



Pluggable interface relays

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

Content

| | |
|--|------|
| Benefits and advantages | 6/ 4 |
| Approvals and marks | 6/ 5 |
| Ordering details | |
| CR-P relays | 6/ 6 |
| Sockets for CR-P relays | 6/ 6 |
| Pluggable function modules for CR-P relays | 6/10 |
| CR-M relays | 6/ 7 |
| Sockets for CR-M relays | 6/ 9 |
| Pluggable function modules for CR-M relays | 6/10 |
| CR-U relays | 6/11 |
| Sockets for CR-U relays | 6/11 |
| Pluggable function modules for CR-U relays | 6/12 |
| Technical data | 6/13 |
| Technical diagrams..... | 6/15 |
| Connection diagrams..... | 6/17 |
| Dimensional drawings | 6/17 |

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

Benefits and advantages



2CDC295-007 F0205

6

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) optionally equipped with gold contacts
- 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

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, 60 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, LED and free wheeling diode
- Integrated test button for manual actuation and locking of the output contacts (blue = DC, orange = AC) that can be removed if necessary
- 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

Pluggable universal relays CR-U

- 10 different coil voltages
 - DC versions: 12 V, 24 V, 48 V, 110 V, 125 V, 220 V
 - AC versions: 24 V, 48 V, 60 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) that can be removed if necessary
- 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

Kinds of sockets

Standard sockets - Position of connecting terminals:

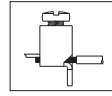
Coil connection (A1-A2) on lower socket side,
contact connections (n/o and n/c contacts)
on the lower and upper socket side.

Logical sockets - Position of connecting terminals:

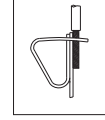
Coil connection (A1-A2) on lower socket side,
all contact connections (common contacts,
n/o and n/c contacts) on upper socket side.

Details see connection diagrams

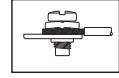
Kind of connecting terminals



Screw type



Spring type



Fork type

Approvals and marks

| | | 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

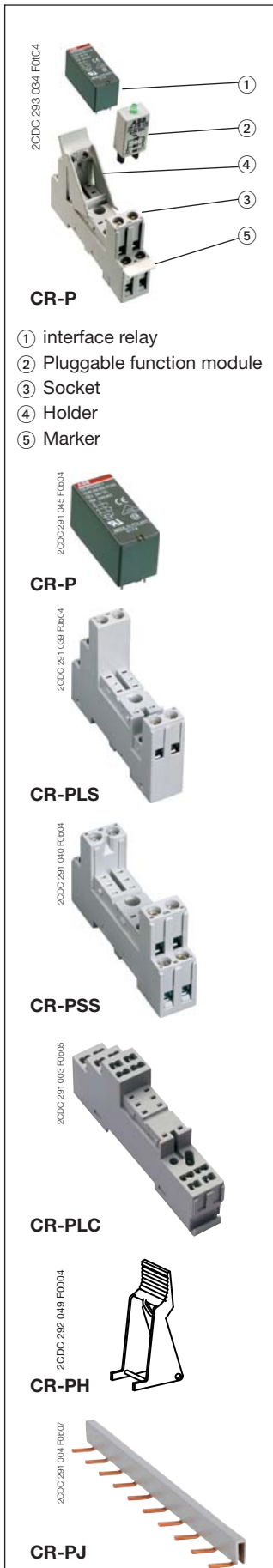
⁶⁾ except CR-P/M 42B, CR-P/M 42BV, CR-P/M 42C, CR-P/M 42CV, CR-P/M 52D, CR-P/M 62E, CR-P/M 62EV, CR-P/M 62D, CR-P/M 62DV

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 |
|------|------------------------------|------------|-------------------|---------------|
|------|------------------------------|------------|-------------------|---------------|

Interface relays

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 | |

Interface relays with gold contacts

2 c/o gold contacts: 250 V, 8 A

| | | | | |
|-------------|----------|--------------------|----|--|
| CR-P024DC2G | 24 V DC | 1SVR 405 606 R1000 | 10 | |
| CR-P024AC2G | 24 V AC | 1SVR 405 606 R0000 | 10 | |
| CR-P110AC2G | 110 V AC | 1SVR 405 606 R7000 | 10 | |
| CR-P230AC2G | 230 V AC | 1SVR 405 606 R3000 | 10 | |

Accessories - Sockets

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

Sockets

| | | | | | |
|----------------|---|-------------------|---------------------------|----|--|
| CR-PLS | Logical socket with protective separation | screw | 1SVR 405 650 R0000 | 10 | |
| CR-PLSx | Logical socket ¹⁾ | screw | 1SVR 405 650 R0100 | 10 | |
| CR-PLC | Logical socket ¹⁾ | 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 for sockets with screw connection | | 1SVR 405 658 R5000 | 10 | |

Markers

| | | | | | |
|-------------|--------|--|---------------------------|----|--|
| CR-P | Marker | | 1SVR 405 658 R0000 | 10 | |
|-------------|--------|--|---------------------------|----|--|

