

- 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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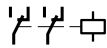
**CR 5 Recommended application**

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

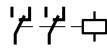
twin contacts



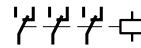
**Power relay**



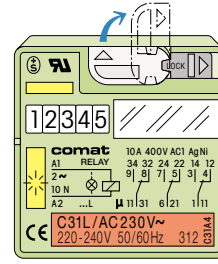
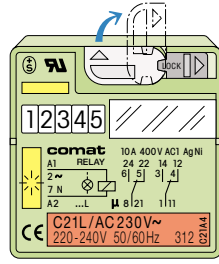
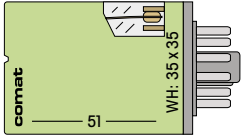
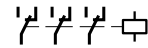
**Control relay**



**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  $\nabla$  1500V  $\nabla$

T<sub>amb.</sub> 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<sub>amb.</sub> = 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)

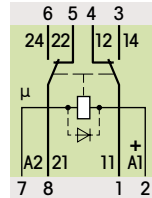
**C21**

**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)  
100x10<sup>9</sup>/≥7x10<sup>5</sup>

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 ⊗

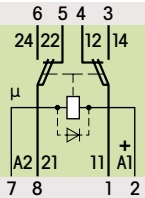
**C22**

**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)  
100x10<sup>9</sup>/≥1,5x10<sup>5</sup>

