

Benefits and advantages



2CDC295.007 F0305

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Pluggable pcb relays CR-P

- 9 different coil voltages
 - DC versions: 12 V, 24 V, 48 V, 110 V
 - AC versions: 24 V, 48 V, 110 V, 120 V, 230 V
- Output contacts:
 - 1 c/o contact (16 A) or
 - 2 c/o contacts (8 A)
- Logical or standard sockets
- Cadmium-free contact material
- Width on socket: 15,5 mm
- Pluggable function modules
 - Reverse polarity protection/ Free wheeling diode
 - LED indication
 - RC elements
 - Overvoltage protection
 - Time modules

Pluggable miniature relays CR-M

- 12 different coil voltages
 - DC versions: 12 V, 24 V, 48 V, 60 V, 110 V, 125 V, 220 V
 - AC versions: 24 V, 48 V, 110 V, 120 V, 230 V
- Output contacts
 - 2 c/o contacts (12 A) or
 - 3 c/o contacts (10 A) or
 - 4 c/o contacts (6 A) optionally equipped with gold contacts and LED
- Integrated test button for manual actuation and locking of the output contacts (blue = DC, orange = AC)
- With or without integrated LED
- Logical or standard sockets
- Cadmium-free contact material
- Width on socket: 27 mm
- Pluggable function modules
 - Reverse polarity protection/ Free wheeling diode
 - LED indication
 - RC elements
 - Overvoltage protection
 - Time modules

Pluggable universal relays CR-U

- 10 different coil voltages
 - DC versions: 12 V, 24 V, 48 V, 110 V, 220 V
 - AC versions: 24 V, 48 V, 110 V, 120 V, 230 V
- Output contacts
 - 2 c/o contacts (10 A) or
 - 3 c/o contacts (10 A)
- Integrated test button for manual actuation and locking of the output contacts (blue = DC, orange = AC)
- With or without integrated LED
- Cadmium-free contact material
- Width on socket: 38 mm
- Pluggable function modules
 - Reverse polarity protection/ Free wheeling diode
 - LED indication
 - RC elements
 - Overvoltage protection
 - Multifunction time module

Pluggable interface relays CR-P, CR-M and CR-U range

Approvals and marks

■ existing □ pending		Relays			Sockets						Modules	
		CR-P	CR-M	CR-U	CR-PLS CR-PSS	CR-PLC	CR-M..L. CR-M..SS	CR-M..SF	CR-U..S CR-U..E	CR-U..SM	CR-P/M	CR-U
Approvals												
	UL 508	■	■ ¹⁾	■	■	■	■	■	■	■		
	CAN/CSA C22.2 No.14	■	■ ²⁾	■							■ ⁶⁾	■ ⁷⁾
	CAN/CSA C22.2 No.14	■	■ ³⁾	■	■		■	■	■			
	VDE	■	■ ⁴⁾	■								
	GOST	■	■	■	■	■	■	■	■	■	■	■
	Lloyds Register		■ ⁵⁾	■								
	CCC	■	■	■								
	RMRS	■	■	■	■	■	■	■	■	■		
Marks												
	CE	■	■	■	■		■	■	■	■		■

¹⁾ except 60 V DC and 125 V DC devices with gold contacts

²⁾ except devices with gold contacts

³⁾ except 60 V DC and 125 V DC devices

⁴⁾ except 125 V DC devices

⁵⁾ only devices with 4 c/o contacts

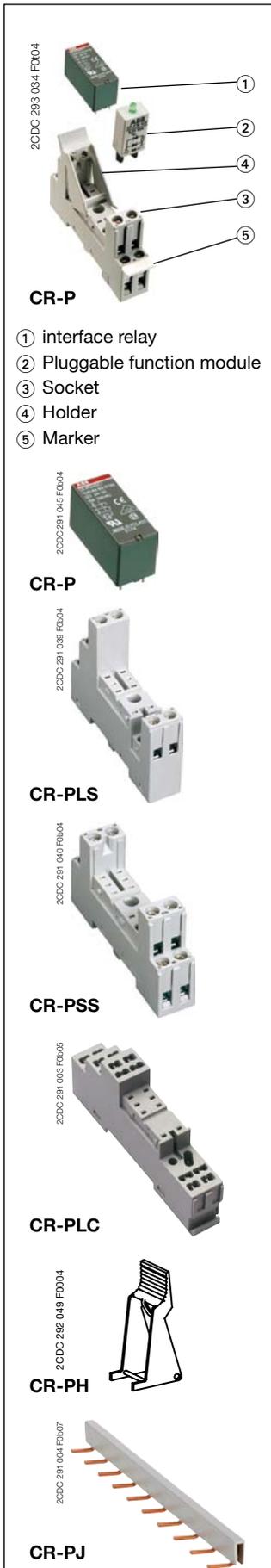
⁶⁾ except CR-P/M 42B, CR-P/M 42BV, CR-P/M 42C, CR-P/M 42CV, CR-P/M 52D, CR-P/M 62E, CR-P/M 62EV, CR-P/M 62D, CR-P/M 62DV, CR-P/M T...

⁷⁾ except CR-U 41B, CR-U 41BV, CR-U 41C, CR-U 41CV, CR-U 51D, CR-U 61CV, CR-U 61E, CR-U 61EV, CR-U 61D, CR-U 61DV, CR-U 91C, CR-U T

Pluggable interface relays CR-P

Pcb relays

Ordering details



Type	Rated control supply voltage	Order code	Pack. unit pieces	Price 1 piece
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1 c/o contact: 250 V, 16 A

CR-P012DC1	12 V DC	1SVR 405 600 R4000	10	
CR-P024DC1	24 V DC	1SVR 405 600 R1000	10	
CR-P048DC1	48 V DC	1SVR 405 600 R6000	10	
CR-P110DC1	110 V DC	1SVR 405 600 R8000	10	
CR-P024AC1	24 V AC	1SVR 405 600 R0000	10	
CR-P048AC1	48 V AC	1SVR 405 600 R5000	10	
CR-P110AC1	110 V AC	1SVR 405 600 R7000	10	
CR-P120AC1	120 V AC	1SVR 405 600 R2000	10	
CR-P230AC1	230 V AC	1SVR 405 600 R3000	10	

2 c/o contacts: 250 V, 8 A

CR-P012DC2	12 V DC	1SVR 405 601 R4000	10	
CR-P024DC2	24 V DC	1SVR 405 601 R1000	10	
CR-P048DC2	48 V DC	1SVR 405 601 R6000	10	
CR-P110DC2	110 V DC	1SVR 405 601 R8000	10	
CR-P024AC2	24 V AC	1SVR 405 601 R0000	10	
CR-P048AC2	48 V AC	1SVR 405 601 R5000	10	
CR-P110AC2	110 V AC	1SVR 405 601 R7000	10	
CR-P120AC2	120 V AC	1SVR 405 601 R2000	10	
CR-P230AC2	230 V AC	1SVR 405 601 R3000	10	

Accessories - Sockets

Type	Version	Connection terminals	Order code	Pack. unit pieces	Price 1 piece
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Sockets

CR-PLS	Logical socket with safety isolation	screw	1SVR 405 650 R0000	10	
CR-PLSx	Logical socket	screw	1SVR 405 650 R0100	10	
CR-PLC	Logical socket	spring connection	1SVR 405 650 R0200	10	
CR-PSS	Standard socket	screw	1SVR 405 650 R1000	10	

Socket accessories

CR-PH	Plastic Holder		1SVR 405 659 R0000	10	
CR-PJ	Jumper bar		1SVR 405 658 R5000	10	

Standard sockets - Position of connecting terminals:

Coil connection (A1-A2) and common contacts on lower socket side, contact connections (n/o and n/c contacts) on upper socket side.

Logical sockets - Position of connecting terminals:

Coil connection (A1-A2) on lower socket side, all contact connections (common contacts, n/o and n/c contacts) on upper socket side.

