

# Industrial relays

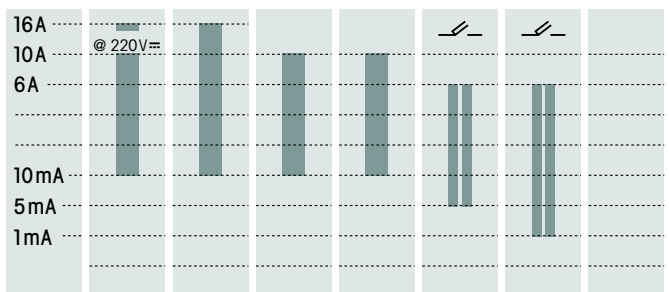
## Standard

**CR 4 01**



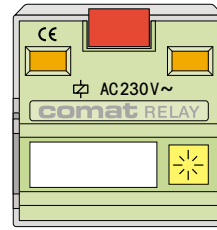
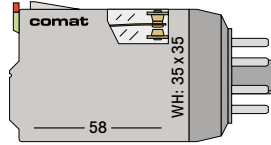
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 Vertriebsbüro Deutschland  
 Gräfenhäuser Str. 14  
 D-75305 Neuenbürg  
 Tel.: +49- (0)7082-940000  
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 eMail: sales@kuehn-controls.de  
 www.multicomat.net

### CR 4 Recommended application



I	1	C5-M10				
	2		C2-A20	C3-R20	C2-T21	
	3		C5-A30	C3-A30		C3-T31 C3-T32
	4			C4-A40		

— twin contacts; C3-R20: remanence relay; C5-M10: with blow magnet



**Industrial relays  
2-, 3- and 4-pole**

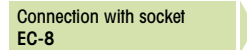
**STANDARD**

**2-pole miniature industrial relays according to IEC 67-1**

- lockable manual operation
  - mechanical flag indicator
- Test voltage:  $\square$  2500V  $\downarrow$  2500V  $\downarrow$   
 Tamb. operation / storage: -20 .. +60 / -40 .. +85°C



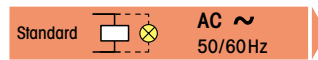
Connection No. on socket →  
 designation according to DIN/EN 50 011 →



μ = contact opening < 3mm

Data at Tamb. = 20°C (standard coil  $\square$ )

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

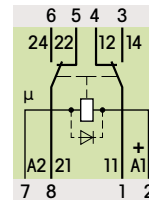


⊗ = Type "X" (option)

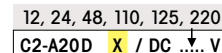
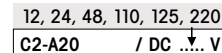
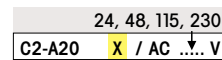
**C2-A20**

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

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



- Ag Ni
- 2500VA/... 250W
- 30A (20ms)
- 20x10<sup>6</sup> / ≥ 5x10<sup>5</sup>
- 0,8...1,2Un
- 2,2VA/1,3W
- 16/8ms

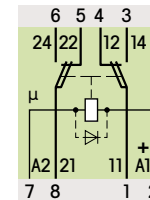


Option  $\square$  = with ⊗

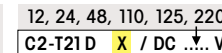
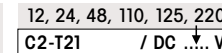
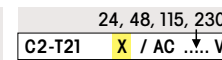
**C2-T21**

**Relay like ..A20, but with double contacts 6A**  
 The control relay with highest switching reliability for control and signal circuits ranging from 5 mA 5V.

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



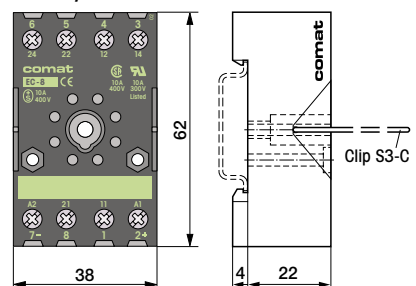
- Ag Ni + 0,2μ Au
- 1200VA/... 150W
- 15A (20ms)
- 20x10<sup>6</sup> / ≥ 2x10<sup>5</sup>
- 0,8...1,2Un
- 2,2VA/1,3W
- 16/8ms



**Ordering example**

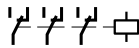
- Relay C2-A20X/AC230V
- Socket EC-8
- Retaining clip S3-C (option)

**Economy socket EC-8**

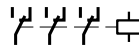




Power relay



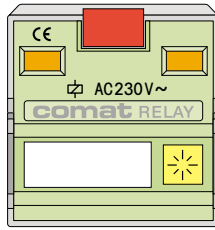
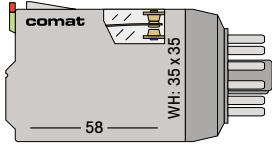
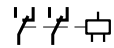
Control relay



