

- Industrial relays
LONG LIFE ★★

- Solid-state relays

CR 5 01

★★ ≥ 100 Mio mechanical cycles
≥ 700 000 cycles at full load
(C21, C31)



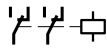
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CR 5		Recommended application			
10A					
6/5A					
10mA					
5mA					
1mA					
I	2	C21	C22		
	3	C31	C32		
	2x 1	C33	C34		
	3x 1		C39		

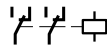
twin contacts



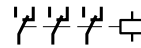
Power relay



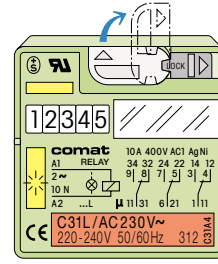
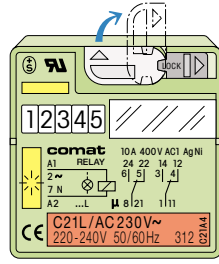
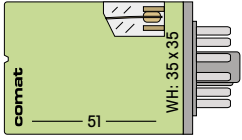
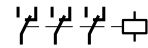
Control relay



Power relay



Control relay



2- and 3-pole industrial relays according to IEC 67-1

- lockable manual operation
- mechanical flag indicator

Test voltage: \square 2500V / 1500V /

T_{amb.} operation/storage: -40...+70/-40...+85°C



Connection No. on socket →

Designation according to DIN/EN 50011 →

Connection on sockets
EC-8 / EC-11, C11A, C12B

μ = contact opening < 3 mm

Data at T_{amb.} = 20°C (standard coil \square)

Contact material
Switching power AC1/DC1
Peak inrush power
Switching cycles mech./electr.(AC1)

Operation voltage AC50Hz/DC
Power consumption
Triggering delay / release time

Standard AC ~
50/60Hz

Standard DC ==
≤10%

D, DL DC ==
≤10%

⊗ = Type "L" (option)

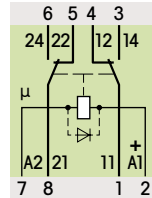
C21

Universal power relay 10A

with 2 power changeover-contacts this is the robust relay for AC and DC circuits ranging from 10mA 10V.

10A 400V ~

10mA 10V



Ag (AgCuNi)
2500VA/...300W
40A(20ms)
100x10⁹/≥7x10⁵

0,8...1,2/0,8...1,25Un
2,5VA/1,2W
15/≈8, ~15ms

24, 48, 115, 230

C21 **L** / AC ... V

12, 24, 48, 110, 220

C21 / DC ... V

12, 24, 48, 110, 220

C21D **L** / DC ... V

Option **L** = with ⊗

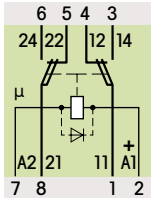
C22

Relay like ..C21, but with twin contacts 6A

The control relay with highest switching reliability for control and signal circuits ranging from 1mA 5V.

6A 400V ~

1mA 5V



Ag (AgCuNi)
1500VA/...200W
15A(20ms)
100x10⁹/≥1,5x10⁵

0,8...1,2/0,8...1,25Un
2,5VA/1,2W
15/≈8, ~15ms

24, 48, 115, 230

C22 **L** / AC ... V

12, 24, 48, 110, 220

C22 / DC ... V

12, 24, 48, 110, 220

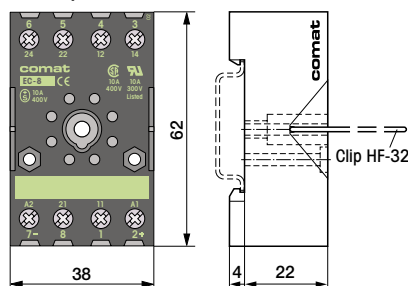
C22D **L** / DC ... V

Option **L** = with ⊗

Ordering example

- Relay C21/AC230V
- Socket EC-8
- Retaining clip HF-32 (opt.)

