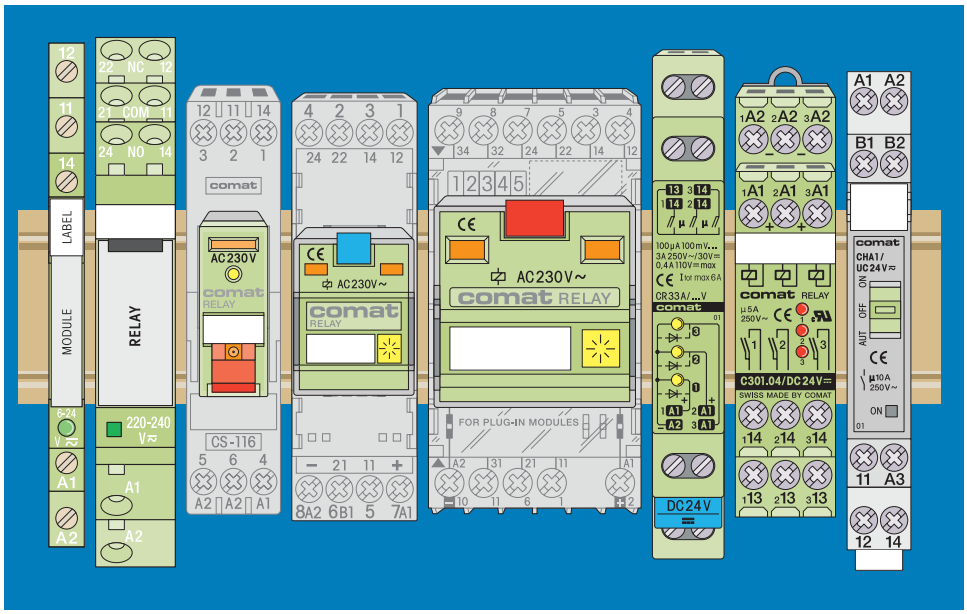
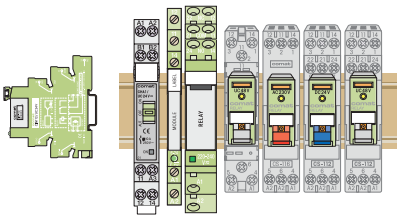
Industrial Relays

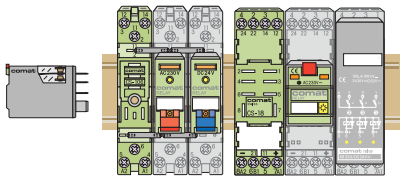


- Interface Relays
- Miniature Relays
- Standard Relays
- Long Life Relays
- Time Cubes and Relay-Modules
- DIN Relays
- Solid-State Relays
- Miniature Contactors

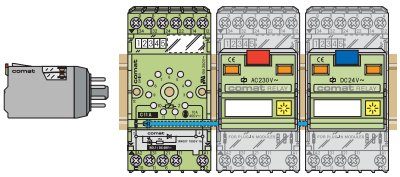
Relays Overview



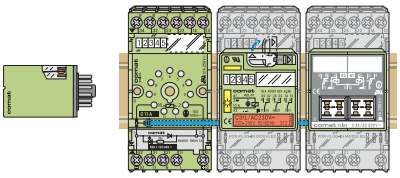
Relays for switching of PLC I/O´S



The space saving alternative makes the best use of the control panel.
In various executions:
- Power Relay 10A
- Control Relay with twin contacts 6A
- Signal relay with gold contacts

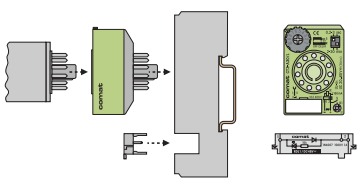


The well proven Industrial Relay according IEC 67.1 as:
- Power Relay 10A
- Control Relay with twin contacts 6A
- Signal relay with gold contacts
- Remanence Relay



The well proven Industrial Relay according IEC 67.1
for:
- ≥ 100 Mio. mechanical switching cycles
- ≥ 700000 switching cycles under max. load

as:
- Power Relays 10A
- Signal Relay with twin contacts 6A



	Series	Socket	Contact	Page
Interface Relays				
Interface Module ultra slim	**CINT11/12**	DIN 35	6A	10
Interface Module ultra slim	**CINT15/18**	DIN 35	2A	10
Interface Module 2-pole	**CINT51**	DIN 35	10A	11
Interface Module 2-pole	**CINT52/53**	DIN 35	8A	11
AUTO-ON-OFF-Relays	**CHA1**	DIN 35	10A	12
Interface Relays plug-in	**C14/C10**		10A	13
Interface Relays plug-in 2-pole	**C12**		5A	14
Miniatur Industrial Relays				
Miniature Industrial Relays 2-pole	**C7**		10A	16
Miniature Industrial Relays 3-pole	**CR31**		10A	17
Miniature Industrial Relays 4-pole	**C9**		5A	18
Miniature Signal Relays 2-pole	**KR13**		3A	19
Miniature Signal Relays 2-channel	**KR23**		2x 3A	19
Miniature Signal Relays 3-channel	**KR33**		3x 3A	19
Standard Industrial Relays				
Standard Industrial Relays 2-pole	**C2**	8	10A	22
Standard Industrial Relays 3-pole	**C3**	11	10A	23
Standard Industrial Relays 4-pole	**C4**		10A	24
High Power Relay 3-pole	**C5**		16A	25
LONG LIFE Industrial Relays				
LONG LIFE Industrial Relays 2-pole	**C21**	8	10A	28
LONG LIFE Industrial Relays 2-pole	**C22**	8	6A	28
LONG LIFE Industrial Relays 3-pole	**C31**	11	10A	29
LONG LIFE Industrial Relays 3-pole	**C32**	11	6A	29
LONG LIFE Power Relays 2-channel	**C33**	11	2x 10A	30
LONG LIFE Signal Relays 2-channel	**C34**	11	2x 5A	30
LONG LIFE Signal Relays 3-channel	**C39**	11	3x 5A	30
Time Cubes and Relays Modules				
Plug-in Time Cubes	**CT2/CT3**	8		32
Plug-in Coil Wirings	**R-Module**	11		33

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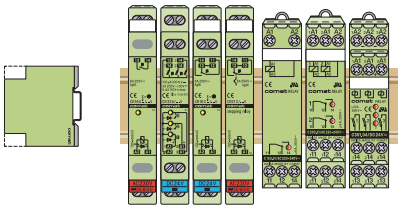
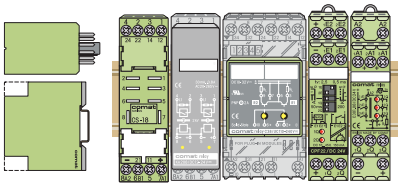
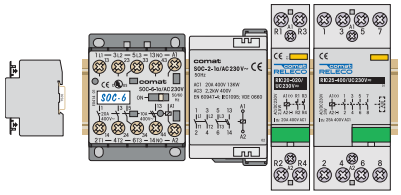
Outline Overview



Direct snap on Industrial Relays:
- Power Relay
- Contol Relay with twin contacts
- Signal Relay with gold contact
- Step-on/Step-off Relay



The alternative for highest switching frequency and non-wearing switching.
- Triac outputs for AC and DC loads, short circuit resistent.
- Transistor outputs for DC loads, short circuit resistent.



With 3 main contacts 20...63A and auxilliary twin signal contacts 10A.
Contact openings >3mm, test voltage 4000V.
Specially suitable for save breaking in low voltage circuits.

	Series	Socket	Contact	Page
DIN-Relais				
Power Relays 1-pole	CR16	DIN 35	6A	36
Control Relays 2-channel	CR23A	DIN 35	2x 3A	36
Control Relays 3-channel	CR33A	DIN 35	3x 3A	36
Signal Relays 2-pole	CR11C	DIN 35	1A	36
Step-on Step-off Relays	CRS1C	DIN 35	6A	36
Power Relays 1-pole	C103	DIN 35	6A	37
Power Relays 2-pole	C133	DIN 35	6A	37
Control-/Signal Relays 2-channel	C203	DIN 35	2x 5A	37
Control Relays 3-channel	C301	DIN 35	3x 5A	37
Solide State Relays				
Universal Solide State Relays 1-channel	C35		UC 0,8A	40
AC Solide State Relays 2-channel	C36		2x 0,8A	40
DC Solide State Relays 1-channel	C37		5A	40
DC Solide State Relays 2-channel	C38		2x 2A	40
Universal AC Solide State Relays 1-channel	KA108		Triac 0,8A	41
Universal AC Solide State Relays 1-channel	KA115		Triac 1,5A	41
Universal AC Solide State Relays 2-channel	KA208		Triac 2x 0,8A	41
Universal DCSolide State Relays 1-channel	KD125		2,5A	42
Universal DC Solide State Relays 2-channel	KD215		2x 1,5A	42
Universal DC Solide State Relays 3-channel	KD315		3x 1,5A	42
DC Motor Control Relays with brake function	KDM3-24	DIN 35	3A	43
UC Solide State Changeover Relays	KDW3-24	DIN 35	3A	44
Switching Amplifier 1-channel	CTV11	DIN 35	250mA	45
Switching Amplifier 3-channel	C301/C311	DIN 35	3x 2A	45
Pulse Shaper	CPF11	DIN 35	2A	46
Pulse Shaper	CPF22	DIN 35	2x 150mA	46
Miniature Contactors				
Universal Miniature Contactors	SOC-6	DIN 35	20A	48
Universal Miniature Contactors	SOC-2	DIN 35	20A	49
Installation Contactors	RIC20	DIN 35	20A	50
Installation Contactors	RIC25	DIN 35	25A	50
Installation Contactors	RIC40	DIN 35	40A	50
Installation Contactors	RIC63	DIN 35	63A	50

General information

Contacts
There are several different types of contact materials for relays.
The main distinction can be made between single contacts and twin contacts.
While single contacts are more suitable for higher loads, twin contacts are significantly more reliable for low switching loads, i.e. < 24 V, < 100 mA.

Contact material
There is no all-purpose universal contact.
AgNi is used as a standard contact material for a wide range of applications.
For applications in aggressive atmospheres, AgNi contacts with hard gold plating (up to 10 µm) are recommended. There is however no other purpose then corrosion protection during storage. Relays with tungsten pre-contacts are available for very high switching currents (up to 500 A, 2.5 ms.

Minimum load
The minimum load values are recommended values under normal working conditions i.e. regular switching, no special ambient conditions, etc.
Under these conditions reliable switching can be expected.

Contact resistance
In practice the contact resistance may vary depending on the switching load and other environmental conditions.
For higher currents the contact resistance is around 10 mΩ.

Contact spacing
Normally all open contacts have an air gap between 0,5 ... 1.5 mm.
They are referred to as µ contacts according to the Low-Voltage Directives and associated standards. These contacts are not suitable for safe disconnection.
For switching of DC loads, large contact clearances are requested for the quenching of the electric arcs. (Pls.refer to special relays: Series connections.)

Switching capacity
The contact switching capacity is the product of switching voltage and switching current.
For AC, the permitted switching capacity is generally enough to handle the max. continuous AC1 current over the whole voltage range.
It is not allowed to exceed the load limit curve for DC switching because a remaining switch-off-arc would destroy the relay immediately. The DC switching capacity is 100 W (DC 1).

Drive (coil)
A distinction is made between standardised voltages according to EN 60947 as guaranteed values, and typical values which can be expected with a high degree of probability.

Pick-up voltage, Release voltage
The pick-up voltage is the voltage at which the relay engages safely. The typical trip voltage for DC is approx. 65 % of Unom and approx. 75 % of Unom for AC.
The release voltage is approx. 25 %, resp. 60 % of Unom.
For DC, these voltages depend strongly on the temperature coefficient for Cu.
This is however not the case for AC, where the constant inductive resistance over a wide temperature range is the controlling factor.
Under voltages in AC relays results in humming and armature fluttering and should therefore be avoided.

Operating voltage range
The upper voltage limit of the coil is determined by the heat and the ambient temperature.
The self-heating trough the contacts under high loads should not be underestimated since it may even be higher than the dissipated energy of the coil. Significantly high but short period overvoltage however provides no problem for intermittent operations.
In doubt please consult our specialist or ask for the respective characteristic curve diagram.

Coil connections
Different coil connections can be integrated into the relay as an option. A cost-effective freewheeling diode is available for DC coils. Please note that the stated release times are generally specified without the coil connection.
While an additional LED status indicator has practically no effect, a freewheeling diode (D) will lead to an increase in release time by a factor 2 to 5, or 0 ms to 30 ms.
For AC coils, VDRs or RC elements may be used. In this case resonance effects may have to be considered. VDRs and common RC elements may increase release times by < 5 ms.

General design
Comat (Releco) relays are made from carefully selected high-quality materials. The components comply with the latest environmental regulations such as RohS.
The meticulous design makes the relays particularly suitable for any industrial application and engineering installation.
The robust terminals, mechanical position indicator, dynamic and permanent hand activators, all integrated in the standard relay make them particularly service friendly.
Colour coded hand test buttons dependent on the type of coil voltage is another useful feature.

Options
- Different coil connections
- Freewheeling diodes
- LED displays
- Bridge rectifiers for AC/DC drives, etc.

Additionally, because of short-term availability of special versions for practically any drive voltage up to DC 220 V / AC 400 V the relays are a cost effective solution for many applications For safety reasons, manual operated test buttons may be replaced with a blank button, if required.

Further information
To select the most suitable relay and to guarantee a reliable operation and a long service life for the application, several factors need to be considered. In particular these are:
-Number of cycles
-Switching frequency
-Ambient conditions
-Load type
-Switch-on current and load switch-off energy.

Example
If the number of cycles are expected to exceed > 100,000 operations per year. (E.g. clock generators, fast running machines), an electronic solution is perhaps more appropriate. Comat is able to offer a suitable relay from our standard product range.
In AC applications, crosstalk caused by long control leads is often a problem and can result in constant humming of the relay or even inadvertent triggering due to interference. Here too, we offer solutions.
Various, apparently harmless loads may lead to very high switch-on currents or switch-off energy values This may result in an unacceptable reduction of the service life. Inductive DC loads are especially harmful.

Characteristics of various loads:

Heating circuits
No high switch-on currents, no high switch-off loads.

Incandescent lamps, halogen lamps
Switch-on currents during a few ms in the range 10 x rated IN. Switch-off at rated load.

Low-energy lamps
Very high, with very short switch-on currents due to built-in decoupling capacitors. Contacts have a tendency to fuse.

Transformers, AC contactors
Switching on during zero-transition may avoid high inrush currents. If switching before or after the zero crossing, switch-on currents of 8 ... 15 x rated IN.may occur. High inductive switch-off energy is possible. The load must be wired, due to EMC problems.

Comat products comply with different international standards and are certified accordingly.

A detailed list can be found on our web page:

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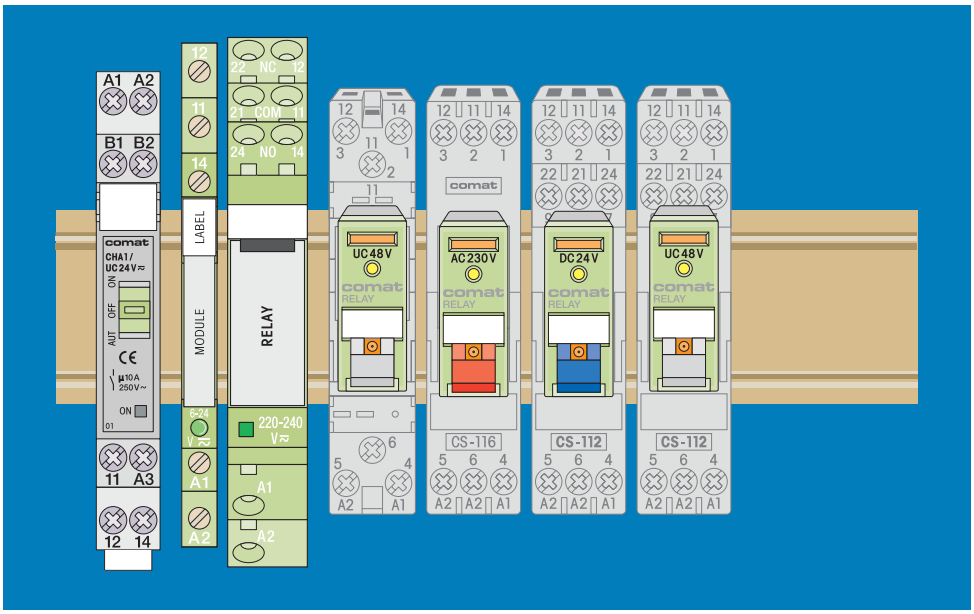
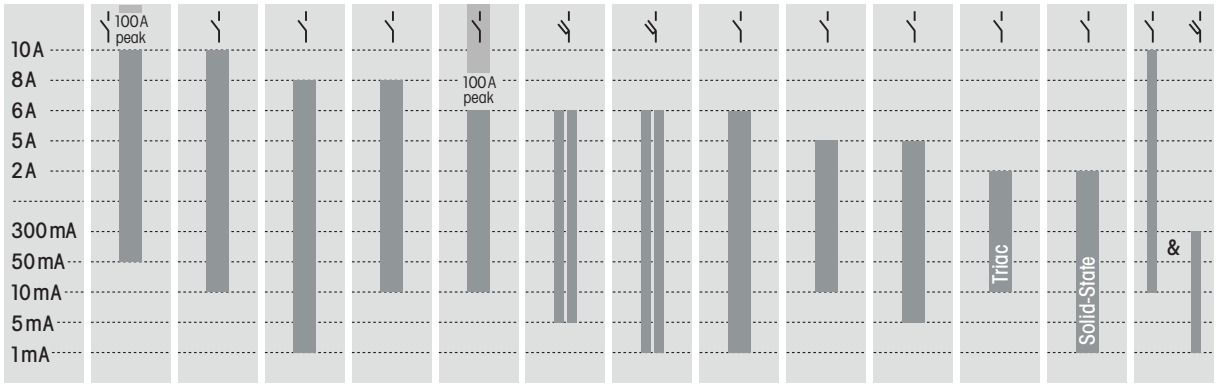
Industrial Relays

Interface Relays



DIN

Interface Relays Recommended application



1		C14-A10 C10-A14			CINT11 CINT21	C10-T13	C10-T12	CINT12 CINT22			CINT18 CINT28	CINT15 CINT25	
2	CINT51 CINT61		CINT52 CINT62	CINT53 CINT63					C12-A21	C12-A22			
1+1													CHA1

twin contacts

comat

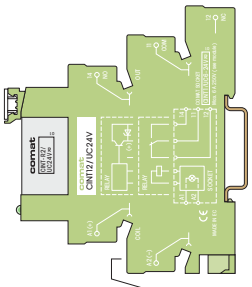
CINT1 **CINT2** DIN

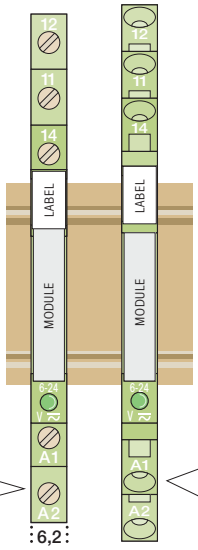
Interface

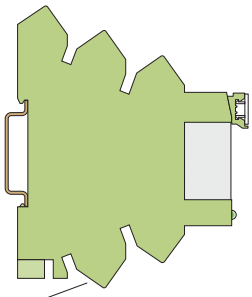
Interface modules

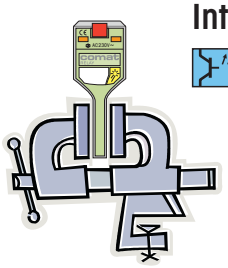
Interface-Solide-State Modules

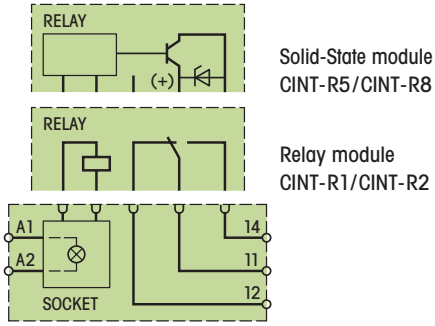
SPACE SAVING











Solid-State module
CINT-R5/CINT-R8

Relay module
CINT-R1/CINT-R2

With srcew terminals
(0,2-2,5mm²)
CINT-11, -12, -15, -18

With cage clamp terminals
(1x 0,2-2,5mm²)
CINT-21, -22, -25, -28

Interface Module
Complete with integrated LED and switching module.

