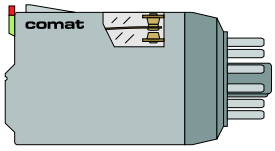
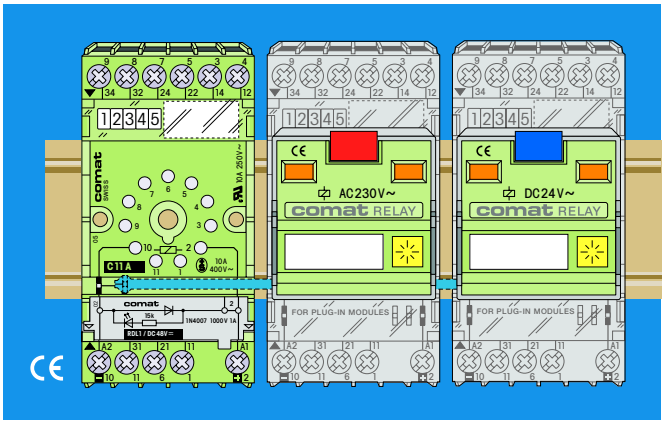
comat



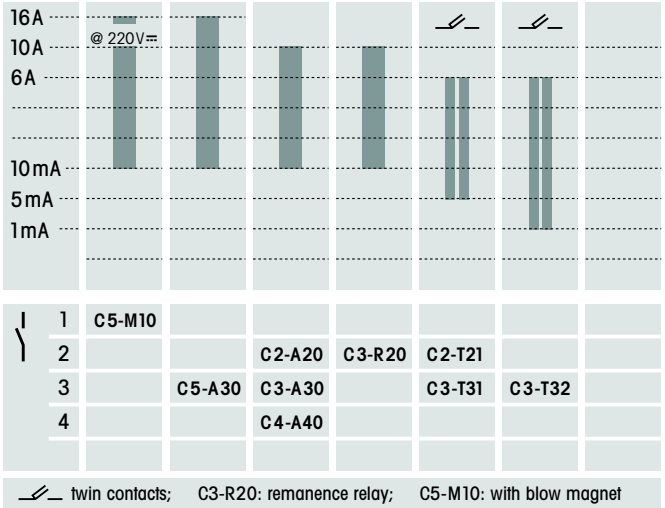


Industrial relays

Standard

CR 4 01

CR 4 Recommended application



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

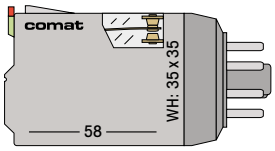
KÜHN

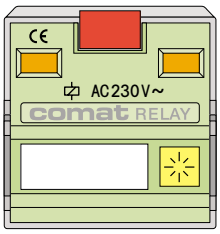
Kühn Controls AG
Vertriebsbüro Deutschland
Gräfenhäuser Str. 14
D-75305 Neuenbürg
Tel.: +49- (0)7082-940000
Fax: +49- (0)7082-940001
eMail: sales@kuehn-controls.de
www.multicomat.net

comat C2

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: 2500V / 2500V

$T_{amb.}$ operation/ storage: -20..+60/-40..+85°C

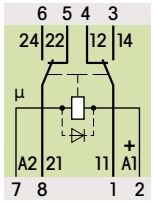
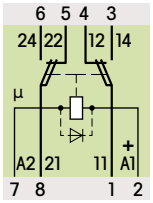
CE | μ MAX / MIN

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

Connection with socket EC-8

μ = contact opening < 3mm

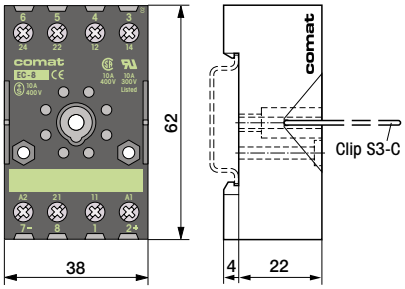
Data at $T_{amb.}$ = 20°C (standard coil)