Economy socket EC-8



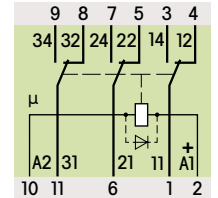
C31

Universal power relay 10A

with 3 power changeover-contacts this is the robust relay for AC and DC circuits ranging from 10mA 10V.

10A 400V ~

10mA 10V



Ag (AgCuNi)
2500VA/...300W
40A(20ms)
100x10⁹/≥7x10⁵

0,8...1,2/0,8...1,25Un
2,5VA/1,2W
15/≈8, ~15ms

24, 48, 115, 230

C31 **L** / AC ... V

12, 24, 48, 110, 220

C31 **L** / DC ... V

12, 24, 48, 110, 220

C31D **L** / DC ... V

Option **L** = with ⊗

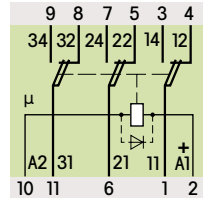
C32

Relay like ..C31, but with twin contacts 6A

The control relay with highest switching reliability for control and signal circuits ranging from 1mA 5V.

6A 400V ~

1mA 5V



Ag (AgCuNi)
1500VA/...200W
15A(20ms)
100x10⁹/≥1,5x10⁵

0,8...1,2/0,8...1,25Un
2,5VA/1,2W
15/≈8, ~15ms

24, 48, 115, 230

C32 **L** / AC ... V

12, 24, 48, 110, 220

C32 / DC ... V

12, 24, 48, 110, 220

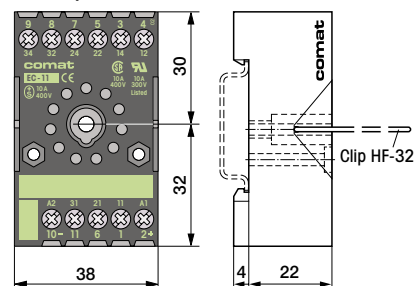
C32D **L** / DC ... V

Option **L** = with ⊗

Ordering example

- Relay C31/AC230V
- Socket EC-11 or C11A
- Retaining clip HF-32 (opt.)