Test voltage: 3600V

Tamb. operation/storage:
-20..+55/-40..+85°C

	CINT-11, CINT-21	CINT-12, CINT-22	CINT-15, CINT-25	CINT-18, CINT-28
	Interface Module for PLC's and process control. High power contact AgSnO2. With screw terminals (CINT-11) or cage clamp terminals (CINT-21).	**Interface Module** for PLC's and process control. Signal contact AgNi +5µAu. With screw terminals (CINT-12) or cage clamp terminals (CINT-22).	**Interface Module** for PLC`s and process control. DC solid-state switch NO, pnp. Integrated transient clamp circuit. For fast and high frequency switching. With screw terminals (CINT-15) or cage clamp terminals (CINT-25).	**Interface Module** for PLC`s and process control. AC solid-state switch type NO synchronous switching triac. For fast and high frequency switching. With screw terminals (CINT-18) or cage clamp terminals (CINT-28).
CE UL and others: www.comat.ch µ MAX MIN	**6A 250V~** 10mA 12V	**6A 250V~** 1mA 1V	**2A 24V⎓** 1mA 6V	**2A 250V~** 10mA 12V

Data at Tamb. =20°C (standard coil)

Contact material	AgSnO2	AgNi + 5µAu	Solid-state	Solid-state (Triac)
Switching power AC1	1500VA	1500VA	–	500VA
Switching power DC1	...250W	...250W	...60W	–
Switching power AC15	300VA/230V	–	–	–
Peak inrush current	100A/2,5ms	10A/20ms	20A/10ms	20A/10ms
Switching cycles: mechanical/electrical	10x10⁶/10⁵	10x10⁶/10⁵	–	–
Contact resistance/voltage drop	<100mΩ	<100mΩ	<100mΩ/200mV	<1,5V
Operation voltage AC50/60Hz / DC	0,8...1,2UN	0,8...1,2UN	0,7...1,25Un	0,7...1,25Un
Power consumption Pmax. 24V	240mW	240mW	240mW	240mW
Power consumption Pmax. AC230V	1,1W	1,1W	–	–
On delay/release time	5ms/10ms	5ms/10ms	<1ms	<1ms
Parallel circuit	All modules have an internal parallel diode circuit; green LED status indication.			

UC ≂ 50/60Hz /⎓≂	24, 230 CINT-11/UC....V CINT-21/UC.....V	24, 230 CINT-12/UC....V CINT-22/UC.....V		
DC ⎓ ≂ ≤10%			CINT-15/DC24V CINT-25/DC24V	CINT-18/DC24V CINT-28/DC24V
Replacement Switching modules	CINT-R1/UC110-240V CINT-R1/UC24V	CINT-R2/UC110-240V CINT-R2/UC24V	CINT-R5/DC24V	CINT-R8/DC24V

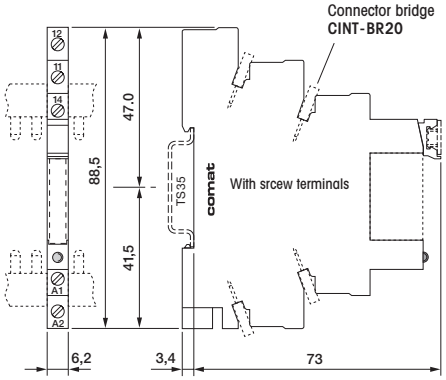
Ordering example

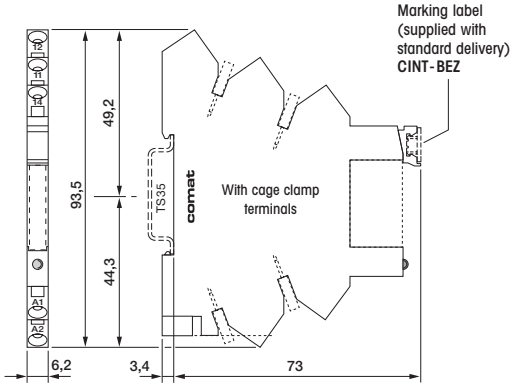
Module d'interface
CINT-21/UC24V

Accessories/Sparte parts

Connector bridge
CINT-BR20
(packing unit: 2x 10pin)

Marking label
CINT-BEZ
(packing unit: 64 pieces)





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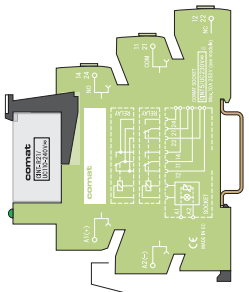
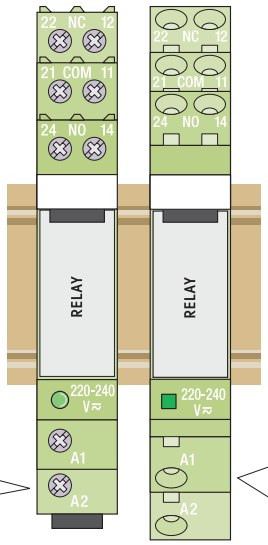
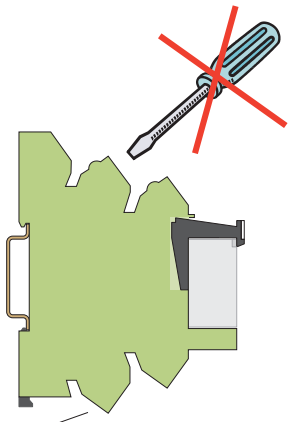
comat
CINT5
CINT6
DIN

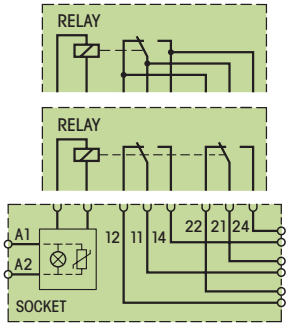
Interface Modules

Interface









Relay module
CINT-51/61

CINT-52/62
CINT-53/63

With srcew terminals
(0,5-2,5mm²)
CINT-51, -52, -53

With cage clamp terminals
(1x 0,5-2,5mm²)
CINT-61, -62, -63

Interface Module
Complete with integrated LED and relay.ul.

Test voltage: 3600V~
Isolation ~/ // ~/~:
4000Vrms // 2000Vrms
$T_{amb.}$ operation/storage:
-20..+55/-40..+85°C

CE UL and others: www.comat.ch μ MAX MIN

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

	CINT-51, CINT-61	CINT-52, CINT-62	CINT-53, CINT-63
	Interface Module for PLC's and process control. 1 x CO high power contact AgSnO2. With screw terminals (CINT-51) or cage clamp terminals (CINT-61). With LED output status display.	**Interface Module** for PLC's and process control. 1 x CO signal contact AgNi+5μAu. With screw terminals (CINT-52) or cage clamp terminals (CINT-62). With LED output status display.	**Interface Module** for PLC`s and process control. 1 x CO signal contact AgNi for standard applications. With screw terminals (CINT-53) or cage clamp terminals (CINT-63). With LED output status display.
	10A (13A) 250V~	**8A 250V~**	**8A 250V~**
	50mA 24V	1mA 12V	10mA 24V
Contact material	AgSnO2	AgNi + 5μAu	Ag Ni
Switching power AC1	2500VA	2000VA	2000VA
Switching power DC1	...300W	...250W	...250W
Switching power AC15	300VA/230V	–	–
Peak inrush current	100A/5ms	15A/20ms	15A/20ms
Switching cycles: mechanical/electrical	$10x10^6/10^5$	$10x10^6/10^5$	$10x10^6/10^5$
Contact resistance	<100mΩ	<100mΩ	<100mΩ
Operation voltage AC50/60Hz / DC	0,8...1,2 U_N	0,8...1,2 U_N	0,8...1,2 U_N
Power consumption Pmax. 24V	480mW	480mW	480mW
Power consumption Pmax. AC230V	1,1W	1,1W	1,1W
On delay/release time	5ms/10ms	5ms/10ms	5ms/10ms
Parallel circuit	All modules have an internal parallel diode circuit; green LED status indication.		
UC ~ 50/60Hz / ⎓	24, 230 CINT-51/UC.....V CINT-61/UC.....V	24, 230 CINT-52/UC.....V CINT-62/UC.....V	24, 230 CINT-53/UC.....V CINT-63/UC.....V
Replacement relay modules	CINT-R21/UC110-240V CINT-R21/UC24V	CINT-R22/UC110-240V CINT-R22/UC24V	CINT-R23/UC110-240V CINT-R23/UC24V

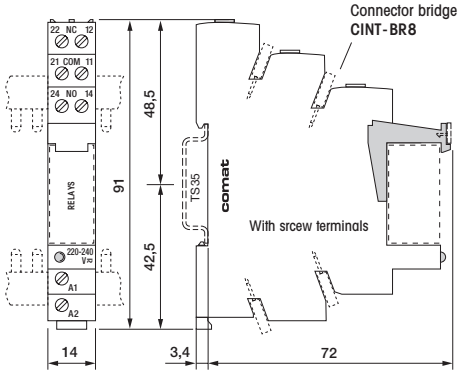
Ordering example

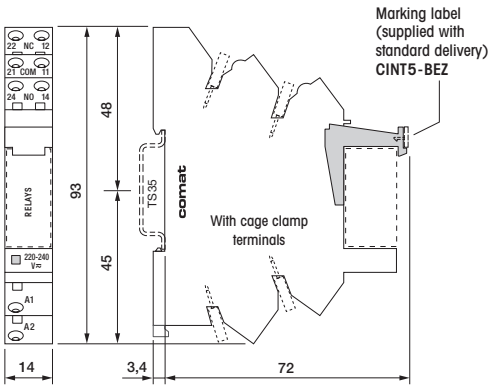
Interface module
CINT-51/UC24V

Accessories/Spare parts

Connector bridge
CINT-BR8/5
(packing unit: 1x 5pieces)

Marking label
CINT5-BEZ/18
(packing unit: 1x 18pieces)





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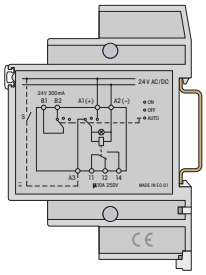
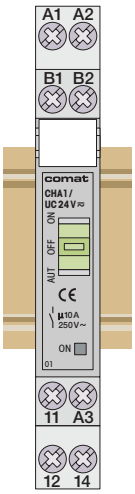
CHA1 DIN

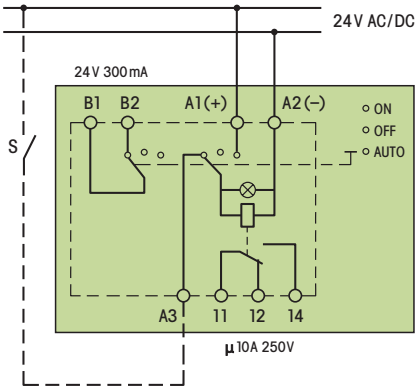
AUTO-ON-OFF Relay

Interface

FOR YOUR PLC







Interface Module

Complet with hand switch and LED for AUTO position indication.

Test voltage: 3000 V

$T_{amb.}$ operation/storage: -10..+50/-40..+85°C

CHA1

Interface Module
for control systems with 1 x CO high power contact, 1 x NO signal contact 300 mA.
Installation: 45 mm front dimension.
Front setting: AUTO-ON-OFF for maintenance and emergency operation

CE UL and others: www.comat.ch

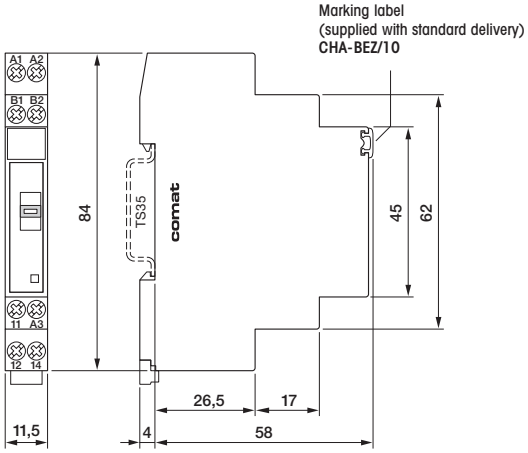
μ MAX MIN

10 A 250 V~
10 mA 12 V

Data at $T_{amb.}$ = 20°C (standard coil)	Power contact	Signal contact
Contact material	AgCdO	Ag
Switching current/voltage	10 A 250 V	300 mA/30 V
Switching power AC1	2500 VA	10 VA
Switching power AC15	500 VA/230 V	-
Switching power DC1	...250 W	10 W
Peak inrush current	100 A 2,5 ms	0,5 A
Mechanical switching cycles	10×10^6	10^3
Contact resistance	< 100 mΩ	< 100 mΩ
Operation voltage AC 50/60 Hz	0,8..1,2 U_N	– –
Operation voltage DC	1,1 $U_{N\,(10A)}$	– –
Power consumption Pmax	400 mW/24 V	– –

UC 50/60 Hz / ⎓

CHA1/UC 24 V



Ordering example

Interface module
CHA1/UC 24 V

Marking label
CINT5-BEZ/18
(packing unit: 1 x 18 pieces)

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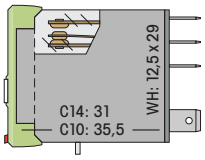


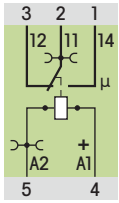
Power Relay

C14-A10

Universal Power Relay 10A
for AC- and DC-circuits ranging from 10mA 10V. Without manual activation button and mechanical status display.

10A 250V~

10mA 10V



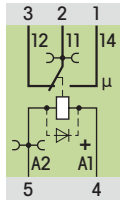
Power Relay

C10-A10

Universal Power Relay 10A
for AC- and DC-circuits ranging from 10mA 10V. With lockable manual activation button and mechanical status display.

10A 250V~

10mA 10V



Control Relay

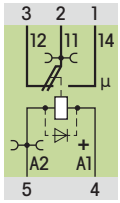
3μAu

C10-T13

Relay like ..A10, but with twin contacts 6A
the control relay with highest switching reliability for control circuits ranging from 5mA 5V. With lockable manual activation button and mechanical status display.

6A 250V~

5mA 5V



Signal Relay

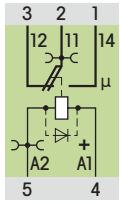
10μAu

C10-T12

Relay like ..T13, but with 10μ gold plated twin change over contacts
for highest switching reliability. Suitable for signal circuits ranging from 1mA 5V. Recommended for applications up to 0,2A 30V. With lockable manual activation button and mechanical status display.

6A 250V~

1mA 5V



1-pole Miniature Industrial Relay

- Extremley rigid terminal pins (Faston 4,8mm)

Test voltage: 5000V
Tamb. operation/storage: -20..+60/-20..+100°C

CE UL and otheres: www.comat.ch μ MAX MIN

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

Connection with interface socket **CS-106**

μ = contact opening < 3mm

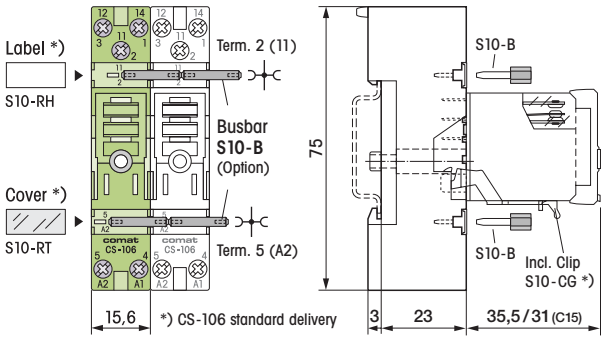
Data at Tamb. = 20°C (standard coil)

	C14-A10	C10-A10	C10-T13	C10-T12
Contact material Switching load AC1/DC1 Peak inrush power Switching cycles mech./electr. (AC1)	AgNi 2500VA/...300W // 10A 30V⎓ 30A (20ms) $20 \times 10^6 / \geq 10^5$	AgNi 2500VA/...300W // 10A 30V⎓ 30A (20ms) $20 \times 10^6 / \geq 10^5$	AgNi+3μAu 1500VA/...150W // 5A 30V⎓ 15A (20ms) $20 \times 10^6 / \geq 10^5$	AgNi+10μAu 1500VA/...150W 15A (20ms) $20 \times 10^6 / \geq 10^5$
Operation voltage AC 50Hz/DC Power consumption AC/DC Triggering delay / release time	0,8...1,2 U_N 1,1VA/700mW 11/8ms	0,8...1,2 U_N 1,1VA/700mW 11/8ms	0,8...1,2 U_N 1,1VA/700mW 11/8ms	0,8...1,2 U_N 1,1VA/700mW 11/8ms
Standard AC ~ 50/60Hz	24, 115, 230 C14-A10 / AC V			
Standard AC ~ 50/60Hz		115, 230 C10-A10X / AC V	115, 230 C10-T13X / AC V	115, 230 C10-T12X / AC V
Standard DC ⎓ ≤ 20%	24, 48, 110 C14-A10 / DC V			
Standard DC ⎓ ≤ 20%		12, 24, 48, 110 C10-A10X / DC V	12, 24, 48, 110 C10-T13X / DC V	12, 24, 48, 110 C10-T12X / DC V
FX DC ⎓ ≤ 20%		12, 110 C10-A10FX / DC V	12, 110 C10-T13FX / DC V	12, 110 C10-T12FX / DC V
BX UC ≂ 50-400Hz / ⎓		24, 48 C10-A10BX / UC V	24, 48 C10-T13BX / UC V	24, 48 C10-T12BX / UC V

Ordering example

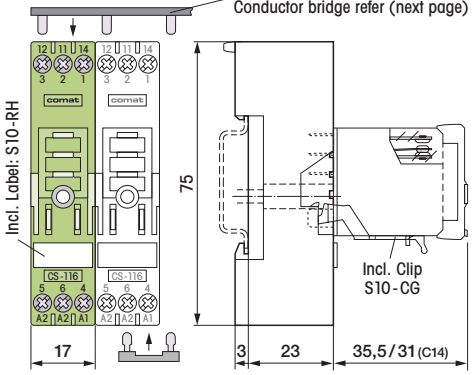
Relay **C10-A10X/DC24V**
Socket **CS-106** (clip incl.)
Connector **S10-B**

Interface socket CS-106



Interface socket CS-116

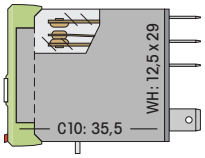
Option: Conductor bridge refer (next page)



comat

C12

Interface

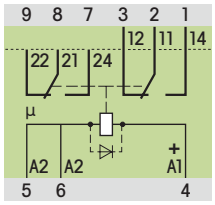
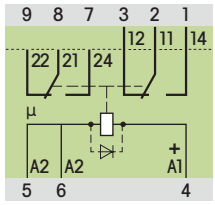


2-pole Miniature Industrial Relay

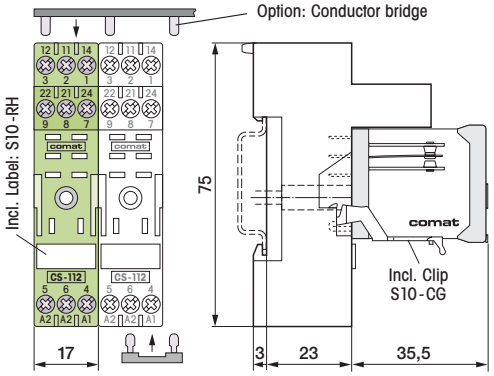
- Rigid terminal pins

Test voltage: ⏚ 5000 V ⎮ 3000 V ⎮

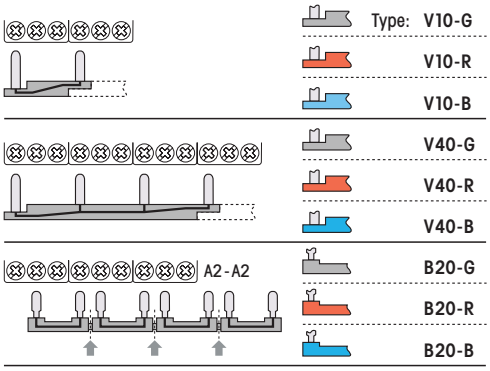
$T_{amb.}$ operation/storage:
-20..+60/-20..+100°C

	Control Relay	Signal Relay
		10µ Au
		
	C12-A21	**C12-A22**
	Universal-Control Relay 5 A With two change over contacts for AC- and DC- circuits ranging from 10 mA 10 V. With lockable manual activation button and mechanical status display.	**Signal Relay 5 A** With gold plated twin change over contacts for increased switching reliability. Suitable for AC- and DC-circuits ranging from 5 mA 5 V. With lockable manual activation button and mechanical status display.
CE UL and otheres: www.comat.ch µ MAX MIN	**5 A** 250 V~ 10 mA 10 V	**5 A** 250 V~ 5 mA 5 V
Connection No. on socket → Designation according to DIN/EN 50011 → Connection with interface socket **CS-112**		
µ = contact opening < 3 mm		
Data at $T_{amb.}$ = 20°C (standard coil)		
Contact material Switching load AC1/DC1 Peak inrush power Switching cycles mech./electr. (AC1)	Ag Ni + 0,3µ Au 1250 VA/...150 W//5 A 30 V⎓ 15 A (20 ms) $10 \times 10^6 / \geq 10^5$	Ag Ni + 10µ Au 1250 VA/...150 W//5 A 30 V⎓ 15 A (20 ms) $10 \times 10^6 / \geq 10^5$
Operation voltage AC 50 Hz/DC Power consumption AC/DC Triggering delay / release time	0,8...1,2 U_N 1,1 VA/700 mW 10/8 ms	0,8...1,2 U_N 1,1 VA/700 mW 10/8 ms
Standard AC ~ 50/60 Hz	115, 230 C12-A21X / AC V	115, 230 C12-A22X / AC V
Standard DC ⎓ ≤ 20%	12, 24, 48, 110 C12-A21X / DC V	12, 24, 48, 110 C12-A22X / DC V
FX DC ⎓ ≤ 20%	12, 110 C12-A21FX / DC V	12, 110 C12-A22FX / DC V
BX UC ≂ 50-400 Hz / ⎓	24, 48 C12-A21BX / UC V	24, 48 C12-A22BX / UC V

