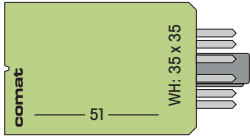


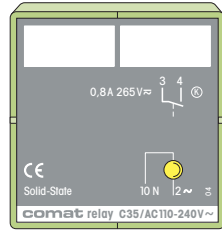


Solid-State



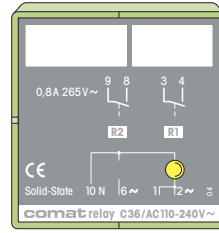
Universal Solid-State Relay

1 x



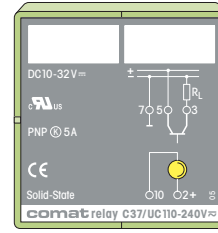
AC Solid-State Relay

2 x



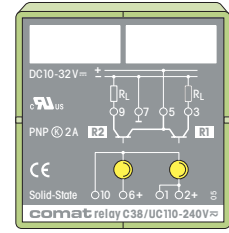
DC Solid-State Relay

1 x



DC Solid-State Relay

2 x



1- and 2-channel Solid-state Relay according IEC 67-1

- LED display for each channel
- operation voltage range 0,8...1,1Un
- galvanically decoupled control (2kV)

T_{amb.} operation/storage:
-25...+60/-40...+85°C



Connection No. on socket →
Designation according to DIN/EN 50011 →

Connection on sockets
EC-11, C11A, C12B

Data at T_{amb.} = 20°C

- Peak inrush power
- Voltage drop
- Residual current
- Short-circuit proof

- Control voltage
- Frequency range
- Control current
- Triggering delay
- Off delay

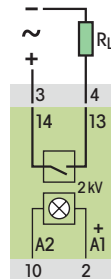
AC ~
50/60Hz

UC ~
~/=m

C35

Universal Solid-State Relay for AC or DC load
Highest switching frequency virtually limitless due to solid-state operation.
No external protective wiring required.

0,8 A 10...265 V ~
1 mA 10V



1,5 A/1s ≤ 3V ≤ 100 μA ≤ 12 A/200 μs	110-240V 24-48V 50..60Hz 40..400Hz ≤ 35 mA ≤ 20 mA ≤ 20 ms ≤ 20 ms ≤ 80 ms ≤ 80 ms
---	--

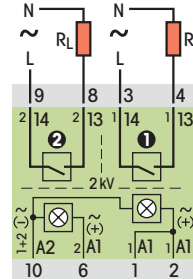
110-240
C35 / AC ... V

24-48
C35 / UC ... V

C36

AC Solid-State Relay double-channel
Triac output, crossover switching. Built-in RC wiring protection.
Especially for bulb-loads and high switching frequencies.
• Minimum load: 30 mA

0,8 A 20...265 V ~
30 mA 10V



8 A/20ms ≤ 1,5V ≤ 3 mA —	110-240V 24V 50..60Hz 50..60Hz ≤ 17 mA ≤ 12 mA ≤ 30 ms ≤ 30 ms ≤ 40 ms ≤ 80 ms
-----------------------------------	--

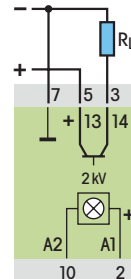
110-240
C36 / AC ... V

24
C36 / UC ... V

C37

DC Solid-State Relay single-channel
Bounce-free and non wearing for DC loads (inductive/capacitive).
Short-circuit/overload proof.
No external wiring protection required.

5 A 10...32 V =
1 mA 5V



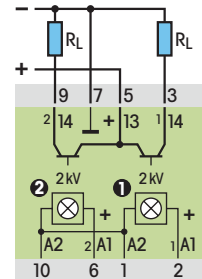
15 A/1s ≤ 0,2V ≤ 100 μA ≤ 70 A/150 μs	110-240V 24-48V 40..60Hz 40..400Hz ≤ 5 mA ≤ 6 mA ≤ 30 ms ≤ 20 ms ≤ 30 ms ≤ 30 ms
--	--

24-48, 110-240
C37 / UC ... V

C38

DC Solid-State Relay double-channel
Construction, characteristics and application like C37, but double-channel.
2 A constant current per channel.

