

Pluggable interface relays CR-M

Miniature relays

Pluggable interface relays are used for electrical isolation, amplification and signal matching between the electronic controlling, e.g. PLC (programmable logic controller), PC or field bus systems and the sensor / actuator level. They don't use additional internal protective circuits and thus are overload-proof against short-time variations like current or voltage peaks.



2CDC 291 002 S0015

Characteristics

- Standard miniature relays with mechanical status indication
- 13 different rated control supply voltages:
DC versions: 12 V, 24 V, 48 V, 60 V, 110 V, 125 V, 220 V
AC versions: 24 V, 48 V, 60 V, 110 V, 120 V, 230 V
- Output: 2 c/o (SPDT) contacts (12 A), 3 c/o (SPDT) contacts (10 A) or 4 c/o (SPDT) contacts (6 A)
- Available with or without LED
- 4 c/o (SPDT) contact version optionally equipped with gold contacts, LED and free wheeling diode
- Integrated test button for manual actuation and locking of output contacts (DC coil = blue, AC coil = orange) that can be removed if necessary
- Cadmium-free contact material
- Suited for logical and standard sockets
- Width on socket: 27 mm (1.063 in)
- Pluggable function modules: reverse polarity protection/ free wheeling diode, LED indication, RC elements, overvoltage protection

Approvals

- ANSI/UL 508, CAN/CSA C22.2 No.14
- CAN/CSA C22.2 No.14
- VDE (except 125 V DC devices)
- EAC
- Lloyds Register (only devices with 4 c/o (SPDT) contacts)
- CCC
- RMRS (except 60 V and 125 V devices)

Marks

- CE

Order data

Packing unit = 10 pieces

Interface relays without LED, 2 c/o (SPDT) contacts: 250 V, 12 A

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

Interface relays without LED, 3 c/o (SPDT) contacts: 250 V, 10 A

CR-M012DC3	12 V DC	1SVR 405 612 R4000
CR-M024DC3	24 V DC	1SVR 405 612 R1000
CR-M048DC3	48 V DC	1SVR 405 612 R6000
CR-M060DC3	60 V DC	1SVR 405 612 R4200
CR-M110DC3	110 V DC	1SVR 405 612 R8000
CR-M125DC3	125 V DC	1SVR 405 612 R8200
CR-M220DC3	220 V DC	1SVR 405 612 R9000
CR-M024AC3	24 V AC	1SVR 405 612 R0000
CR-M048AC3	48 V AC	1SVR 405 612 R5000
CR-M060AC3	60 V AC	1SVR 405 612 R5200
CR-M110AC3	110 V AC	1SVR 405 612 R7000
CR-M120AC3	120 V AC	1SVR 405 612 R2000
CR-M230AC3	230 V AC	1SVR 405 612 R3000

Interface relays without LED, 4 c/o (SPDT) contacts: 250 V, 6 A

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

Interface relays with LED, 2 c/o (SPDT) contacts: 250 V, 12 A

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

Interface relays with LED, 3 c/o (SPDT) contacts: 250 V, 10 A

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

Interface relays with LED, 4 c/o (SPDT) contacts: 250 V, 6 A

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

Interface relays with LED and free wheeling diode, 4 c/o (SPDT) contacts: 250 V, 6 A

CR-M024DC4LD	24 V DC	1SVR 405 614 R1100
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Interface relays with gold contacts, 4 c/o (SPDT) contacts: 250 V, 6 A

CR-M024DC4G	24 V DC	1SVR 405 618 R1000
CR-M024AC4G	24 V AC	1SVR 405 618 R0000
CR-M110AC4G	110 V AC	1SVR 405 618 R7000
CR-M230AC4G	230 V AC	1SVR 405 618 R3000

Interface relays with LED and gold contacts, 4 c/o (SPDT) contacts: 250 V, 6 A

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

Interface relays with gold contacts, LED and free wheeling diode, 4 c/o (SPDT) contacts: 250 V, 6 A