Details see connection diagrams

Bold printed products = stocked products

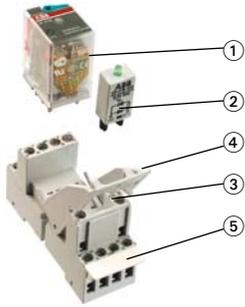
• Pluggable function modules248 • Technical data251 • Dimensional drawings254

Pluggable interface relays CR-M

Miniature relays

Ordering details

2CDC 283 035 F0004



CR-M

- ① Interface relay
- ② Pluggable function module
- ③ Socket
- ④ Holder
- ⑤ Marker

2CDC 291 046 F0004



CR-M

Type	Rated control supply voltage	Order code	Pack. unit pieces	Price 1 piece
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Interface relays without LED

2 c/o contacts: 250 V, 12 A

CR-M012DC2	12 V DC	1SVR 405 611 R4000	10	
CR-M024DC2	24 V DC	1SVR 405 611 R1000	10	
CR-M048DC2	48 V DC	1SVR 405 611 R6000	10	
CR-M060DC2	60 V DC	1SVR 405 611 R4200	10	
CR-M110DC2	110 V DC	1SVR 405 611 R8000	10	
CR-M125DC2	125 V DC	1SVR 405 611 R8200	10	
CR-M220DC2	220 V DC	1SVR 405 611 R9000	10	
CR-M024AC2	24 V AC	1SVR 405 611 R0000	10	
CR-M048AC2	48 V AC	1SVR 405 611 R5000	10	
CR-M110AC2	110 V AC	1SVR 405 611 R7000	10	
CR-M120AC2	120 V AC	1SVR 405 611 R2000	10	
CR-M230AC2	230 V AC	1SVR 405 611 R3000	10	

3 c/o contacts: 250 V, 10 A

CR-M012DC3	12 V DC	1SVR 405 612 R4000	10	
CR-M024DC3	24 V DC	1SVR 405 612 R1000	10	
CR-M048DC3	48 V DC	1SVR 405 612 R6000	10	
CR-M060DC3	60 V DC	1SVR 405 612 R4200	10	
CR-M110DC3	110 V DC	1SVR 405 612 R8000	10	
CR-M125DC3	125 V DC	1SVR 405 612 R8200	10	
CR-M220DC3	220 V DC	1SVR 405 612 R9000	10	
CR-M024AC3	24 V AC	1SVR 405 612 R0000	10	
CR-M048AC3	48 V AC	1SVR 405 612 R5000	10	
CR-M110AC3	110 V AC	1SVR 405 612 R7000	10	
CR-M120AC3	120 V AC	1SVR 405 612 R2000	10	
CR-M230AC3	230 V AC	1SVR 405 612 R3000	10	

4 c/o contacts: 250 V, 6 A

CR-M012DC4	12 V DC	1SVR 405 613 R4000	10	
CR-M024DC4	24 V DC	1SVR 405 613 R1000	10	
CR-M048DC4	48 V DC	1SVR 405 613 R6000	10	
CR-M060DC4	60 V DC	1SVR 405 613 R4200	10	
CR-M110DC4	110 V DC	1SVR 405 613 R8000	10	
CR-M125DC4	125 V DC	1SVR 405 613 R8200	10	
CR-M220DC4	220 V DC	1SVR 405 613 R9000	10	
CR-M024AC4	24 V AC	1SVR 405 613 R0000	10	
CR-M048AC4	48 V AC	1SVR 405 613 R5000	10	
CR-M110AC4	110 V AC	1SVR 405 613 R7000	10	
CR-M120AC4	120 V AC	1SVR 405 613 R2000	10	
CR-M230AC4	230 V AC	1SVR 405 613 R3000	10	

Interface relays with LED

2 c/o contacts: 250 V, 12 A

CR-M012DC2L	12 V DC	1SVR 405 611 R4100	10	
CR-M024DC2L	24 V DC	1SVR 405 611 R1100	10	
CR-M048DC2L	48 V DC	1SVR 405 611 R6100	10	
CR-M060DC2L	60 V DC	1SVR 405 611 R4300	10	
CR-M110DC2L	110 V DC	1SVR 405 611 R8100	10	
CR-M125DC2L	125 V DC	1SVR 405 611 R8300	10	
CR-M220DC2L	220 V DC	1SVR 405 611 R9100	10	
CR-M024AC2L	24 V AC	1SVR 405 611 R0100	10	
CR-M048AC2L	48 V AC	1SVR 405 611 R5100	10	
CR-M110AC2L	110 V AC	1SVR 405 611 R7100	10	
CR-M120AC2L	120 V AC	1SVR 405 611 R2100	10	
CR-M230AC2L	230 V AC	1SVR 405 611 R3100	10	

Bold printed products = stocked products

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Pluggable interface relays CR-M

Miniature relays

Ordering details (continued)

2CDC 291, 046 F0604



CR-M

Type	Rated control supply voltage	Order code	Pack. unit pieces	Price 1 piece
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Interface relays with LED

3 c/o: 250 V, 10 A

CR-M012DC3L	12 V DC	1SVR 405 612 R4100	10	
CR-M024DC3L	24 V DC	1SVR 405 612 R1100	10	
CR-M048DC3L	48 V DC	1SVR 405 612 R6100	10	
CR-M060DC3L	60 V DC	1SVR 405 612 R4300	10	
CR-M110DC3L	110 V DC	1SVR 405 612 R8100	10	
CR-M125DC3L	125 V DC	1SVR 405 612 R8300	10	
CR-M220DC3L	220 V DC	1SVR 405 612 R9100	10	
CR-M024AC3L	24 V AC	1SVR 405 612 R0100	10	
CR-M048AC3L	48 V AC	1SVR 405 612 R5100	10	
CR-M110AC3L	110 V AC	1SVR 405 612 R7100	10	
CR-M120AC3L	120 V AC	1SVR 405 612 R2100	10	
CR-M230AC3L	230 V AC	1SVR 405 612 R3100	10	

4 c/o: 250 V, 6 A

CR-M012DC4L	12 V DC	1SVR 405 613 R4100	10	
CR-M024DC4L	24 V DC	1SVR 405 613 R1100	10	
CR-M048DC4L	48 V DC	1SVR 405 613 R6100	10	
CR-M060DC4L	60 V DC	1SVR 405 613 R4300	10	
CR-M110DC4L	110 V DC	1SVR 405 613 R8100	10	
CR-M125DC4L	125 V DC	1SVR 405 613 R8300	10	
CR-M220DC4L	220 V DC	1SVR 405 613 R9100	10	
CR-M024AC4L	24 V AC	1SVR 405 613 R0100	10	
CR-M048AC4L	48 V AC	1SVR 405 613 R5100	10	
CR-M110AC4L	110 V AC	1SVR 405 613 R7100	10	
CR-M120AC4L	120 V AC	1SVR 405 613 R2100	10	
CR-M230AC4L	230 V AC	1SVR 405 613 R3100	10	

Interface relays with LED and gold contacts

4 c/o: 250 V, 6 A

CR-M012DC4LG	12 V DC	1SVR 405 618 R4100	10	
CR-M024DC4LG	24 V DC	1SVR 405 618 R1100	10	
CR-M048DC4LG	48 V DC	1SVR 405 618 R6100	10	
CR-M060DC4LG	60 V DC	1SVR 405 618 R4300	10	
CR-M110DC4LG	110 V DC	1SVR 405 618 R8100	10	
CR-M125DC4LG	125 V DC	1SVR 405 618 R8300	10	
CR-M220DC4LG	220 V DC	1SVR 405 618 R9100	10	
CR-M024AC4LG	24 V AC	1SVR 405 618 R0100	10	
CR-M048AC4LG	48 V AC	1SVR 405 618 R5100	10	
CR-M110AC4LG	110 V AC	1SVR 405 618 R7100	10	
CR-M120AC4LG	120 V AC	1SVR 405 618 R2100	10	
CR-M230AC4LG	230 V AC	1SVR 405 618 R3100	10	

Bold printed products = stocked products

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Pluggable interface relays CR-M

Miniature relays

Ordering details (continued)