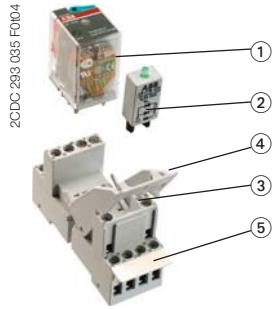
¹⁾ can be used with time modules CR-P/M T...
 Bold printed products = stocked products

• Pluggable function modules 6/10 • Technical data 6/13 • Dimensional drawings 6/17

Pluggable interface relays CR-M

Miniature relays

Ordering details



CR-M

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



CR-M

| Type | Rated control supply voltage | Order code | Pack. unit pieces | Price 1 piece |
|------|------------------------------|------------|-------------------|---------------|
|------|------------------------------|------------|-------------------|---------------|

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-M060AC3 | 60 V AC | 1SVR 405 612 R5200 | 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 | |

Bold printed products = stocked products

• Pluggable function modules 6/10 • Technical data 6/13 • Dimensional drawings 6/17

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 |
|------|------------------------------|------------|-------------------|---------------|
|------|------------------------------|------------|-------------------|---------------|

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 | |

3 c/o contacts: 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 contacts: 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 free-wheeling diode

4 c/o contacts: 250 V, 6 A

| | | | | |
|--------------|---------|--------------------|----|--|
| CR-M024DC4LD | 24 V DC | 1SVR 405 614 R1100 | 10 | |
|--------------|---------|--------------------|----|--|

Bold printed products = stocked products

• Pluggable function modules 6/10 • Technical data 6/13 • Dimensional drawings 6/17

Pluggable interface relays CR-M

Miniature relays

Ordering details (continued)

2CDC 291 046 F0b04



CR-M

2CDC 291 041 F0b04



CR-M4SS

2CDC 291 042 F0b04



CR-M4LS

2CDC 291 004 F0b05



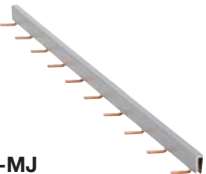
CR-M4LC

2CDC 292 072 F0004



CR-MH

2CDC 291 005 F0b07



CR-MJ

| Type | Rated control supply voltage | Order code | Pack. unit pieces | Price 1 piece |
|------|------------------------------|------------|-------------------|---------------|
|------|------------------------------|------------|-------------------|---------------|

Interface relays with gold contacts

4 c/o contacts: 250 V, 6 A

| | | | | |
|-------------|----------|--------------------|----|--|
| CR-M024DC4G | 24 V DC | 1SVR 405 618 R1000 | 10 | |
| CR-M024AC4G | 24 V AC | 1SVR 405 618 R0000 | 10 | |
| CR-M110AC4G | 110 V AC | 1SVR 405 618 R7000 | 10 | |
| CR-M230AC4G | 230 V AC | 1SVR 405 618 R3000 | 10 | |

Interface relays with gold contacts and LED

4 c/o contacts: 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 | |

Interface relays with gold contacts, LED and free-wheeling diode

4 c/o contacts: 250 V, 6 A

| | | | | |
|---------------|---------|--------------------|----|--|
| CR-M012DC4LDG | 12 V DC | 1SVR 405 618 R4400 | 10 | |
| CR-M024DC4LDG | 24 V DC | 1SVR 405 618 R1400 | 10 | |

Accessories - Sockets

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

Sockets

| | | | | | |
|---------|--|-------------------|--------------------|----|--|
| CR-M2LS | Logical socket ¹⁾ for 2 c/o | screw | 1SVR 405 651 R1100 | 10 | |
| CR-M3LS | Logical socket ¹⁾ for 3 c/o | | 1SVR 405 651 R2100 | 10 | |
| CR-M4LS | Logical socket ¹⁾ for 2/4 c/o | | 1SVR 405 651 R3100 | 10 | |
| CR-M2LC | Logical socket ¹⁾ for 2 c/o | spring connection | 1SVR 405 651 R1200 | 10 | |
| CR-M4LC | Logical socket ¹⁾ for 2/4 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 | 25 | |
| CR-MJ | Jumper bar for sockets with screw connection | 1SVR 405 658 R6000 | 10 | |

Markers

| | | | | |
|------|--------|--------------------|----|--|
| CR-M | Marker | 1SVR 405 658 R1000 | 10 | |
|------|--------|--------------------|----|--|

¹⁾ can be used with time modules CR-P/M T...

Bold printed products = stocked products

• Pluggable function modules 6/10 • Technical data 6/13 • Dimensional drawings 6/17

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

Pluggable function modules

Ordering details, Connection diagrams

2CDC 291 037 F0604



CR-P/M ..

| Type | Rated control supply voltage | Version | Order code | Pack. unit pieces | Price 1 piece |
|------|------------------------------|---------|------------|-------------------|---------------|
|------|------------------------------|---------|------------|-------------------|---------------|

Diode - Reverse polarity protection/free wheeling diode

| | | | | | |
|-----------|------------|----------|--------------------|----|--|
| CR-P/M 22 | 6-230 V DC | A1+, A2- | 1SVR 405 651 R0000 | 10 | |
|-----------|------------|----------|--------------------|----|--|

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 | 110-230 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 | |

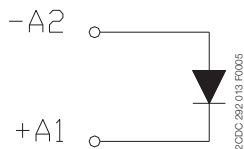
Varistor and LED - Overvoltage protection

| | | | | | |
|-------------|-----------------|------------------------|--------------------|----|--|
| 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 | |