	C2-A20	C2-T21
	Universal power relay 10A With 2 power changeover-contacts this is the robust relay for AC and DC circuits ranging from 10mA 10V.	**Relay like ..A20, but with doubel contacts 6A** The control relay with highest switching reliablility for control and signal circuits ranging from 5mA 5V.
	10A 250V~	**6A 250V~**
	10mA 10V	5mA 5V
		
Contact material	AgNi	AgNi+0,2μAu
Switching load AC1/DC1	2500VA/...250W	1200VA/...150W
Peak inrush power	30A(20ms)	15A(20ms)
Switching cycles mech./electr. (AC1)	$20x10^6/\geq 5x10^5$	$20x10^6/\geq 2x10^5$
Operation voltage AC 50Hz/DC	0,8...1,2 U_N	0,8...1,2 U_N
Power consumption AC/DC	2,2VA/1,3W	2,2VA/1,3W
Triggering delay / release time	16/8ms	16/8ms
Standard AC ~ 50/60Hz	24, 48, 115, 230 C2-A20 X / AC V	24, 48, 115, 230 C2-T21 X / AC V
Standard DC ⎓ ≤10%	12, 24, 48, 110, 125, 220 C2-A20 / DC V	12, 24, 48, 110, 125, 220 C2-T21 / DC V
D, DX DC ⎓ ≤10%	12, 24, 48, 110, 125, 220 C2-A20D X / DC V	12, 24, 48, 110, 125, 220 C2-T21D X / DC V

⊗ = Type "X" (option)

Option X = with ⊗

Economy socket EC-8



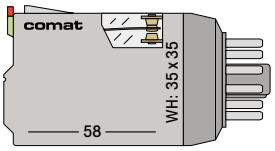
Ordering example
- Relay C2-A20X/AC230V
- Socket EC-8
- Retaining clip S3-C (option)

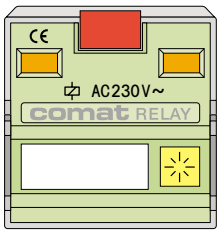
Power relay

Control relay

Signal relay
10µAu

Remanence relay





3-pole miniature industrial relays according to IEC 67-1
- lockable manual operation
- mechanical flag indicator

Test voltage: ⏚ 2500V ⌇ 2500V ⌇
$T_{amb.}$ operation/
storage: -40..+60/-40..+85°C

CE µ MAX MIN

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

Connection with sockets
EC-11, C11A, C12B

µ = contact opening < 3mm

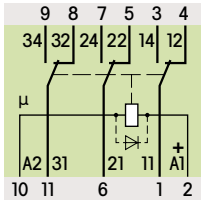
Data at $T_{amb.}$ = 20°C (standard coil ⏚)

C3-A30

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

10A 250V~

10mA 10V



Contact material: AgNi
Switching load AC1/DC1: 2500VA/...250W
Peak inrush power: 30A(20ms)
Switching cycles mech./electr.(AC1): $20x10^6/\geq 5x10^5$

Operation voltage AC 50Hz/DC: 0,8...1,2 U_N
Power consumption AC/DC: 2,2VA/1,3W
Triggering delay / release time: 16/8ms

Standard — AC ~ 50/60Hz: 24, 48, 115, 230
C3-A30 X / AC V

Standard — DC ⎓ ≤10%: 12, 24, 48, 110, 125, 220
C3-A30 / DC V

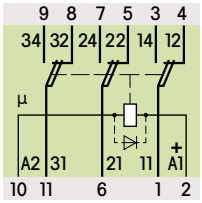
D, DX — DC ⎓ ≤10%: 12, 24, 48, 110, 125, 220
C3-A30D X / DC V

C3-T31

Relay like ..A30, but with doubel contacts 6A
The control relay with highest switching reliablility for control and signal circuits ranging from 5mA 5V.