Interface socket CS-112



Conductor bridge for interface socket CS-112 and CS-116



Ordering example

Relay **C12-A21X/DC 24 V**
Socket **CS-112** (clip incl.)
Conductor bridge **V40-B**

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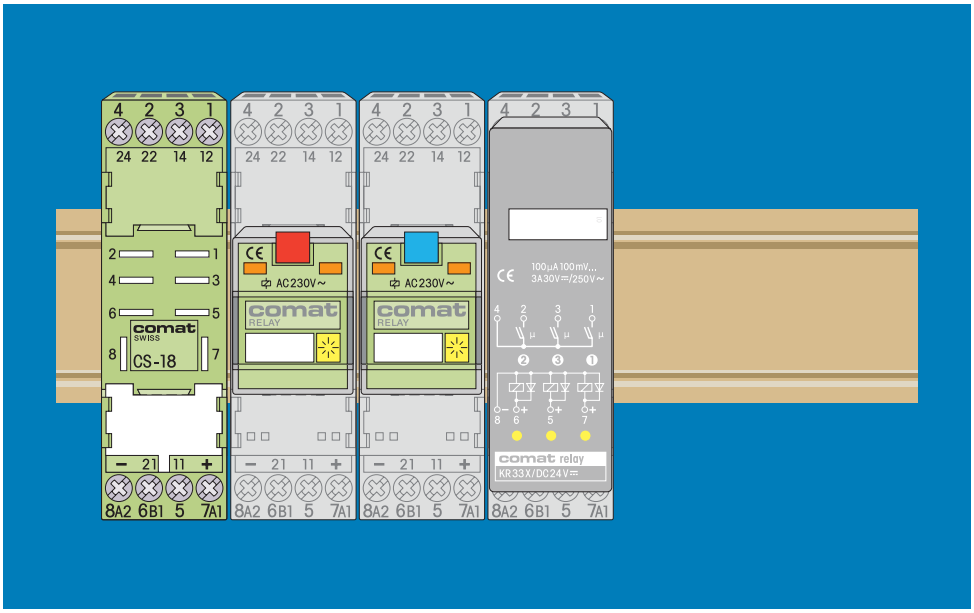
Industrial Relays

Miniature Relays



Comat products comply with different international standards and are certified accordingly.

A detailed list can be found on our web page:

www.comat.ch

Lloyd's

IEC 61810; EN 60974

Miniature Relays Recommended application

10A 6A 5A 3A			500A peak						Remanence		
10mA 5mA 1mA 100µA				&							
2	C7-A20	C7-W10		C7-T21	C7-T22					KR13	
3	CR31										
4						C9-A41	C9-R21	C9-A42			
1 + 1			C7-H23								
2x 1										KR23	
3x 1										KR33	

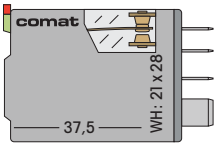
twin contacts

comat

C7

Miniature

SEISMIC APPROVED



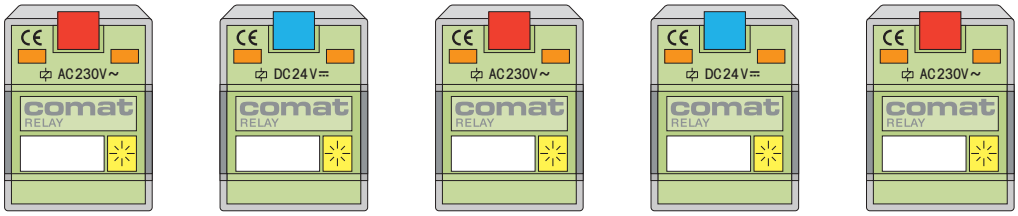
Power Relay

Control Relay
0,2µ Au

Signal Relay
10µ Au

Power Relay Signal Relay

High Power Relay



C7-A20

Universal Power Relay 10A
with 2 power changeover-contacts this is a robust relay for AC and DC circuits ranging from 10mA 10V.

10A 250V~
10mA 10V

C7-T21

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

6A 250V~
5mA 5V

C7-T22

Relay like ..T21, but 10µ gold plated contacts
the twin contact relay with highest switching reliability for signal circuits ranging from 1mA 5V. Recommended upto 0,2A 30V.

6A 250V~
1mA 5V

C7-H23

Power Relay 10A
with supplementary twin contact 6A (3µ Au) for a secondary circuit switch, i.e. to ensure reliable signal of relay switch position to the central control, SPC, distribution system.

10/6A 250V~
10mA 10V // 1mA 5V

C7-W10

Heavy duty Relay for 500A inrush current
with tungsten special early make contact. Specially suitable for filament and halogen lamps, transformers, etc. No mecanical flag indicator.

10A 250V~
10mA 10V

2-pole Miniature Industrial Relay
- lockable manual operation
- mechanical flag indicator

Test voltage: 2500V / 2500V

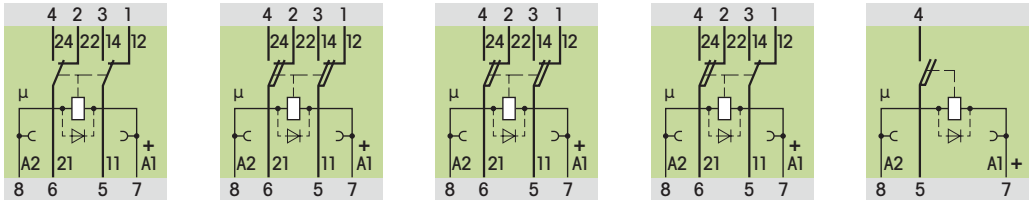
Tamb. operation/storage: -20..+60/-40..+85°C

CE UL and others: www.comat.ch µ MAX MIN

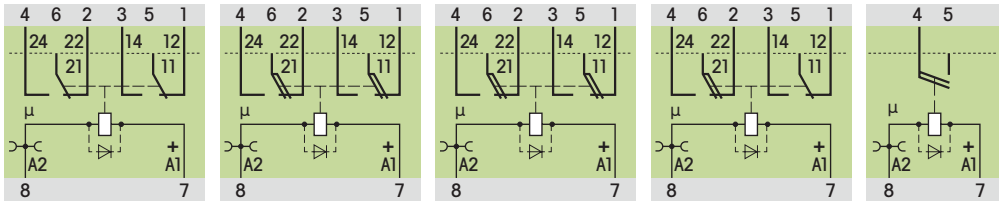
Connection No. on socket →
Designation according to DIN/EN 50011 →

Connection with socket CS-18

µ = contact opening < 3mm



Connection with socket CS-109



Data at Tamb. = 20°C (standard coil)

	C7-A20	C7-T21	C7-T22	C7-H23	C7-W10
Contact material	AgNi	AgNi + 0,2µ Au	AgNi + 10µ Au	AgNi // AgNi + 3µ Au	W/Ag
Switching power AC1	2500VA	1200VA	1200VA	2500VA // 1500VA	2500VA
Switching power DC1	...250W	...150W	...150W	...250W // ...180W	...250W
Peak inrush power	30A (20ms)	15A (20ms)	15A (20ms)	30A // 15A (20ms)	500A (2,5ms)
Switch. cycles mech./electr. (AC1)	$20x10^6$/≥ $3x10^5$	$20x10^6$/≥ $2x10^5$	$20x10^6$/≥ $2x10^5$	$20x10^6$/≥ $2x10^5$	$20x10^6$/≥ $3x10^5$
Operation voltage AC 50Hz/DC	0,8...1,2 U_N	0,8...1,2 U_N	0,8...1,2 U_N	0,8...1,2 U_N	0,8...1,2 U_N
Power consumption AC/DC	1,5VA/1W	1,5VA/1W	1,5VA/1W	1,4VA/1,1W	1,8VA/1,5W
Triggering delay / release time	16/8ms	16/8ms	16/8ms	15/8ms (30ms "DX")	20/10ms
Standard AC ~ 50/60Hz	24, 48, 115, 230	24, 48, 115, 230	24, 48, 115, 230	230	24, 48, 115, 230
	C7-A20 X / AC ...V	C7-T21 X / AC ...V	C7-T22 X / AC ...V	C7-H23X / AC ...V	C7-W10 X / AC ...V
Standard DC ≤10%	12, 24, 48, 110, 125	12, 24, 48, 110, 125	12, 24, 48, 110, 125		12, 24, 48, 110, 125
	C7-A20 / DC ...V	C7-T21 / DC ...V	C7-T22 / DC ...V		C7-W10 / DC ...V
D, DX DC ≤10%	12, 24, 48, 110, 125	12, 24, 48, 110, 125	12, 24, 48, 110, 125	24	12, 24, 48, 110, 125
	C7-A20D X / DC ...V	C7-T21D X / DC ...V	C7-T22D X / DC ...V	C7-H23DX / DC ...V	C7-W10D X / DC ...V

⊗ = Type X (option)

Option X = with ⊗

Entire series of C7. Comply to IEE 323 and IEE 344 (seismic qualified)

Ordering example

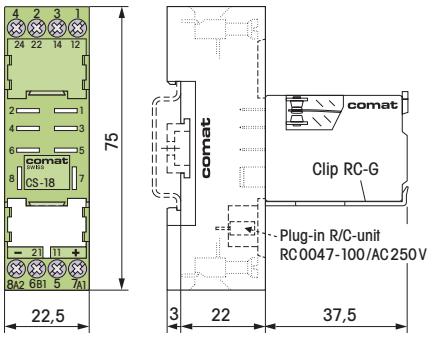
Relay C7-A20X/AC230V
Socket ...

Socket CS-18
Retaining clip RC-G (option)

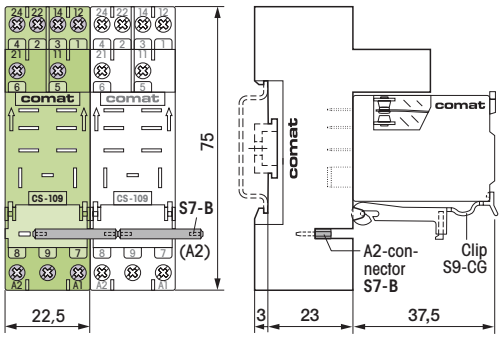
Socket CS-109 (clip incl.)
A2-connector S7-B (option)

Socket S7-P (page 5*)
Retaining clip RC-G (option)

System socket CS-18 (connections 5 and 6 on bottom)



Interface socket CS-109 (all connections on top)



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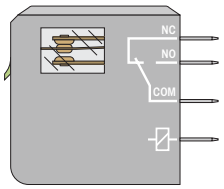
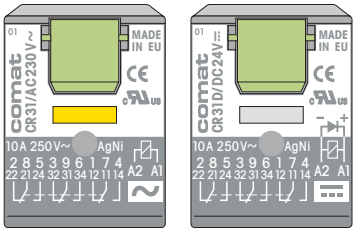
comat
CR31

Power Relay

Miniature





3-pole
Miniature Industrial Relay
- lockable manual operation
- mechanical flag indicator

Test voltage: 2500V 2500V
$T_{amb.}$ operation/storage:
-40..+60/-40..+80°C

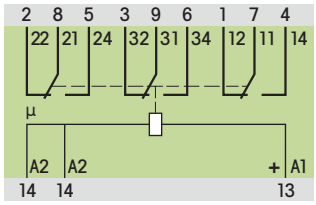
CR31

Universal Power Relay 10A
The CR31 is a 3-pole miniature industrial relay which accomplishes the highest performance with low consumption and a switching capacity of 10A at AC1.
The manual test tab, optionally lockable makes the CR31 the ideal relay for all control and automation uses.
R/C-units and LED indication are available optionally in form of plug-in modules for the socket CS-30.

CE UL and others: www.comat.ch μ MAX MIN

10A 250V~
10mA 12V

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



Connection with socket CS-30

μ = Contact opening >0,5mm

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

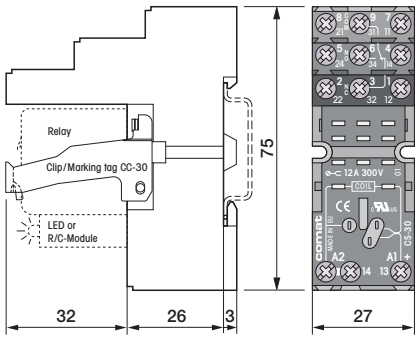
Contact material	AgNi 90/10
Switching power AC1/DC1	2500VA/...250W
Peak inrush power	20A (20ms)
Switch.cycl. mech./electr. (AC1)	$20x10^6/\geq10^5$
Operation voltage DC/AC50Hz	0,75-1,7U_N/0,8-1,65U_N
Power consumption AC/DC	1,0VA/0.75W
Trigg. delay/release time	AC: <25/10ms; DC:15/10ms
Trigg. delay/release time DC	15/25ms

Standard	AC ~ 50/60Hz	24, 115, 230	C31 / AC ...V
Standard	DC ⎓ ≤10%	24	C31 / DC ...V
FX	DC ⎓ ≤10%	24	C31D / DC ...V

Ordering example

Ind.Relay **CR31/DC24V**
Socket **CS-30** (clip incl.)
LED-Mod. **CMX1/UC24-60V**
Retaining clip **CC-30**

System socket CS-30 (connections above)



Plug-in Socket Module

R/C-Unit

	CMX1/UC110-240V
	CMX1/UC24-60V

R/C-Unit

4k7/0,01μF	CMR1/UC110-240V
470E/0,22μF	CMR1/UC24-60V

comat

C9

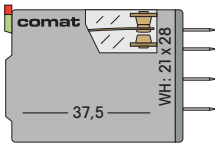
Miniature

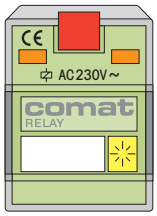
Control Relay

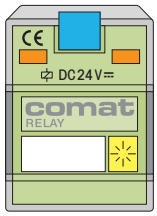
Signal Relay

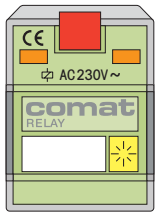
10µAu

Remanence Relay









C9-A41

4-pole Miniature Industrial Relay
- lockable manual operation
- mechanical indication

Test voltage: 2500 V 1000 V
Tamb. operation/storage:
-20..+60/-40..+85°C

Universal Control Relay
with 4 changeover contacts for AC and DC circuits ranging from 10 mA 10 V.

C9-A42

Relay like ..A41, but with 10µ gold plated contacts
for control and signal circuits ranging from 5 mA 5 V.
Recommend. upto 0,2 A 30 V.

C9-R21

Remanence Relay with AC or DC coil
A1 (13) = ON; A3 (10) = OFF.
Minim. triggering time 50 ms, permanent triggering admissible.
Test voltage 2500 V.

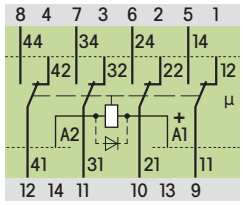
Without option X.

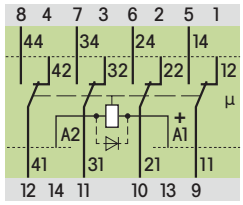
CE UL and otheres: www.comat.ch

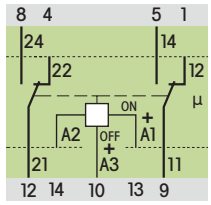
µ MAX MIN

	C9-A41	C9-A42	C9-R21
	5 A 250 V~	**5 A 250 V~**	**5 A 250 V~**
	10 mA 10 V	5 mA 5 V	10 mA 10 V

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







Connection with socket **CS-114**

µ = contact opening < 3 mm

Data at Tamb. = 20° C (standard coil)

	C9-A41	C9-A42	C9-R21
Contact material Switching power AC1/DC1 Peak inrush power Switching cycles mech./electr. (AC1)	Ag Ni + 0,2 µ Au 700 VA/...75 W 15 A (10 ms) $20 \times 10^6 / \geq 10^5$	Ag Ni + 10 µ Au 700 VA/...75 W 15 A (10 ms) $20 \times 10^6 / \geq 10^5$	Ag Ni + 0,2 µ Au 700 VA/...75 W 15 A (10 ms) $20 \times 10^6 / \geq 10^5$
Operation voltage AC 50 Hz/DC Power consumption AC/DC Triggering delay / release time	0,8...1,2 U_N 1,5 VA/1 W 10/6 ms	0,8...1,2 U_N 1,5 VA/1 W 10/6 ms	0,8...1,2 U_N ON: 1,2 VA/W; OFF: 0,3 VA/W 10/8 ms (⎍ >50 ms)
Standard — AC ~ 50/60 Hz	24, 48, 115, 230 C9-A41 X / AC V	24, 48, 115, 230 C9-A42 X / AC V	24, 48, 115, 230 C9-R21 / AC V
Standard — DC ⎓ ≤ 10%	12, 24, 48, 110, 125 C9-A41 / DC V	12, 24, 48, 110, 125 C9-A42 / DC V	12, 24, 48 C9-R21 / DC V
D, DX — DC ⎓ ≤ 10%	12, 24, 48, 110, 125 C9-A41 D X / DC V	12, 24, 48, 110, 125 C9-A42 D X / DC V	

⊗ = Type X (Option)

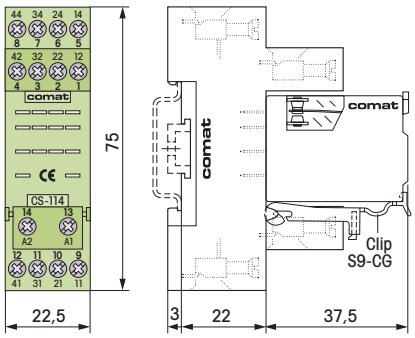
Option X = with ⊗

Ordering example

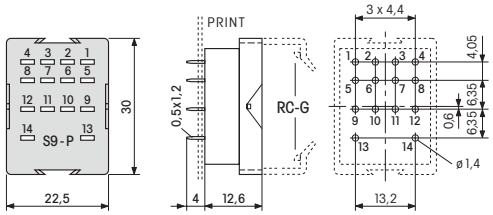
Relay **C9-A41 X/AC 230 V**
Socket **CS-114** (clip incl.)

Socket **S9-P**
Retaining clip **RC-G** (option)

System socket CS-114



Socket for print mounting S9-P



View on solder side

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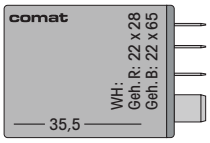
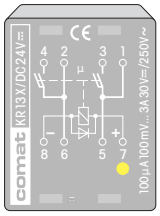
comat
KR
Miniature



Signal Relay
3,5µAu

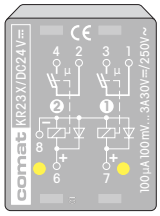


Case R

KR13

Universal gold plated twin contact relay
1-channel, totaly incapsulated.
For highest switching reliability in control and signal circuits ranging from 100µA 100mV.

Signal Relay
2x
3,5µAu

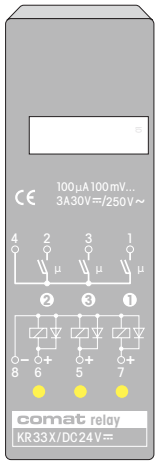


Case R

KR23

Relay like KR13, but 2-channel
with a width of 11mm per channel this relay is especially space-saving and cost-effective.

Signal Relay
3x
3,5µAu



Case B

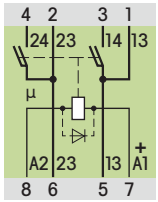
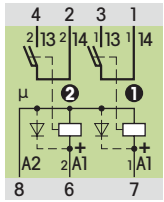
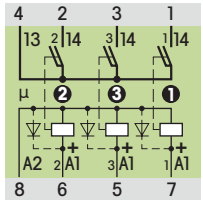
KR33

Relay like KR13, but 3-channel
with a width of 7,3mm per channel this relay is especially space-saving and cost-effective.