Signal relay

10μ Au

Remanence relay



3-pole miniature industrial relays according to IEC 67-1

- lockable manual operation
- mechanical flag indicator

Test voltage:  $\square$  2500V  $\downarrow$  2500V  $\downarrow$

Tamb. operation/storage: -40...+60/-40...+85°C



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

Connection with sockets EC-11, C11A, C12B

μ = contact opening < 3 mm

Data at Tamb. = 20°C (standard coil  $\square$ )

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

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

Standard AC ~  
50/60Hz

Standard DC ==  
 $\varphi \leq 10\%$

D, DX DC ==  
 $\varphi \leq 10\%$

⊗ = Type "X" (option)

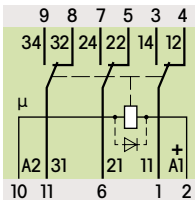
C3-A30

Universal power relay 10A

With 3 power changeover-contacts this is the robust relay for AC and DC circuits ranging from 10mA10V.

10A 250V ~

10mA 10V



AgNi  
2500VA/...250W  
30A(20ms)  
20x10<sup>9</sup>/≥5x10<sup>5</sup>

0,8...1,2Un  
2,2VA/1,3W  
16/8ms

24, 48, 115, 230  
C3-A30 / AC ... V

12, 24, 48, 110, 125, 220  
C3-A30 / DC ... V

12, 24, 48, 110, 125, 220  
C3-A30D / DC ... V

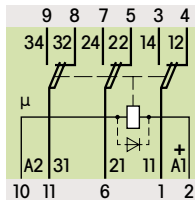
C3-T31

Relay like ..A30, but with double contacts 6A

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

6A 250V ~

5mA 5V



AgNi+0,2μ Au  
1200VA/...150W  
15A(20ms)  
20x10<sup>9</sup>/≥2x10<sup>5</sup>

0,8...1,2Un  
2,2VA/1,3W  
16/8ms

24, 48, 115, 230  
C3-T31 / AC ... V

12, 24, 48, 110, 125, 220  
C3-T31 / DC ... V

12, 24, 48, 110, 125, 220  
C3-T31D / DC ... V

C3-T32

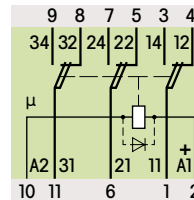
Relay like ..T31, but 10μ gold plated contacts

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

Recommend. upto 0,2A 30V.

6A 250V ~

1mA 5V



AgNi+10μ Au  
1200VA/...150W  
15A(20ms)  
20x10<sup>9</sup>/≥2x10<sup>5</sup>

0,8...1,2Un  
2,2VA/1,3W  
16/8ms

24, 48, 115, 230  
C3-T32 / AC ... V

12, 24, 48, 110, 125, 220  
C3-T32 / DC ... V

12, 24, 48, 110, 125, 220  
C3-T32D / DC ... V

C3-R20

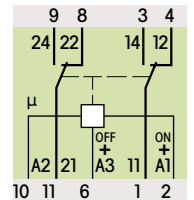
Remanence relay 10A with AC or DC coil

A1(2)=ON; A3(6)=OFF. Minim. triggering time 50ms, permanent triggering admissible.

Without option X.

10A 250V ~

10mA 10V



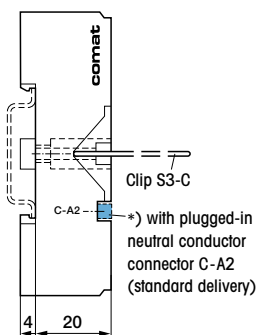
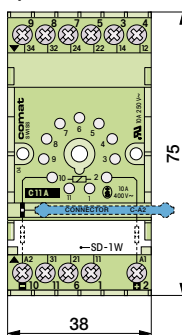
AgNi  
2500VA/...250W  
30A(20ms)  
20x10<sup>9</sup>/≥3x10<sup>5</sup>

0,8...1,2Un  
ON/OFF 1,5/0,5 VA//W  
16/10ms (τ > 50ms)

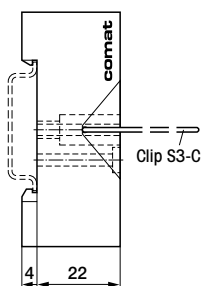
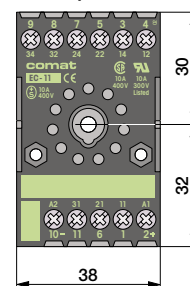
24, 48, 115, 230  
C3-R20 / AC ... V