2 A 10...32 V =
1 mA 5V



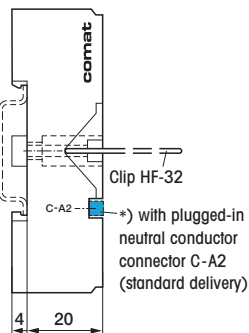
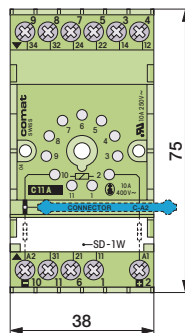
15 A/1s ≤ 0,2V ≤ 100 μA ≤ 70 A/150 μs	110-240V 24-48V 40..60Hz 40..400Hz ≤ 5 mA ≤ 6 mA ≤ 30 ms ≤ 20 ms ≤ 30 ms ≤ 30 ms
--	--

24-48, 110-240
C38 / UC ... V

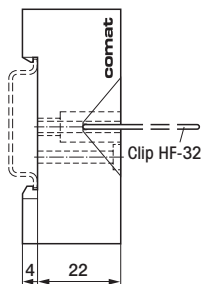
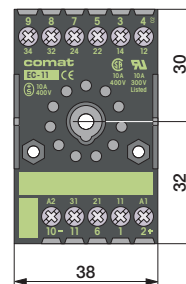
Ordering example

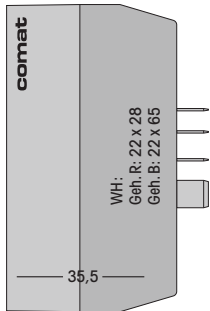
Relay C37/UC110-240V
Socket EC-11 or C11A
Retaining clip HF-32 (option)

System socket C11A *)



Economy socket EC-11





AC Solid-State Relay

- 1- and 2-channel
- crossover switching
- each channel indicated by LED
- Triggering/Output 2kV

T_{amb.} operation/storage:
-25...+60/-40...+85 °C

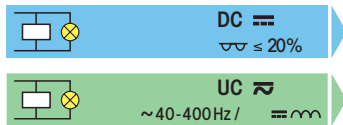


Connection No. on socket →
Designation according to DIN/EN 50 011 →

Connection with socket
CS-18

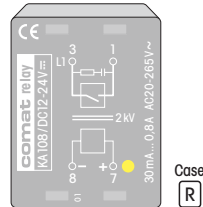
Data at T_{amb.} = 20 °C

- Peak inrush power
- Residual current
- Frequency range
- Voltage drop
- Control voltage
- Triggering OFF
- Switching delay
- Control current



AC Solid-State Relay

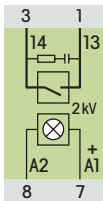
1x



KA108

Universal AC Solid-State Relay
1-channel, 0,8A/AC240V.
Triac output with RC wiring protection.
DC Triggering 12...30V galvanically isolated.

0,8A 20...265V~
30mA

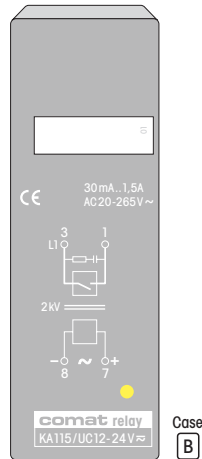


8A (20ms)
3mA
50/60Hz
≤ 1,5V
DC10...30V=
UA1: ≤ 6V
12ms
10mA (24V)

KA108/DC12-24V

AC Solid-State Relay

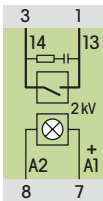
1x



KA115

Universal AC Solid-State Relay
1-channel, 1,5A/AC240V.
Triac output with RC wiring protection.
Triggering galvanically isolated.

