



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

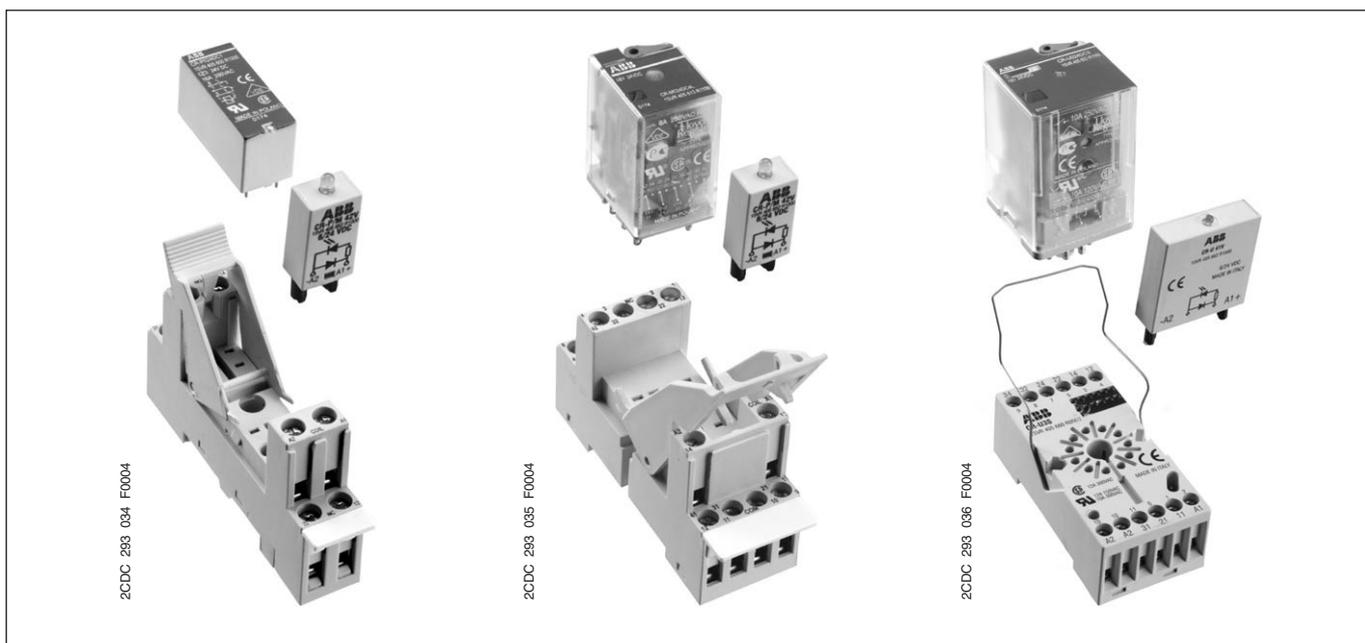
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Pluggable interface relays CR-P, CR-M and CR-U range

Benefits and advantages, approvals / marks



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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 (16 A) or
2 c/o (8 A)
- Logical or standard sockets
- Cadmium-free contact material
- Width on socket: 15,5 mm
- Pluggable function modules:
reverse polarity protection, LED
indication, RC element, overvoltage
protection

Pluggable miniature relays CR-M

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

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 (10 A) or
3 c/o (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, LED
indication, RC element, overvoltage
protection

- all devices
- some devices

Approvals

	CR-P	CR-M	CR-U	CR-P Sockets	CR-M Sockets	CR-U Sockets	CR-P/M Modules	CR-U Modules											
	■/-	■/-	■/-	■/■	■/■	■/■	-/■	-/■											
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Marks

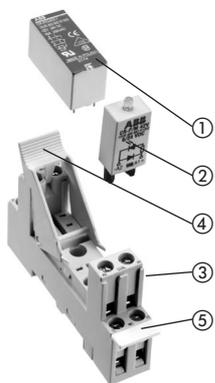
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Pluggable interface relays CR-P

Pcb relays

Ordering details

2CDC293 034 F0004



CR-P

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

2CDC291 045 F0004



CR-P

2CDC291 039 F0004



CR-PLS

2CDC291 040 F0004



CR-PSS

2CDC292 049 F0004



CR-PH

Type	Supply voltage	Order code	Pack. unit pieces	Price 1 piece
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	Order code	Pack. unit pieces	Price 1 piece
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Sockets