12, 24, 48, 110, 125  
C3-R20 / DC ... V

System socket C11A \*)



Economy socket EC-11



For suitable coil wirings see "R-modules" →

Ordering example

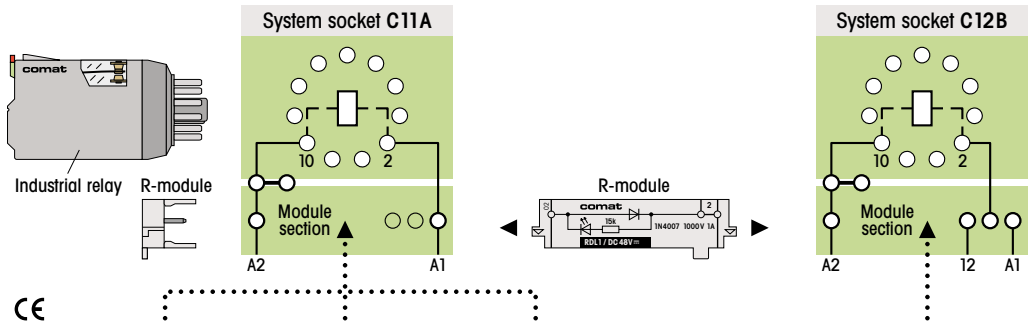
- Relay C3-A30X/AC230V
- Socket EC-11 or C11A
- Retaining clip S3-C (option)



## Plug-in coil wirings for 3-pole industrial relays C3

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.

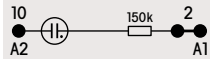


Relay coil →

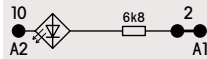
Illuminated displays



**RL1/AC 110-240V ~**



**RL1/UC 12-24V ~**



see RL1/UC...V

With additional diode output (12), e.g. for collective alarm messages.

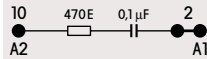
With additional diode input (12), e.g. as logical addition.

Suppressing units

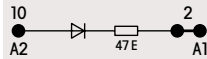


see RC1/UC...V

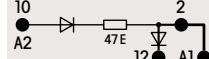
**RC1/UC 110-240V ~**



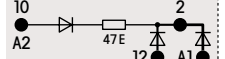
**RD1/DC 12-220V ==**



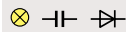
**RD2/DC 12-220V ==**



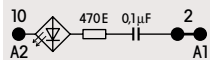
**RD3/DC 12-220V ==**



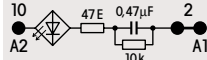
Suppressing units with illuminated displays



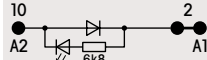
**RCL1/AC 110-240V ~**



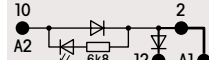
**RCL1/UC 24V ~**



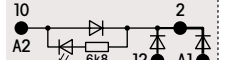
**RDL1/DC 12-24V ==**



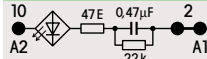
**RDL2/DC 12-24V ==**



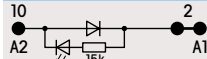
**RDL3/DC 12-24V ==**



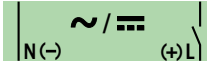
**RCL1/UC 48V ~**



**RDL1/DC 48V ==**

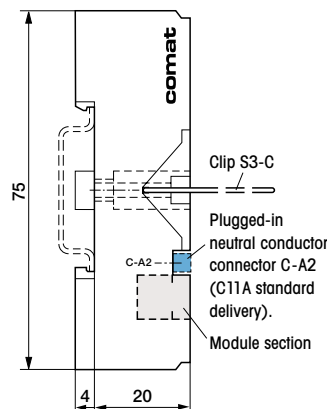
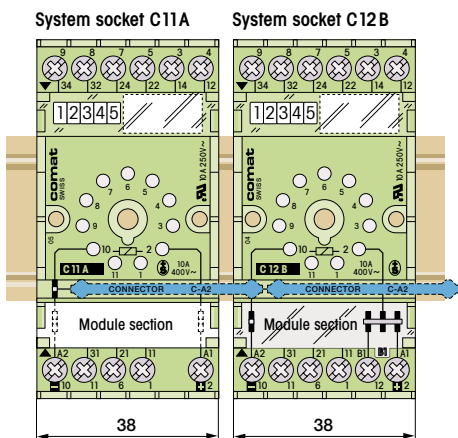


Current types  
Triggering

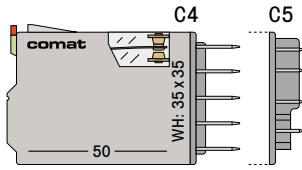
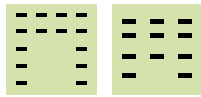


Ordering example

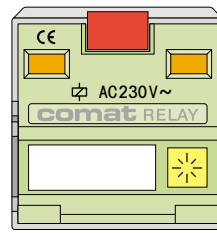
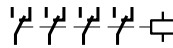
- Module RCL1/UC48V
- Socket C11A
- Relay, type C3-...
- Clip S3-C (option)



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



Power relay



C4-A40

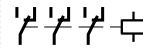
Universal power relay 10A

With 4 power changeover-contacts this is the robust relay for AC and DC circuits ranging from 10mA 10V.