Accessories - Sockets

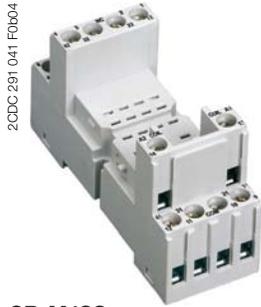
Type	Version	Connection terminals	Order code	Pack. unit pieces	Price 1 piece
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Sockets

CR-M2LS	Logical socket for 2 c/o	screw	1SVR 405 651 R1100	10	
CR-M3LS	Logical socket for 3 c/o		1SVR 405 651 R2100	10	
CR-M4LS	Logical socket for 4 c/o		1SVR 405 651 R3100	10	
CR-M2LC	Logical socket for 2 c/o	spring connection	1SVR 405 651 R1200	10	
CR-M4LC	Logical socket for 4 c/o		1SVR 405 651 R3200	10	
CR-M2SS	Standard socket for 2 c/o	screw	1SVR 405 651 R1000	10	
CR-M3SS	Standard socket for 3 c/o		1SVR 405 651 R2000	10	
CR-M4SS	Standard socket for 2/4 c/o		1SVR 405 651 R3000	10	
CR-M2SF	Standard socket for 2 c/o	fork type	1SVR 405 651 R1300	10	
CR-M4SF	Standard socket for 2/4 c/o		1SVR 405 651 R3300	10	

Socket accessories

CR-MH	Plastic holder	1SVR 405 659 R1000	10	
CR-MH1	Metal holder	1SVR 405 659 R1100	10	
CR-MJ	Jumper bar	1SVR 405 658 R6000	10	



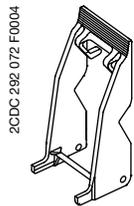
CR-M4SS



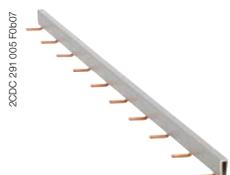
CR-M4LS



CR-M4LC



CR-MH



CR-MJ

Standard sockets - Position of connecting terminals:

Coil connection (A1-A2) and common contacts on lower socket side, contact connections (n/o and n/c contacts) on upper socket side.

Logical sockets - Position of connecting terminals:

Coil connection (A1-A2) on lower socket side, all contact connections (common contacts, n/o and n/c contacts) on upper socket side.

Details see connection diagrams

Bold printed products = stocked products

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Pluggable interface relays CR-P, CR-M - Accessories

Pluggable function modules

Ordering details, Connection diagrams

2CDC 291 037 F0604



CR-P/M ..

2CDC 291 002 F0607



CR-P/M T..

- Pluggable function modules to insert into logical or standard sockets for CR-P and CR-M interface relays

Type	Rated control supply voltage	Version	Order code	Pack. unit pieces	Price 1 piece
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Diode - Reverse polarity protection/free wheeling diode

CR-P/M 22	6-230 V DC	A1+, A2-	1SVR 405 651 R0000	10	
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Diode and LED - Reverse polarity protection/free wheeling diode

CR-P/M 42	6-24 V DC	red, A1+, A2-	1SVR 405 652 R0000	10	
CR-P/M 42V	6-24 V DC	green, A1+, A2-	1SVR 405 652 R1000	10	
CR-P/M 42B	24-60 V DC	red, A1+, A2-	1SVR 405 652 R4000	10	
CR-P/M 42BV	24-60 V DC	green, A1+, A2-	1SVR 405 652 R4100	10	
CR-P/M 42C	110-230 V DC	red, A1+, A2-	1SVR 405 652 R9000	10	
CR-P/M 42CV	110-230 V DC	green, A1+, A2-	1SVR 405 652 R9100	10	

RC element - Spark quenching

CR-P/M 52B	6-24 V AC		1SVR 405 653 R0000	10	
CR-P/M 52D	24-60 V AC		1SVR 405 653 R4000	10	
CR-P/M 52C	110-240 V AC		1SVR 405 653 R1000	10	

Diode and LED

CR-P/M 62	6-24 V AC/DC	red, for DC A1+, A2-	1SVR 405 654 R0000	10	
CR-P/M 62V	6-24 V AC/DC	green, for DC A1+, A2-	1SVR 405 654 R1000	10	
CR-P/M 62E	24-60 V AC/DC	red, for DC A1+, A2-	1SVR 405 654 R4000	10	
CR-P/M 62EV	24-60 V AC/DC	green, for DC A1+, A2-	1SVR 405 654 R4100	10	
CR-P/M 92	110-230 V AC/DC	red, for DC A1+, A2-	1SVR 405 654 R0100	10	
CR-P/M 92V	110-230 V AC/DC	green, for DC A1+, A2-	1SVR 405 654 R1100	10	

Varistor and LED - Overvoltage protection

CR-P/M 62C	6-24 V AC/DC	red, for DC A1+, A2-	1SVR 405 655 R0000	10	
CR-P/M 62CV	6-24 V AC/DC	green, for DC A1+, A2-	1SVR 405 655 R1000	10	
CR-P/M 62D	24-60 V AC/DC	red, for DC A1+, A2-	1SVR 405 655 R4000	10	
CR-P/M 62DV	24-60 V AC/DC	green, for DC A1+, A2-	1SVR 405 655 R4100	10	
CR-P/M 92C	110-230 V AC/DC	red, for DC A1+, A2-	1SVR 405 655 R0100	10	
CR-P/M 92CV	110-230 V AC/DC	green, for DC A1+, A2-	1SVR 405 655 R1100	10	

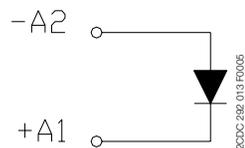
Varistor - Overvoltage protection

CR-P/M 72	24 V AC		1SVR 405 656 R0000	10	
CR-P/M 72A	115 V AC		1SVR 405 656 R1000	10	
CR-P/M 82	230 V AC		1SVR 405 656 R2000	10	

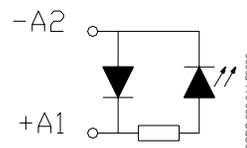
Time modules

CR-P/M T1		ON-delay	1SVR 405 657 R0000	10	
CR-P/M T2		Impulse-ON	1SVR 405 657 R0100	10	

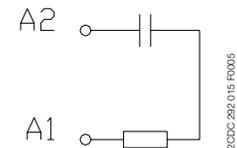
Connection diagrams



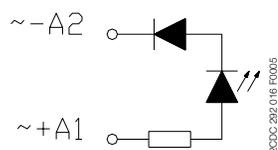
CR-P/M 22



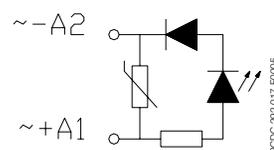
CR-P/M 42, CR-P/M 42C, CR-P/M 42BV, CR-P/M 42B, CR-P/M 42V, CR-P/M 42CV



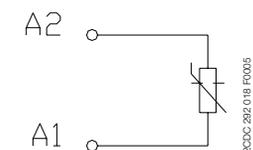
CR-P/M 52B, CR-P/M 52D



CR-P/M 62, CR-P/M 92, CR-P/M 62EV, CR-P/M 62E, CR-P/M 62V, CR-P/M 92V



CR-P/M 62C, CR-P/M 92C, CR-P/M 62DV, CR-P/M 62D, CR-P/M 62CV, CR-P/M 92CV



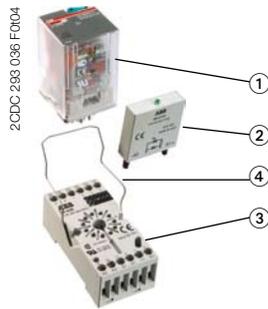
CR-P/M 72, CR-P/M 72A, CR-P/M 82

Bold printed products = stocked products

Pluggable interface relays CR-U

Universal relays

Ordering details



CR-U

- ① Interface relay
- ② Pluggable function module
- ③ Socket
- ④ Holder



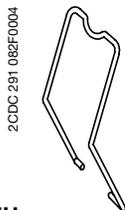
CR-U



CR-U3S



CR-U3E



CR-UH

Type	Rated control supply voltage	Order code	Pack. unit pieces	Price 1 piece
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Interface relays without LED