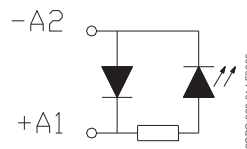
Varistor - Overvoltage protection

| | | | | | |
|------------|----------|--|--------------------|----|--|
| 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 | |

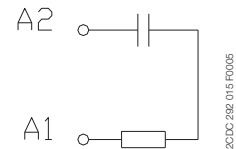
Connection diagrams



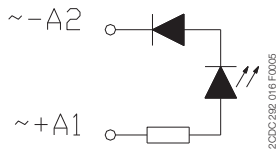
CR-P/M 22



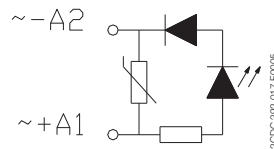
CR-P/M 42, CR-P/M 42C, CR-P/M 42BV, CR-P/M 42B, CR-P/M 42V, CR-P/M 42CV



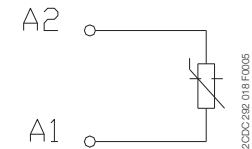
CR-P/M 52B, CR-P/M 52D, CR-P/M 52C



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



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



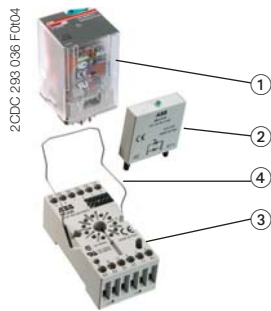
CR-P/M 72, CR-P/M 72A, CR-P/M 82

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



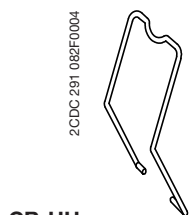
CR-U



CR-U3S



CR-U3E



CR-UH

| Type | Rated control supply voltage | Order code | Pack. unit pieces | Price 1 piece |
|------|------------------------------|------------|-------------------|---------------|
|------|------------------------------|------------|-------------------|---------------|

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 | |

Interface relays without LED: 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-U125DC3 | 125 V DC | 1SVR 405 622 R8200 | 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-U060AC3 | 60 V AC | 1SVR 405 622 R5200 | 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 | |

Interface relays with LED: 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 |
|------|---------|------------|-------------------|---------------|
|------|---------|------------|-------------------|---------------|

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 | |

Accessories Sockets

| | | | | |
|--------------|------------------------|---------------------------|-----------|--|
| CR-UH | Holder for CR-U socket | 1SVR 405 669 R0000 | 10 | |
|--------------|------------------------|---------------------------|-----------|--|

Bold printed products = stocked products

• Pluggable function modules 6/10 • Technical data 6/13 • Dimensional drawings 6/17

Pluggable interface relays CR-U - Accessories

Pluggable function modules

Ordering details, Connection diagrams

2CDC 291 038 F0004



CR-U ..

| Type | Rated control supply voltage | Version | Order code | Pack. unit pieces | Price 1 piece |
|------|------------------------------|---------|------------|-------------------|---------------|
|------|------------------------------|---------|------------|-------------------|---------------|

Diode - Reverse polarity protection/free wheeling diode

| | | | | | |
|---------|------------|----------|--------------------|----|--|
| CR-U 21 | 6-230 V DC | A1+, A2- | 1SVR 405 661 R0000 | 10 | |
|---------|------------|----------|--------------------|----|--|

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 | 110-230 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

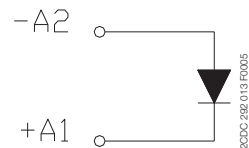
| | | | | | |
|--------|----------------|----------------------------------|--------------------|----|--|
| CR-U T | 24-240 V AC/DC | pluggable onto CR-U2S and CR-U3S | 1SVR 405 667 R0000 | 10 | |
|--------|----------------|----------------------------------|--------------------|----|--|

2CDC 291 032 F0005

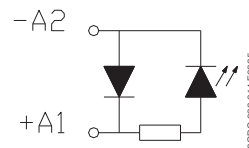


CR-U T

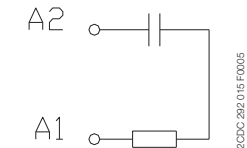
Connection diagrams



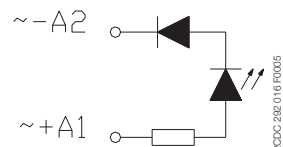
CR-U 21



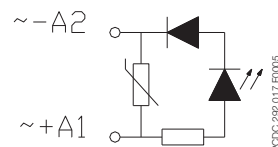
CR-U 41, CR-U 41V, CR-U 41B, CR-U 41BV, CR-U 41C, CR-U 41CV