6A 250V~

5mA 5V



Contact material: AgNi+0,2µAu
Switching load AC1/DC1: 1200VA/...150W
Peak inrush power: 15A(20ms)
Switching cycles mech./electr.(AC1): $20x10^6/\geq 2x10^5$

Operation voltage AC 50Hz/DC: 0,8...1,2 U_N
Power consumption AC/DC: 2,2VA/1,3W
Triggering delay / release time: 16/8ms

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

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

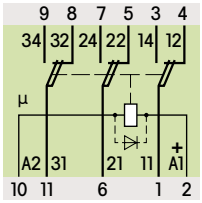
12, 24, 48, 110, 125, 220
C3-T31D X / DC V

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



Contact material: AgNi+10µAu
Switching load AC1/DC1: 1200VA/...150W
Peak inrush power: 15A(20ms)
Switching cycles mech./electr.(AC1): $20x10^6/\geq 2x10^5$

Operation voltage AC 50Hz/DC: 0,8...1,2 U_N
Power consumption AC/DC: 2,2VA/1,3W
Triggering delay / release time: 16/8ms

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

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

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

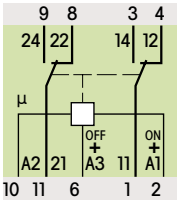
C3-R20

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



Contact material: AgNi
Switching load AC1/DC1: 2500VA/...250W
Peak inrush power: 30A(20ms)
Switching cycles mech./electr.(AC1): $20x10^6/\geq 3x10^5$

Operation voltage AC 50Hz/DC: 0,8...1,2 U_N
Power consumption AC/DC: ON/OFF 1,5/0,5 VA//W
Triggering delay / release time: 16/10ms (⎍ >50ms)

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

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

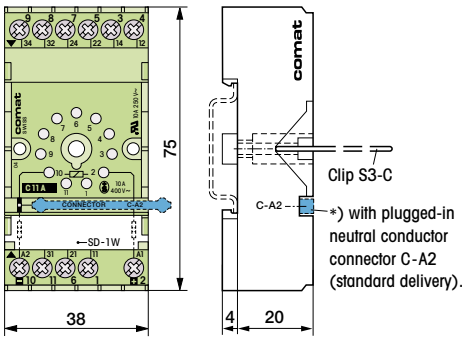
⊗ = Type "X" (option)

Option X = with ⊗

For suitable coil wirings see "R-modules" →

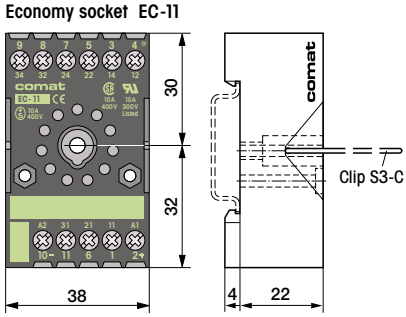
Ordering example
- Relay C3-A30X/AC230V
- Socket EC-11 or C11A
- Retaining clip S3-C (option)

System socket C11A *)



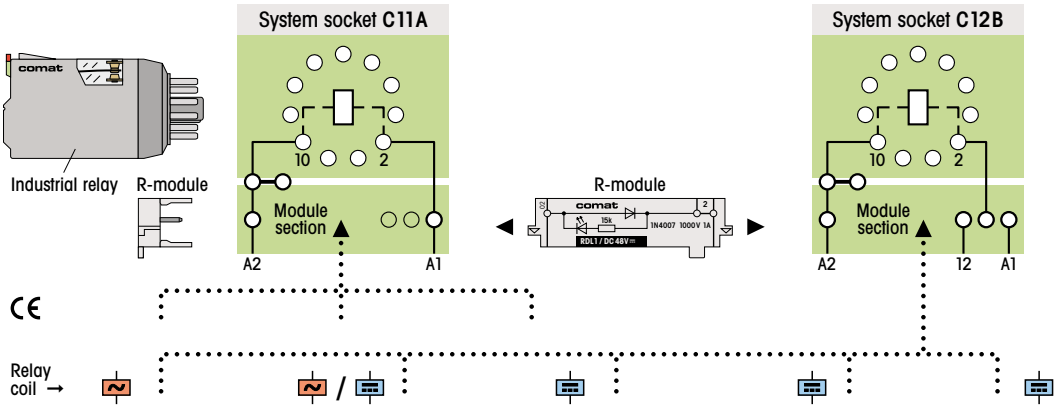
*) with plugged-in neutral conductor connector C-A2 (standard delivery).