2 c/o contacts: 250 V, 10 A

CR-U012DC2	12 V DC	1SVR 405 621 R4000	10	
CR-U024DC2	24 V DC	1SVR 405 621 R1000	10	
CR-U048DC2	48 V DC	1SVR 405 621 R6000	10	
CR-U110DC2	110 V DC	1SVR 405 621 R8000	10	
CR-U220DC2	220 V DC	1SVR 405 621 R9000	10	
CR-U024AC2	24 V AC	1SVR 405 621 R0000	10	
CR-U048AC2	48 V AC	1SVR 405 621 R5000	10	
CR-U110AC2	110 V AC	1SVR 405 621 R7000	10	
CR-U120AC2	120 V AC	1SVR 405 621 R2000	10	
CR-U230AC2	230 V AC	1SVR 405 621 R3000	10	

3 c/o contacts: 250 V, 10 A

CR-U012DC3	12 V DC	1SVR 405 622 R4000	10	
CR-U024DC3	24 V DC	1SVR 405 622 R1000	10	
CR-U048DC3	48 V DC	1SVR 405 622 R6000	10	
CR-U110DC3	110 V DC	1SVR 405 622 R8000	10	
CR-U220DC3	220 V DC	1SVR 405 622 R9000	10	
CR-U024AC3	24 V AC	1SVR 405 622 R0000	10	
CR-U048AC3	48 V AC	1SVR 405 622 R5000	10	
CR-U110AC3	110 V AC	1SVR 405 622 R7000	10	
CR-U120AC3	120 V AC	1SVR 405 622 R2000	10	
CR-U230AC3	230 V AC	1SVR 405 622 R3000	10	

Interface relays with LED

2 c/o contacts: 250 V, 10 A

CR-U012DC2L	12 V DC	1SVR 405 621 R4100	10	
CR-U024DC2L	24 V DC	1SVR 405 621 R1100	10	
CR-U048DC2L	48 V DC	1SVR 405 621 R6100	10	
CR-U110DC2L	110 V DC	1SVR 405 621 R8100	10	
CR-U220DC2L	220 V DC	1SVR 405 621 R9100	10	
CR-U024AC2L	24 V AC	1SVR 405 621 R0100	10	
CR-U048AC2L	48 V AC	1SVR 405 621 R5100	10	
CR-U110AC2L	110 V AC	1SVR 405 621 R7100	10	
CR-U120AC2L	120 V AC	1SVR 405 621 R2100	10	
CR-U230AC2L	230 V AC	1SVR 405 621 R3100	10	

3 c/o contacts: 250 V, 10 A

CR-U012DC3L	12 V DC	1SVR 405 622 R4100	10	
CR-U024DC3L	24 V DC	1SVR 405 622 R1100	10	
CR-U048DC3L	48 V DC	1SVR 405 622 R6100	10	
CR-U110DC3L	110 V DC	1SVR 405 622 R8100	10	
CR-U220DC3L	220 V DC	1SVR 405 622 R9100	10	
CR-U024AC3L	24 V AC	1SVR 405 622 R0100	10	
CR-U048AC3L	48 V AC	1SVR 405 622 R5100	10	
CR-U110AC3L	110 V AC	1SVR 405 622 R7100	10	
CR-U120AC3L	120 V AC	1SVR 405 622 R2100	10	
CR-U230AC3L	230 V AC	1SVR 405 622 R3100	10	

Accessories - Sockets

Type	Version	Order code	Pack. unit pieces	Price 1 piece
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Sockets

CR-U2S	Socket for 2 c/o and module	1SVR 405 670 R0000	10	
CR-U3S	Socket for 3 c/o and module	1SVR 405 660 R0000	10	
CR-U3E	Socket for 3 c/o	1SVR 405 660 R0100	10	
CR-U2SM	Socket small for 2 c/o	1SVR 405 670 R1100	10	
CR-U3SM	Socket small for 3 c/o	1SVR 405 660 R1100	10	

Socket accessories

CR-UH	Holder for CR-U socket	1SVR 405 669 R0000	10	
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Bold printed products = stocked products

• Pluggable function modules250 • Technical data251 • Dimensional drawings254

Pluggable interface relays CR-U - Accessories

Pluggable function modules

Ordering details, Connection diagrams

2CDC 291 038 F0004



CR-U ..

- Pluggable function modules to insert into sockets for CR-U interface relays

Type	Rated control supply voltage	Version	Order code	Pack. unit pieces	Price 1 piece
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Diode - Reverse polarity protection/free wheeling diode

CR-U 21	6-230 V DC	A1+, A2-	1SVR 405 661 R0000	10	
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Diode and LED - Reverse polarity protection/free wheeling diode

CR-U 41	6-24 V DC	red, A1+, A2-	1SVR 405 662 R0000	10	
CR-U 41V	6-24 V DC	green, A1+, A2-	1SVR 405 662 R1000	10	
CR-U 41B	24-60 V DC	red, A1+, A2-	1SVR 405 662 R4000	10	
CR-U 41BV	24-60 V DC	green, A1+, A2-	1SVR 405 662 R4100	10	
CR-U 41C	110-230 V DC	red, A1+, A2-	1SVR 405 662 R9000	10	
CR-U 41CV	110-230 V DC	green, A1+, A2-	1SVR 405 662 R9100	10	

RC element - Spark quenching

CR-U 51B	6-24 V AC		1SVR 405 663 R0000	10	
CR-U 51D	24-60 V AC		1SVR 405 663 R4000	10	
CR-U 51C	110-240 V AC		1SVR 405 663 R1000	10	

Diode and LED

CR-U 61	6-24 V AC/DC	red, for DC: A1+, A2-	1SVR 405 664 R0000	10	
CR-U 61V	6-24 V AC/DC	green, for DC A1+, A2-	1SVR 405 664 R1000	10	
CR-U 61E	24-60 V AC&DC	red, for DC: A1+, A2-	1SVR 405 664 R4000	10	
CR-U 61EV	24-60 V AC&DC	green, for DC A1+, A2-	1SVR 405 664 R4100	10	
CR-U 91	110-230 V AC/DC	red, for DC: A1+, A2-	1SVR 405 664 R0100	10	
CR-U 91V	110-230 V AC/DC	green, for DC A1+, A2-	1SVR 405 664 R1100	10	

Varistor and LED - Overvoltage protection

CR-U 61C	6-24 V AC/DC	red, for DC: A1+, A2-	1SVR 405 665 R0000	10	
CR-U 61CV	6-24 V AC/DC	green, for DC A1+, A2-	1SVR 405 665 R1000	10	
CR-U 61D	24-60 V AC/DC	red, for DC: A1+, A2-	1SVR 405 665 R4000	10	
CR-U 61DV	24-60 V AC/DC	green, for DC A1+, A2-	1SVR 405 665 R4100	10	
CR-U 91C	110-230 V AC/DC	red, for DC: A1+, A2-	1SVR 405 665 R0100	10	
CR-U 91CV	110-230 V AC/DC	green, for DC A1+, A2-	1SVR 405 665 R1100	10	

Varistor - Overvoltage protection

CR-U 71	24 V AC		1SVR 405 666 R0000	10	
CR-U 71A	115 V AC		1SVR 405 666 R1000	10	
CR-U 81	230 V AC		1SVR 405 666 R2000	10	

Multifunction time module

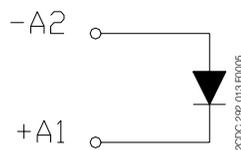
CR-U T	24-240 V AC/DC	pluggable onto CR-U2S and CR-U3S	1SVR 405 667 R0000	10	
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2CDC 291 032 F0005