Economy socket EC-11

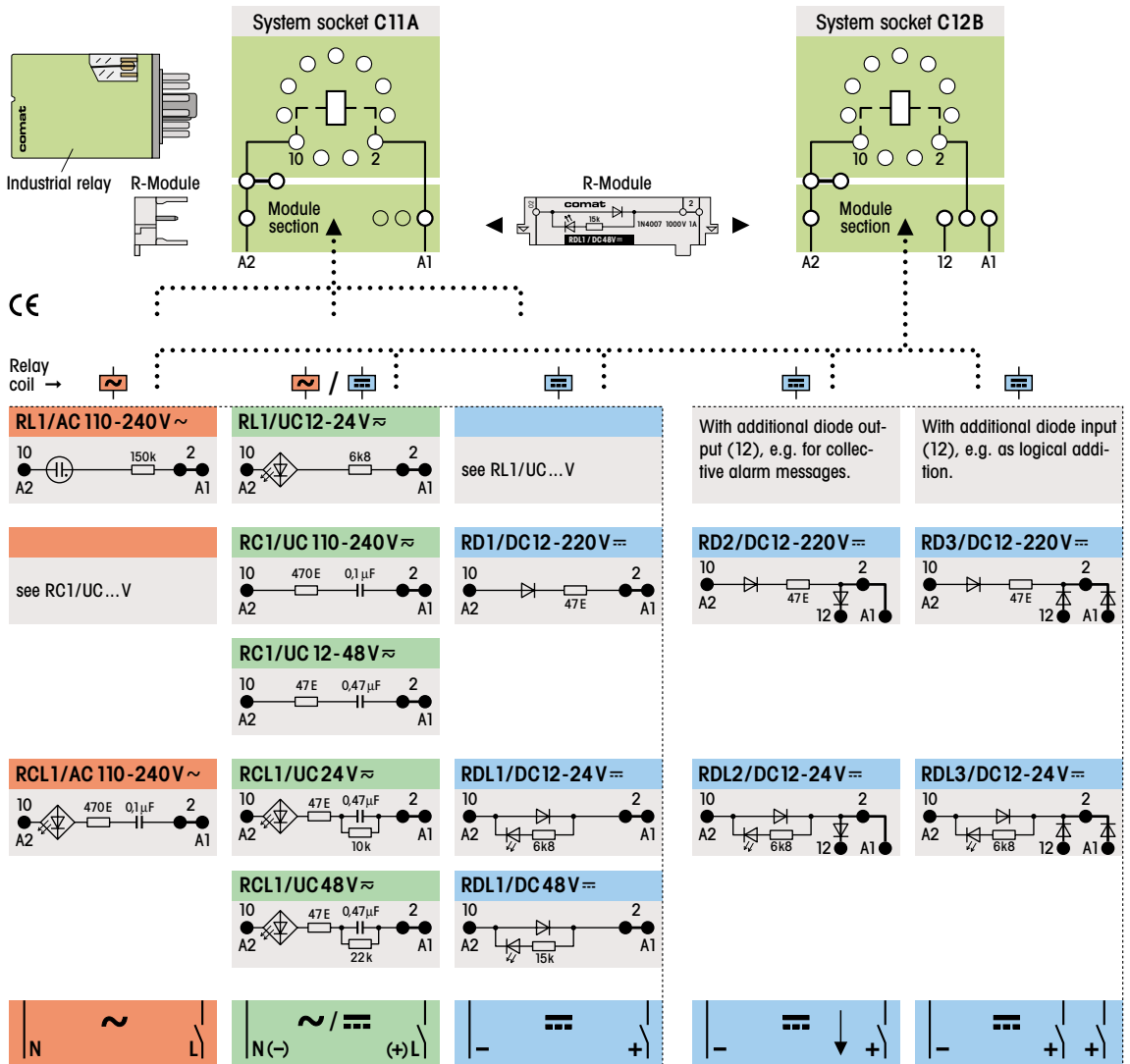




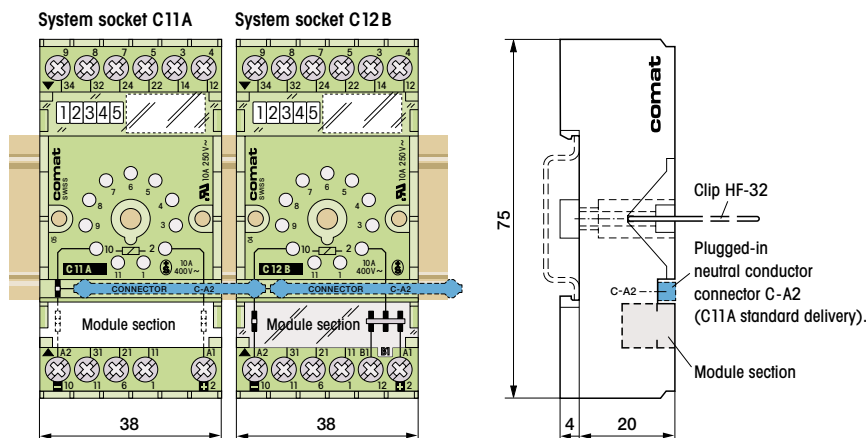
Plug-in coil wirings for 3-pole industrial relays C31, C32

Relay modules indicate the relay's switch mode and/or help limiting cutoff voltage peaks in the control circuit by means of a diode or a RC module. The types R..2/3 are equipped with additional

diodes for signal or OR-circuits. For parallel or serial connections the relay modules are simply plugged in the sockets C11A or C12B.