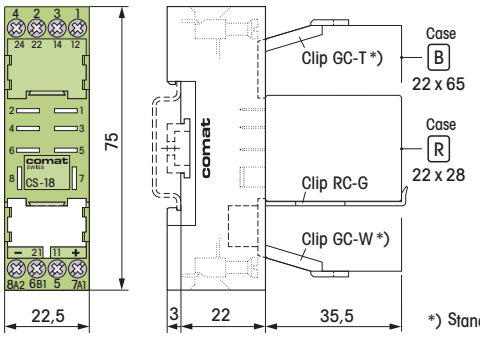
Miniature Industrial Relay
- 1- to 3-channel
- for control and signal circuits
- Power consumption only 250mW per channel

Test voltage: ⏀ 2000V ⌇ 1000V ⌇
$T_{amb.}$ operation/storage:
-20..+60/-40..+85°C

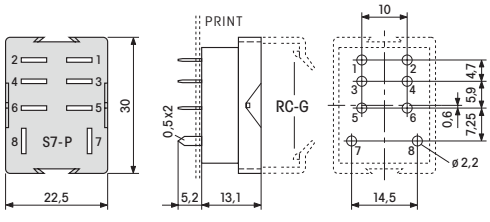
CE UL and others: www.comat.ch | µ MAX MIN

	KR13	KR23	KR33
	3A 250V~//110V⎓	**3A** 250V~//110V⎓	**3A** 250V~//110V⎓
	100µA 100mV	100µA 100mV	100µA 100mV
Connection No. on socket → / Designation according to DIN/EN 50011 →			
Connectio with socket CS-18			
µ = contact opening < 3mm			
Data at $T_{amb.}$ = 20°C (standard coil ⏀)			
Contact material Switching load AC1/DC1 Peak inrush power Switching cycles mech./electr. (AC1)	Ag-alloy+3..5µAu 750VA/...90W//3A 30V⎓ 6A(20ms) $20x10^6/\geq 10^5$	Ag-alloy+3..5µAu 750VA/...90W//3A 30V⎓ 6A(20ms) $20x10^6/\geq 10^5$	Ag-alloy+3..5µAu 750VA/...90W//3A 30V⎓ 6A(20ms) $20x10^6/\geq 10^5$
Operation voltage Power consumption per channel Triggering delay / release time	0,8...1,2 U_N 350mW 6/4ms (X: 6ms)	0,8...1,2 U_N 250mW 6/4ms (X: 6ms)	0,8...1,2 U_N 250mW 6/4ms (X: 6ms)
A ⏀ DC ⎓ ⌇⌇ ≤ 20%	12, 24, 48 KR13A / DC V	12, 24 KR23A / DC V	12, 24 KR33A / DC V
X ⏀ DC ⎓ ⌇⌇ ≤ 20%	12, 24, 48 KR13X / DC V	12, 24 KR23X / DC V	12, 24 KR33X / DC V

System socket CS-18



Socket for print mounting S7-P



*) Standard delivery with relay (Case B)

Ordering example
- Relay KR23X/DC24V
- Socket CS-18 or S7-P
- Retaining clip RC-G (option)

Notes

Comat products comply with different international standards and are certified accordingly.

A detailed list can be found on our web page:

www.comat.ch

Lloyd's; IEC 61810; EN 60974

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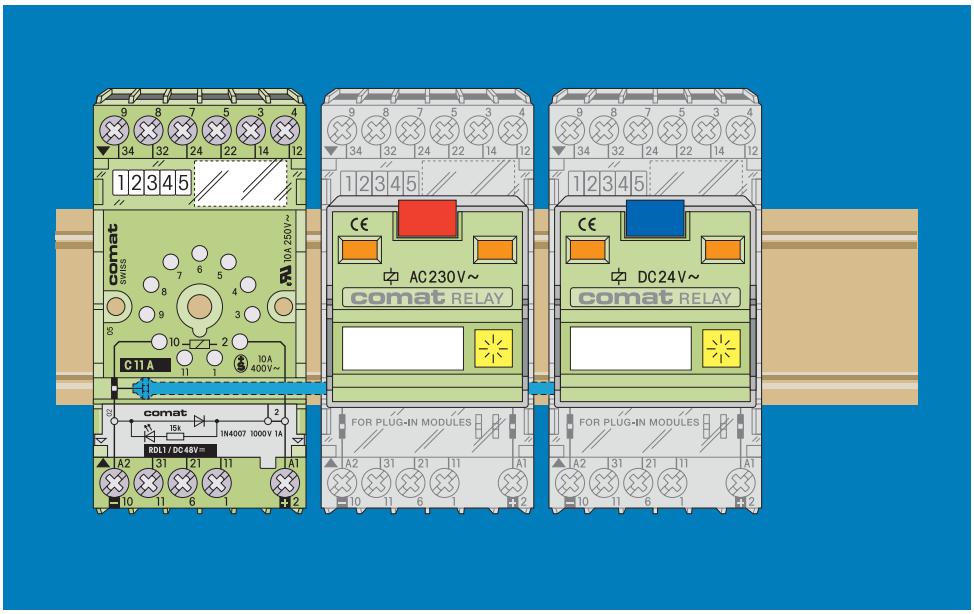
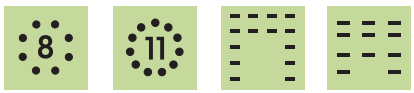
Industrial Relays

Standard Relays





Standard Relays Recommended application

16A											
10A											
6A											
1A											
10mA											
5mA											
1mA						Series					
2	C2-A20 C3-R20	C2-T21			C5-M10						
3	C3-A30	C3-T31	C3-T32	C5-A30							
4	C4-A40										

twin contacts

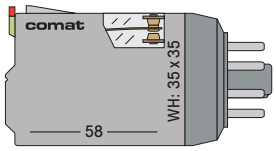
comat

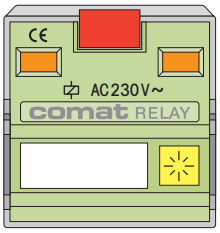
C2

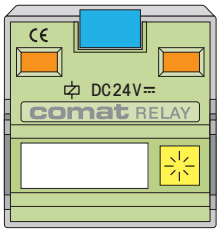
Standard

Power Relay

Control Relay







C2-A20

C2-T21

2-pole Miniature Industrial Relay according to IEC 67-1
- lockable manual operation
- mechanical flag indicator

Test voltage: 2500 V / 2500 V

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

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

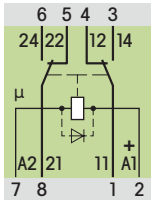
Relay like ..A20, but with doubel contacts 6A
The control relay with highest switching reliablility for control and signal circuits ranging from 5 mA 5 V.

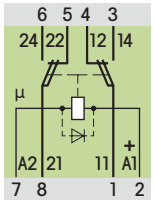
CE UL and others: www.comat.ch μ MAX MIN

	C2-A20	C2-T21
	10 A 250 V~	**6 A 250 V~**
	10 mA 10 V	5 mA 5 V

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

Connection with socket EC-8





μ = contact opening < 3 mm

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

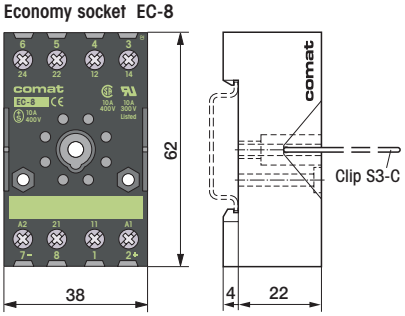
	C2-A20	C2-T21
Contact material	AgNi	AgNi + 0,2 μ Au
Switching load AC1/DC1	2500 VA/...250 W	1200 VA/...150 W
Peak inrush power	30 A (20 ms)	15 A (20 ms)
Switching cycles mech./electr. (AC1)	$20 \times 10^6 / \geq 5 \times 10^5$	$20 \times 10^6 / \geq 2 \times 10^5$
Operation voltage AC 50 Hz/DC	0,8...1,2 U_N	0,8...1,2 U_N
Power consumption AC/DC	2,2 VA/1,3 W	2,2 VA/1,3 W
Triggering delay / release time	16/8 ms	16/8 ms

		C2-A20	C2-T21
Standard	AC ~ 50/60 Hz	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-A20 D X / DC V	12, 24, 48, 110, 125, 220 C2-T21 D 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)

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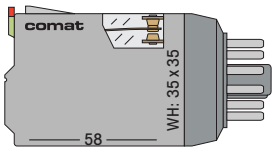
comat
C3
11

Standard



3-pole Miniature Industrial Relay according to IEC 67-1
- lockable manual operation
- mechanical flag indicator

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

CE UL and others: www.comat.ch μ MAX MIN

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

Connection with sockets
EC-11, C11A, C12B

μ = contact opening < 3 mm

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

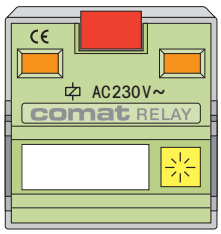
Contact material
Switching load AC1/DC1
Peak inrush power
Switching cycles mech./electr. (AC1)

Operation voltage AC 50 Hz/DC
Power consumption AC/DC
Triggering delay / release time

	AC ~ 50/60 Hz	DC ⎓ ≤10%	DC ⎓ ≤10%
Standard / D, DX	Standard	Standard	D, DX

⊗ = Type "X" (option)

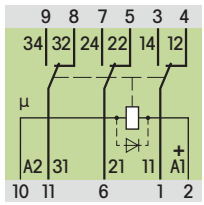
Power Relay



C3-A30 SEISMIC APPROVED

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

10 A 250 V~
10 mA 10 V



AgNi
2500 VA/...250 W
30 A (20 ms)
$20 \times 10^6 / \geq 5 \times 10^5$

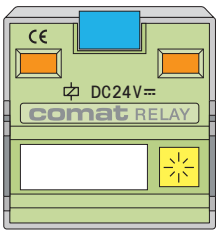
0,8...1,2 U_N
2,2 VA/1,3 W
16/8 ms

24, 48, 115, 230
C3-A30 X / AC V
12, 24, 48, 110, 125, 220
C3-A30 / DC V
12, 24, 48, 110, 125, 220
C3-A30 D X / DC V

Option X = with ⊗

Types C3-A30 comply to IEE 323 and IEE 344. (seismic qualified)

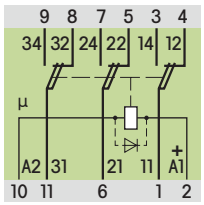
Control Relay



C3-T31

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

6 A 250 V~
5 mA 5 V



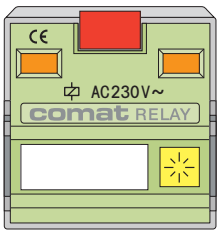
AgNi + 0,2 μ Au
1200 VA/...150 W
15 A (20 ms)
$20 \times 10^6 / \geq 2 \times 10^5$

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

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-T31 D X / DC V

Signal Relay

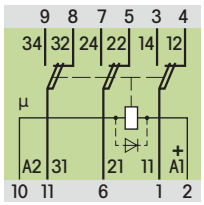
10 μ Au



C3-T32

Relay like ..T31, but with 10 μ gold plated contacts
The twin contact relay with highest switching reliability for signal circuits ranging from 1 mA 5 V.
Recommend. upto 0,2 A 30 V.

6 A 250 V~
1 mA 5 V

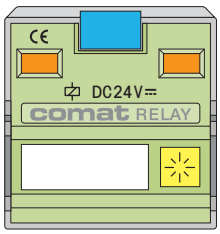


AgNi + 10 μ Au
1200 VA/...150 W
15 A (20 ms)
$20 \times 10^6 / \geq 2 \times 10^5$

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

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-T32 D X / DC V

Remanence Relay

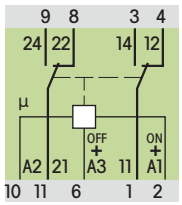


C3-R20

Remanence Relay 10 A with AC or DC coil
A1 (2) = ON; A3 (6) = OFF.
Minim. triggering time 50 ms, permanent triggering admissible.

Without option X.

10 A 250 V~
10 mA 10 V



AgNi
2500 VA/...250 W
30 A (20 ms)
$20 \times 10^6 / \geq 3 \times 10^5$

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

24, 48, 115, 230
C3-R20 / AC V
12, 24, 48, 110, 125
C3-R20 / DC V

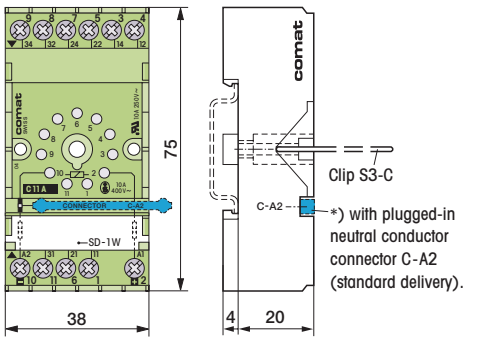
For suitable coil wirings see "R-modules" page 31

Ordering example

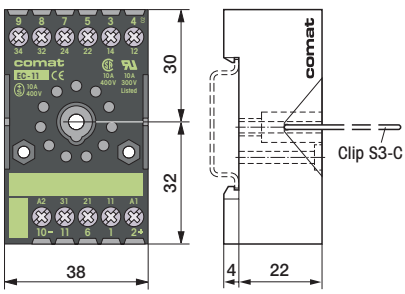
Relay C3-A30X/AC230V
Socket EC-11 or C11A

Retaining clip S3-C (option)

System socket C11A *)



Economy socket EC-11

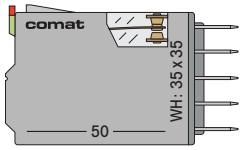


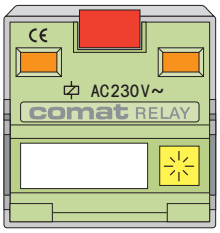
comat

C4

Power Relay

Standard





C4-A40

4-pole Industrial Relay with faston pins
- lockable manual operation
- mechanical flag indicator

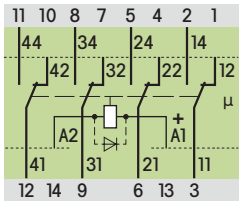
Test voltage: 2500V 2500V
$T_{amb.}$ operation/storage:
-40..+60/-40..+85°C

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

CE UL and others: www.comat.ch | μ MAX MIN

10A 250V~
10mA 10V

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



Connection with socket **CS-14**

μ = contact opening < 3mm

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

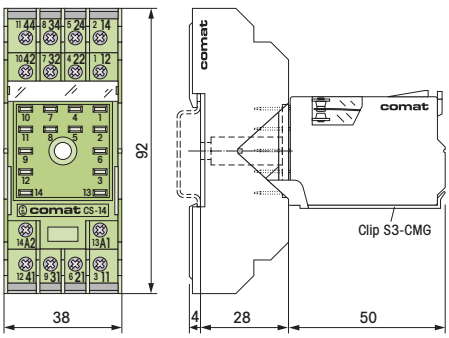
Contact material	AgNi
Switching load AC1/DC1	2000VA/...250W
Peak inrush power	30A(20ms)
Switching cycles mech./electr.(AC1)	$20x10^6/\geq 6x10^5$
Operation voltage AC50Hz/DC	0,8...1,2 U_N
Power consumption AC/DC	2,4VA/1,4W
Triggering delay / Release time	20/8ms

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 ⊗

Socket CS-14



Ordering example

Relay **C4-A40X/AC230V**
Socket **CS-14**

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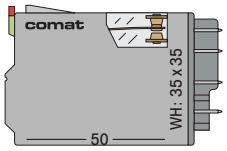
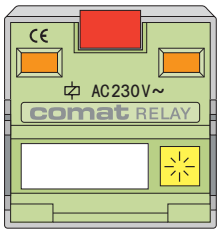
comat
C5

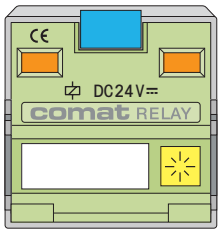
Standard

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 500V~/6A AC15
10mA 10V

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.

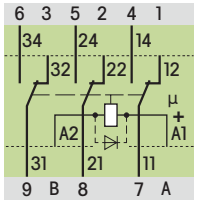
16A 500V~/6A AC15
10mA 10V

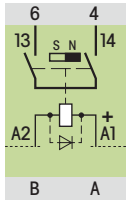
3-pole Industrial Relay with faston pins
- lockable manual operation
- mechanical flag indicator

Test voltage: 4000V 4000V
$T_{amb.}$ operation/storage:
-40..+60/-40..+85°C

CE UL and others: www.comat.ch | μ MAX MIN

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





Connection with socket **CS-15**

μ = contact opening < 3mm (1,7+1,7)

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

	C5-A30	C5-M10
Contact material	AgNi	AgNi
Switching load AC1/DC1	4000VA/...400W	4000VA/...880W
Peak inrush power	40A (20ms)	40A (20ms)
Switching cycles mech./electr. (AC1)	$20x10^6/\geq 3x10^5$	$20x10^6/\geq 3x10^5$
Operation voltage AC 50Hz/DC	0,8...1,2 U_N	0,8...1,2 U_N
Power consumption AC/DC	2,4VA/1,4W	2,4VA/1,3W
Triggering delay / Release time	20/10ms	20/10ms
Standard AC ~ 50/60Hz	24, 48, 115, 230, 400*) C5-A30 X / AC V	24, 48, 115, 230, 400*) C5-M10 X / AC V
Standard DC ⎓ ≤10%	12, 24, 48, 110, 125, 220 C5-A30 / DC V	12, 24, 48, 110, 125, 220 C5-M10 / DC V
D, DX DC ⎓ ≤10%	12, 24, 48, 110, 125, 220 C5-A30D X / DC V	12, 24, 48, 110, 125, 220 C5-M10D X / DC V

⊗ = Type "X" (option)

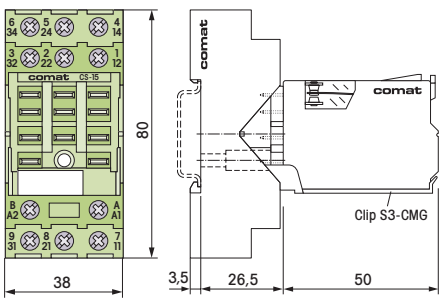
Option X = with ⊗

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

Ordering example

Relay **C5-A30X/AC230V**
Socket **CS-15**

Socket CS-15



Notes

Comat products comply with different international standards and are certified accordingly.