10A 250V~

10mA 10V

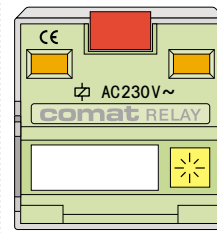
High power relay for AC and DC



16A 400V~



10A @ 220V=



C5-A30

Universal power relay 16A

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

16A 400V~/6A AC15

10mA 10V

C5-M10

Highpower relay, in particular for DC loads upto 10A 220V= (DC1) With 2 contacts in series and a blow magnet for safe arc extinguishing.

16A 400V~/6A AC15

10mA 10V

Industrial relays 3- and 4-pole

3- and 4-pole industrial relays with flat blade connection

- lockable manual operation
- mechanical flag indicator

Test voltage C4: 2500V/ 2500V/

Test voltage C5: 4000V 4000V

T<sub>amb.</sub> operation/

storage: -40...+60/-40...+85°C

HIGH POWER



Connection No. on socket →

Designation according to DIN/EN 50 011 →

Connection with socket

1) CS-14 2) CS-15

μ = contact opening < 3mm  
C5-M: > 3mm (1,7+1,7)

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

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

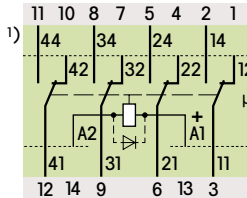
Operation voltage AC50Hz/DC  
Power consumption AC/DC  
Triggering delay / Release time

Standard AC ~ 50/60Hz

Standard DC = ≤10%

D, DX DC = ≤10%

⊗ = Type "X" (option)



AgNi  
2000VA/...250V  
30A(20ms)  
20x10<sup>6</sup>/≥ 6x10<sup>5</sup>

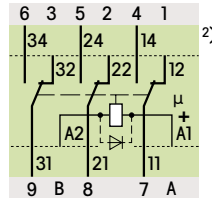
0,8...1,2UN  
2,4VA/1,4W  
20/8ms

24, 48, 115, 230  
C4-A40 X / AC ... V

12, 24, 48, 110, 125, 220  
C4-A40 / DC ... V

12, 24, 48, 110, 125, 220  
C4-A40D X / DC ... V

Option X = with ⊗



AgNi  
4000VA/...400W  
40A(20ms)  
20x10<sup>6</sup>/≥ 3x10<sup>5</sup>

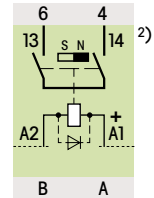
0,8...1,2UN  
2,4VA/1,4W  
20/10ms

24, 48, 115, 230, 400\*)  
C5-A30 X / AC ... V

12, 24, 48, 110, 125, 220  
C5-A30 / DC ... V

12, 24, 48, 110, 125, 220  
C5-A30D X / DC ... V

Option X = with ⊗



AgNi  
4000VA/...880W  
40A(20ms)  
20x10<sup>6</sup>/≥ 3x10<sup>5</sup>

0,8...1,2UN  
2,4VA/1,3W  
20/10ms

24, 48, 115, 230, 400\*)  
C5-M10 X / AC ... V

12, 24, 48, 110, 125, 220  
C5-M10 / DC ... V

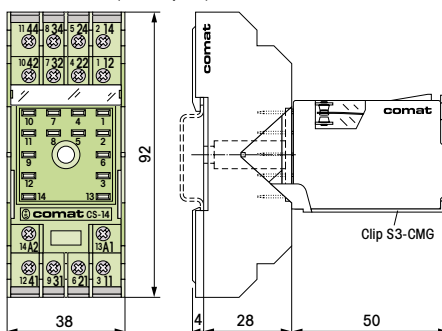
12, 24, 48, 110, 125, 220  
C5-M10D X / DC ... V

\*) 400V available only without LED (X)!

Ordering example

- Relay C4-A40X/AC230V
- Socket CS-14 (clip incl.)

Socket CS-14 (for relay C4)



Socket CS-15 (for relay C5)