CR-PLS	Logical socket with safety isolation	1SVR 405 650 R0000	10	
CR-PLSx	Logical socket	1SVR 405 650 R0100	10	
CR-PSS	Standard socket	1SVR 405 650 R1000	10	

Socket accessories

CR-PH	Holder	1SVR 405 659 R0000	10	
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Bold printed products = stocked products

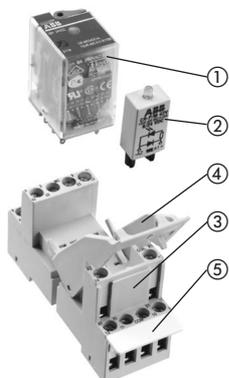
• Technical data	207	• Pluggable function modules	204
• Dimensional drawings	210	• Data sheets	2CDC 117 001 D02** / 2CDC 117 004 D02**

Pluggable interface relays CR-M

Miniature relays

Ordering details

2CDC293 035 F0004



CR-M

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

2CDC291 046 F0004



CR-M

Type	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-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-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-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-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

• Technical data	207	• Pluggable function modules	204
• Dimensional drawings	210	• Data sheets	2CDC 117 002 D02** / 2CDC 117 005 D02**

Pluggable interface relays CR-M

Miniature relays

Ordering details (continued)

2CDC291 046 F0004



CR-M

2CDC291 041 F0004



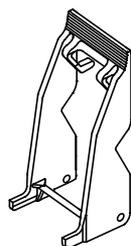
CR-M4SS

2CDC291 042 F0004



CR-M4LS

2CDC292 072 F0004



CR-MH

Type	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-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-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-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	

Accessories - Sockets

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

CR-M2LS	Logical socket for 2 c/o	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-M2SS	Standard socket for 2 c/o	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	

Socket accessories

CR-MH	Holder for CR-M sockets	1SVR 405 659 R1000	10	
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Bold printed products = stocked products

• Technical data	207	• Pluggable function modules	204
• Dimensional drawings	210	• Data sheets	2CDC 117 002 D02** / 2CDC 117 005 D02**

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

Pluggable function modules

Ordering details, position of connecting terminals

2CDC291 037 F0004



CR-P/M xx

Features

- Pluggable function modules to insert into logical or standard sockets for CR-P and CR-M interface relays
- Function modules: reverse polarity protection, LED indication, RC element, overvoltage protection

Type	Version	Order code	Pack. unit pieces	Price 1 piece
CR-P/M 22	Reverse polarity protection, 6-230 V DC, A1+, A2-	1SVR 405 651 R0000	10	
CR-P/M 42	Diode and LED red, 6-24 V DC, A1+, A2-	1SVR 405 652 R0000	10	
CR-P/M 42V	Diode and LED green, 6-24 V DC, A1+, A2-	1SVR 405 652 R1000	10	
CR-P/M 52B	RC element, 6-24 V AC	1SVR 405 653 R0000	10	
CR-P/M 52C	RC element, 110-240 V AC	1SVR 405 653 R1000	10	
CR-P/M 62	Red LED, 6-24 V AC/DC	1SVR 405 654 R0000	10	
CR-P/M 62V	Green LED, 6-24 V AC/DC	1SVR 405 654 R1000	10	
CR-P/M 92	Red LED, 110-230 V AC/DC	1SVR 405 654 R0100	10	
CR-P/M 92V	Green LED, 110-230 V AC/DC	1SVR 405 654 R1100	10	
CR-P/M 62C	Varistor and red LED, 6-24 V AC/DC	1SVR 405 655 R0000	10	
CR-P/M 62CV	Varistor and green LED, 6-24 V AC/DC	1SVR 405 655 R1000	10	
CR-P/M 92C	Varistor and red LED, 110-230 V AC/DC	1SVR 405 655 R0100	10	
CR-P/M 92CV	Varistor and green LED, 110-230 V AC/DC	1SVR 405 655 R1100	10	
CR-P/M 72	Varistor without LED, 24 V AC	1SVR 405 656 R0000	10	
CR-P/M 72A	Varistor without LED, 115 V AC	1SVR 405 656 R1000	10	
CR-P/M 82	Varistor without LED, 230 V AC	1SVR 405 656 R2000	10	