1,5A 20...265V~
30mA

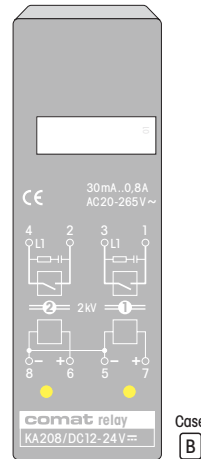


20A (20ms)
3mA
50/60Hz
≤ 1,5V
UC10...30V=
UA1: ≤ 6V
12ms
10mA (24V)

KA115/UC12-24V

AC Solid-State Relay

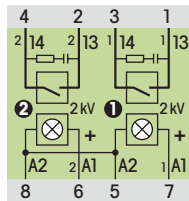
2x



KA208

Universal AC Solid-State Relay
2-channel, 0,8A/AC240V (2x0,5A).
Triac outputs RC wiring protection.
Width per channel: 11 mm.
Triggering galvanically isolated.

0,8A 20...265V~
30mA



8A (20ms)
3mA
50/60Hz
≤ 1,5V
DC10...30V=
UA1: ≤ 6V
12ms
10mA (24V)

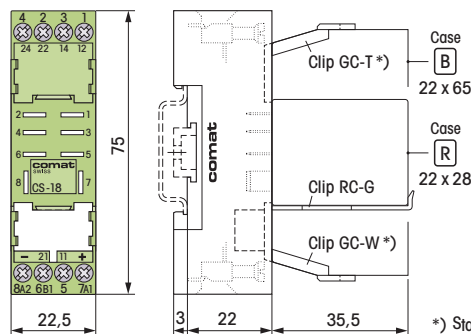
KA208/DC12-24V



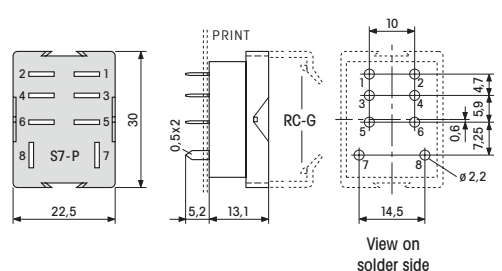
Ordering example

Relay KA115/UC12-24V
Socket CS-18 or S7-P
Retaining clip RC-W (option)

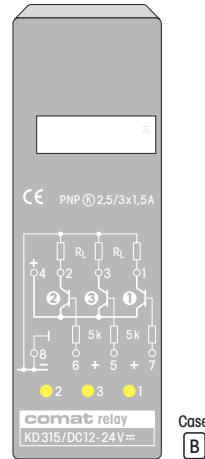
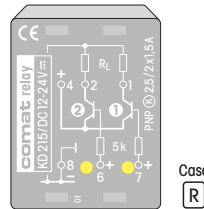
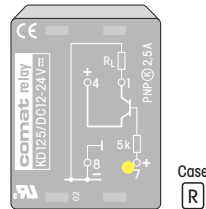
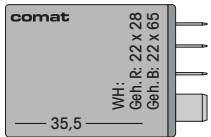
System socket CS-18



Socket for printed circuit mounting S7-P



*) Standard delivery with relay (Case B)



AC Solid-State Relay

- 1- and 3-channel
- overload/short-circuit proof
- limiting inductive voltage
- each channel indicated by LED
- Triggering/Output 2kV

T_{amb.} operation/storage:
 -25...+60/-40...+85°C

KD125

Short-circuit proof universal DC solid-state Relay 1-channel
 2,5A/DC24V
 With thermal overload protection and short-circuit resistant.

KD215

Solid-State Relay like KD125, but 2-channel
 2,5A/2x1,5A/DC24V.
 Width per channel: 11 mm.
 With thermal overload protection and short-circuit resistant.

KD315

Solid-State Relay like KD125, but 3-channel
 2,5A/3x1,5A/DC24V.
 Width per channel: 7,3 mm.
 With thermal overload protection and short-circuit resistant.