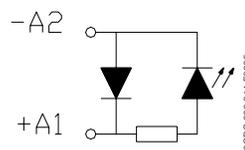


CR-U T

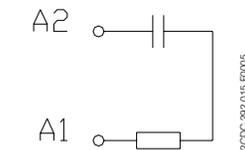
Connection diagrams



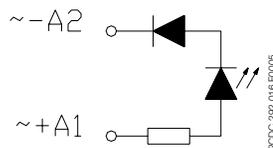
CR-U 21



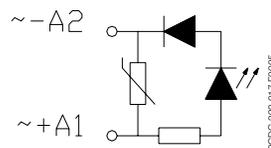
CR-U 41, CR-U 41B, CR-U 41C, CR-U 41V, CR-U 41BV, CR-U 41CV



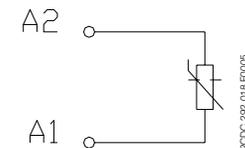
CR-U 51B, CR-U 51C CR-U 51D,



CR-U 61, CR-U 61E, CR-U 91, CR-U 61V, CR-U 61EV, CR-U 91V



CR-U 61C, CR-U 61D, CR-U 91C, CR-U 61CV, CR-U 61DV CR-U 91CV



CR-U 71, CR-U 81 CR-U 71A,

Bold printed products = stocked products

Pluggable interface relays CR-P, CR-M and CR-U

Pcb-, miniature- and universal relays

Technical data

Input circuit - coil data

CR-P range



	Rated voltage	Rated voltage frequency	Make voltage (at 20 °C)	Maximum voltage (at 20 °C)	Break voltage	Rated power	Coil resistance (at 20 °C)	Tolerance of coil resistance
DC coils	12 V DC	-	8.4 V DC	30.6 V DC	$\geq 0.1 U_n$	0.4-0.48 W	360 Ω	$\pm 10\%$
	24 V DC	-	16.8 V DC	61.2 V DC	$\geq 0.1 U_n$	0.4-0.48 W	1440 Ω	$\pm 10\%$
	48 V DC	-	33.6 V DC	122.4 V DC	$\geq 0.1 U_n$	0.4-0.48 W	5700 Ω	$\pm 10\%$
	110 V DC	-	77 V DC	280 V DC	$\geq 0.1 U_n$	0.4-0.48 W	25200 Ω	$\pm 10\%$
AC coils	24 V AC	50 / 60 Hz	19.2 V AC	28.8 V AC	$\geq 0.15 U_n$	0.75 VA	400 Ω	$\pm 10\%$
	48 V AC	50 / 60 Hz	38.4 V AC	57.6 V AC	$\geq 0.15 U_n$	0.75 VA	1550 Ω	$\pm 10\%$
	110 V AC	50 / 60 Hz	88 V AC	132 V AC	$\geq 0.15 U_n$	0.75 VA	8900 Ω	$\pm 10\%$
	120 V AC	50 / 60 Hz	96 V AC	144 V AC	$\geq 0.15 U_n$	0.75 VA	10200 Ω	$\pm 10\%$
	230 V AC	50 / 60 Hz	184 V AC	276 V AC	$\geq 0.15 U_n$	0.75 VA	38500 Ω	$\pm 10\%$

CR-M range



	Rated voltage	Rated voltage frequency	Make voltage (at 20 °C)	Maximum voltage (at 20 °C)	Break voltage	Rated power	Coil resistance (at 20 °C)	Tolerance of coil resistance
DC coils	12 V DC	-	9.6 V DC	13.2 V DC	$\geq 0.1 U_n$	0.9 W	160 Ω	$\pm 10\%$
	24 V DC	-	19.2 DC	26.4 V DC	$\geq 0.1 U_n$	0.9 W	640 Ω	$\pm 10\%$
	48 V DC	-	38.4 V DC	52.8 V DC	$\geq 0.1 U_n$	0.9 W	2600 Ω	$\pm 10\%$
	60 V DC	-	48.0 V DC	66.0 V DC	$\geq 0.1 U_n$	0.9 W	4000 Ω	$\pm 10\%$
	110 V DC	-	88 V DC	121 V DC	$\geq 0.1 U_n$	0.9 W	13600 Ω	$\pm 10\%$
	125 V DC	-	100 V DC	137,5 V DC	$\geq 0.1 U_n$	0.9 W	16000 Ω	$\pm 10\%$
	220 V DC	-	176 V DC	242 V DC	$\geq 0.1 U_n$	0.9 W	54000 Ω	$\pm 10\%$
AC coils	24 V AC	50 / 60 Hz	19.2 V AC	26.4 V AC	$\geq 0.2 U_n$	1.6 VA	158 Ω	$\pm 10\%$
	48 V AC	50 / 60 Hz	38.4 V AC	52.8 V AC	$\geq 0.2 U_n$	1.6 VA	640 Ω	$\pm 10\%$
	110 V AC	50 / 60 Hz	88 V AC	121 V AC	$\geq 0.2 U_n$	1.6 VA	3450 Ω	$\pm 10\%$
	120 V AC	50 / 60 Hz	96 V AC	132 V AC	$\geq 0.2 U_n$	1.6 VA	3770 Ω	$\pm 10\%$
	230 V AC	50 / 60 Hz	184 V AC	253 V AC	$\geq 0.2 U_n$	1.6 VA	16100 Ω	$\pm 10\%$

CR-U range



	Rated voltage	Rated voltage frequency	Make voltage (at 20 °C)	Maximum voltage (at 20 °C)	Break voltage	Rated power	Coil resistance (at 20 °C)	Tolerance of coil resistance
DC coils	12 V DC	-	9.6 V DC	13.2 V DC	$\geq 0.1 U_n$	1.5 W	110 Ω	$\pm 10\%$
	24 V DC	-	19.2 DC	26.4 V DC	$\geq 0.1 U_n$	1.5 W	430 Ω	$\pm 10\%$
	48 V DC	-	38.4 V DC	52.8 V DC	$\geq 0.1 U_n$	1.5 W	1750 Ω	$\pm 10\%$
	110 V DC	-	88 V DC	121 V DC	$\geq 0.1 U_n$	1.5 W	9200 Ω	$\pm 10\%$
	220 V DC	-	176 V DC	242 V DC	$\geq 0.1 U_n$	1.5 W	37000 Ω	$\pm 10\%$
AC coils	24 V AC	50 / 60 Hz	19.2 V AC	26.4 V AC	$\geq 0.15 U_n$	2.8 VA (50 Hz) 2.5 VA (60 Hz)	75 Ω	$\pm 10\%$
	48 V AC	50 / 60 Hz	38.4 V AC	52.8 V AC	$\geq 0.15 U_n$	2.8 VA (50 Hz) 2.5 VA (60 Hz)	305 Ω	$\pm 10\%$
	110 V AC	50 / 60 Hz	88 V AC	121 V AC	$\geq 0.15 U_n$	2.8 VA (50 Hz) 2.5 VA (60 Hz)	1700 Ω	$\pm 10\%$
	120 V AC	50 / 60 Hz	96 V AC	132 V AC	$\geq 0.15 U_n$	2.8 VA (50 Hz) 2.5 VA (60 Hz)	1910 Ω	$\pm 10\%$
	230 V AC	50 / 60 Hz	184 V AC	253 V AC	$\geq 0.15 U_n$	2.8 VA (50 Hz) 2.5 VA (60 Hz)	7080 Ω	$\pm 10\%$

Pluggable interface relays CR-P, CR-M and CR-U Pcb-, miniature- and universal relays

Technical data (continued)