CR-M012DC4LDG	12 V DC	1SVR 405 618 R4400
CR-M024DC4LDG	24 V DC	1SVR 405 618 R1400

Accessories

Packing unit = 10 pieces

Function modules

Type	Rated control supply voltage U _s	Version	Order code
Diode - Reverse polarity protection			
CR-P/M 22	6-220 V DC	A1+, A2-	1SVR 405 651 R0000

Diode and LED - Reverse polarity protection

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

RC element - Arc elimination

CR-P/M 52B	6-24 V AC/DC		1SVR 405 653 R0000
CR-P/M 52D	24-60 V AC/DC		1SVR 405 653 R4000
CR-P/M 52C	110-230 V AC/DC		1SVR 405 653 R1000

Diode and LED

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

Varistor and LED - Overvoltage protection

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

Varistor - Overvoltage protection

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

Plug to replace the test button (Packing unit = 100 pieces)

CR-MP			1SVR 405 658 R2000
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Sockets

Type	Version	Connection	Order code
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Logical sockets

CR-M2LS	for 2 c/o (SPDT) contacts	screw	1SVR 405 651 R1100
CR-M3LS	for 3 c/o (SPDT) contacts	screw	1SVR 405 651 R2100
CR-M4LS	for 2 or 4 c/o (SPDT) contacts	screw	1SVR 405 651 R3100
CR-M2LC	for 2 c/o (SPDT) contacts	spring	1SVR 405 651 R1200
CR-M4LC	for 2 or 4 c/o (SPDT) contacts	spring	1SVR 405 651 R3200

Standard sockets

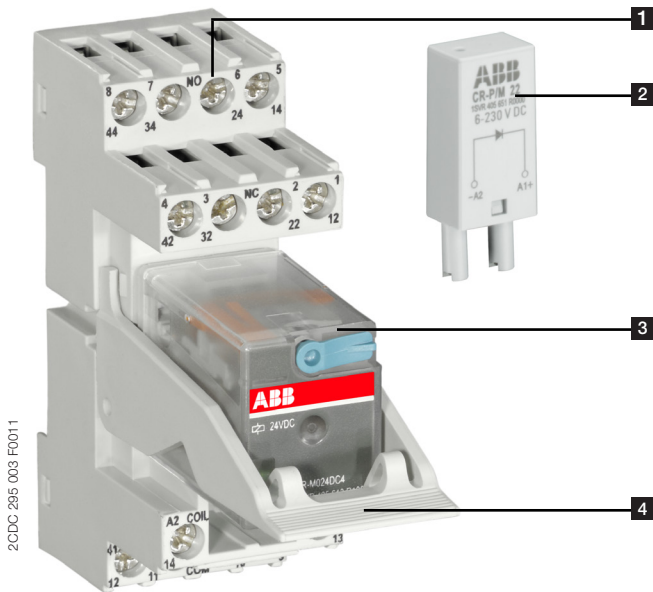
CR-M2SS	for 2 c/o (SPDT) contacts	screw	1SVR 405 651 R1000
CR-M3SS	for 3 c/o (SPDT) contacts	screw	1SVR 405 651 R2000
CR-M4SS	for 2 or 4 c/o (SPDT) contacts	screw	1SVR 405 651 R3000
CR-M2SF	for 2 c/o (SPDT) contacts	fork type screw	1SVR 405 651 R1300
CR-M4SF	for 2 or 4 c/o (SPDT) contacts	fork type screw	1SVR 405 651 R3300

Accessories for CR-M sockets

CR-MH	Plastic holder		1SVR 405 659 R1000
CR-MH1	Metall holder		1SVR 405 659 R1100
CR-MJ	Jumper bar for sockets with screw clamps		1SVR 405 658 R6000
CR-MM	Marker		1SVR 405 658 R1000

Functions

Operating controls



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

Application

Interface relays are electromechanic and electronic input and output modules for electrical isolation, levelling, noise suppression or signal amplification between control unit and process.