Position of connecting terminals

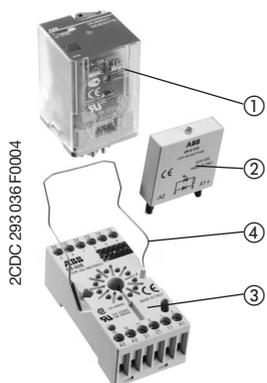
2CDC291 050 F0004		2CDC291 051 F0004		2CDC291 052 F0004		2CDC291 053 F0004	
	CM-P/M 22		CM-P/M 42 CM-P/M 42V		CM-P/M 52B		CM-P/M 52C
2CDC291 054 F0004		2CDC291 055 F0004		2CDC291 056 F0004		2CDC291 057 F0004	
	CM-P/M 62 CM-P/M 62V		CM-P/M 92 CM-P/M 92V		CM-P/M 62C CM-P/M 62CV		CM-P/M 92C CM-P/M 92CV
2CDC291 058 F0004		2CDC291 059 F0004		2CDC291 060 F0004			
	CM-P/M 72		CM-P/M 72A		CM-P/M 82		

• Data sheet 2CDC117007 D02**

Pluggable interface relays CR-U

Universal relays

Ordering details



2CDC 293 036 F0004

CR-U

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



2CDC 291 047 F0004

CR-U



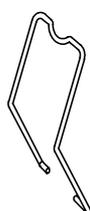
2CDC 291 043 F0004

CR-U2S



2CDC 291 044 F0004

CR-U3S



2CDC 291 082 F0004

CR-UH

Type	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	

Socket accessories

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

• Technical data	207	• Pluggable function modules	206
• Dimensional drawings	210	• Data sheets	2CDC 117 003 D02**/2CDC 117 006 D02**

Pluggable interface relays CR-U - Accessories

Pluggable function modules

Ordering details, position of connecting terminals

2CDC291 038 F0004



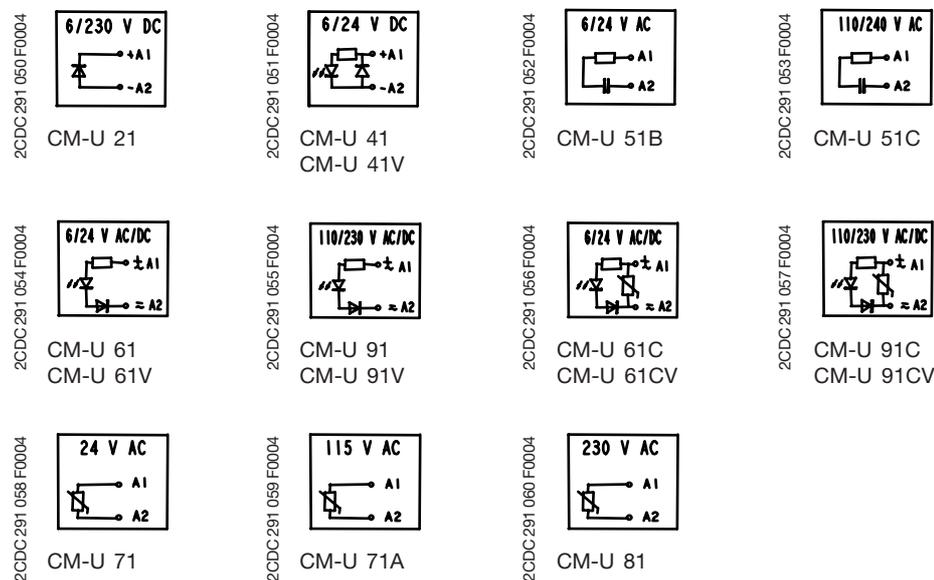
CR-U xx

Features

- Pluggable function modules to insert into sockets for CR-U interface relays
- Function modules: reverse polarity protection, LED indication, RC element, overvoltage protection