- Ordering example**
- Module RCL1/UC48V
 - Socket C11A
 - Relay, type C31/32
 - Clip HF-32 (option)

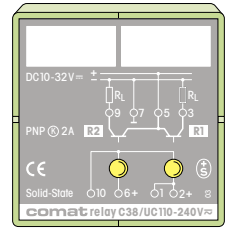
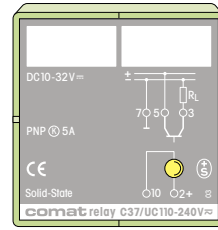
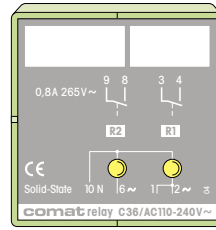
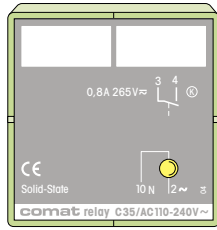
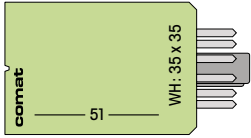




Solid-state relay



Solid-state relay



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 ≈

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 ~

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 ==

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- and 2-channel solid-state relays according IEC67-1

- galvanically decoupled control (2 kV)
- LED display for each channel

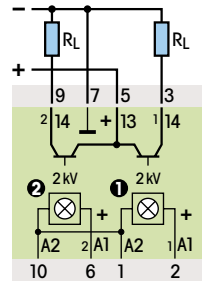
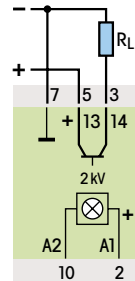
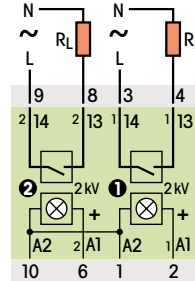
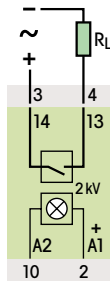
Operation voltage range 0,8 .. 1,1 U_N

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

1,5 A/1s
 ≤ 3 V
 ≤ 100 μA
 ≤ 12 A / 200 μs

8 A / 20 ms
 ≤ 1,5 V
 ≤ 3 mA
 —

15 A / 1s
 ≤ 0,2 V
 ≤ 100 μA
 ≤ 70 A / 150 μs

15 A / 1s
 ≤ 0,2 V
 ≤ 100 μA
 ≤ 70 A / 150 μs

110-240V	24-48V
50..60 Hz	40..400 Hz
≤ 35 mA	≤ 20 mA
≤ 20 ms	≤ 20 ms
≤ 80 ms	≤ 80 ms

110-240V	24V
50..60 Hz	50..60 Hz
≤ 17 mA	≤ 12 mA
≤ 30 ms	≤ 30 ms
≤ 40 ms	≤ 80 ms

110-240V	24-48V
40..60 Hz	40..400 Hz
≤ 5 mA	≤ 6 mA
≤ 30 ms	≤ 20 ms
≤ 30 ms	≤ 30 ms

110-240V	24-48V
40..60 Hz	40..400 Hz
≤ 5 mA	≤ 6 mA
≤ 30 ms	≤ 20 ms
≤ 30 ms	≤ 30 ms



110-240
 C35 / AC ... V

110-240
 C36 / AC ... V

24-48
 C35 / UC ... V

C36 / UC 24 V

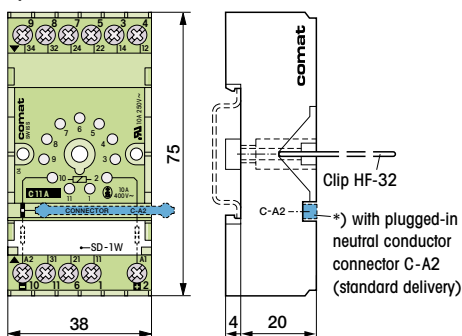
24-48, 110-240
 C37 / UC ... V

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

Ordering example

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

System socket C11A *)



Economy socket EC-11