Economy socket EC-11



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.

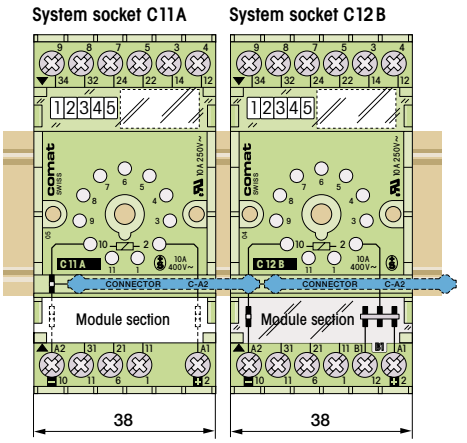


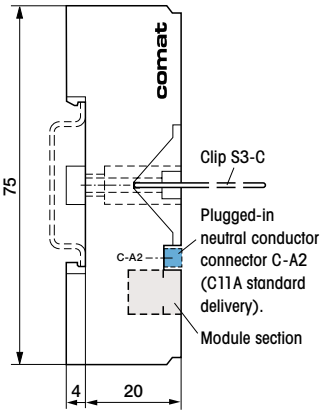
Illuminated displays ⊗	**RL1/AC 110-240 V ~** 10 150k 2 A2 A1	**RL1/UC 12-24 V ≂** 10 6k8 2 A2 A1	see RL1/UC...V	With additional diode output (12), e.g. for collective alarm messages.	With additional diode input (12), e.g. as logical addition.
Suppressing units ⊣⊢ ▷|	see RC1/UC...V	**RC1/UC 110-240 V ≂** 10 470E 0,1 µF 2 A2 A1 **RC1/UC 12-48 V ≂** 10 47E 0,47 µF 2 A2 A1	**RD1/DC 12-220 V ⎓** 10 2 A2 47E A1	**RD2/DC 12-220 V ⎓** 10 2 A2 47E 12 A1	**RD3/DC 12-220 V ⎓** 10 2 A2 47E 12 A1
Suppressing units with illuminated displays ⊗ ⊣⊢ ▷|	**RCL1/AC 110-240 V ~** 10 470E 0,1 µF 2 A2 A1	**RCL1/UC 24 V ≂** 10 47E 0,47 µF 2 A2 10k A1 **RCL1/UC 48 V ≂** 10 47E 0,47 µF 2 A2 22k A1	**RDL1/DC 12-24 V ⎓** 10 2 A2 6k8 A1 **RDL1/DC 48 V ⎓** 10 2 A2 15k A1	**RDL2/DC 12-24 V ⎓** 10 2 A2 6k8 12 A1	**RDL3/DC 12-24 V ⎓** 10 2 A2 6k8 12 A1
Current types Triggering	~ N L	~ / ⎓ N (–) (+) L	⎓ – +	⎓ – +	⎓ – + +

Ordering example

- Module RCL1/UC48V
- Socket C11A

- Relay, type C3-...
- Clip S3-C (option)





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

Industrial relays 3- and 4-pole

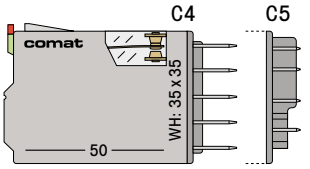
HIGH POWER

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

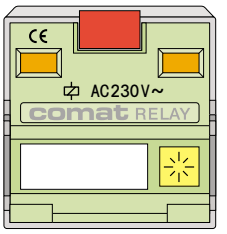
μ = contact opening < 3mm
C5-M: > 3mm (1,7+1,7)