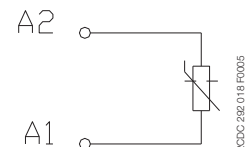
CR-U 51B, CR-U 51C CR-U 51D,



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



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



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

All CR-U modules can be plugged onto sockets CR-U2S and CR-U3S.
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 control supply voltage U_s | Rated frequency | Make voltage (at 20 °C) | Maximum voltage (at 55 °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 | $\geq 0.1 U_s$ | 0.4-0.48 W | 360 Ω | $\pm 10\%$ |
| | 24 V DC | - | 16.8 V DC | 61.2 V DC | $\geq 0.1 U_s$ | 0.4-0.48 W | 1440 Ω | $\pm 10\%$ |
| | 48 V DC | - | 33.6 V DC | 122.4 V DC | $\geq 0.1 U_s$ | 0.4-0.48 W | 5700 Ω | $\pm 10\%$ |
| | 110 V DC | - | 77 V DC | 280 V DC | $\geq 0.1 U_s$ | 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 | $\geq 0.15 U_s$ | 0.75 VA | 400 Ω | $\pm 10\%$ |
| | 48 V AC | 50 / 60 Hz | 38.4 V AC | 57.6 V AC | $\geq 0.15 U_s$ | 0.75 VA | 1550 Ω | $\pm 10\%$ |
| | 110 V AC | 50 / 60 Hz | 88 V AC | 132 V AC | $\geq 0.15 U_s$ | 0.75 VA | 8900 Ω | $\pm 10\%$ |
| | 120 V AC | 50 / 60 Hz | 96 V AC | 144 V AC | $\geq 0.15 U_s$ | 0.75 VA | 10200 Ω | $\pm 10\%$ |
| | 230 V AC | 50 / 60 Hz | 184 V AC | 276 V AC | $\geq 0.15 U_s$ | 0.75 VA | 38500 Ω | $\pm 10\%$ |

CR-M range



| | Rated control supply voltage U_s | Rated frequency | Make voltage (at 20 °C) | Maximum voltage (at 55 °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 | $\geq 0.1 U_s$ | 0.9 W | 160 Ω | $\pm 10\%$ |
| | 24 V DC | - | 19.2 DC | 26.4 V DC | $\geq 0.1 U_s$ | 0.9 W | 640 Ω | $\pm 10\%$ |
| | 48 V DC | - | 38.4 V DC | 52.8 V DC | $\geq 0.1 U_s$ | 0.9 W | 2600 Ω | $\pm 10\%$ |
| | 60 V DC | - | 48.0 V DC | 66.0 V DC | $\geq 0.1 U_s$ | 0.9 W | 4000 Ω | $\pm 10\%$ |
| | 110 V DC | - | 88 V DC | 121 V DC | $\geq 0.1 U_s$ | 0.9 W | 13600 Ω | $\pm 10\%$ |
| | 125 V DC | - | 100 V DC | 137,5 V DC | $\geq 0.1 U_s$ | 0.9 W | 16000 Ω | $\pm 10\%$ |
| | 220 V DC | - | 176 V DC | 242 V DC | $\geq 0.1 U_s$ | 0.9 W | 54000 Ω | $\pm 10\%$ |
| | AC coils | 24 V AC | 50 / 60 Hz | 19.2 V AC | 26.4 V AC | $\geq 0.2 U_s$ | 1.6 VA | 158 Ω |
| 48 V AC | | 50 / 60 Hz | 38.4 V AC | 52.8 V AC | $\geq 0.2 U_s$ | 1.6 VA | 640 Ω | $\pm 10\%$ |
| 60 V AC | | 50 / 60 Hz | 48.0 V AC | 66.0 V AC | $\geq 0.2 U_s$ | 1.6 VA | 930 Ω | $\pm 10\%$ |
| 110 V AC | | 50 / 60 Hz | 88 V AC | 121 V AC | $\geq 0.2 U_s$ | 1.6 VA | 3450 Ω | $\pm 10\%$ |
| 120 V AC | | 50 / 60 Hz | 96 V AC | 132 V AC | $\geq 0.2 U_s$ | 1.6 VA | 3770 Ω | $\pm 10\%$ |
| 230 V AC | | 50 / 60 Hz | 184 V AC | 253 V AC | $\geq 0.2 U_s$ | 1.6 VA | 16100 Ω | $\pm 10\%$ |