Type	Version	Order code	Pack. unit pieces	Price 1 piece
CR-U 21	Reverse polarity protection, 6-230 V DC, A1+, A2-	1SVR 405 661 R0000	10	
CR-U 41	Diode and LED red, 6-24 V DC, A1+, A2-	1SVR 405 662 R0000	10	
CR-U 41V	Diode and LED green, 6-24 V DC, A1+, A2-	1SVR 405 662 R1000	10	
CR-U 51B	RC element, 6-24 V AC	1SVR 405 663 R0000	10	
CR-U 51C	RC element, 110-240 V AC	1SVR 405 663 R1000	10	
CR-U 61	Red LED, 6-24 V AC/DC	1SVR 405 664 R0000	10	
CR-U 61V	Green LED, 6-24 V AC/DC	1SVR 405 664 R1000	10	
CR-U 91	Red LED, 110-230 V AC/DC	1SVR 405 664 R0100	10	
CR-U 91V	Green LED, 110-230 V AC/DC	1SVR 405 664 R1100	10	
CR-U 61C	Varistor and red LED, 6-24 V AC/DC	1SVR 405 665 R0000	10	
CR-U 61CV	Varistor and green LED, 6-24 V AC/DC	1SVR 405 665 R1000	10	
CR-U 91C	Varistor and red LED, 110-230 V AC/DC	1SVR 405 665 R0100	10	
CR-U 91CV	Varistor and green LED, 110-230 V AC/DC	1SVR 405 665 R1100	10	
CR-U 71	Varistor without LED, 24 V AC	1SVR 405 666 R0000	10	
CR-U 71A	Varistor without LED, 115 V AC	1SVR 405 666 R1000	10	
CR-U 81	Varistor without LED, 230 V AC	1SVR 405 666 R2000	10	

Position of connecting terminals



• Data sheet 2CDC 117 008 D02**

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

Pcb-, miniature- and universal relays

Technical data

Input circuit - coil data

CR-P range

 2CDC 291 045 F0004	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

 2CDC 291 046 F0004	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	$\pm 10\%$
	110 V DC	-	88 V DC	121 V DC	$\geq 0.1 U_n$	0.9 W	13600 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

 2CDC 291 047 F0004	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

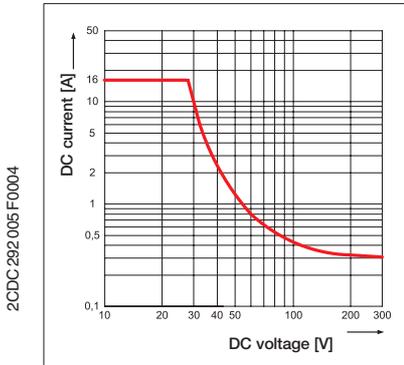
Technical data (continued)

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 voltage acc. to VDE 0110, IEC 60947-1	250 V		250 V			250 V	
Min. switching voltage	5 V		5 V			5 V	
Max. switching voltage	DC	300 V DC		250 V DC			250 V DC
	AC	400 V AC		250 V AC			250 V AC
Min. switching current	5 mA		5 mA			5 mA	
Rated current	16 A	8 A	12 A	10 A	6 A	10 A	
Rated operating current acc. to IEC 60947-5-1	AC-12 (resistive) 230 V	16 A	8 A	12 A	10 A	6 A	10 A
	AC-15 (inductive) 230 V	6 A	3 A	5 A	5 A	4 A	5 A (n/o) / 3 A (n/c)
	DC-12 (resistive) 24 V	16 A	8 A	12 A	10 A	6 A	10 A
	DC-13 (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			≤ 100 mΩ	
Max. switching capacity rated load AC-1	600 switching cycles/h		1200 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			> 2 x 10 ⁷ switching cycles	
	electrical AC-1 (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		see load limit curve			see load limit curve	
Response time	typ. 7 ms		typ. 13/10 ms			typ. 18 ms (DC), 12 ms (AC)	
Release time	typ. 3 ms		typ. 3/8 ms			typ. 7 ms (DC), 10 ms (AC)	
Isolation data							
Rated insulation voltage	400 V AC		250 V AC			250 V AC	
Insulation class	C250 / B400		C250 / B250			C250	
Insulation resistance	between coil and contacts		5 kV AC		2.5 kV AC		2.5 kV AC
	between contacts		1 kV AC		1,5 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		any			any	
Degree of protection	IP 67		IP 40			IP 40	
Temperature range	operation	DC	-40 °C ... +85 °C		-40 °C ... +70 °C		-40 °C ... +70 °C
		AC	-40 °C ... +70 °C		-40 °C ... +55 °C		-40 °C ... +55 °C
	storage	-40 °C ... +85 °C		-40 °C ... +85 °C			-40 °C ... +85 °C
Connection	by socket		by socket			by socket	
Mounting	on socket (see accessories)		on socket (see accessories)			on socket (see accessories)	
Vibration resistance n/o, n/c	10 g / 5 g		10 g / 5 g			10 g	
Shock resistance 10-150 Hz	30 g	20 g	5 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		73/23/EEC			73/23/EEC	
Approvals / marks							
Approvals	RU (UL), CSA, VDE, GOST		RU (UL), CSA, VDE, GOST Lloyd Type Approval (only 4 c/o version)			RU (UL), CSA, VDE, GOST Lloyd Type Approval	
Marks	CE		CE			CE	