A detailed list can be found on our web page:

www.comat.ch

Lloyd's; IEC 61810; EN 60974

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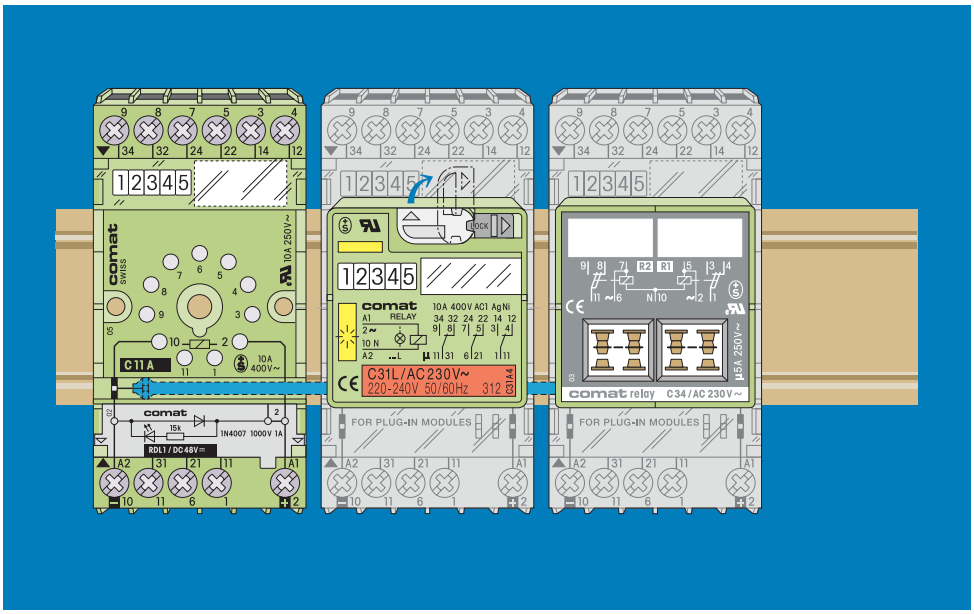
Industrial Relays

Long Life Relays



8 11

Longe Life Relays Recommended application

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

twin contacts

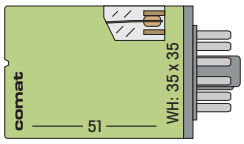
comat

C20

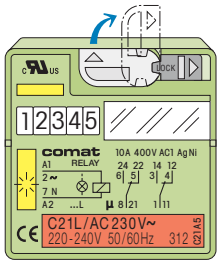
8

Long Life

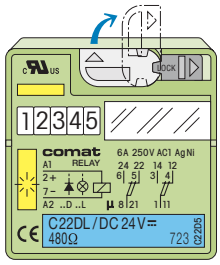
THE UNINDESTRUCTIBLE ONES



Power Relay



Control Relay



2-pole Industrial Relay according to IEC 67-1

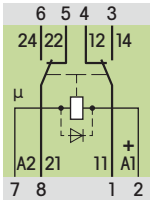
- lockable manual operation
- mechanical flag indicator

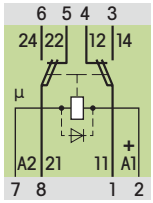
Test voltage: ⏍ 2500 V ⚡ 1500 V ⚡

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

	C21	C22
	Universal Power Relay 10 A with 2 power changeover-contacts this is the robust relay for AC and DC circuits ranging from 10 mA 10 V.	**Relay like ..C21, but with twin contacts 6 A** The control relay with highest switching reliablility for control and signal circuits ranging from 1 mA 5 V.
CE UL and others: www.comat.ch	**10 A** 250 V/**4 A** 440 V~	**6 A** 250 V~
μ MAX / MIN	10 mA 10 V	1 mA 5 V

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





Connection on sockets **EC-8**

μ = contact opening < 3 mm

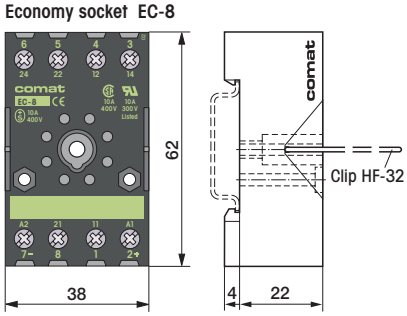
Data at $T_{amb.}$ = 20° C (standard coil ⏍)

	C21	C22
Contact material Switching power AC1/DC1 Peak inrush power Switching cycles mech./electr. (AC1)	Ag (AgCuNi) 2500 VA/...300 W 40 A (20 ms) $100 \times 10^6 / \geq 7 \times 10^5$	Ag (AgCuNi) 1500 VA/...200 W 15 A (20 ms) $100 \times 10^6 / \geq 1{,}5 \times 10^5$
Operation voltage AC 50 Hz/DC Power consumption Triggering delay / release time	0,8...1,2/0,8...1,25 U_N 2,5 VA/1,2 W 15/⎓8, ~15 ms	0,8...1,2/0,8...1,25 U_N 2,5 VA/1,2 W 15/⎓8, ~15 ms
Standard AC ~ 50/60 Hz	24, 48, 115, 230 C21 L / AC V	24, 48, 115, 230 C22 L / AC V
Standard DC ⎓ ≤ 10%	12, 24, 48, 110, 220 C21 / DC V	12, 24, 48, 110, 220 C22 / DC V
D, DL DC ⎓ ≤ 10%	12, 24, 48, 110, 220 C21D L / DC V	12, 24, 48, 110, 220 C22D L / DC V

⊗ = Type "L" (option)

Option L = with ⊗

Economy socket EC-8



Ordering example

Relay **C21/AC230V**
Socket **EC-8**

Retaining clip **HF-32** (option)

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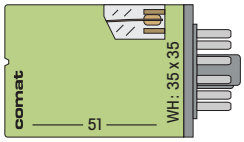
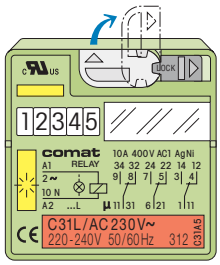
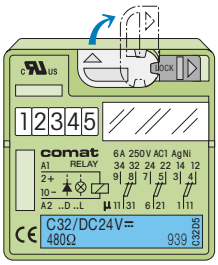
Power Relay

Control Relay

THE UNINDESTRUCTIBLE ONES







C31

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

C32

Relay like ..C31, but with twin contacts 6 A
The control relay with highest switching reliablility for control and signal circuits ranging from 1 mA 5 V.

3-pole Industrial Relay according to IEC 67-1
- lockable manual operation
- mechanical flag indicator

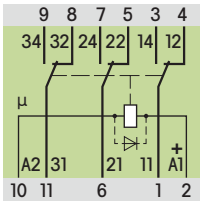
Test voltage: ⌑ 2500 V ⌇ 1500 V ⌇
$T_{amb.}$ operation/storage:
-40..+70/-40..+85 °C

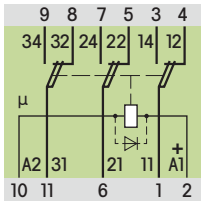
CE UL and others: www.comat.ch

μ MAX MIN

	C31	C32
	10 A 250 V/4 A 440 V~	**6 A 250 V~**
	10 mA 10 V	1 mA 5 V

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





Connection on sockets **EC-11, C11A, C12B**

μ = contact opening < 3 mm

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

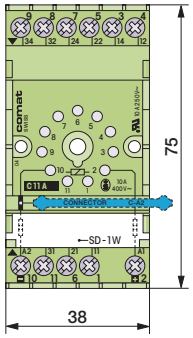
	C31	C32
Contact material Switching power AC1/DC1 Peak inrush power Switching cycles mech./electr. (AC1)	Ag (AgCuNi) 2500 VA/...300 W 40 A (20 ms) $100 \times 10^6 / \geq 7 \times 10^5$	Ag (AgCuNi) 1500 VA/...200 W 15 A (20 ms) $100 \times 10^6 / \geq 1{,}5 \times 10^5$
Operation voltage AC 50 Hz/DC Power consumption Triggering delay / release time	0,8...1,2/0,8...1,25 U_N 2,5 VA/1,2 W 15/⎓8, ~15 ms	0,8...1,2/0,8...1,25 U_N 2,5 VA/1,2 W 15/⎓8, ~15 ms
Standard AC ~ 50/60 Hz	24, 48, 115, 230 C31 L / AC ...V	24, 48, 115, 230 C32 L / AC ...V
Standard DC ⎓ ≤10%	12, 24, 48, 110, 220 C31 L / DC ...V	12, 24, 48, 110, 220 C32 / DC ...V
D, DL DC ⎓ ≤10%	12, 24, 48, 110, 220 C31D L / DC ...V	12, 24, 36, 48, 110, 220 C32D L / DC ...V
⊗ = Type "L" (option)	Option L = with ⊗	
Railway D/R DC ⎓ ≤10%	24, 36, 110 C31D/R DC ...V	24, 36, 110 C32D/R DC ...V

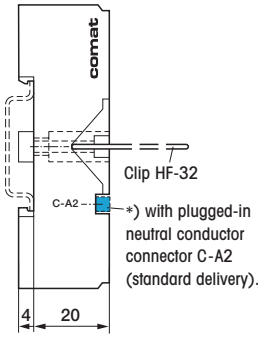
The railway-relays C31D/R DC comply to fire protection standards according NFF 16101/2 and ISO 9125/2.

For suitable coil wirings see "R-modules" page 31

Ordering example
- Relay **C31/AC230V**
- Socket **EC-11 or C11A**
- Retaining clip **HF-32** (option)

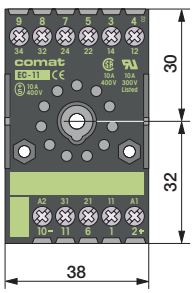
System socket C11A *)

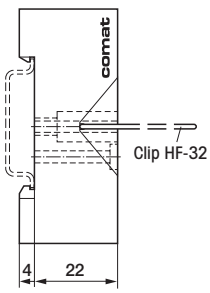




*) with plugged-in neutral conductor connector C-A2 (standard delivery).

Economy socket EC-11





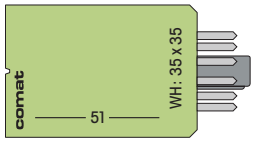
comat
C33, 34, 39

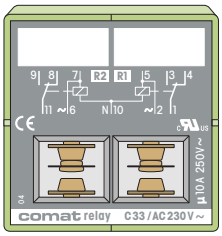
Long Life

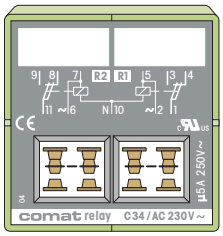
Power Relay 2x

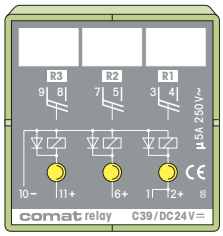
Control Relay 2x

Control and Signal Relay 3x









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: 17,5mm.

C34

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

C39

Triple-channel Twin Contact Relay 5A
with 3x1 No contact it is ideal for interface applications ranging from 1mA 100mV.
LED display for each channel.
Width per channel: 11,7mm.

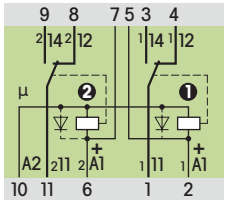
2- and 3-channel Industrial Relays according to IEC 67-1

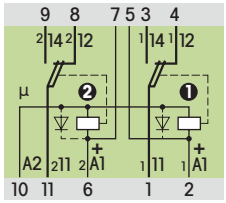
- Single or twin contacts
- Front contact inspection window or LED display (C39)

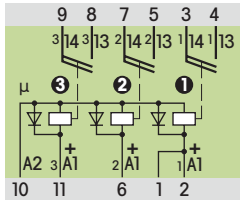
Test voltage: 2000V 2000V
$T_{amb.}$ operation/storage:
-25..+60/-40..+85°C

CE UL and others: www.comat.ch

	C33	C34	C39
μ MAX / MIN	**10A 250V~**	**5A 250V~**	**5A 250V~**
	10mA 12V	1mA 6V	1mA 100mV







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

Connection on sockets **EC-11, C11A, C12B**

μ = contact opening < 3mm

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

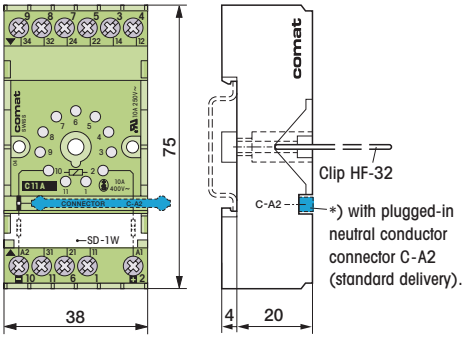
	C33	C34	C39
Contact material	AgCdO	AgNi	Ag-alloy
Switching power AC1/DC1	2500VA/...300W	1250VA/...200W	1250VA/...150W
Peak inrush power	40A (16ms)	20A (16ms)	10A (20ms)
Switching cycles mech./electr. (AC1)	$20x10^6$ / ≥ 10^5	$20x10^6$ / ≥ 10^5	$50x10^6$ / ≥ $1,5x10^5$
Operation voltage AC50Hz/DC	0,8...1,15 U_N	0,8...1,15 U_N	0,8...1,2 U_N
Power consumption per channel	1,3VA/0,55W	1,3VA/0,55W	0,25W
Triggering delay / release time	15/25ms	15/25ms	8/12ms
AC ~ 50/60Hz	24, 48, 115, 230 **C33 / AC ..... V**	24, 48, 115, 230 **C34 / AC ..... V**	
DC ⎓ ≤10% (C39)	12, 24, 48, 110 **C33 / DC ..... V**	12, 24, 48, 110 **C34 / DC ..... V**	12, 24, 48 **C39 / DC ..... V**

Ordering example

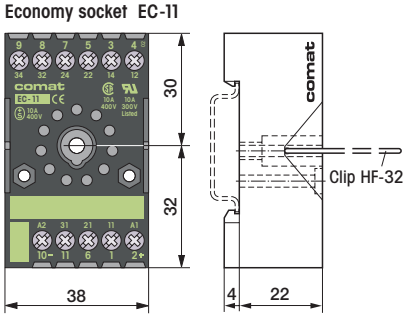
Relay **C34/AC230V**
Socket **EC-11** or **C11A**

Retaining clip **HF-32** (option)

System socket C11A *)



Economy socket EC-11



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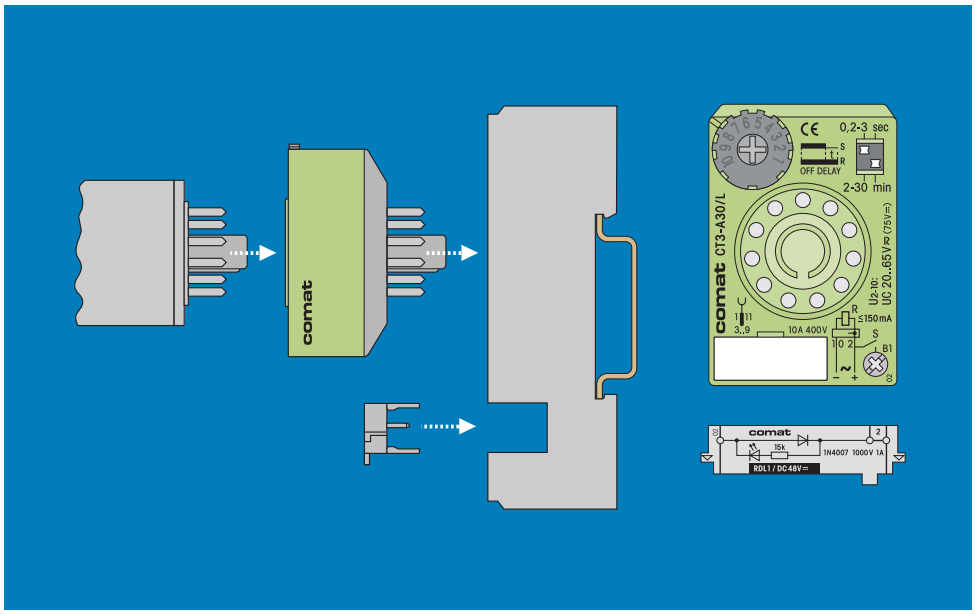
Industrial Relays

Time Cubes and Relay Modules



8 11

Comat products comply with different international standards and are certified accordingly.

A detailed list can be found on our web page:

www.comat.ch

Lloyd's

IEC 61810; EN 60974

Timing Functions (0,2 s - 30 min)

Delay functions

E On delay

S ⇒ R on with delay
SOFF ⇒ R off

A Off delay

S ⇒ R on
SOFF ⇒ R off with delay

Shot timing modes

W One shot leading edge

S ⇒ R on for t
SOFF ⇒ R off
(pulse clipping)

Pulse shaping

K Pulse shaping

S (pulse or continuous contact) ⇒ R on for t
S ▬ no influence on R and t

Blinker functions

B Blinker, pulse start

S ⇒ R on/off periodically according to t
SOFF ⇒ R off

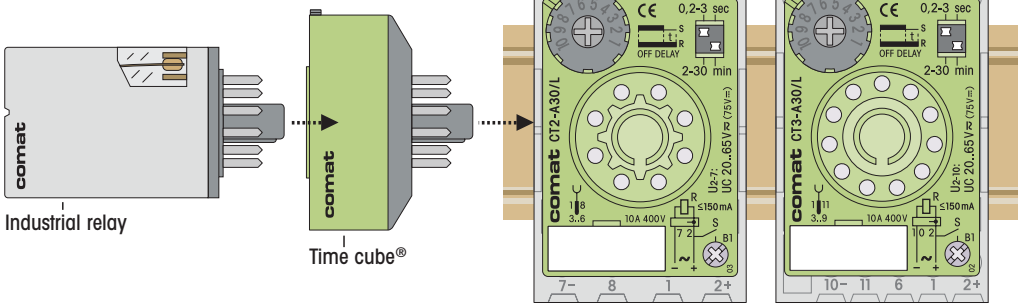
comat

CT2/CT3

Time Cubes

Plug-in Time Cubes

SIMPLY PLUGED BETWEEN



8-/11-pole Plug-in Time Delay Relay System

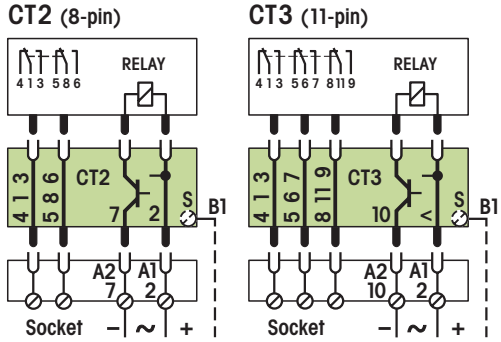
The simplest time delay relay sys-tem world-wide, fitting all 8 or 11-pin relay sockets (octal/sub-magnalite).
Original time cubes® are simply placed between socket and relay without rewiring.
In this way, even as a retrofit, all industrial relays can be provided with the required timing functions without additional space being required. The contact connections of the relay on the socket remain through-connected.

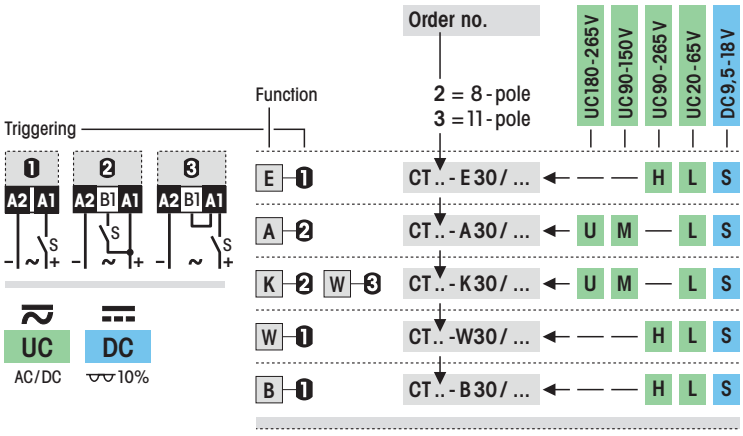
All new types ..30 (0,2 s-30 min) are fully compatible with all previous types ..20, ..21 and ..25.

CE UL and others: www.comat.ch

μ MAX

10A 250V~





On delay

S ⇒ R on with delay
SOFF ⇒ R off

Off delay

S ⇒ R on
SOFF ⇒ R off with delay

One shot leading edge

S ⇒ R on for t
SOFF ⇒ R off
(pulse clipping)

Pulse shaping

S (pulse or continuous contact)
⇒ R on for t
S ▬ no influence on R and t

Blinker, pulse start

S ⇒ R on/off periodically
according to t
SOFF ⇒ R off

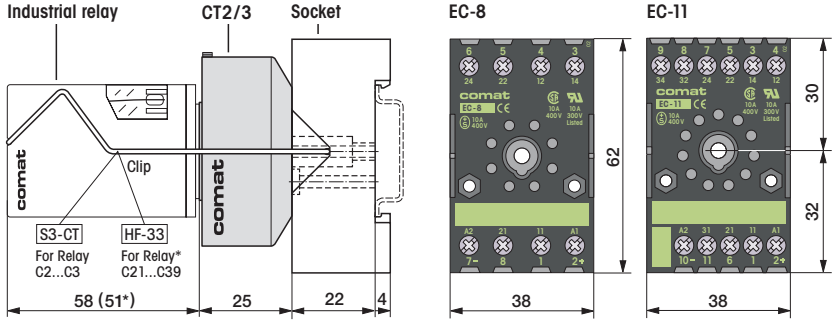
ON OFF

S = Triggering
R = Output circuit
⇒ = switches...

Ordering example

Time cubes CT2-E30/H
Socket EC-8 or CS-8
Relay C2-...

Time cubes CT3-E30/H
Sockel EC-11 oder C11A
Relay C3-...



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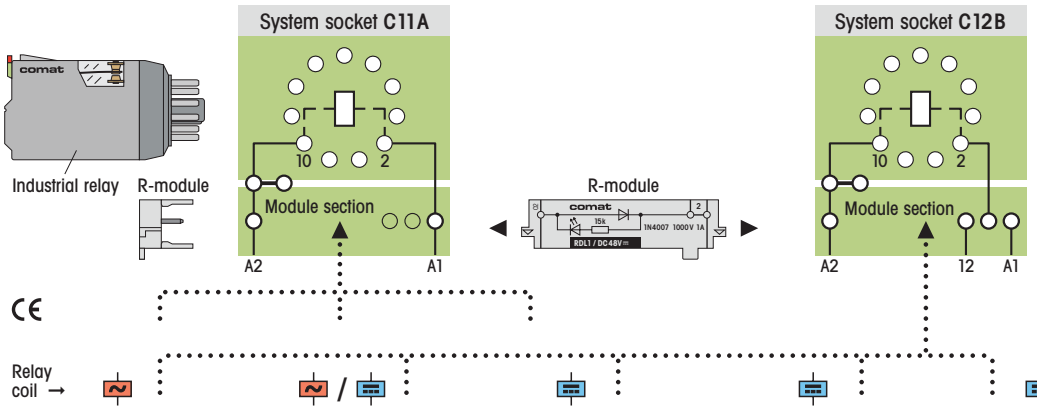
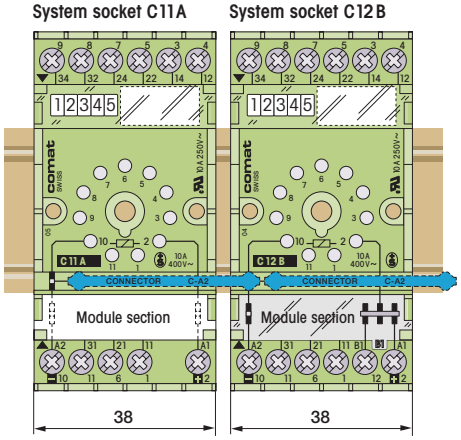
Plug-in coil wirings for 3-pole Industrial Relays C3, C31 and C30

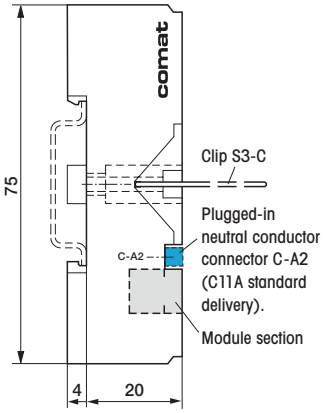
Relay modules indicate the relay's switch mode and/or help limiting cutoff voltage peaks in the control circuit by means of a diode or a RC module.
The types R..2/3 are equipped with additional diodes for signal or OR-circuits.
For parallel or serial connections the relay modules are simply plugged into the sockets C11A or C12B.