CR-U range



| | Rated control supply voltage U_s | Rated frequency | Make voltage (at 20 °C) | Maximum voltage (at 55 °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 | $\geq 0.1 U_s$ | 1.5 W | 110 Ω | $\pm 10\%$ |
| | 24 V DC | - | 19.2 V DC | 26.4 V DC | $\geq 0.1 U_s$ | 1.5 W | 430 Ω | $\pm 10\%$ |
| | 48 V DC | - | 38.4 V DC | 52.8 V DC | $\geq 0.1 U_s$ | 1.5 W | 1750 Ω | $\pm 10\%$ |
| | 110 V DC | - | 88.0 V DC | 121.0 V DC | $\geq 0.1 U_s$ | 1.5 W | 9200 Ω | $\pm 10\%$ |
| | 125 V DC | - | 96.0 V DC | 132.0 V DC | $\geq 0.1 U_s$ | 1.5 W | 11000 Ω | $\pm 10\%$ |
| | 220 V DC | - | 176.0 V DC | 242.0 V DC | $\geq 0.1 U_s$ | 1.5 W | 37000 Ω | $\pm 10\%$ |
| | AC coils | 24 V AC | 50 / 60 Hz | 19.2 V AC | 26.4 V AC | $\geq 0.15 U_s$ | 2.8 VA (50 Hz) 2.5 VA (60 Hz) | 75 Ω |
| 48 V AC | | 50 / 60 Hz | 38.4 V AC | 52.8 V AC | $\geq 0.15 U_s$ | 2.8 VA (50 Hz) 2.5 VA (60 Hz) | 305 Ω | $\pm 10\%$ |
| 60 V AC | | 50 / 60 Hz | 48.0 V AC | 66.0 V AC | $\geq 0.15 U_s$ | 2.8 VA (50 Hz) 2.5 VA (60 Hz) | 475 Ω | $\pm 10\%$ |
| 110 V AC | | 50 / 60 Hz | 88.0 V AC | 121.0 V AC | $\geq 0.15 U_s$ | 2.8 VA (50 Hz) 2.5 VA (60 Hz) | 1700 Ω | $\pm 10\%$ |
| 120 V AC | | 50 / 60 Hz | 96.0 V AC | 132.0 V AC | $\geq 0.15 U_s$ | 2.8 VA (50 Hz) 2.5 VA (60 Hz) | 1910 Ω | $\pm 10\%$ |
| 230 V AC | | 50 / 60 Hz | 184.0 V AC | 253.0 V AC | $\geq 0.15 U_s$ | 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) | 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 21-22/24 31-32/34 | |
| Kind of output | Relay, 1 c/o | Relay, 2 c/o | Relay, 2 c/o | Relay, 3 c/o | Relay, 4 c/o | Relay, 2 c/o | Relay, 3 c/o | |
| Contact material | AgNi | AgNi AgNi/Au 5 µm | AgNi | AgNi | AgNi AgNi/Au 5 µm | AgNi | | |
| Rated operational voltage U_g (VDE 0110, IEC 60947-1) | 250 V | | | | | | | |
| Minimum switching voltage | 5 V | | | | | | | |
| Maximum switching voltage | DC 300 V DC | | 250 V DC | | | | | |
| | AC 400 V AC | | 250 V AC | | | | | |
| Minimum 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 operational 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 | |
| AC rating (UL 508) | Utilization category (Control Circuit Rating Code) | - | | - | | | - | B 300 |
| | max. rated operational voltage | - | | - | | | - | 300 V AC |
| | max. continuous thermal current at B 300 | - | | - | | | - | 5 A |
| | max. making / breaking apparent power at B 300 | - | | - | | | - | 3600/360 VA |
| | Utilization category General Purpose (single phase) | - | | - | | | 10 A, 250 V AC | 10 A, 250 V AC |
| | Utilization category (Resistive) | 16 A, 250 V AC | 8 A, 250 V AC | 10 A, 250 V AC 12 A, 150 V AC | 6 A, 250 V AC 10 A, 150 V AC | 6 A, 250 V AC 10 A, 150 V AC | 10 A, 250 V AC | - |
| Minimum switching power | 0.3 W (AgNi), 0.1 W (AgNi/Au) | | | | | | 0.3 W | |
| Maximum switching power | AC-1 | 4000 VA | 2000 VA | 3000 VA | 2500 VA | 1500 VA | 2500 VA | |
| Contact resistance | ≤ 100 mΩ | | | ≤ 100 mΩ | | | | |
| Maximum 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 | | |
| Mechanical lifetime | > 3 x 10 ⁷ switching cycles | | | > 2 x 10 ⁷ switching cycles | | | | |
| Electrical lifetime | AC1 (resistive) | > 10 ⁵ switching cycles | | > 10 ⁵ switching cycles | | | > 10 ⁵ switching cycles | |
| | | (16 A, 250 V) | (8 A, 250 V) | (12 A, 250 V) | (10 A, 250 V) | (6 A, 250 V) | (10 A, 250 V) | |
| | cos φ | see reduction factor F | | | | | | |
| 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} | between coil and contacts | 5 kV AC | | | 2.5 kV AC | | | |
| | between 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 | between coil and contacts | ≥ 10 mm | | ≥ 2.5 mm | ≥ 1.6 mm | ≥ 3 mm | | |
| Creepage distance | between coil and contacts | ≥ 10 mm | | ≥ 4 mm | ≥ 3.2 mm | ≥ 4.2 mm | | |
| Overtoltage category | III | | | III | II | III | | |
| Pollution degree | 3 | | | 3 | 2 | 3 | | |

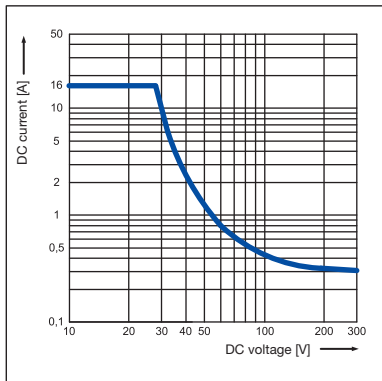
Pluggable interface relays CR-P, CR-M and CR-U Pcb-, miniature- and universal relays