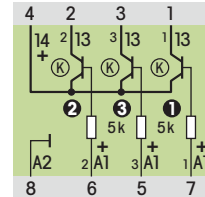
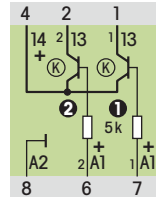
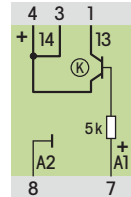
2,5A 10...32V=
 1mA 5V

1,5A 10...32V=
 1mA 5V

1,5A 10...32V=
 1mA 5V

Connection No. on socket →
 Designation according to DIN/EN 50 011 →

Connection with socket
CS-18



Data at T_{amb.} = 20°C

Output
 Current peak
 Residual current
 ON-resistance

1 PNP (noc)
 15A (20 ms)
 < 100 μA
 50 mΩ

2x1 PNP (noc)
 15A (20 ms)
 < 100 μA
 50 mΩ

3x1 PNP (noc)
 15A (20 ms)
 < 100 μA
 50 mΩ

Control voltage
 Triggering OFF
 ON-OFF-switching delay
 Control current

DC 5...18V/10...32V=
 UA1-2: ≤3V/≤6V
 2,5 ms
 4 mA (24V)

DC 10...32V=
 UA1-2: ≤3V/≤6V
 2,5 ms
 4 mA (24V)

DC 10...32V=
 UA1-2: ≤3V/≤6V
 2,5 ms
 4 mA (24V)



6-12, 12-24
KD125 / DC ... V

KD215/DC12-24 V

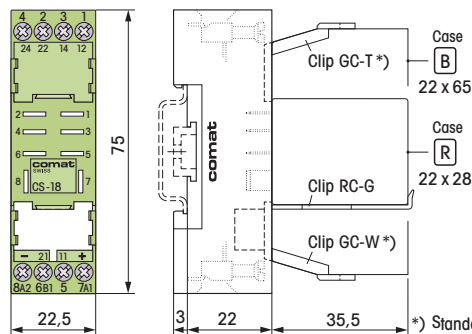
KD315/DC12-24 V

Ordering example

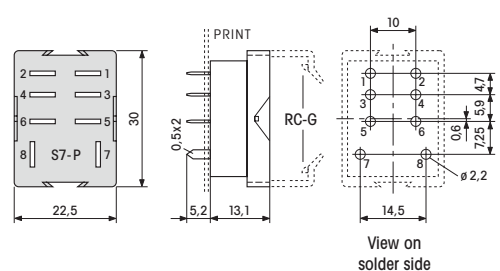
Relay KD215/DC12-24 V
 Socket CS-18 or S7-P

Retaining clip RC-G (option)

System socket CS-18



Socket for printed circuit mounting S7-P

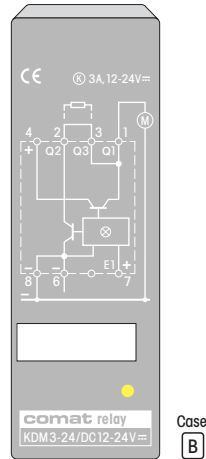
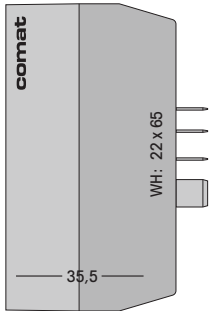


*) Standard delivery with relay (Case B)

DC-Motor Control Relay

PNP + NPN

TO CONTROL AND BRAKE DC MOTORS



Case **B**

Motor Control Relay
 • For controlling and braking of DC Motors

T_{amb.} operation/storage:
 -25...+60/-40...+85°C

KDM3-24

Interface Module

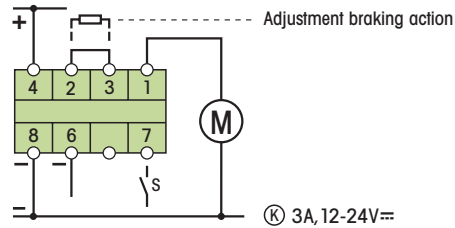
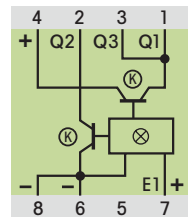
for PLC's and control systems with one PNP power contact and one NPN brake contact.
 For DC motor controls with brake function.
 The contacts are overload- and short circuit protected.