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

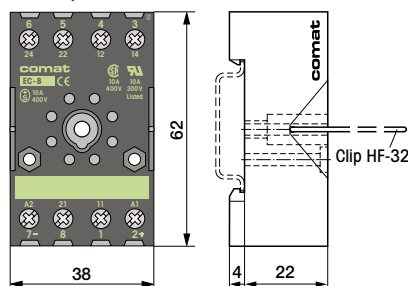
C22D **L** / DC ...V

Option **L** = with ⊗

**Ordering example**

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

**Economy socket EC-8**



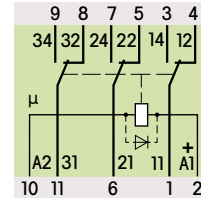
**C31**

**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)  
100x10<sup>9</sup>/≥7x10<sup>5</sup>

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 ⊗

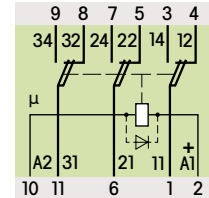
**C32**

**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)  
100x10<sup>9</sup>/≥1,5x10<sup>5</sup>

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

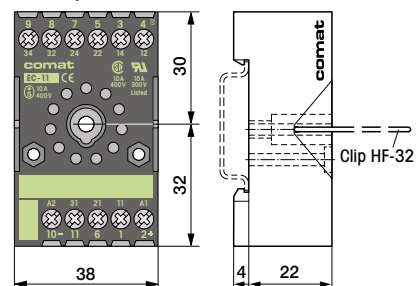
C32D **L** / DC ...V

Option **L** = with ⊗

**Ordering example**

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

**Economy socket EC-11**

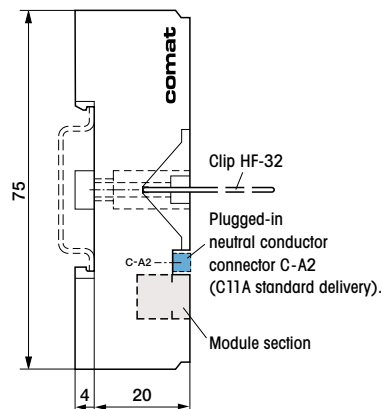
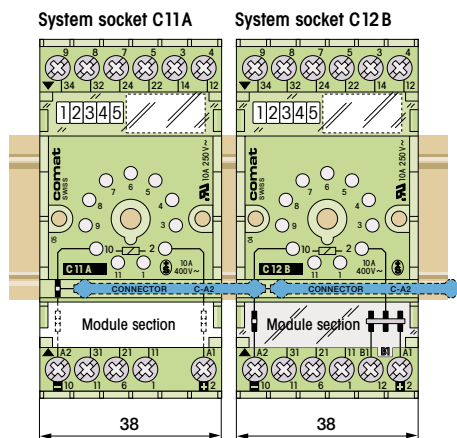
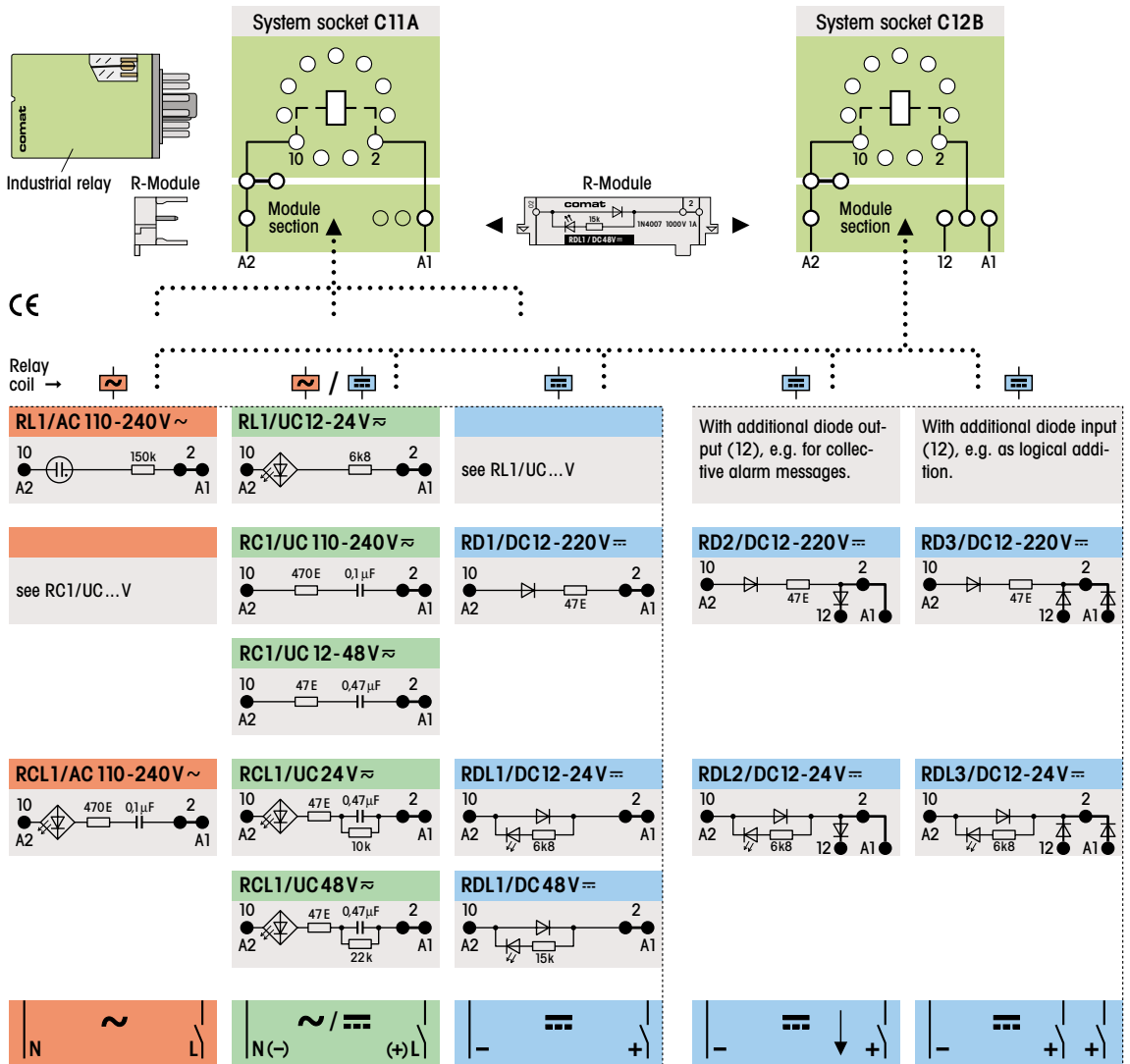




## Plug-in coil wirings for 3-pole industrial relays C31, C32

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.