Relay coil →

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 — 470 E — 0,1 µF — 2, A2 — A1	**RD1/DC 12-220 V⎓** 10 — 47 E — 2, A2 — A1	**RD2/DC 12-220 V⎓** 10 — 47 E — 2, 12, A2 — A1	**RD3/DC 12-220 V⎓** 10 — 47 E — 2, 12, A2 — A1
		RC1/UC 12-48 V≂ 10 — 47 E — 0,47 µF — 2, A2 — A1			
Suppressing units with illuminated displays ⊗ ⊣⊢	**RCL1/AC 110-240 V~** 10 — 470 E — 0,1 µF — 2, A2 — A1	**RCL1/UC 24 V≂** 10 — 47 E — 0,47 µF — 2, 10 k, A2 — A1	**RDL1/DC 12-24 V⎓** 10 — 2, 6k8, A2 — A1	**RDL2/DC 12-24 V⎓** 10 — 2, 6k8, 12, A2 — A1	**RDL3/DC 12-24 V⎓** 10 — 2, 6k8, 12, A2 — A1
		RCL1/UC 48 V≂ 10 — 47 E — 0,47 µF — 2, 22 k, A2 — A1	**RDL1/DC 48 V⎓** 10 — 2, 15k, A2 — A1		
Current types Triggering	N ~ L	N (–) ~/⎓ (+) L	– ⎓ +	– ⎓ +	– ⎓ +





Ordering example

Module **RCL1/UC 48 V**
Socket **C11A**

Relay **Type C3-...**
Clip **S3-C** (option)

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

Notes

Lloyd's; IEC 61810; EN 60974

Comat products comply with different international standards and are certified accordingly.

A detailed list can be found on our web page:

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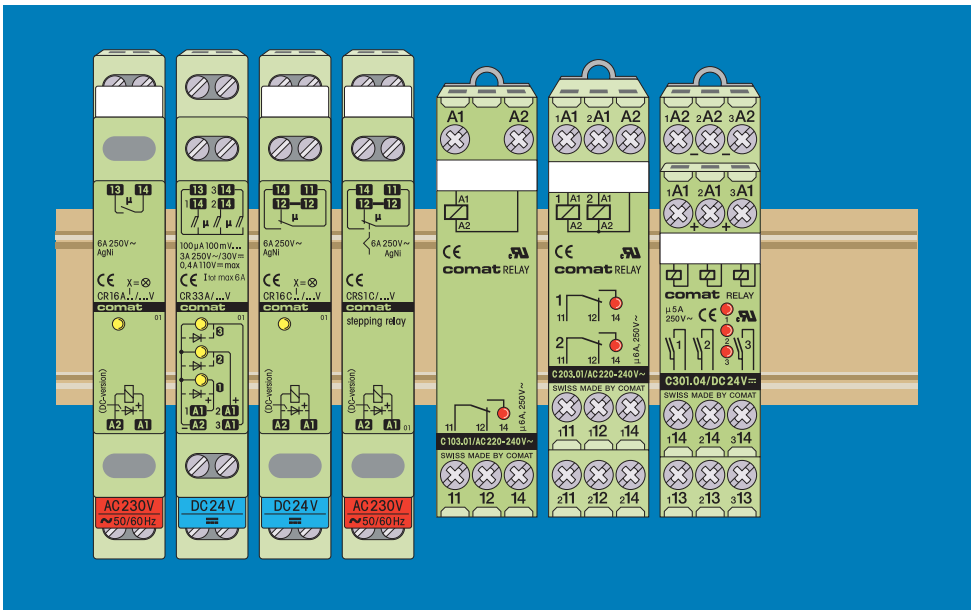
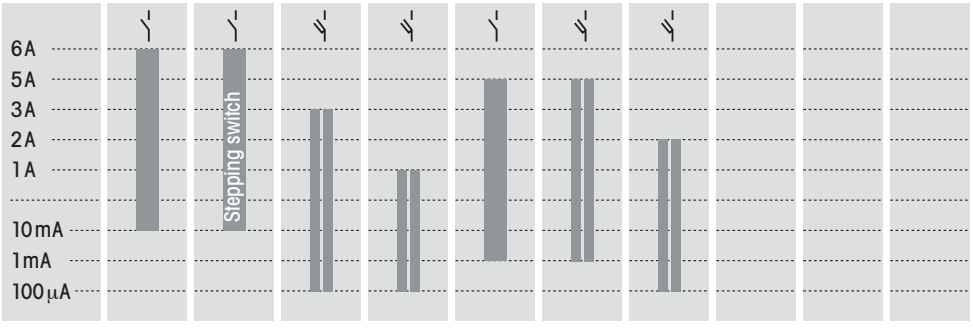
Industrial Relays

DIN Relays



DIN

DIN Relays Recommended application



1	CR16 C103.01	CRS1C					C103.06				
2	C133.01		CR23	CR11							
2x 1	C203.01		CR33		C203.04		C203.06				
3x 1						C301.04					

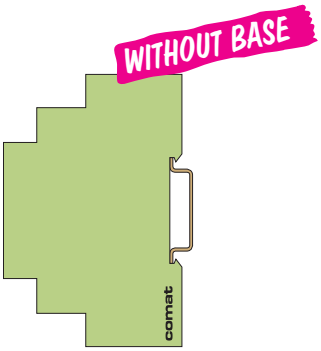
twin contacts

comat

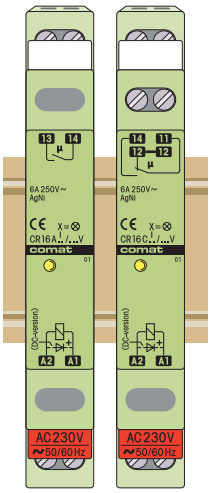
CR..

DIN

DIN Interface

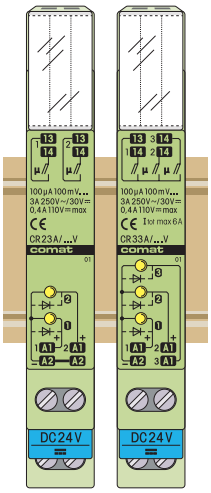


Power Relay



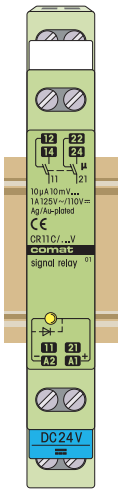
CR16AX CR16CX

Control Relay 2x / 3x



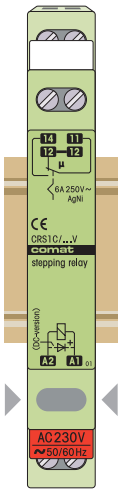
CR23A CR33A

Signal Relay



CR11C

Step-on/Step-off Relay



13 mm

CRS1C

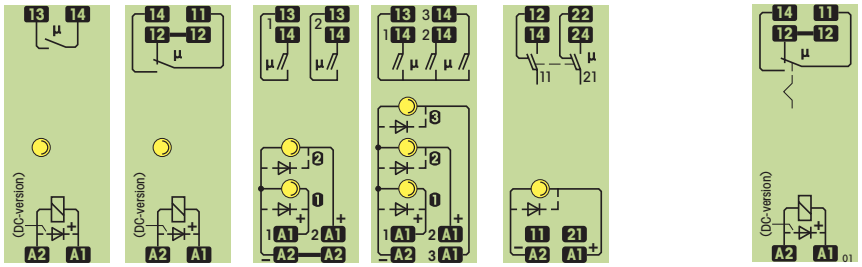
DIN Interface Relais
- No external coil wiring required
- Mounting on DIN rail TS 35

Test voltage: 2000 V / 2000 V

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

	CR16AX CR16CX	CR23A CR33A	CR11C	CRS1C
	Power Relay 13 mm series, 1 x NO resp. 1 x CO up to 6A. Integrated LED and coil wiring.	**Control Relay** (Signal relays) 13 mm series, 2/3 channel, each 1 x NO Au twin contact. Recommended max. load 200 mA/24 V resistiv. Integrated LED and coil wiring.	**Signal Relay** 13 mm series, 1 channel, 2 x CO Au twin contact. Recommended max. load 200 mA/24 V, resistiv. Integrated LED and coil wiring.	**Stepping Relay** 13 mm series, 1 x CO suitable for permanent energizing. Supply loss safe. Integrated LED and coil wiring.
CE UL and others: www.comat.ch / μ MAX MIN	**6A** 250V~	**3A** 250V~	**1A** 250V~	**6A** 250V~
	10 mA 12 V	100 μA 100 mV	100 μA 10 mV	10 mA 12 V

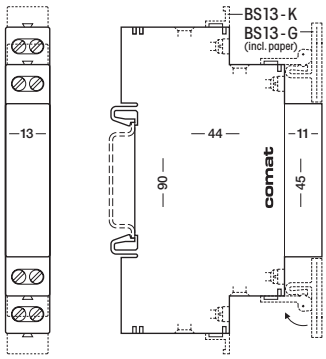
Connection



μ = contact opening < 3 mm

Data at $T_{amb.}$ = 20°C

	CR16AX CR16CX	CR23A CR33A	CR11C	CRS1C
Contact material	AgNi	Ag-alloy/Au 3μm	Ag-alloy/Au 5μm	AgNi
Switching load AC1/DC1	1500 VA/...180 W	750 VA/...90 W	65 VA/...30 W	1500 VA/...180 W
Peak inrush power	15 A/20 ms	—	—	15 A/20 ms
Switching cycles mech./electr. (AC1)	$30x10^6$ / ≥ $1,5x10^5$	$20x10^6$ / ≥ $1,5x10^5$	$200x10^6$ / ≥ 10^5	DC: $10x10^6$; AC: 10^5 / ≥ 10^5
Operation voltage AC 50 Hz/DC	AC −20%+10%/DC ±15%	— /DC ±20%	— /DC ±25%	AC ±15%/DC ±15%
Power consumption AC/DC	2,5 VA/0,25 W	0,25 W	0,25 W	2 VA/1,5 W
Triggering delay / release time	10 ms/20 ms	6 ms/4 ms	3 ms/4 ms	Recomm. triggering time ≥ 50 ms
DC ⎓ ∿∿ ≤10%	CR16AX CR16CX / DC ..... V (24)	CR23A CR33A / DC ..... V (24)	CR11C / DC ..... V (24)	CRS1C / DC ..... V (24)
AC ~ 50/60 Hz	CR16AX CR16CX / AC ..... V (230)			CRS1C / AC ..... V (230)



Ordering example

Relay
CRS1C/AC230V

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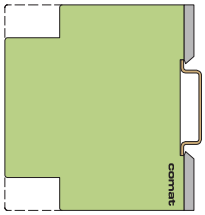
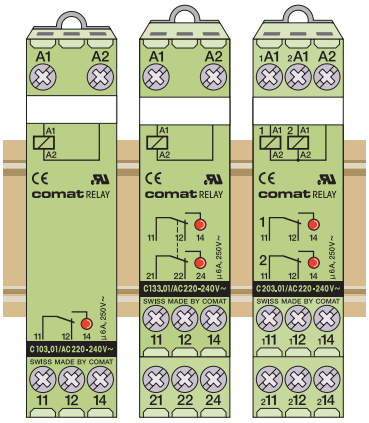
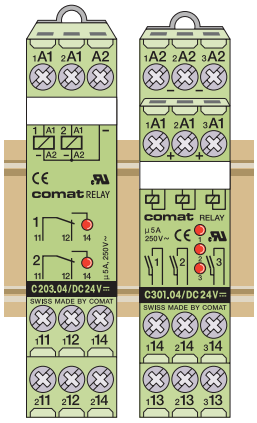
Power Relays

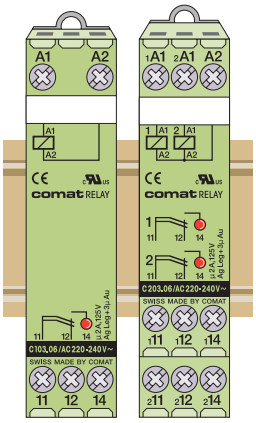
Control Relays

Signal Relays









C103.01 C133.01 C203.01 | **C203.04 C301.04** | **C103.06 C203.06**

DIN Interface Relay

- No external coil wiring required
- Mounting on DIN rail TS 35

Test voltage: 2000 V / 2000 V

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

Power Relay
DIN series 17,5 mm, 1/2 channels with 1/2 x CO contacts up to 6 A.
Integrated LED and coil wiring.

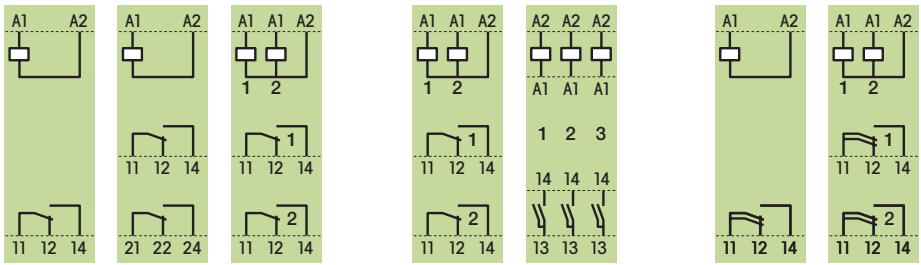
Control Relay
High efficient 2/3 channel control relay DIN series 17,5 mm, each 1 x CO resp. 1 x NO twin contact.
Multi-layer contact up to 5 A.
Very versatile in application.
Integrated LED and coil wiring.

Signal Relay
DIN series 17,5 mm,
1/2 channel each 1 x CO Au twin contact.
Recommended max. load 200 mA/24 V.
Integrated LED and coil wiring.

CE UL and others: www.comat.ch | μ MAX MIN

6 A 250 V~	**5 A** 250 V~	**2 A** 125 V~
10 mA 24 V	1 mA 0,1 V	10 μA 10 mV

Connection

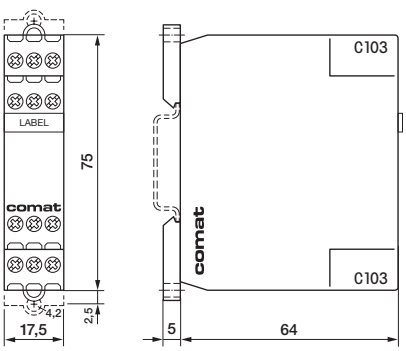


μ = contact opening < 3 mm

Data at $T_{amb.}$ = 20 °C

Contact material	AgNi	Ag-alloy	Ag-alloy/Au 3 μm
Switching load AC1/DC1	1500 VA/...300 W	1250 VA/...150 W	250 VA/...60 W
Peak inrush power	15 A/20 ms	10 A/20 ms	—
Switching cycles mech./electr. (AC1)	20×10^6 / ≥ 10^5	50×10^6 / ≥ $1,5 \times 10^5$	100×10^6 / ≥ 10^5
Operation voltage AC 50 Hz/DC	0,85...1,15 U_N	0,8...1,2 U_N	0,8...1,2 U_N
Power consumption AC/DC	≤ 0,6 W ≤ 1,7 W 2x ≤ 0,6 W	0,25 W (per channel)	0,25 W (per channel)
Triggering delay / release time	10 ms/10 ms	6 ms/30 ms	10 ms/20 ms

DC ⎓ ≤10%	C103.01 C133.01 C203.01 / DC ..12.. V	C203.04 C301.04 / DC ..12-15, 24, 48.. V	C103.06 C203.06 / DC ..12.. V
AC ~ 50/60 Hz	C103.01 C133.01 C203.01 / AC ..110-127, 220-240.. V		C103.06 C203.06 / AC ..110-127, 220-240.. V
UC ⎓/~	C103.01 C133.01 C203.01 / UC ..24, 36, 48.. V		C103.06 C203.06 / UC ..24, 36, 48.. V



Ordering example

Relay
C301.04/DC 24 V

Notes

Lloyd's; IEC 61810; EN 60974

Comat products comply with different international standards and are certified accordingly.

A detailed list can be found on our web page:

www.comat.ch

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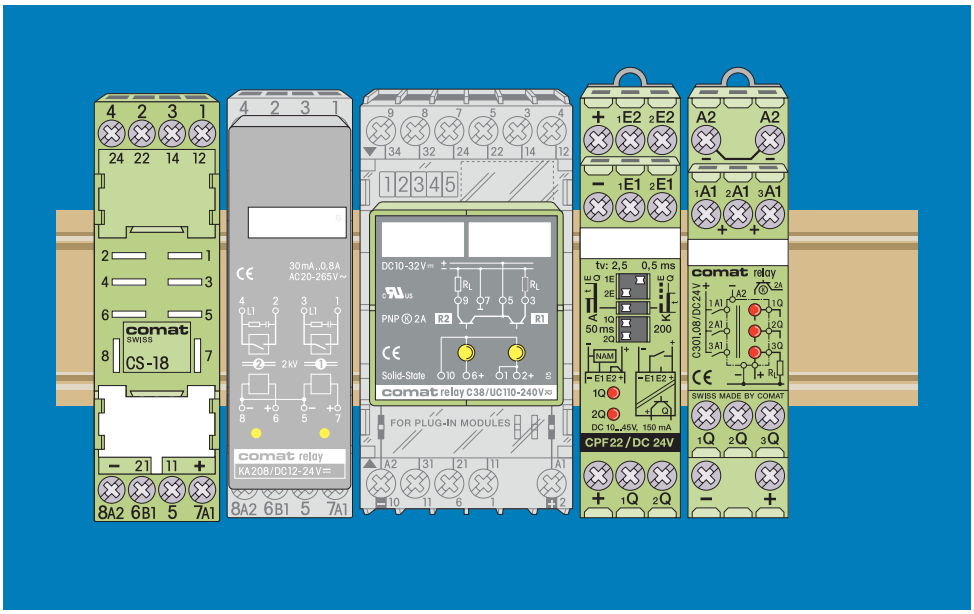
Industrial Relays

Solide-State Relays



DIN

Solide-State Relays Recommended application

5A													
3A													
2,5A													
2A													
1,5A													
1 A													
800A													
250mA													
30mA													
10mA													
5mA													
2mA													
1mA													
1x Triac										C35	KA115	KA108	
2x Triac											KA208		C36
1x PNP	C37		KD125			CPF11	CTV11						
2x PNP				C38	KD215	CPF22							
3x PNP					KD315			C301.08 C311.08					
1+1 PNP		KDM3-24											
1x co PNP		KDW3-24											

comat C35...C38

Solid-State

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

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

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

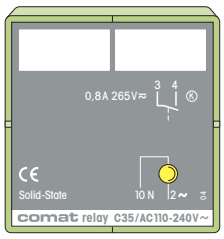
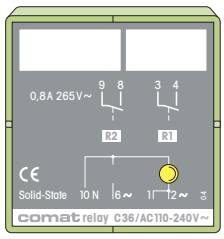
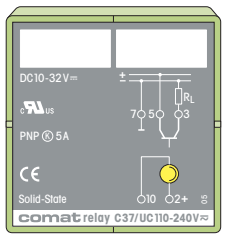
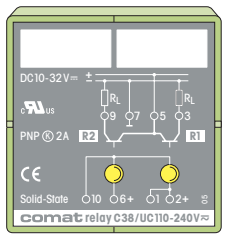
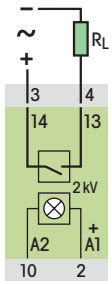
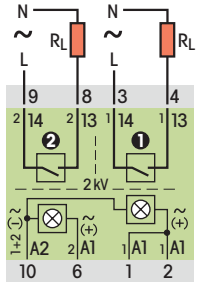
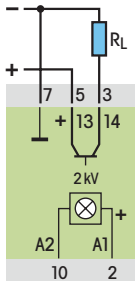
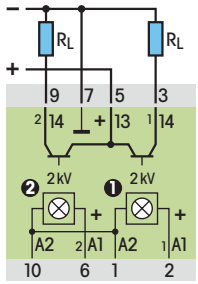
CE UL and others: www.comat.ch