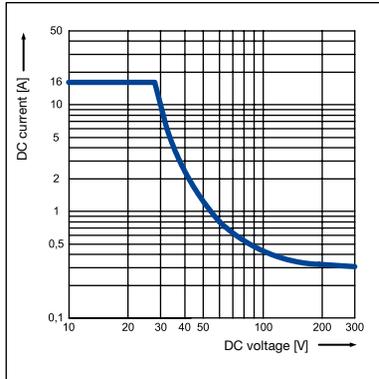
Type	CR-P...1	CR-P...2	CR-M...2	CR-M...3	CR-M...4	CR-U...2	CR-U...3
Output circuit(s) - relay contact(s)	11-12/14	11-12/14 21-22/24	11-12/14 21-22/24	11-12/14 21-22/24 31-32/34	11-12/14 21-22/24 31-32/34 41-42/44	11-12/14 31-32/34	11-12/14 31-32/34 31-32/34
Number of contacts	1 c/o	2 c/o	2 c/o	3 c/o	4 c/o	2 c/o	3 c/o
Contact material	AgNi		AgNi	AgNi	AgNi AgNi/Au 5 µm	AgNi	
Rated operating voltage U _g (VDE 0110, IEC 60947-1)	250 V						
Min. switching voltage	5 V						
Max. switching voltage	DC	300 V DC		250 V DC			
	AC	400 V AC		250 V AC			
Min. switching current	5 mA (AgNi), 2 mA (AgNi/Au)						
Rated free air thermal current I _{th}	16 A	8 A	12 A	10 A	6 A	10 A	
Rated operating current (IEC 60947-5-1)	AC12 (resistive) 230 V	16 A	8 A	12 A	10 A	6 A	10 A
	AC15 (inductive) 230 V	1.5 A	1 A	1.5 A	1.5 A	1 A	1.5 A
	DC12 (resistive) 24 V	16 A	8 A	12 A	10 A	6 A	10 A
	DC13 (inductive) 24 V	2 A	2 A	8 A	8 A	6 A	2 A
Min. switching power	0.3 W		0.3 W (AgNi), 0.1 W (AgNi/Au)			0.3 W	
Max. switching power	AC-1	4000 VA	2000 VA	3000 VA	2500 VA	1500 VA	2500 VA
Contact resistance	≤ 100 mΩ			≤ 100 mΩ			
Max. switching capacity	rated load AC-1	600 switching cycles/h		1200 switching cycles/h			
	without load	72000 switching cycles/h		18000 switching cycles/h		12000 switching cycles/h	
Max. lifetime	mechanical	> 3 x 10 ⁷ switching cycles		> 2 x 10 ⁷ switching cycles			
	electrical AC1 (resistive)	> 10 ⁵ switching cycles (16 A, 250 V) (8 A, 250 V)		> 10 ⁵ switching cycles (12 A, 250 V) (10 A, 250 V) (6 A, 250 V)			> 10 ⁵ switching cycles (10 A, 250 V)
	cos φ	see load limit curve					
Response time	typ. 7 ms		typ. 13 ms (DC), 10 ms (AC)			typ. 18 ms (DC), 12 ms (AC)	
Release time	typ. 3 ms		typ. 3 ms (DC), 8 ms (AC)			typ. 7 ms (DC), 10 ms (AC)	
Isolation data							
Rated insulation voltage	400 V AC			250 V AC			
Insulation class	C250 / B400			C250 / B250		C250	
Rated impulse withstand voltage U _{imp}	betw. coil and contacts	5 kV AC		2.5 kV AC			
	betw. open contacts	1 kV AC		1.5 kV AC			
	between c/o contacts	- / 2.5 kV AC		2.5 kV AC / 2 kV AC		2 kV AC	
Clearance/creepage distance	betw. coil and contacts	≥ 10 mm / ≥ 10 mm		≥ 4 mm / ≥ 3.2 mm		≥ 3 mm / ≥ 4.2 mm	
General data							
Dimensions (L x W x H)	29 x 12.7 x 15.7 mm			27.5 x 21.2 x 35.6 mm		35 x 35 x 54.4 mm	
Weight	14 g (0.031 lb)			35 g (0.077 lb)		83 g (0.18 lb)	
Mounting position	any						
Degree of protection	IP 67			IP 40			
Temperature range	operation	DC	-40 ... +85 °C		-40 ... +70 °C		
		AC	-40 ... +70 °C		-40 ... +55 °C		
	storage	-40 ... +85 °C					
Connection	by socket						
Mounting	on socket (see accessories)						
Vibration resistance 10-150 Hz	n/o, n/c	10 g / 5 g			10 g		
Shock resistance	30 g	20 g	5 g				
Standards							
Product standard	EN 61810-1, EN 60255-23 IEC 60664-1			EN 60810-1, EN 60255-23 IEC 61810-7		EN 60255-1-00	
Low Voltage Directive	73/23/EEC						

Pluggable interface relays CR-P, CR-M and CR-U Pcb-, miniature- and universal relays

Technical diagrams

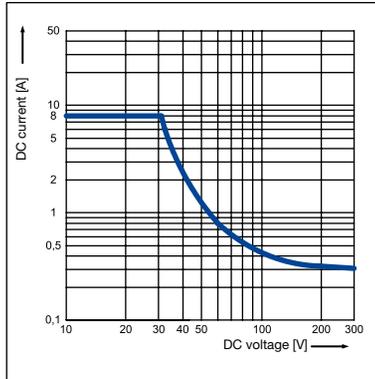
Load limit curves - Maximum switching power at resistive DC load

CR-P with 1 c/o contact



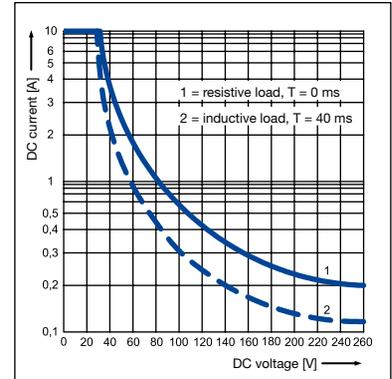
2CDC 292 005 F2004

CR-P with 2 c/o contacts



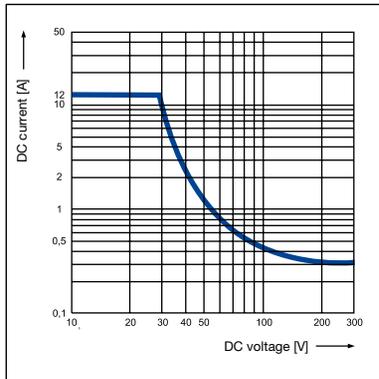
2CDC 292 010 F2004

CR-U with 2 and 3 c/o contacts



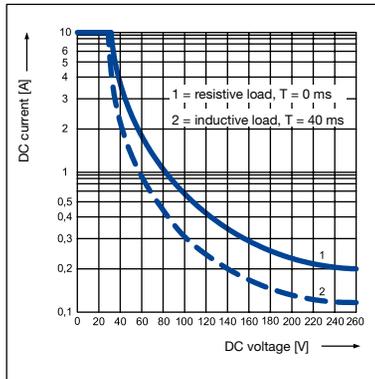
2CDC 292 028 F2004

CR-M with 2 c/o contacts



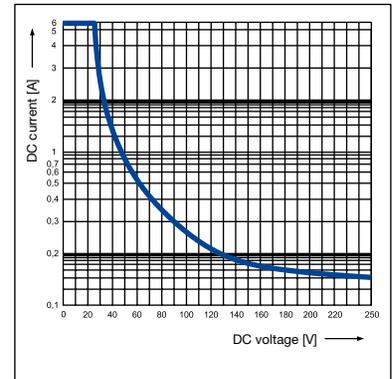
2CDC 292 015 F2004

CR-M with 3 c/o contacts



2CDC 292 019 F2004

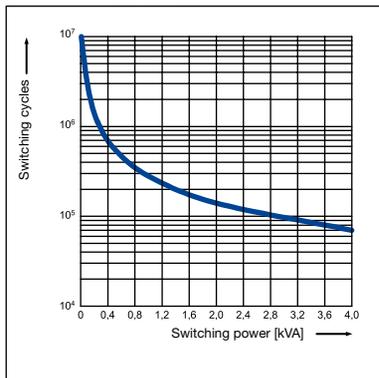
CR-M with 4 c/o contacts



2CDC 292 023 F2004

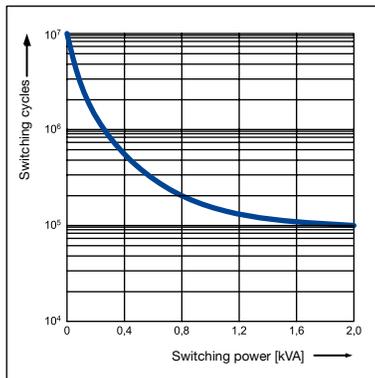
Load limit curves - Electrical lifetime at resistive AC load