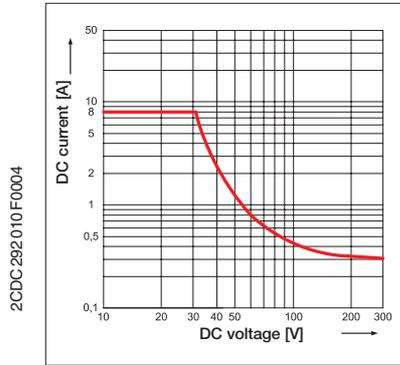
Pluggable interface relays CR-P, CR-M and CR-U Pcb-, miniature- and universal relays Load limit curves

Maximum switching power at resistive DC load

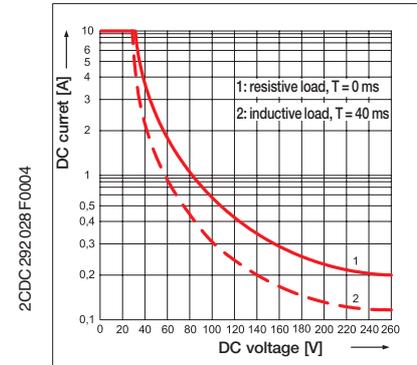
CR-P with 1 c/o contact



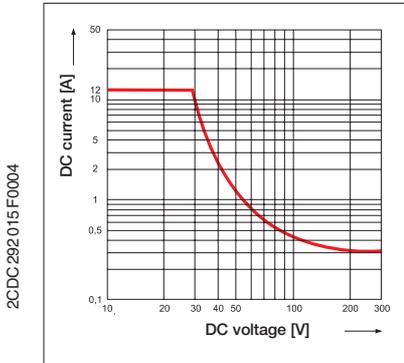
CR-P with 2 c/o contacts



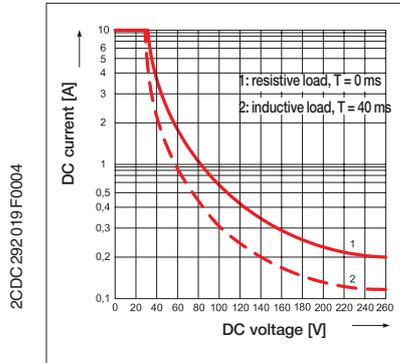
CR-U with 2 and 3 c/o contacts



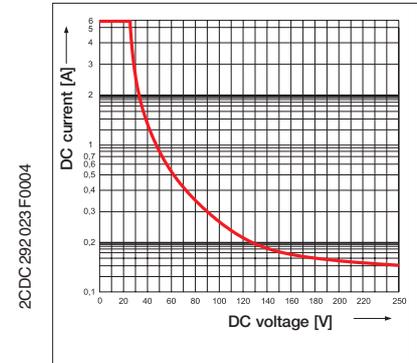
CR-M with 2 c/o contacts



CR-M with 3 c/o contacts

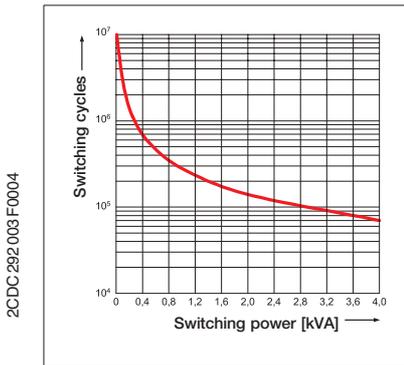


CR-M with 4 c/o contacts