3A (5A) 24V=
 10mA 10V

Connection No. on socket →
 Designation according to DIN/EN 50011 →

Connection with socket
CS-18



Data at T_{amb.} = 20°C

- Contact type
- Switching current/voltage
- Switching power DC1
- Peak inrush current
- Contact resistance
- Leakage current
- Trigg. delay/release time

- Operation voltage active
- Power consumption P_{max}

DC =
 ⚡ ≈ 20%

Power contact

FET PNP
 3A (5A) / 10-32V
 ...100W
 20A / 1s
 < 100mΩ
 < 100μA
 < 1ms

Break contact

FET NPN
 3A (5A) / 10-32V
 ...100W
 20A / 1s
 < 100mΩ
 < 100μA
 < 1ms

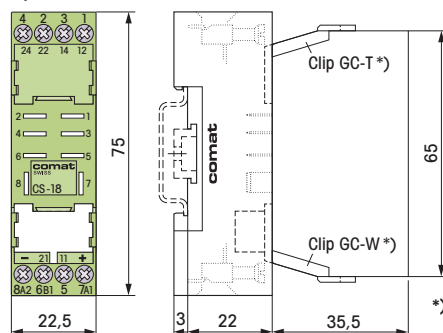
9-28V
 400mW / DC24V

KDM3-24/DC12-24V

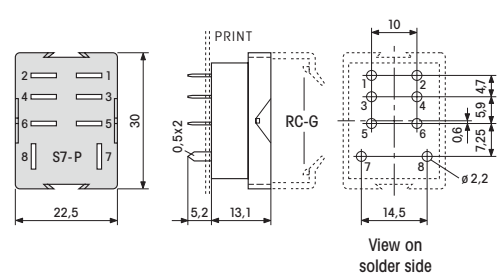
Ordering example

- Interface module
 KD215/DC12-24 V
- Socket
 CS-18 or S7-P
- Retaining clip RC-G (option)

System socket CS-18



Socket for printed circuit mounting S7-P

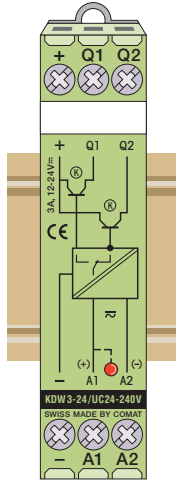
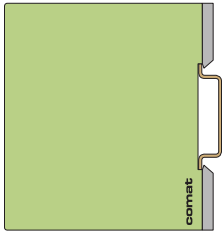


*) Clip GC-T + GC-W
 Standard delivery with KDM

Solide-State Changeover Relay

1x co

CHANGE OVER WITH SEMI CONDUCTOR



Solid-State AC/DC Relay

- Change over PNP for all inductive loads
- Mounting onto DIN rail TS 35.

Test voltage: 2 kV

T_{amb.} operation/storage: -25...+60/-40...+85 °C

KDW3-24

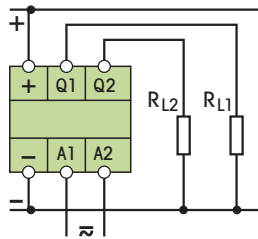
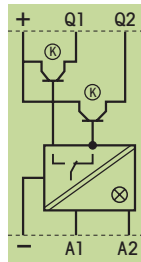
Interface Module

Solidstate relay with 1x CO output PNP for 3A, 24V_{DC}. The contacts are overload- and short circuit protected. LED status display. Galvanical isolated output. This relay is specially recommended as an alternative to electro-mechanical relays for applications with high switching cycles. Bounce-free switching.

3A (5A) 24V_{DC}
10mA 10V



Connection



Data at T_{amp} = 20 °C

- Contact type
- Switching current / voltage
- Switching power DC1
- Peak inrush current
- Contact resistance
- Leakage current
- Trigg. delay / release time

- FET PNP
- 3A (5A) / 10-32V
- ...72W (160W)
- 20A / 20ms
- <50mΩ
- <100μA
- <5ms