Technical data (continued), Technical diagrams

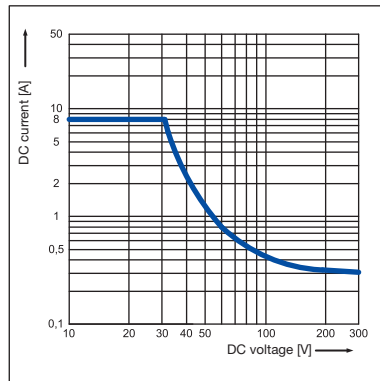
| Type | CR-P...1 | CR-P...2 | CR-M...2 | CR-M...3 | CR-M...4 | CR-U...2 | CR-U...3 |
|-------------------------------------|--|----------------|-----------------------|--|----------|-------------------|---------------|
| General data | | | | | | | |
| Dimensions (W x H x D) when mounted | 12.7 x 29 x 15.7 mm | | 21.2 x 27.5 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 | on socket (see accessories) | | | | | | |
| Mounting position | any | | | | | | |
| Degree of protection | IP 67 | | | IP 40 | | | |
| Electrical connection | | | | | | | |
| Connection | by socket | | | | | | |
| Environmental data | | | | | | | |
| Ambient temperature range | operation DC | -40 ... +85 °C | | -40 ... +70 °C | | | |
| | operation AC | -40 ... +70 °C | | -40 ... +55 °C | | | |
| | storage | -40 ... +85 °C | | | | | |
| Vibration resistance 10-150 Hz | n/o contact | 10 g | | 5 g | | | 5 g |
| | n/c contact | 10 g | 5 g | 5 g | | | 5 g |
| Shock resistance | n/o contact | 30 g | 20 g | 10 g | | | 10 g |
| | n/c contact | 30 g | 20 g | 5 g | | | 10 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 | | | | | | |

Load limit curves - Maximum switching power at resistive DC load

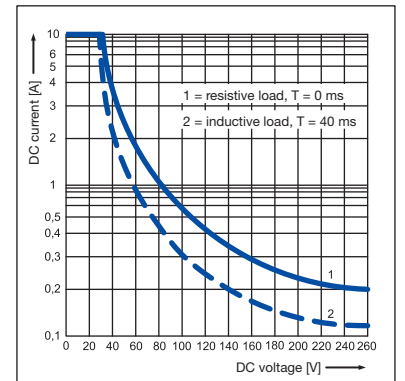
CR-P with 1 c/o contact



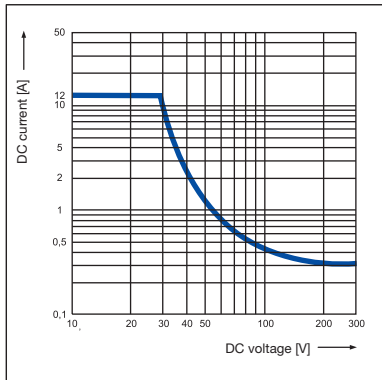
CR-P with 2 c/o contacts



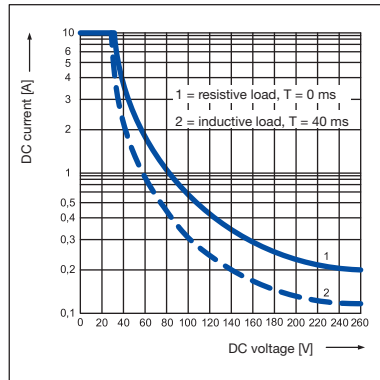
CR-U with 2 and 3 c/o contacts



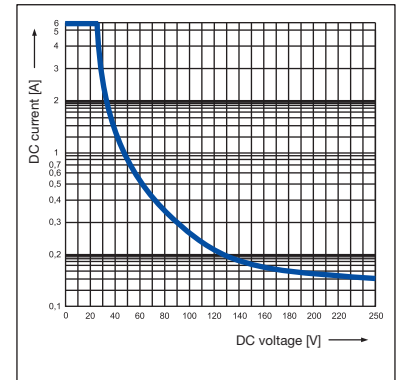
CR-M with 2 c/o contacts



CR-M with 3 c/o contacts



CR-M with 4 c/o contacts

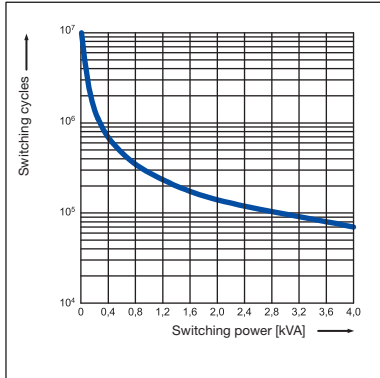


Pluggable interface relays CR-P, CR-M and CR-U Pcb-, miniature- and universal relays