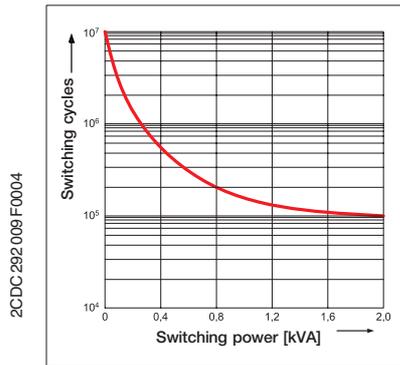


Electrical lifetime at resistive AC load

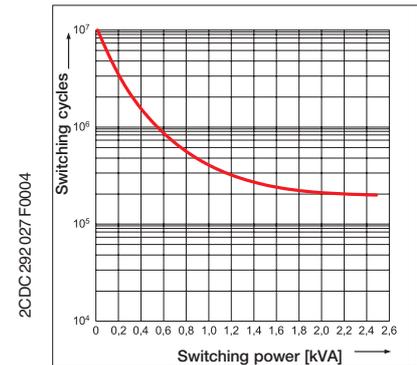
CR-P with 1 c/o contact



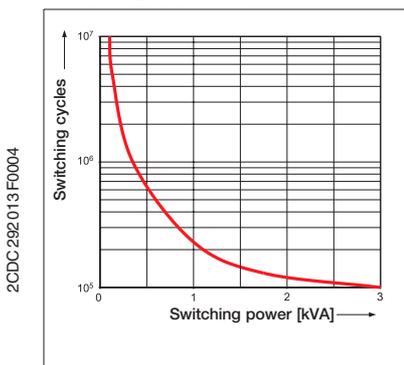
CR-P with 2 c/o contacts



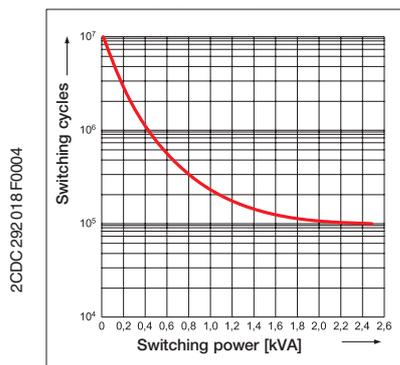
CR-U with 2 and 3 c/o contacts



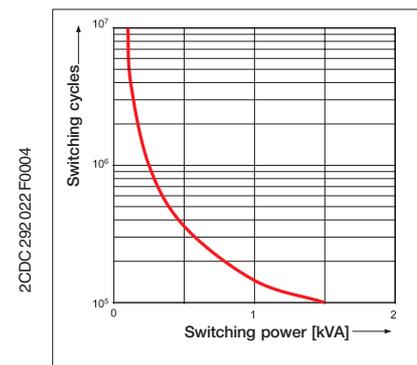
CR-M with 2 c/o contacts



CR-M with 3 c/o contacts



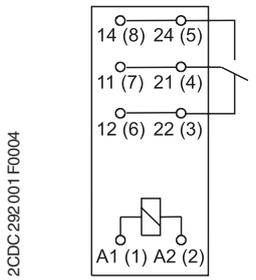
CR-M with 4 c/o contacts



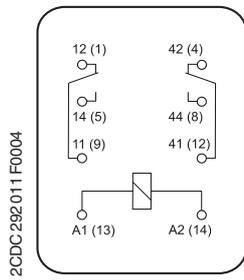
Pluggable interface relays CR-P, CR-M and CR-U Pcb-, miniature- and universal relays