- Jack on the socket
- Plug pin on the R-module

**Ordering example**

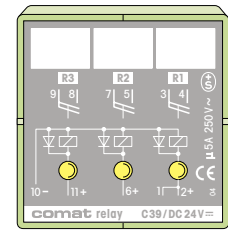
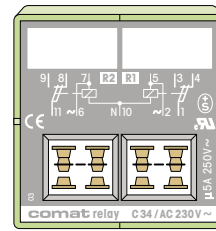
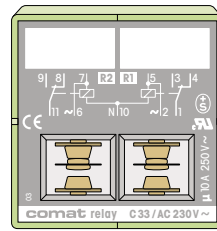
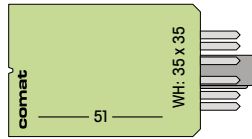
- Module RCL1/UC48V
- Socket C11A
- Relay, type C31/32
- Clip HF-32 (option)



**Power relay**  
⎓ 2x

**Control relay**  
⎓ 2x

**Control and signal relay**  
⎓ 3x



**Double and triple industrial relays**

**Solid-state relays (page 5)**

**2- and 3-channel industrial relays according to IEC 67-1**

- Single or twin contacts
- Front contact inspection window or LED display (C39)

Test voltage: ⎓ 2000V / 2000V /  
T<sub>amb. operation</sub> / storage: -25...+60/-40...+85°C



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

Connection on sockets  
EC-11, C11A, C12B

μ = contact opening < 3mm

Data at T<sub>amb.</sub> = 20°C (standard coil ⎓)

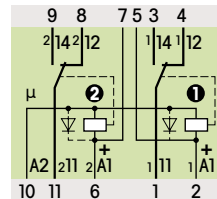
- Contact material  
Switching power AC1/DC1  
Peak inrush power  
Switching cycles mech./electr. (AC1)
- Operation voltage AC50Hz/DC  
Power consumption per channel  
Triggering delay / release time



**C33**

**Double-channel power relay 10A**  
With 2x1 power changeover-contacts this is a robust relay for AC and DC circuits ranging from 10mA 12V.  
Width per channel: 17,5 mm.

**10A 250V ~**  
10mA 12V



AgCdO  
2500VA/...300W  
40A (16ms)  
20x10<sup>6</sup> / ≥ 10<sup>5</sup>

0,8...1,15Un  
1,3VA/0,55W  
15/25ms

24, 48, 115, 230

C33 / AC ... V

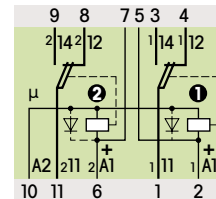
12, 24, 48, 110

C33 / DC ... V

**C34**

**Relay like C33, but with twin contacts 5A**  
The control relay with highest switching reliability for control and signal circuits ranging from 1 mA 6V.  
Width per channel: 17,5 mm.

**5A 250V ~**  
1mA 6V



AgNi  
1250VA/...200W  
20A (16ms)  
20x10<sup>6</sup> / ≥ 10<sup>5</sup>

0,8...1,15Un  
1,3VA/0,55W  
15/25ms

24, 48, 115, 230

C34 / AC ... V

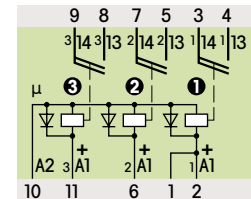
12, 24, 48, 110

C34 / DC ... V

**C39**

**Triple-channel twin contact relay 5A**  
with 3x1 No contact it is ideal for interface applications ranging from 10 mA 100mV. LED display for each channel.  
Width per channel: 11,7mm.