Operating mode

When control supply voltage is applied, the output contacts get closed. When control supply voltage is switched off, the contacts fall back into their starting position. Manual operation and locking of the output relays is possible via the integrated test button.

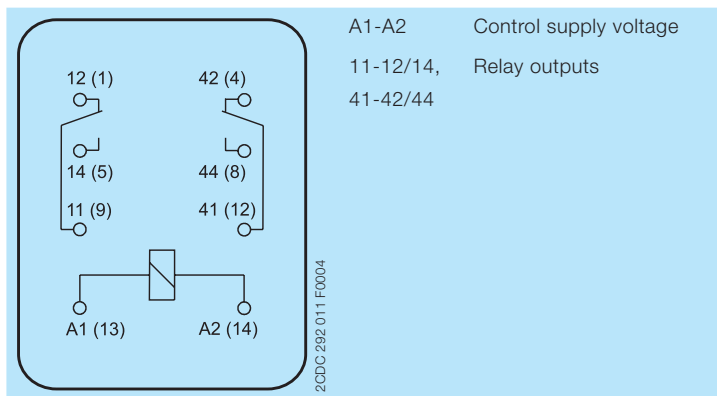
Note:

During operation of the relay the test button is warming up. To manually press the test button, first switch off the supply voltage of the relay and wait for a while until the button cools down (or press without delay, using protective gloves or insulated tools).

Press the button smoothly and quickly. As long as the button is pressed the n/o contacts are closed. Releasing the button opens the n/o contacts. A 90 degree rotation of the test button closes the n/o contacts permanently. Reverse rotation of the test button re-opens the n/o contacts.

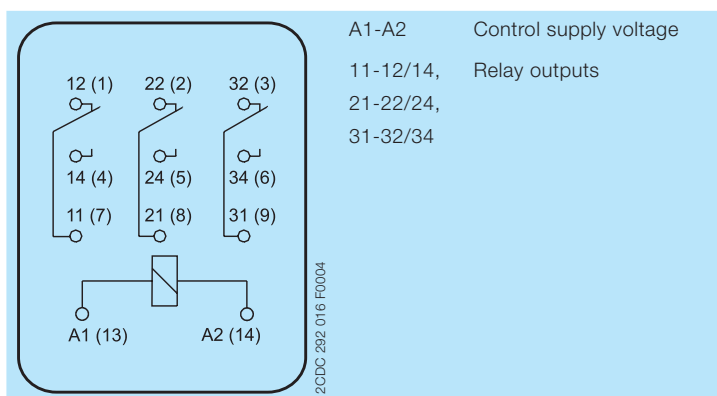
Electrical connection

CR-M with 2 c/o (SPDT) contacts



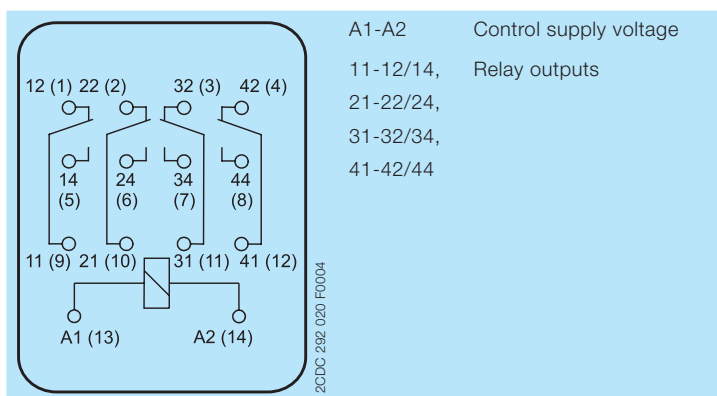
Connection diagram

CR-M with 3 c/o (SPDT) contacts



Connection diagram

CR-M with 4 c/o (SPDT) contacts



Connection diagram