- Operation voltage active
- Power consumption P_{max}

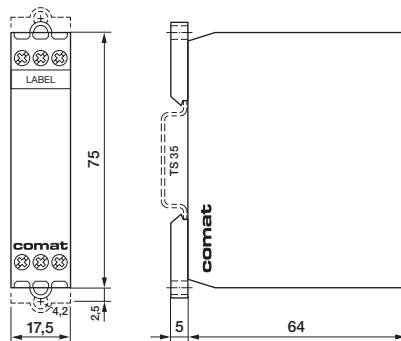
- 18-255V AC/DC
- 3-8mA / <400mW

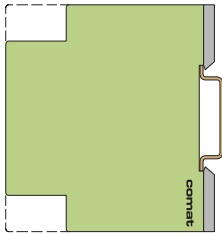


KDW3-24/UC24-240V

Ordering example

Interface module
KDW3-24/UC24-240V



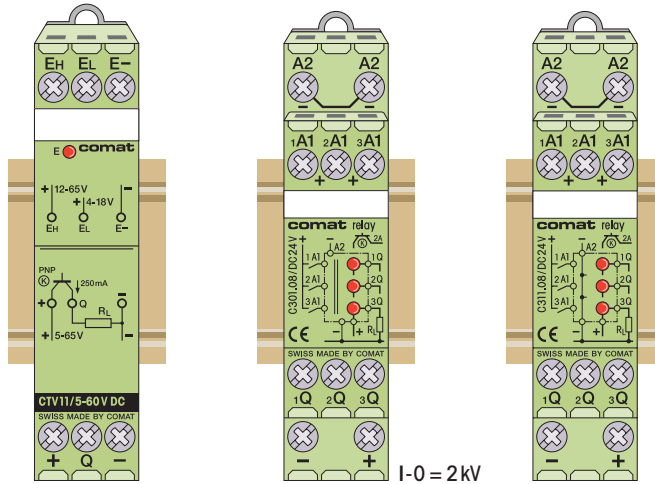


Solid-State Relay Solid-State Relay Solid-State Relay

Switching amplifier

3x

3x



1- and 3-channel DC Solid-State Relay

- for high switching cycles
- galvanical separation 2kV
- mounting onto DIN rail TS 35

T_{amb.} operation/storage:
-25...+60/-40...+85°C

CTV11

Solid-State Relay
with galvanically isolated triggering input to control and switch DC loads.
1 channel 250mA/DC5-60V

250 mA 5...60 V_{DC}
1mA 10V

C301.08

Compact 3-channel Solid-State Relay
for the switching of DC loads up to 2 A/DC 24V.
Outputs, galvanically isolated. Overload and short-circuit proof. Specially suitable for high switching cycles. (PLC and ancillary)

2 A 10...30 V_{DC}
1mA 10V

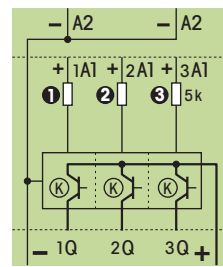
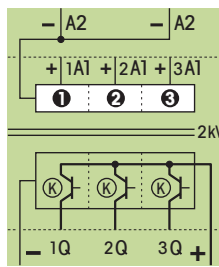
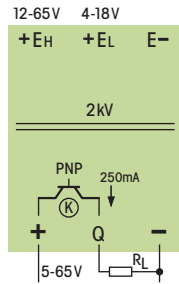
C311.08

Compact 3-channel Solid-State Relay
like C301.08 but without galvanic isolation of outputs.

2 A 10...30 V_{DC}
1mA 10V



Connection



Data at T_{amb.} = 20°C

Admissible peak current
Residual current
Voltage drop / ON-rheostat

Control voltage (U_{nom})
Ripple
Triggering OUT
Control current on A1
Switching delay



0,75A (20ms)
<100µA
<1V
EH 15-60V / EL 5-15V
≤ 10% @ 10V
EL ≤ 2,5V / EH ≤ 5V
Typ. 10mA
ON 200µs / OFF 400µs