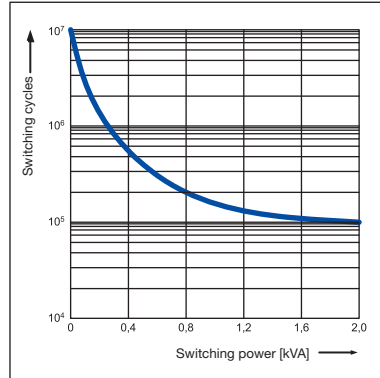
Technical diagrams

Load limit curves - Electrical lifetime at resistive AC load

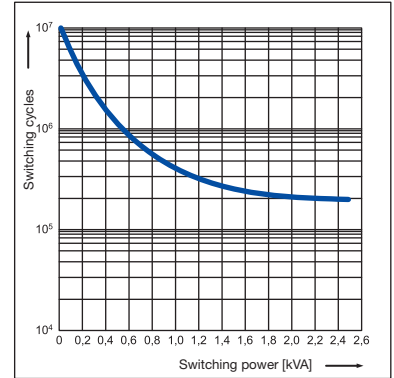
CR-P with 1 c/o contact



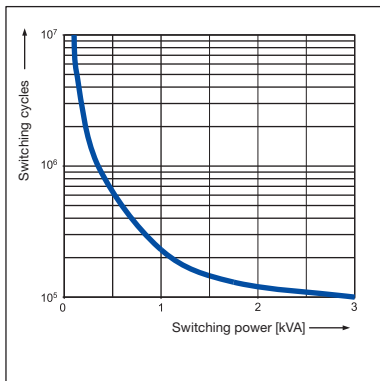
CR-P with 2 c/o contacts



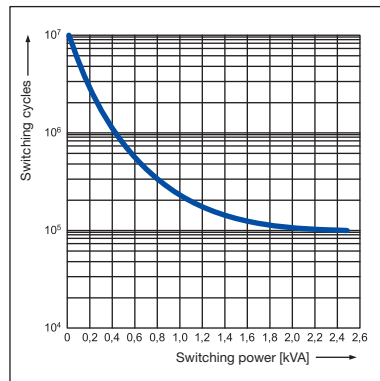
CR-U with 2 and 3 c/o contacts



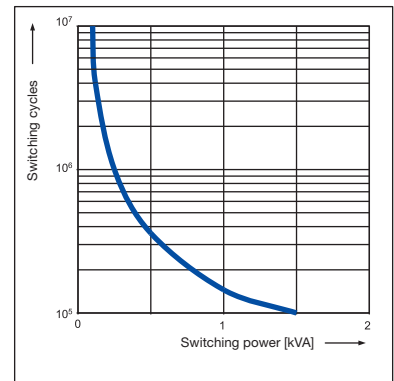
CR-M with 2 c/o contacts



CR-M with 3 c/o contacts



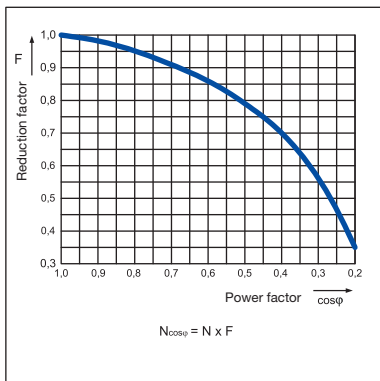
CR-M with 4 c/o contacts



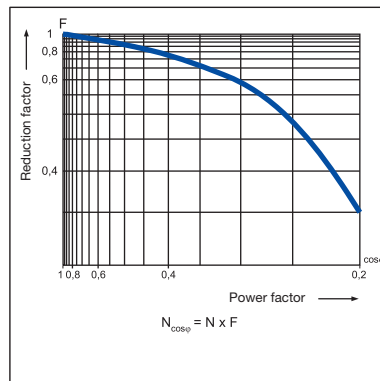
6

Reduction factor F at inductive AC load

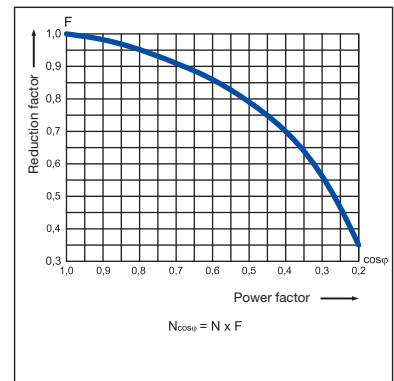
CR-P



CR-M



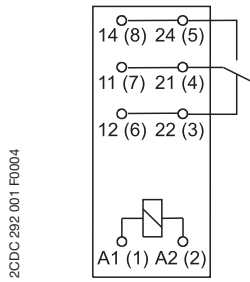
CR-U



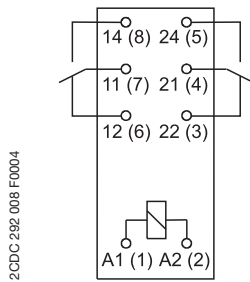
Pluggable interface relays CR-P, CR-M and CR-U Pcb-, miniature- and universal relays