**5A 250V ~**  
1mA 100mV



Ag-alloy  
1250VA/...150W  
10A (20ms)  
50x10<sup>6</sup> / ≥ 1,5x10<sup>5</sup>

0,8...1,2Un  
0,25W  
8/12ms

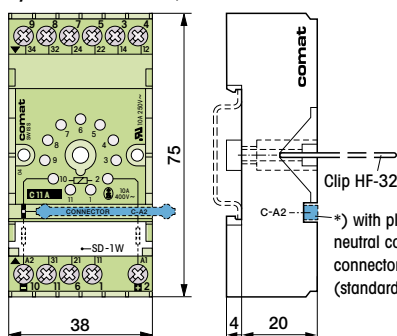
12, 24, 48

C39 / DC ... V

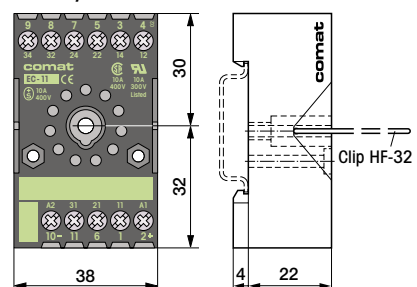
**Ordering example**

- Relay C34/AC230V
- Socket EC-11 or C11A
- Retaining clip HF-32 (opt.)

**System socket C11A \*)**



**Economy socket EC-11**

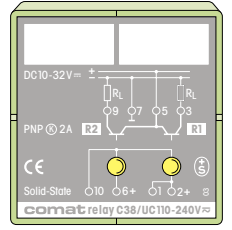
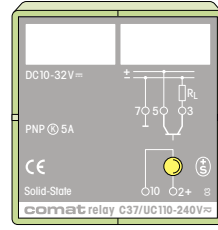
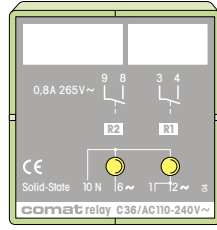
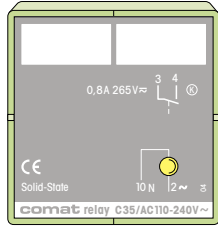
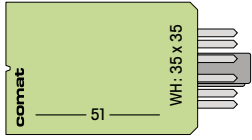




Solid-state relay



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

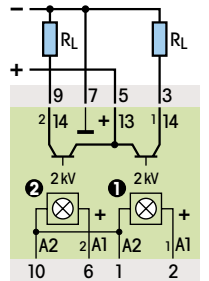
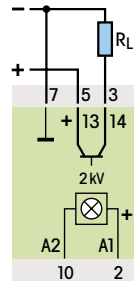
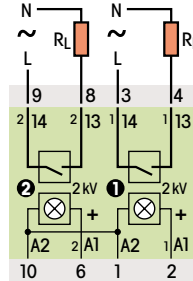
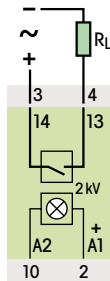
- galvanically decoupled control (2 kV)
- LED display for each channel

Operation voltage range 0,8...1,1 U<sub>N</sub>  
 Tamb. 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 Tamb. = 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

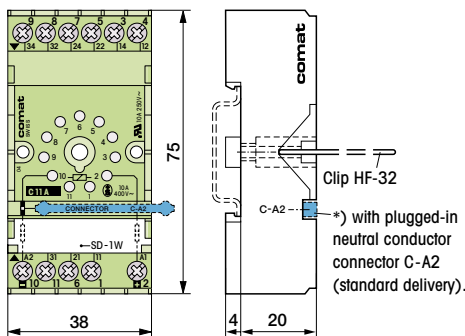
24-48, 110-240  
 C37 / UC ... V

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