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



Power relay

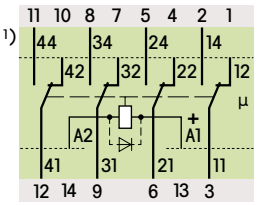
16A 400V~



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



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

Connection with socket
1) CS-14 2) CS-15

Contact material	AgNi
Switching load AC1/DC1	2000VA/...250W
Peak inrush power	30A(20ms)
Switching cycles mech./electr.(AC1)	$20x10^6/\geq 6x10^5$
Operation voltage AC50Hz/DC	$0,8...1,2U_N$
Power consumption AC/DC	2,4VA/1,4W
Triggering delay / Release time	20/8ms

Standard	AC ~ 50/60Hz	24, 48, 115, 230
		C4-A40 X / AC V
Standard	DC ⎓ ≤10%	12, 24, 48, 110, 125, 220
		C4-A40 / DC V
D, DX	DC ⎓ ≤10%	12, 24, 48, 110, 125, 220
		C4-A40D X / DC V

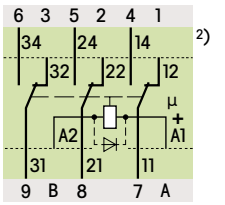
⊗ = Type "X" (option)

Option X = with ⊗

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



Contact material	AgNi
Switching load AC1/DC1	4000VA/...400W
Peak inrush power	40A(20ms)
Switching cycles mech./electr.(AC1)	$20x10^6/\geq 3x10^5$
Operation voltage AC50Hz/DC	$0,8...1,2U_N$
Power consumption AC/DC	2,4VA/1,4W
Triggering delay / Release time	20/10ms

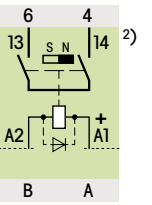
24, 48, 115, 230, 400*)	
C5-A30 X / AC V	
12, 24, 48, 110, 125, 220	
C5-A30 / DC V	
12, 24, 48, 110, 125, 220	
C5-A30D X / DC V	

Option X = with ⊗

C5-M10

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

16A 400V~/6A AC15
10mA 10V



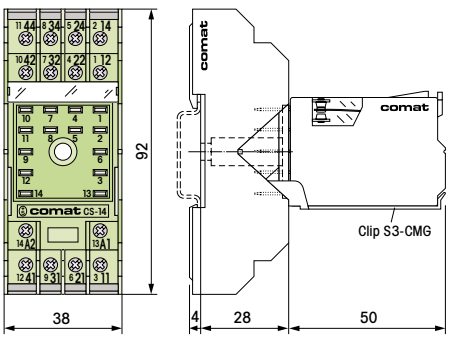
Contact material	AgNi
Switching load AC1/DC1	4000VA/...880W
Peak inrush power	40A(20ms)
Switching cycles mech./electr.(AC1)	$20x10^6/\geq 3x10^5$
Operation voltage AC50Hz/DC	$0,8...1,2U_N$
Power consumption AC/DC	2,4VA/1,3W
Triggering delay / Release time	20/10ms

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	

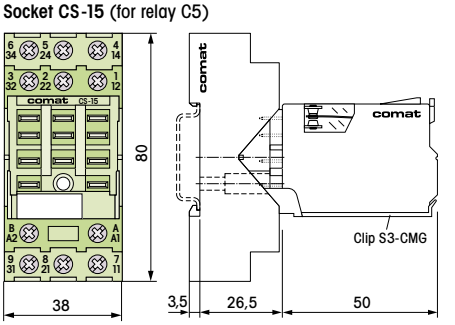
Option X = with ⊗

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

Socket CS-14 (for relay C4)



Socket CS-15 (for relay C5)



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