Position of connection terminals, dimensional drawings

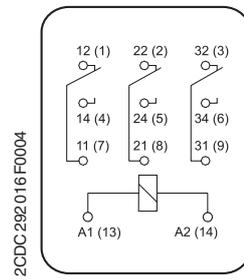
Position of connection terminals



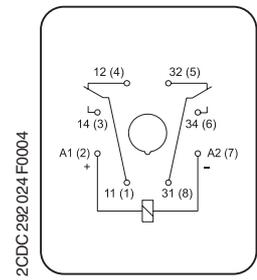
CR-P with 1 c/o contact



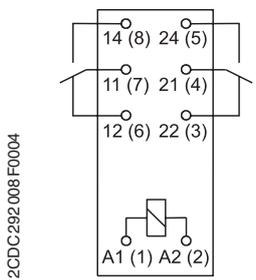
CR-M with 2 c/o contacts



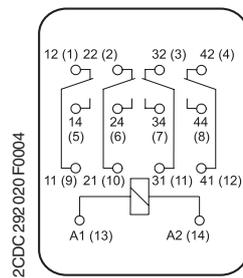
CR-M with 3 c/o contacts



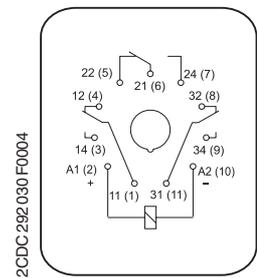
CR-U with 2 c/o contacts



CR-P with 2 c/o contacts

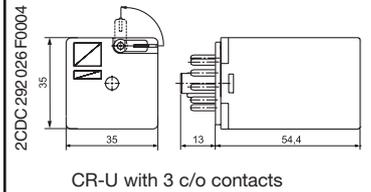
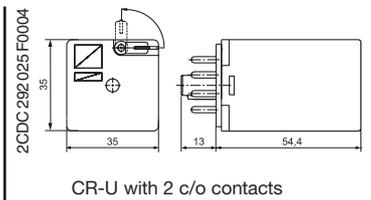
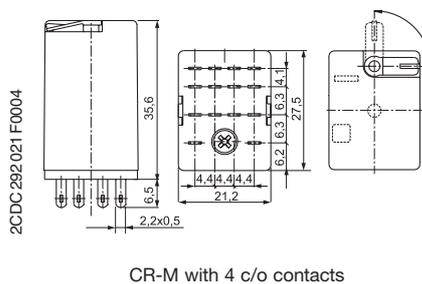
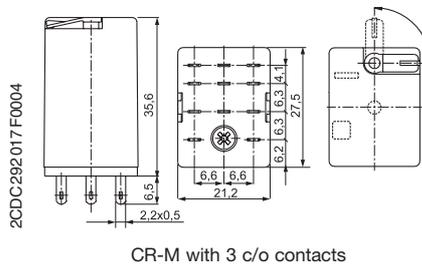
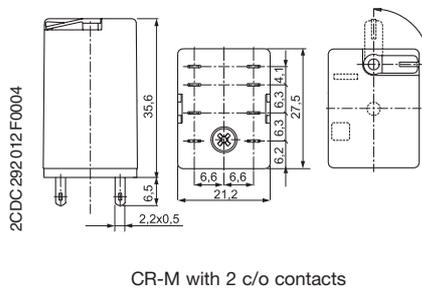
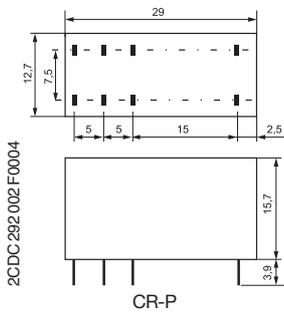