MAX / MIN

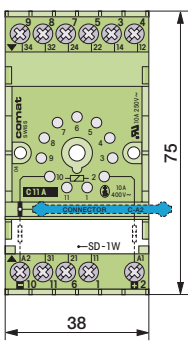
Connection No. on socket →
Designation according to DIN/EN 50011 →

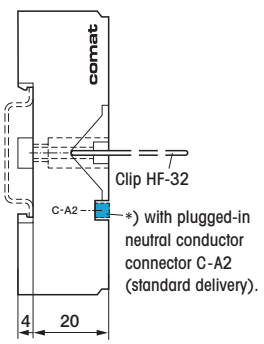
Connection on sockets
EC-11, C11A, C12B

Data at $T_{amb.}$ = 20°C

	C35	C36	C37	C38
	Universal Solid-State Relay 1 x	**AC Solid-State Relay** 2 x	**DC Solid-State Relay** 1 x	**DC Solid-State Relay** 2 x
				
	C35	**C36**	**C37**	**C38**
	Universal Solid-State Relay for AC or DC load Highest switching frequency virtually limitless due to solid-state operation. No external protective wiring required.	**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	**DC Solid-State single-channel** Bounce-free and non wearing for DC loads (inductive/capacitive). Short-circuit/overload proof. No external wiring protection required.	**DC Solid-State Relay double-channel** Construction, characteristics and application like C37, but double-channel. 2A constant current per channel.
	0,8 A 10...265 V≂	**0,8 A** 20...265 V~	**5 A** 10...32 V⎓	**2 A** 10...32 V⎓
	1 mA 10 V	30 mA 10 V	1 mA 5 V	1 mA 5 V
				
Peak inrush power	1,5 A/1 s	8 A/20 ms	15 A/1 s	15 A/1 s
Voltage drop	≤ 3 V	≤ 1,5 V	≤ 0,2 V	≤ 0,2 V
Residual current	≤ 100 µA	≤ 3 mA	≤ 100 µA	≤ 100 µA
Short-circuit proof Ⓚ	≤ 12 A/200 µs	—	≤ 70 A/150 µs	≤ 70 A/150 µs
Control voltage	110-240 V 24-48 V	110-240 V 24 V	110-240 V 24-48 V	110-240 V 24-48 V
Frequency range	50..60 Hz 40..400 Hz	50..60 Hz 50..60 Hz	40..60 Hz 40..400 Hz	40..60 Hz 40..400 Hz
Control current	≤ 35 mA ≤ 20 mA	≤ 17 mA ≤ 12 mA	≤ 5 mA ≤ 6 mA	≤ 5 mA ≤ 6 mA
Triggering delay	≤ 20 ms ≤ 20 ms	≤ 30 ms ≤ 30 ms	≤ 30 ms ≤ 20 ms	≤ 30 ms ≤ 20 ms
Off delay	≤ 80 ms ≤ 80 ms	≤ 40 ms ≤ 80 ms	≤ 30 ms ≤ 30 ms	≤ 30 ms ≤ 30 ms
AC ~ 50/60 Hz	110-240 **C35 / AC ...... V**	110-240 **C36 / AC ...... V**		
UC ≂ ~/⎓	24-48 **C35 / UC ...... V**	24 **C36 / UC ...... V**	24-48, 110-240 **C37 / UC ...... V**	24-48, 110-240 **C38 / UC ...... V**

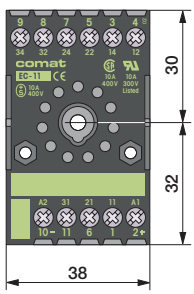
System socket C11A *)

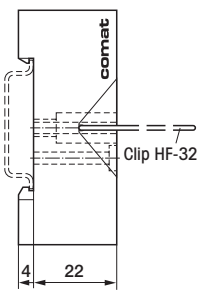




*) with plugged-in neutral conductor connector C-A2 (standard delivery).

Economy socket EC-11





Ordering example

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

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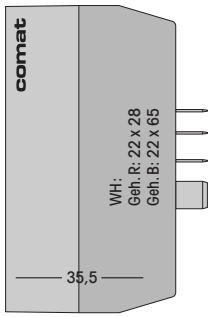
KA

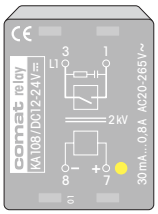
Solid-State

AC Solid-State Relay 1x

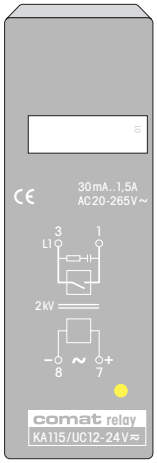
AC Solid-State Relay 1x

AC Solid-State Relay 2x

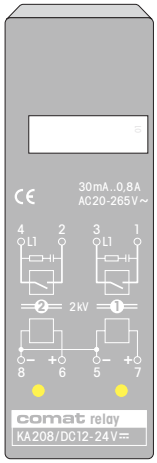




Case R



Case B



Case B

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

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

KA208

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

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

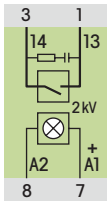
AC Solid-State Relay
- 1- and 2-channel
- crossover switching
- each channel indicated by LED
- Triggering/Output 2kV

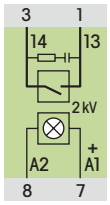
$T_{amb.}$ operation/storage:
-25..+60/-40..+85°C

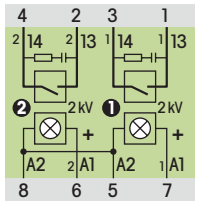
CE UL and others: www.comat.ch

MAX / MIN

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







Connection with socket **CS-18**

Data at $T_{amb.}$ = 20°C

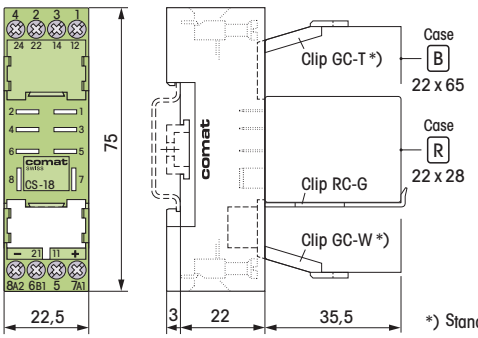
	KA108	KA115	KA208
Peak inrush power	8A (20ms)	20A (20ms)	8A (20ms)
Residual current	3mA	3mA	3mA
Frequency range	50/60Hz	50/60Hz	50/60Hz
Voltage drop	≤1,5V	≤1,5V	≤1,5V
Control voltage	DC10...30V⎓	UC10...30V≈	DC10...30V⎓
Triggering OFF	UA1: ≤6V	UA1: ≤6V	UA1: ≤6V
Switching delay	12ms	12ms	12ms
Control current	10mA (24V)	10mA (24V)	10mA (24V)
DC ⎓ ∿ ≤20%	KA108/DC12-24V		KA208/DC12-24V
UC ≈ ~40-400Hz / ⎓∿		KA115/UC12-24V	

Ordering example

Relay **KA115/UC12-24V**
Socket **CS-18** or **S7-P**

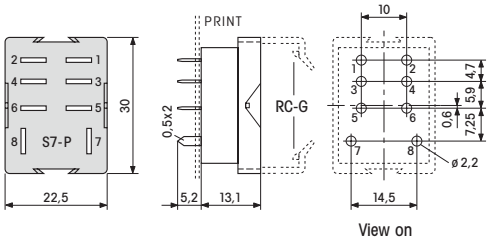
Retaining clip **RC-W** (option)

System socket CS-18



*) Standard delivery with relay (Case B)

Socket for printed circuit mounting S7-P



View on solder side

comat

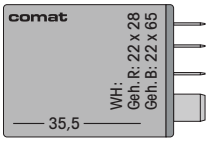
KD

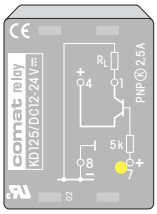
Solid-State

DC Solid-State Relay 1x

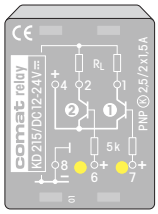
DC Solid-State Relay 2x

DC Solid-State Relay 3x

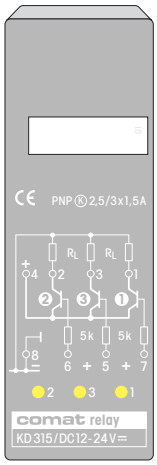




Case R



Case R



Case B

KD125

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

KD215

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

KD315

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

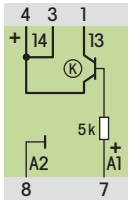
AC Solid-State Relay
- 1- and 3-channel
- overload/short-circuit proof Ⓚ
- limiting inductive voltage
- each channel indicated by LED
- Triggering/Output 2kV

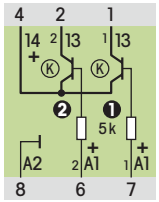
Tamb. operation/storage:
-25..+60/-40..+85°C

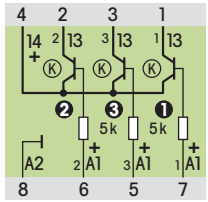
CE UL and others: www.comat.ch | MAX / MIN

	KD125	KD215	KD315
	2,5A 10...32V⎓	**1,5A** 10...32V⎓	**1,5A** 10...32V⎓
	1mA 5V	1mA 5V	1mA 5V

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







Connection with socket CS-18

Data at Tamb. = 20°C

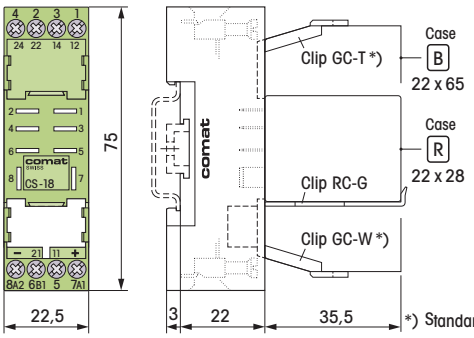
	KD125	KD215	KD315
Output	1 PNP (noc)	2x1 PNP (noc)	3x1 PNP (noc)
Current peak	15A (20ms)	15A (20ms)	15A (20ms)
Residual current	<100µA	<100µA	<100µA
ON-resistance	50mΩ	50mΩ	50mΩ
Control voltage	DC 5...18V/10...32V⎓	DC 10...32V⎓	DC 10...32V⎓
Triggering OFF	UA1-2: ≤3V/≤6V	UA1-2: ≤3V/≤6V	UA1-2: ≤3V/≤6V
ON-OFF-switching delay	2,5ms	2,5ms	2,5ms
Control current	4mA (24V)	4mA (24V)	4mA (24V)
DC ⎓ ≤ 20%	6-12, 12-24		
	KD125 / DC V	KD215/DC12-24V	KD315/DC12-24V

Ordering example

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

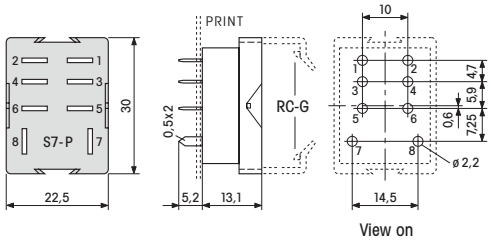
Retaining clip **RC-G** (option)

System socket CS-18



*) Standard delivery with relay (Case B)

Socket for printed circuit mounting S7-P



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comat
KDM3-24

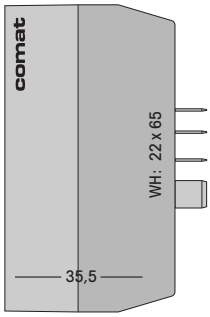
Solid-State

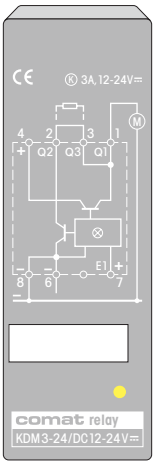
DC-Motor Control Relay

+

PNP NPN

TO CONTROL AND BRAKE DC MOTORS





Case B

KDM3-24

Motor Control Relay
• For controlling and braking of DC Motors

Tamb. operation/storage:
-25..+60/-40..+85°C

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.

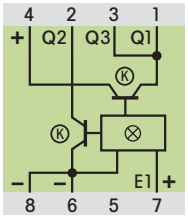
CE UL and others: www.comat.ch

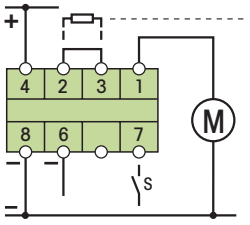
MAX
MIN

3A (5A) 24V ⎓
10mA 10V

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

Connection with socket CS-18





Adjustment braking action

Ⓚ 3A,12-24V⎓

Data at Tamb. = 20°C

	Power contact	Break contact
Contact type	FET PNP	FET NPN
Switching current/voltage	3A (5A) / 10-32V	3A (5A) / 10-32V
Switching power DC1	...100W	...100W
Peak inrush current	20A / 1s	20A / 1s
Contact resistance	<100mΩ	<100mΩ
Leakage current	<100µA	<100µA
Trigg. delay/release time	<1ms	<1ms
Operation voltage active	9-28V	
Power consumption Pmax	400mW / DC24V	

DC ⎓
≤ 20%

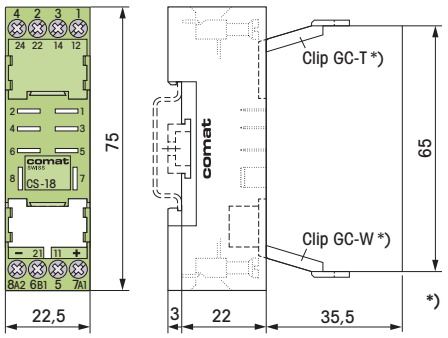
KDM3-24/DC12-24V

Ordering example

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

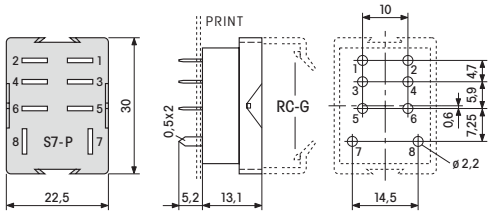
Retaining clip RC-G (option)

System socket CS-18



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

Socket for printed circuit mounting S7-P



View on solder side

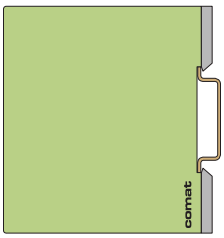
comat

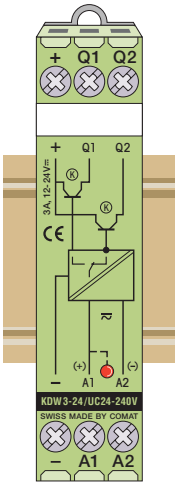
KDW3-24 DIN

Solide-State

Solide-State Changeover Relay

1x co





CHANGE OVER WITH SEMI CONDUCTOR

KDW3-24

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

Interface Module
Solidstate relay with 1x CO output PNP for 3A, 24V⎓.
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.

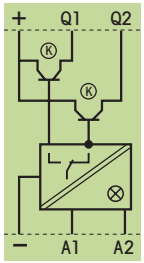
CE UL and others: www.comat.ch

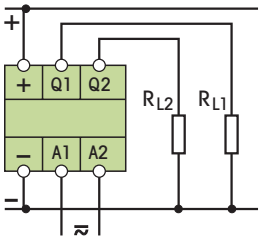
MAX / MIN

3A (5A) 24V⎓

10mA 10V

Connection



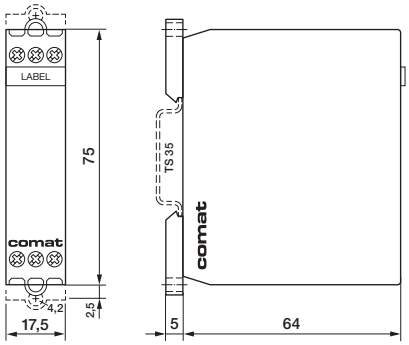


Data at T_{amp} = 20°C

Contact type	FET PNP
Switching current / voltage	3A (5A) / 10-32V
Switching power DC1	...72W (160W)
Peak inrush current	20A / 20ms
Contact resistance	<50mΩ
Leakage current	<100µA
Trigg. delay / release time	<5ms
Operation voltage active	18-255V AC/DC
Power consumption Pmax	3-8mA / <400mW

UC ≂
50/60Hz / ⎓

KDW3-24/UC24-240V



Ordering example

Interface module
KDW3-24/UC24-240V

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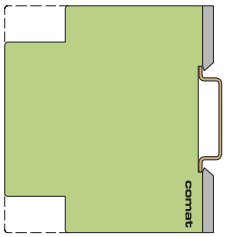
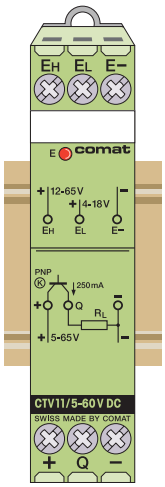
comat
CTV, C300 DIN

Solid-State



Solid-State Relay
Switching amplifier



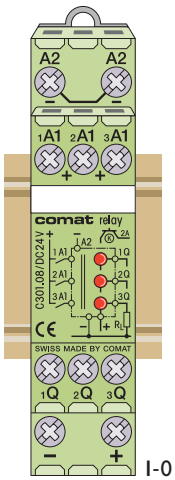
CTV11

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

250 mA 5...60 V⎓

1mA 10V

Solid-State Relay
3x



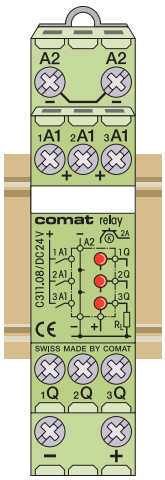
C301.08

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

2A 10...30 V⎓

1mA 10V

Solid-State Relay
3x



C311.08

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

2A 10...30 V⎓

1mA 10V

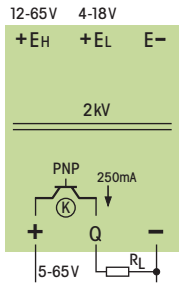
1- and 3-channel DC Solid-State Relay
- for high switching cycles
- galvanical separation 2kV
- mounting onto DIN rail TS 35

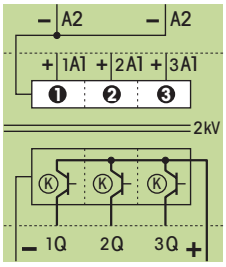
Tamb. operation/storage:
-25..+60/-40..+85°C

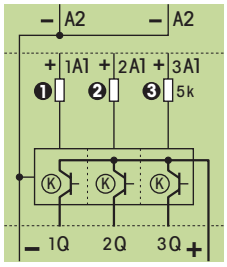
CE UL and others: www.comat.ch

I MAX / MIN

Connection





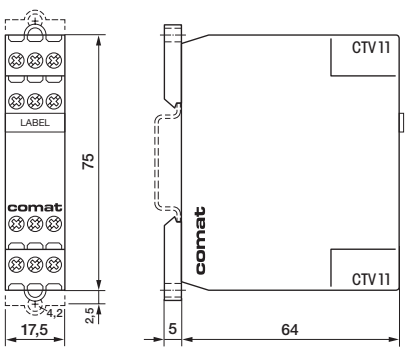


Data at Tamb. = 20°C

I	Admissible peak current	0,75A (20ms)	15A (20ms)	15A (20ms)
	Residual current	<100µA	<100µA	<100µA
	Voltage drop / ON-rheostat	<1V	50mΩ	50mΩ
⊣	Control voltage (Unom)	EH 15-60V / EL 5-15V	DC24V (10...30V)⎓	DC24V (10...30V)⎓
	Ripple ∿	≤10% @10V	≤10% @10V	≤10% @10V
	Triggering OUT	EL ≤ 2,5V / EH ≤ 5V	UA1: ≤ 6V	UA1: ≤ 6V
	Control current on A1	Typ. 10mA	4mA @24V	4mA @24V
	Swtiching delay	ON 200µs / OFF 400µs	2,5ms	2,5ms
	DC ⎓ ∿ ≤10%	CTV11/DC5-60V	C301.08/DC24V	C311.08/DC24V

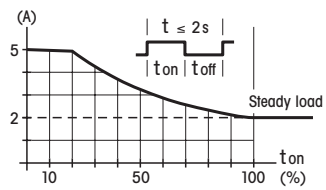
Ordering example

Solid-state relay
C301.08/DC24V



Note on use C300
The 3 channels can be connected parallel in any desired arrangement (Imax. = 6A).
The outputs are self-resetting after thermal overload.
Self-resetting after short-circuit (>17A/150µs): Triggering OFF.