15A (20ms)
<100µA
50mΩ
DC 24V (10...30V)
≤ 10% @ 10V
UA1: ≤ 6V
4 mA @ 24V
2,5ms

15A (20ms)
<100µA
50mΩ
DC 24V (10...30V)
≤ 10% @ 10V
UA1: ≤ 6V
4 mA @ 24V
2,5ms

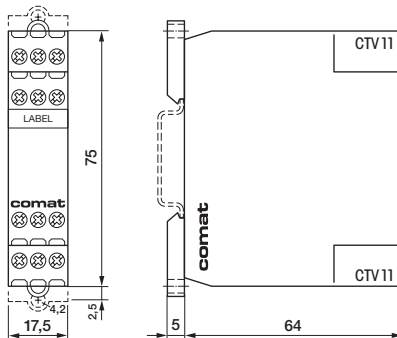
CTV11/DC 5-60V

C301.08/DC 24V

C311.08/DC 24V

Ordering example

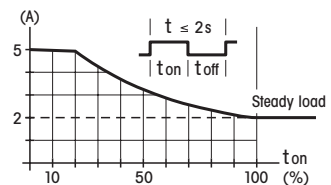
Solid-state relay
C301.08/DC 24V

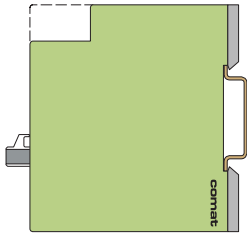


Note on use C300

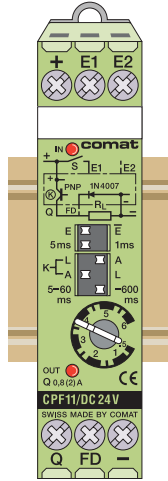
The 3 channels can be connected parallel in any desired arrangement (I_{max.} = 6A). The outputs are self-resetting after thermal overload. Self-resetting after short-circuit (>17A/150µs): Triggering OFF.

Limit load diagram (resistive load)





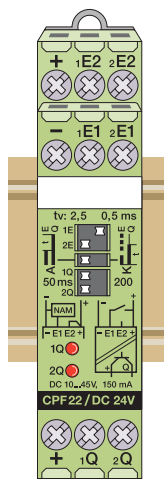
Pulse Shaper



Pulse Shaper



2x



Pulse shaper with timing function
 To stretch respective to limit control pulses.
 Suitable for NAMUR sensors respective to
 analyze fast sequences with high revolutions
 and short pulses.
 Tamb. operation/storage:
 -25...+60/-40...+85°C

CPF 11

Single Channel Pulse Shaper

- Input reversible (E- \bar{E})
- Input and output times separately settable
- 3 (6) functions to choose
- Built-in free wheel diode 1A
- LED display for E and Q
- Settable functions: **K L A**

Settable times:
 input pulse $\geq 1/5$ ms output pulse 5 ÷ 600 ms

2A 15...32V ≐
 2mA 10V

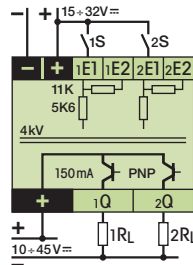
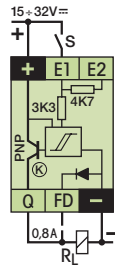
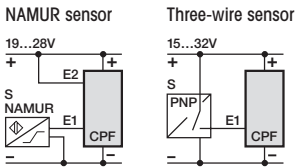
CPF 22

Double Channel Pulse Shaper

- Input/output galvanically isolated 4kV
- Input and output times separately settable
- 2 functions to choose
- LED output display for each channel
- Settable functions: **K A**

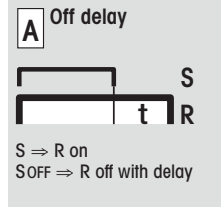
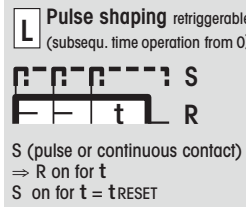
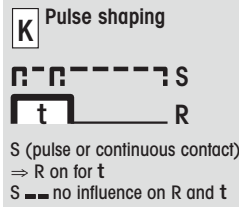
Settable times:
 input pulse $\geq 0,5/2,5$ ms output pulse 50/200 ms

150mA 45V ≐
 2mA 10V



CPF 11/DC 24V

CPF 22/DC 24V



Example of order

Pulse shaper
 CPF11/DC 24V