CR-P with 1 c/o contact



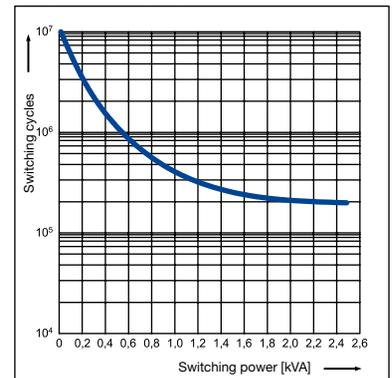
2CDC 292 003 F2004

CR-P with 2 c/o contacts



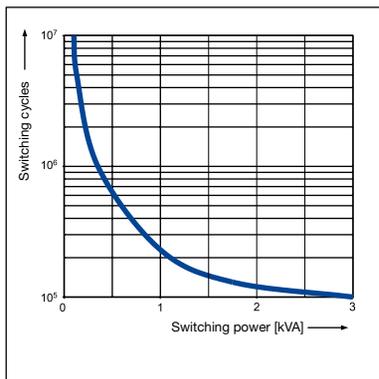
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CR-U with 2 and 3 c/o contacts



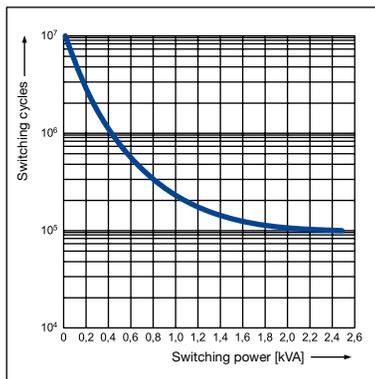
2CDC 292 037 F2004

CR-M with 2 c/o contacts



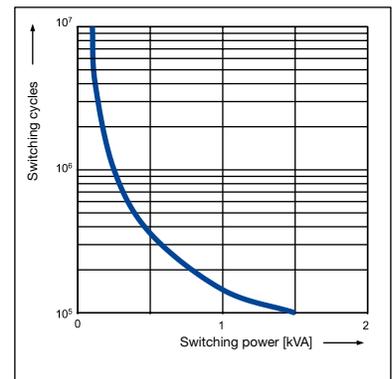
2CDC 292 013 F2004

CR-M with 3 c/o contacts



2CDC 292 018 F2004

CR-M with 4 c/o contacts

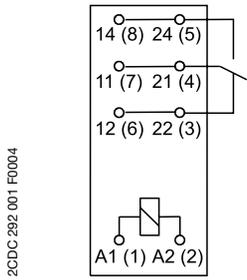


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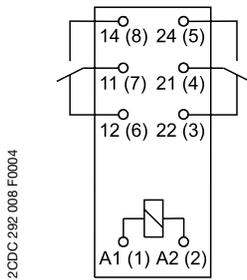
Pluggable interface relays CR-P, CR-M and CR-U Pcb-, miniature- and universal relays

Connection diagrams, dimensional drawings

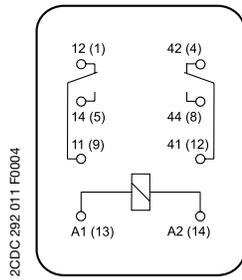
Connection diagrams



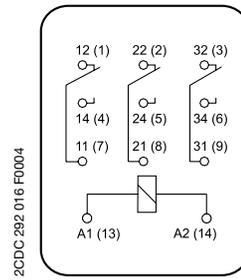
CR-P with 1 c/o contact



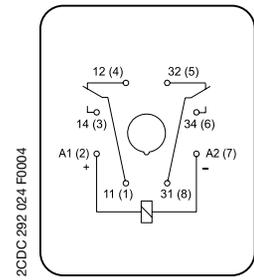
CR-P with 2 c/o contacts



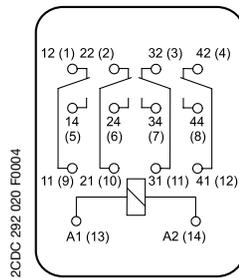
CR-M with 2 c/o contacts



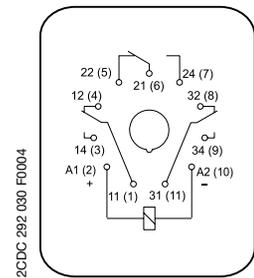
CR-M with 3 c/o contacts



CR-U with 2 c/o contacts

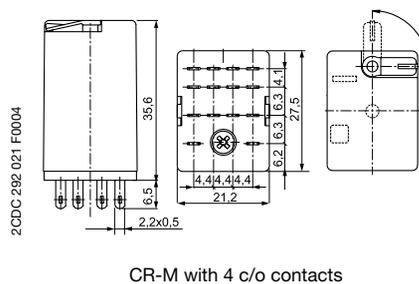
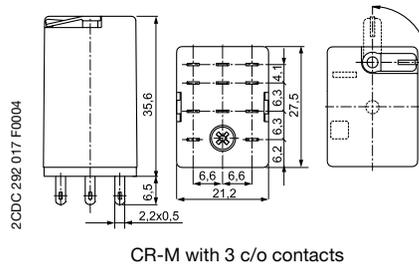
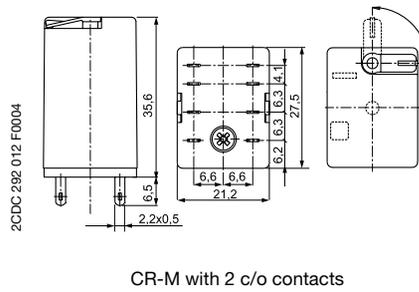
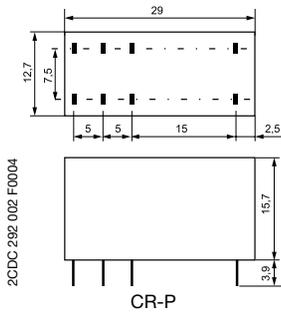


CR-M with 4 c/o contacts

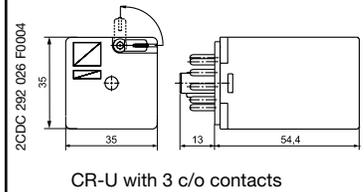
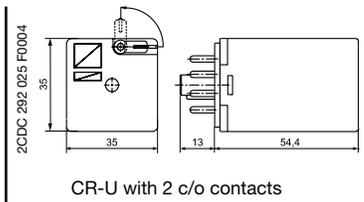


CR-U with 3 c/o contacts

Dimensional drawings



Dimensions in mm

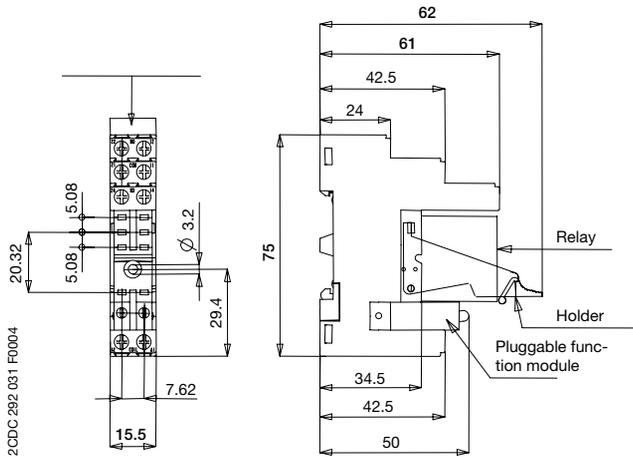


Pluggable interface relays CR-P, CR-M and CR-U Pcb-, miniature- and universal relays Dimensional drawings