CR-M with 4 c/o contacts



CR-U with 3 c/o contacts

Dimensions in mm

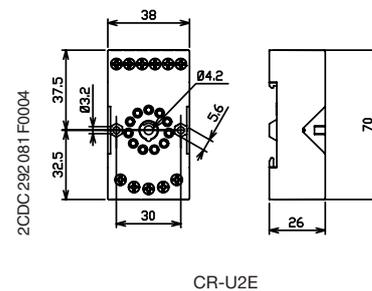
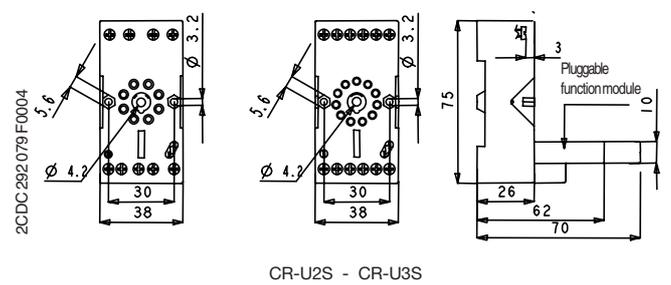
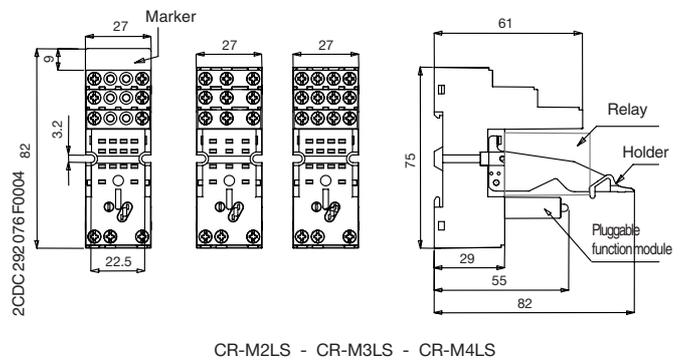
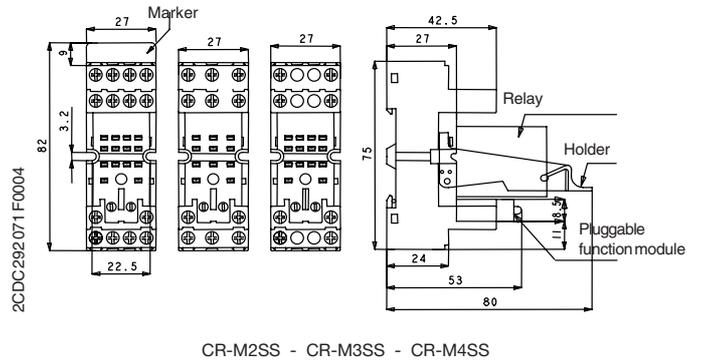
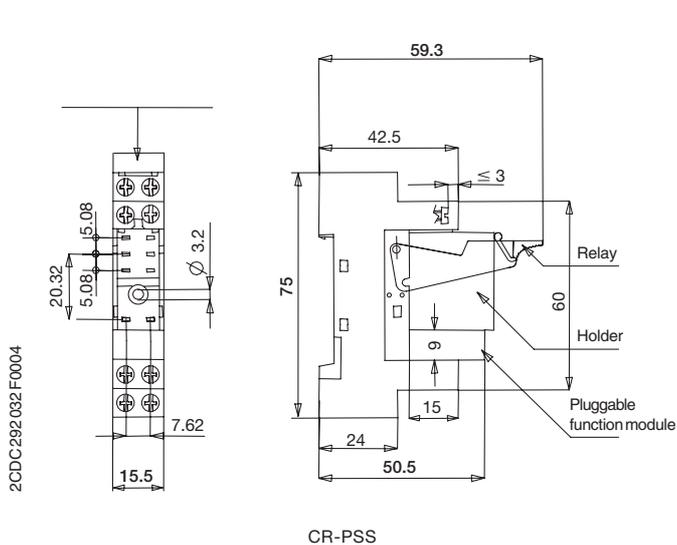
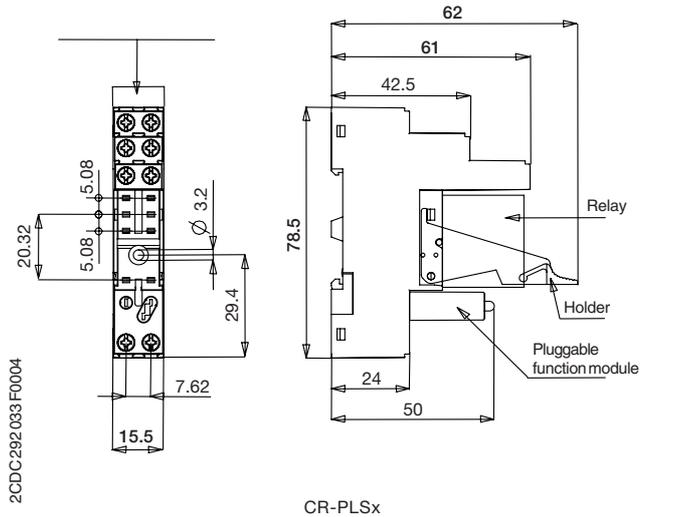
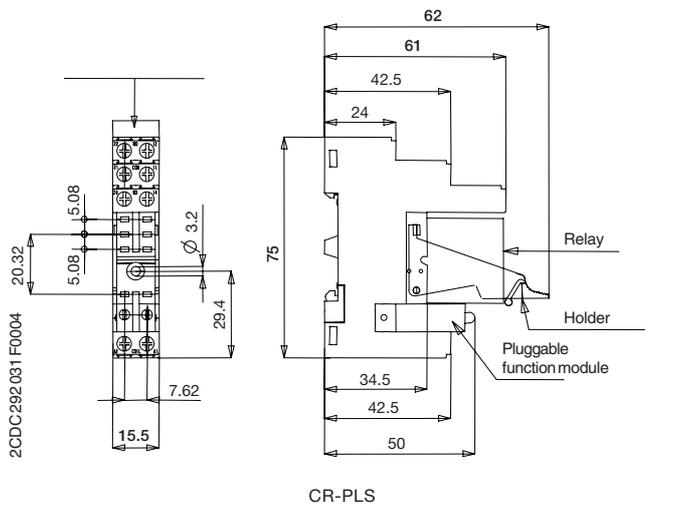


Pluggable interface relays CR-P, CR-M and CR-U

Pcb-, miniature- and universal relays

Dimensional drawings sockets

Dimensions in mm



5

Notes

5