Connection diagrams, dimensional drawings

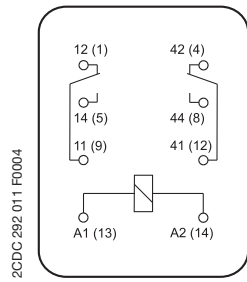
Connection diagrams



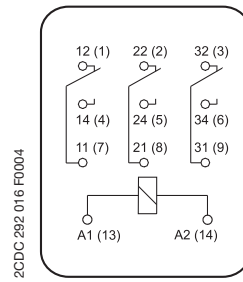
CR-P with 1 c/o contact



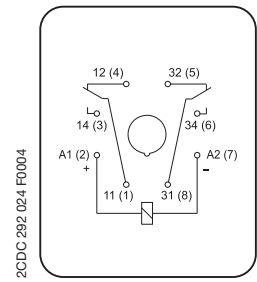
CR-P with 2 c/o contacts



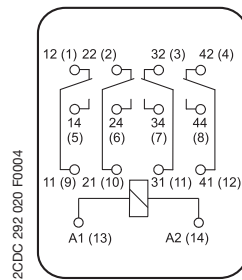
CR-M with 2 c/o contacts



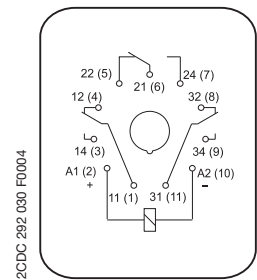
CR-M with 3 c/o contacts



CR-U with 2 c/o contacts

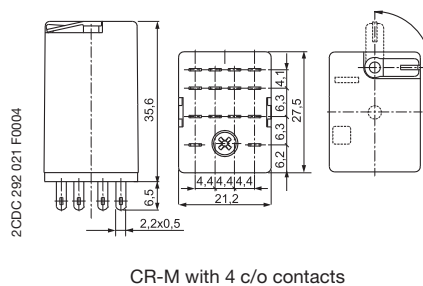
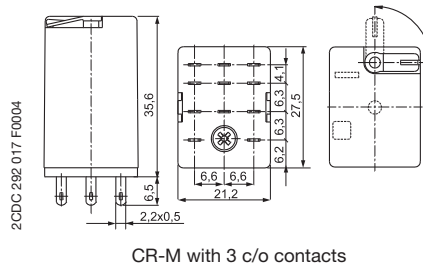
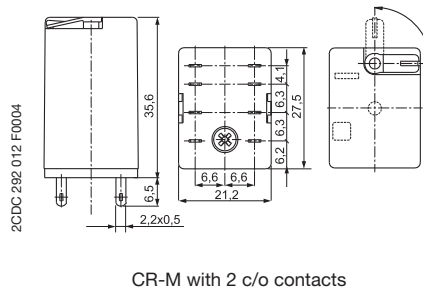
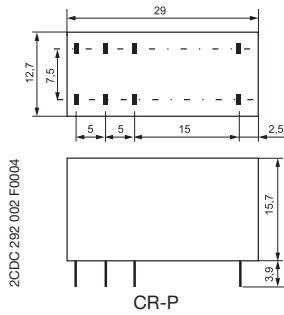


CR-M with 4 c/o contacts

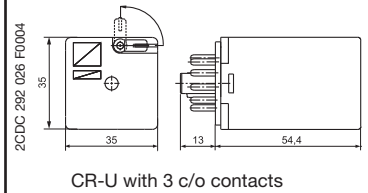
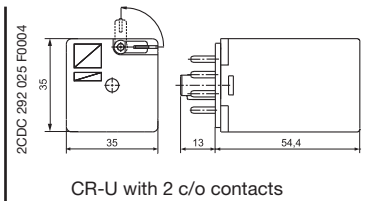


CR-U with 3 c/o contacts

Dimensional drawings



Dimensions in mm

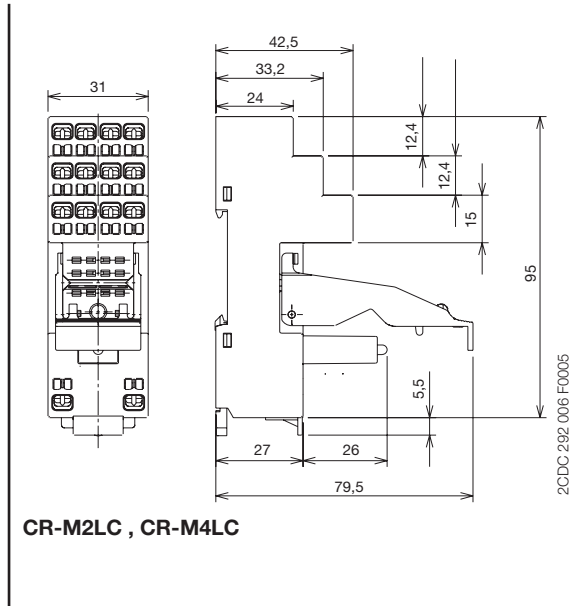
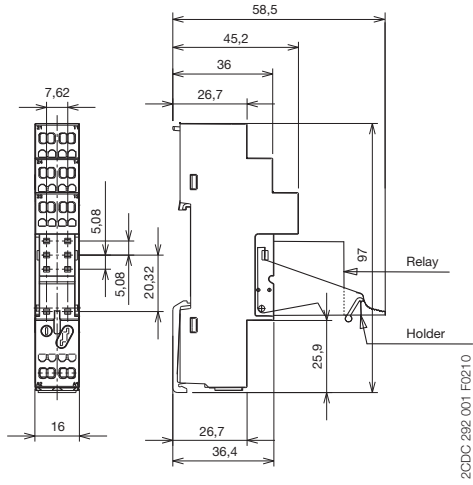


Pluggable interface relays CR-P, CR-M and CR-U Pcb-, miniature- and universal relays Dimensional drawings

Dimensional drawings

Dimensions in mm

Sockets for spring connection



Jumper