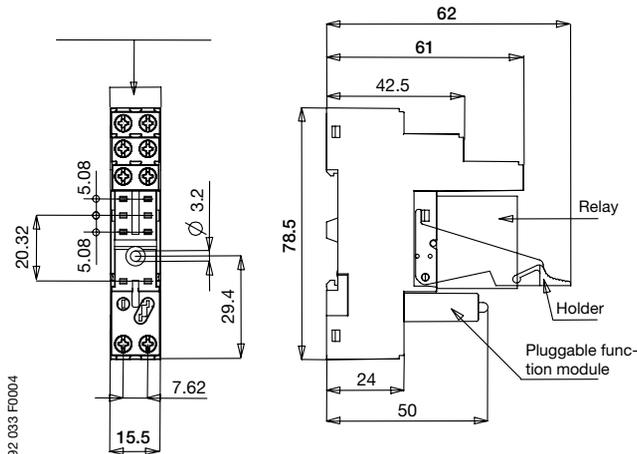
Dimensional drawings

Dimensions in mm

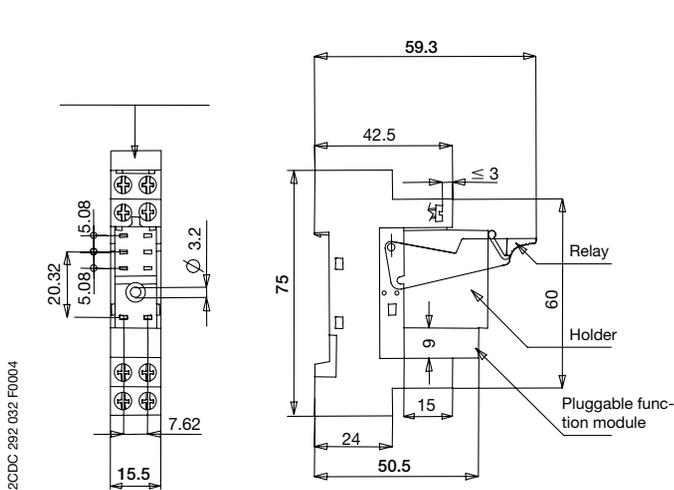
Sockets for screw connection



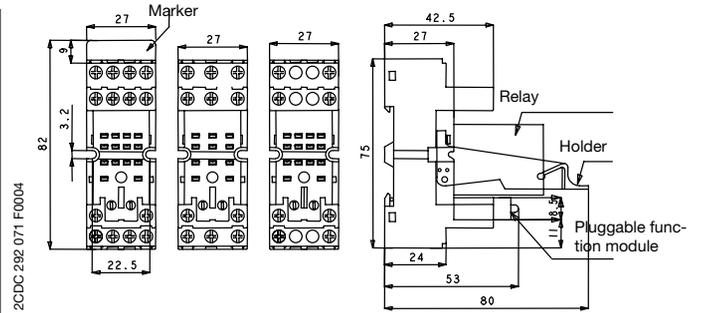
CR-PLS



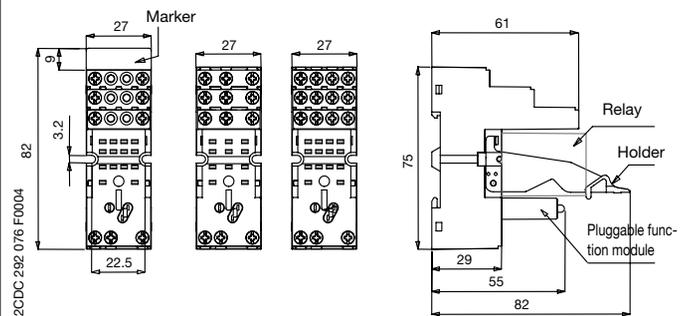
CR-PLSx



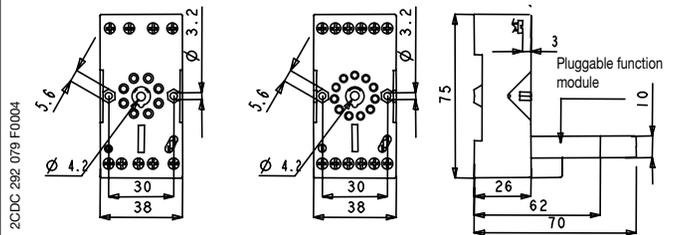
CR-PSS



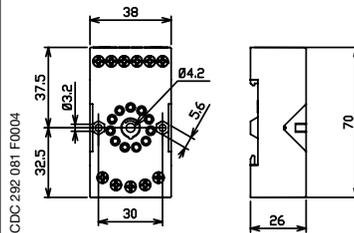
CR-M2SS - CR-M3SS - CR-M4SS



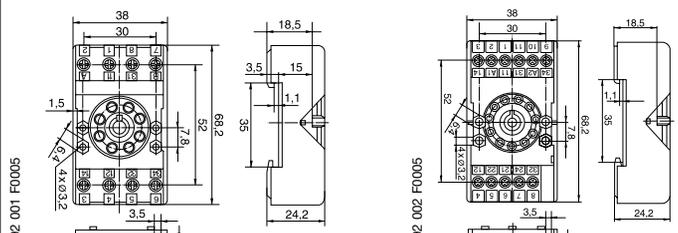
CR-M2LS - CR-M3LS - CR-M4LS



CR-U2S - CR-U3S



CR-U3E



CR-U2SM

CR-U3SM



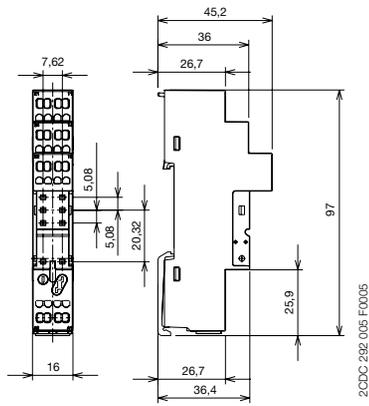
Pluggable interface relays CR-P, CR-M and CR-U Pcb-, miniature- and universal relays

Dimensional drawings

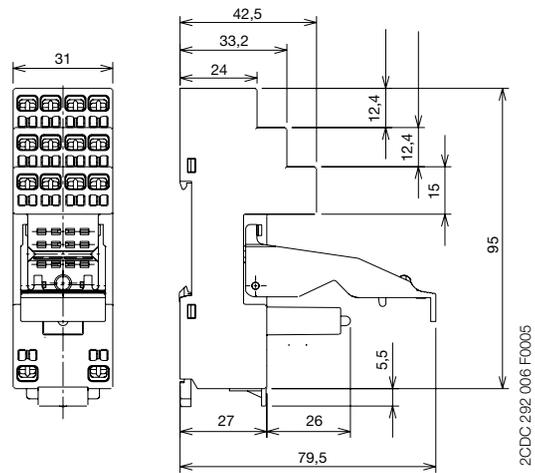
Dimensional drawings

Dimensions in mm

Sockets for spring connection

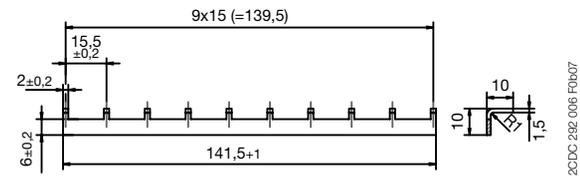


CR-PLC

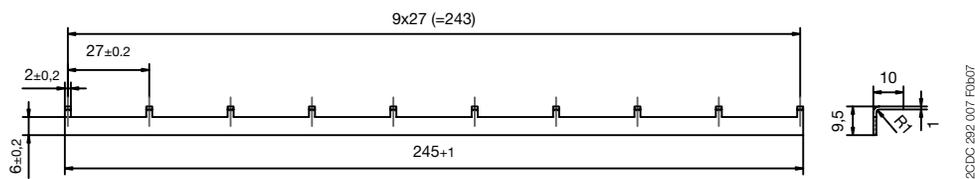


CR-M2LC , CR-M4LC

Jumper



CR-PJ



CR-MJ