Limit load diagram (resistive load)



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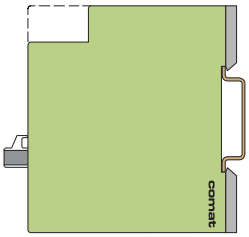
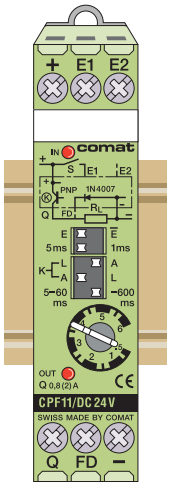
CPF 11, 22 DIN

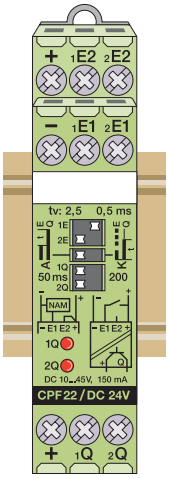
Solid-State

Pulse Shaper

Pulse Shaper 2x







CPF11

Single Channel Pulse Shaper
- Input reversible (E-Ē)
- 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 ≥1/5 ms
output pulse 5 ÷ 600 ms

2 A 15...32 V ⎓

2 mA 10 V

CPF22

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 ≥0,5/2,5 ms
output pulse 50/200 ms

150 mA 45 V ⎓

2 mA 10 V

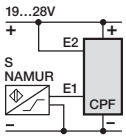
Pulse shaper with timing function
To stretch respective to limit control pulses. Suitable for NAMUR sensors respective to analyze fast sequences with high revolutions and short pulses.

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

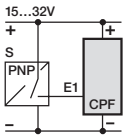
CE UL and others: www.comat.ch

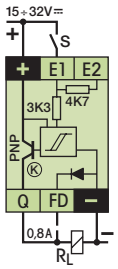
MAX MIN

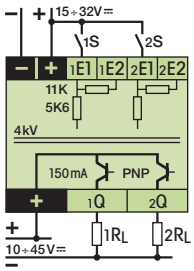
NAMUR sensor



Three-wire sensor







DC ⎓ ≤10%

CPF 11/DC 24 V

CPF22/DC 24 V

K Pulse shaping

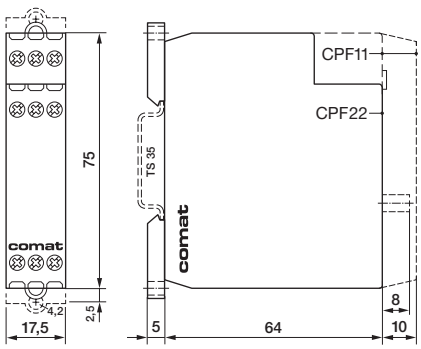
S (pulse or continuous contact)
⇒ R on for t
S ▬ no influence on R and t

L Pulse shaping retriggerable (subsequ. time operation from 0)

S (pulse or continuous contact)
⇒ R on for t
S on for t = t_{RESET}

A Off delay

S ⇒ R on
S_{OFF} ⇒ R off with delay



Example of order

Pulse shaper
CPF11/DC 24 V

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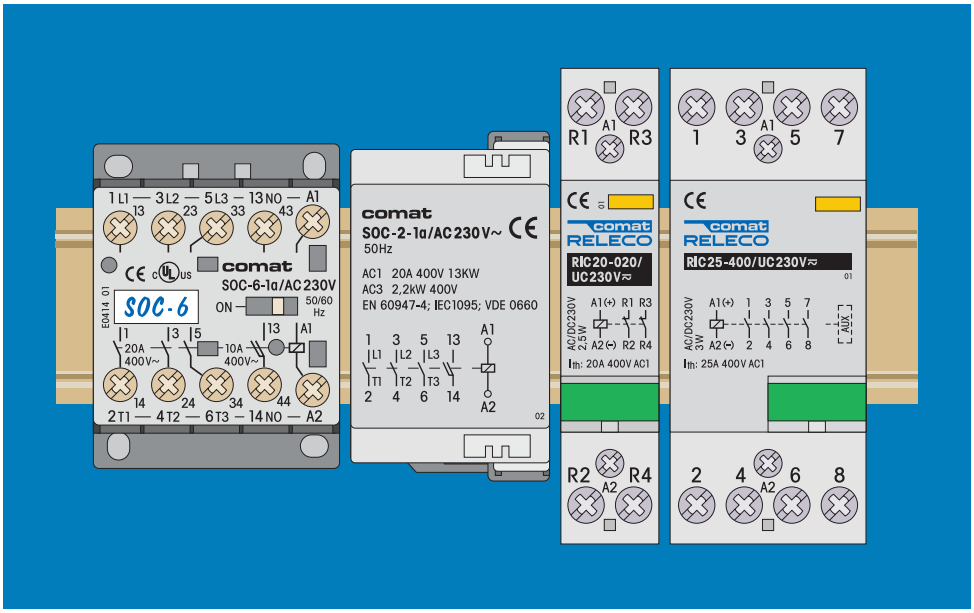
Industrial Relays

Miniature Contactors



DIN

Comat products comply with different international standards and are certified accordingly.

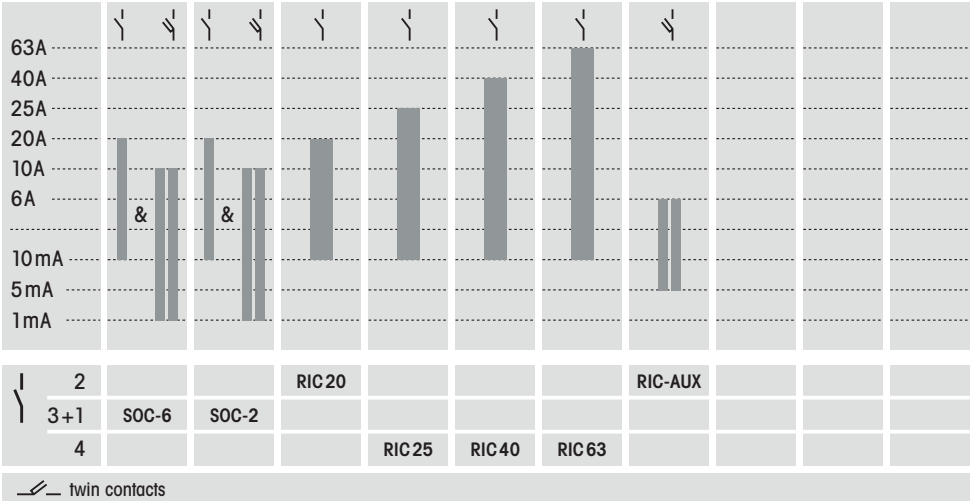
A detailed list can be found on our web page:

www.comat.ch

Lloyd's

IEC 61810; EN 60974

Miniature Contactors Recommended application



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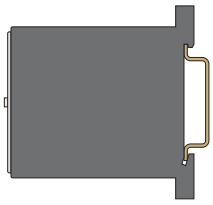
SOC-6 DIN

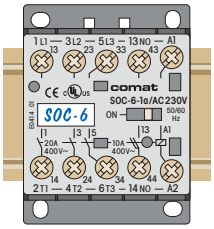
Miniature Contactor

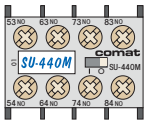
Miniature Contactor

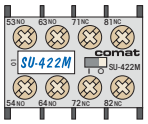
Additional auxiliary Snap-on contacts

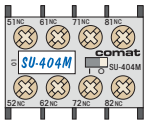
RC Modules

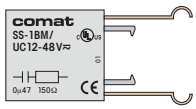












3-/4-pole Miniature Contactor

- All contacts with twin interruption
- Manual operation
- Mechanical status display

Test voltage: 4000V / 4000V

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

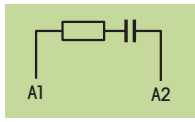
CE UL and others: www.comat.ch μ MAX MIN

Continuous terminal No. →

Designation according to DIN/EN 50011 →

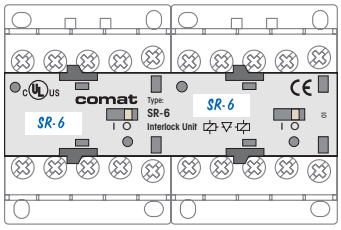
Connection lay out (top/bottom)

Data at $T_{amb.}$ = 20°C / ≤ 40°C
Main contacts // Auxiliary contact

	SOC-6-1a	SU-440M	SU-422M	SU-404M	SS-1...
	Universal Miniature Contactor with 3 main contacts 20A and 1 auxiliary contact 10A (signal twin contact). Contact opening > 3mm and test voltage 4000V. Specially suitable for "safely separation" in low voltage circuits.	**Additional auxiliary contact block** 4 NO contacts. Snap-on to miniature contactor SOC-6. Expands the SOC-6 up to a total of 8 NO contacts.	**Additional auxiliary contact block** 2 NO + 2 NC contacts. Snap-on to miniature contactor SOC-6. Expands the SOC-6 up to a total of 6 NO and 2 NC contacts.	**Additional auxiliary contact block** 4 NC contacts. Snap-on to miniature contactor SOC-6. Expands the SOC-6 up to a total of 4 NO and 4 NC contacts.	**RC Modul** to limit overvoltage. Universal version (UC...V≈) for AC and DC coils. Snap-on directly onto miniature contactor SOC-6.
	20A // 10A 400V~	**10A** 400V~	**10A** 400V~	**10A** 400V~	
	10mA 24V // 1mA 6V	10mA 24V	10mA 24V	10mA 24V	
	1 3 5 13 A1+ / L1 13 L2 23 L3 33 NO 43 / 14 24 34 44 NO / T1 T2 T3 / 2 4 6 14 A2	53 63 73 83 / NO NO NO NO / NO NO NO NO / 54 64 74 84	53 63 71 81 / NO NO NC NC / NO NO NC NC / 54 64 72 82	51 61 71 81 / NC NC NC NC / NC NC NC NC / 52 62 72 82	 A1 A2
	Ag Ni	Ag Ni	Ag Ni	Ag Ni	Current consumption:
Contact material					
Switching power AC1	11kW 400V // 4kW 400V	7kW 400V	7kW 400V	7kW 400V	at AC24V : 8mA
Switching power AC3/4	4kW 9A 400V // –	–	–	–	at DC24V : 4mA
Switching current AC15	1,9A 400V // 1,5A 400V	1,9A 400V	1,9A 400V	1,9A 400V	at AC230V: 12mA
Switching power DC1	...300W	...300W	...300W	...300W	at DC220V: 2,5mA
Switching power DC13	0,3A 220V // 0,1A 220V	0,3A 220V	0,3A 220V	0,3A 220V	
Making-/Breaking capacity	90A / 70A eff	>30A	>30A	>30A	Release time SOC-6 with RC module ≤ 45ms
Mechanical switching cycles	$20x10^6$	$10x10^6$	$10x10^6$	$10x10^6$	
Operation voltage AC50Hz/DC	0,8...1,2 U_N				
Power consumption	4,2VA/3W				
Typical make/release time	20ms/15ms				
AC ~ 50Hz	24, 230 SOC-6-1a / AC V	SU-440M	SU-422M	SU-404M	SS-1HM/UC110-240V
DC ⎓ ∞ ≤ 10%	24 SOC-6-1a / DC V				SS-1BM/UC12-48V

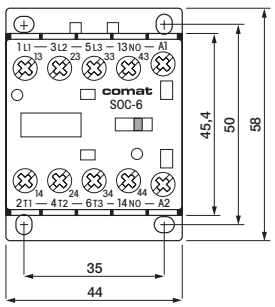
Interlocking unit SR-6

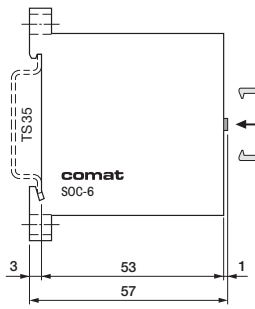
mechanically prevents the simultaneous engagement of two parallel working SOC-6.

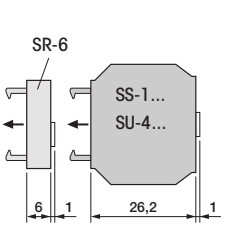


Ordering example

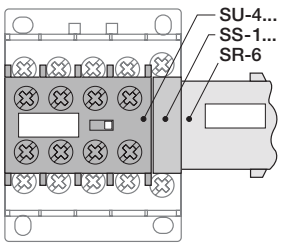
- Miniature contactor **SOC-6-1a/AC230V**
- •Auxiliary contact block (2NO + 2NC contacts) **SU-422M**
- RC module **SS-1H/UC110-240V**
- Interlocking unit **SR-6**







Arrangement



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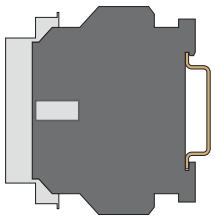
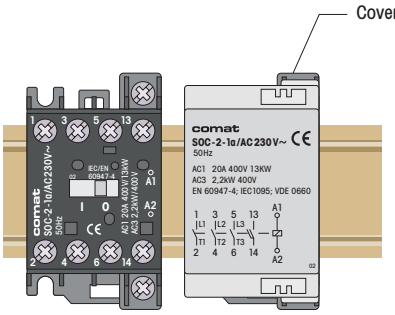
comat
SOC-2 DIN

Miniature Contactor

Innstallation Contactor SOC-2-1a





SOC-2-1a

3- + 1-pol. Miniature Contactor
- All contacts with twin interruption
- Manual operation
- Mechanical status display

Test voltage: 4000V / 4000V

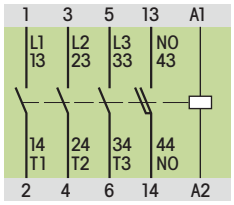
Tamb. operation/storage:
-20..+55/-30..+80°C

Installation Contactor
High power relay up to 3x20A 400V and 1 auxiliary twin contact 6A.
For installation mounting with cover conform DIN 43880.
The cover can be sealed.
For general applications and motors up to 2,2kW.
Suitable for pilot control signals.

20A // 6A 400V~
10mA 24V // 1mA 6V

CE UL and others: www.comat.ch μ MAX MIN

Continuous terminal No. →
Designation according to DIN/EN 50011 →



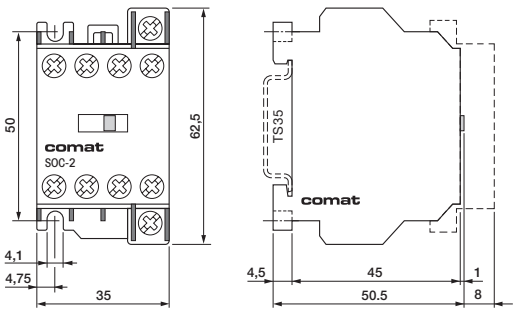
Connection lay out (top/bottom)

Data at Tamb. =20°C / ≤40°C
Main contacts // Auxiliary contact

Contact material	AgNi
Switching power AC1	13kW 400V
Switching power AC3/4	2,2kW 400V
Switching current DC1	20A 24V / 2A 110V
Inrush current	100A / 2,5ms
Switching current	6A 400V
Switching current DC1	6A 24V / 0,5A 220V
Mechanical life time	> 3 x 10^6
Coil voltage	0,8 - 1,2 U_N
Coil power	32W 20ms/1,5W
Typical make/release time	< 20ms/< 20ms

AC ~ 50Hz

24, 230
SOC-2-1a/AC....V



Ordering example

Installation contactor
SOC-2-1a/AC230V

Spare parts

Cover sealed
SOC-2C0V

comat RIC DIN

Miniature Contactor

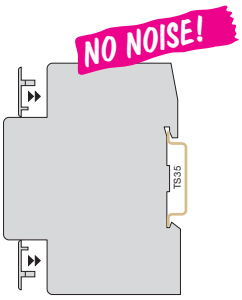
Contactor 20 A
2 NO or 2 NC or 1 NO/1 NC

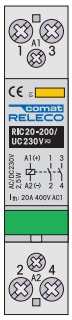
Contactor 25 A
4 NO or 4 NC or 2 NO/2 NC

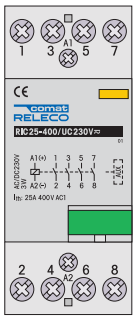
Contactor 40 A
4 NO or 4 NC or 2 NO/2 NC

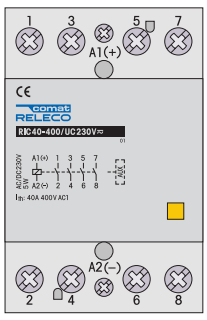
Contactor 63 A
4 NO or 2 NO/2 NC

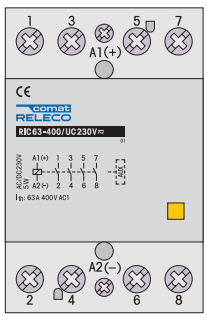
AUX Block
2 NO or 2 NC or 1 NO/1 NC

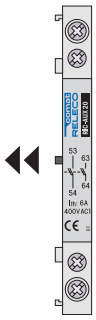












RIC 20

Contactor 20 A
Contactor with 2 NO or 2 NC or 1 NO+1 NC contacts.
UC (AC/DC) versions are noise free and do not need external freewheeling circuits.
No coil inrush overcurrent.
Sealing cover optional.

20 A 400 V~
10 mA 24 V

RIC 25

Contactor 25 A
Contactor with 4 NO or 4 NC or 2 NO+2 NC contacts.
UC (AC/DC) versions are noise free and do not need external freewheeling circuits.
No coil inrush overcurrent.
Sealing cover optional.

25 A 400 V~
10 mA 24 V

RIC 40

Contactor 40 A
Contactor with 4 NO or 4 NC or 2 NO+2 NC contacts.
UC (AC/DC) versions are noise free and do not need external freewheeling circuits.
No coil inrush overcurrent.
Sealing cover optional.

40 A 400 V~
10 mA 24 V

RIC 63

Contactor 63 A
Contactor with 4 NO or 2 NO+2 NC contacts.
UC (AC/DC) versions are noise free and do not need external freewheeling circuits.
No coil inrush overcurrent.
Sealing cover optional.

63 A 400 V~
10 mA 24 V

RIC-AUX

Auxilary
Contactblock with 2 NO or 2 NC or 1 NO+1 NC contacts.
For signalling and control applications up to 6 A with crown twin contacts.
For all RIC contactors.

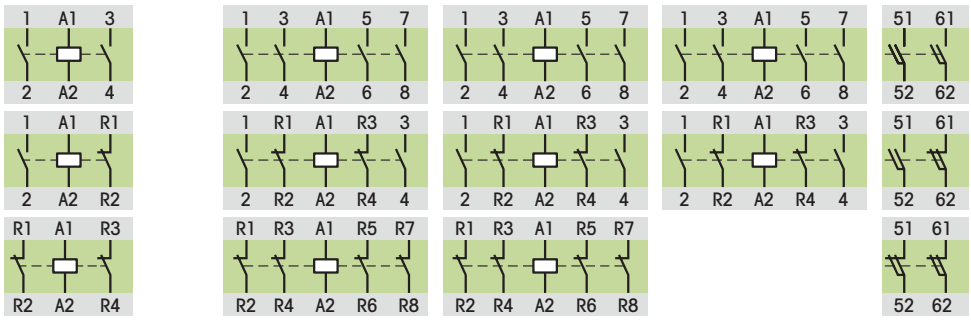
6 A 400 V~
5 mA 24 V

AC/DC Istallation Contactors No noise!
- All contacts doublemake/ doublebrake
- Mechanical status display

Test voltage: 4 kV/3
$T_{amb.}$ operation/storage: -20..+55/-30..+80 °C

CE UL and others: www.comat.ch μ MAX MIN

Connection lay out (top/bottom)



Data at T_{amb} = 20 °C

	RIC 20	RIC 25	RIC 40	RIC 63	RIC-AUX
Contact material	AgNi	AgNi	$AgSnO_2$	$AgSnO_2$	AgNi
Switching current I_{TH}	20 A	25 A	40 A	63 A	6 A
Switching voltage	400 V	400 V	400 V	400 V	400 V
Switching power AC3	1,3 kW/230 V	2,2 kW/400 V	5,5 kW/400 V	8,5 kW/230 V	–
Switching power AC1/AC7a	4 kW/230 V	16 kW/400 V	26 kW/400 V	40 kW/400 V	–
Op Frequenz max. cycle/hr	600	600	120	120	600
Electrical life cycles AC1	$2x10^5$	$2x10^5$	$1x10^5$	$1x10^5$	$2x10^5$
Coil voltage range	0,85 - 1,1 U_N	0,85 - 1,1 U_N	0,85 - 1,1 U_N	0,85 - 1,1 U_N	–
Power consumption	2,5 W	3 W	5 W	5 W	–
Operate / release time typ.	20 ms // 20 ms	10 ms // 50 ms	20 ms // 35 ms	20 ms // 35 ms	– // –
UC ≂ ~ 50/60 Hz / ⎓	24, 230 RIC20-200/UC V	24, 230 RIC25-400/UC V	24, 230 RIC40-400/UC V	24, 230 RIC63-400/UC V	RIC-AUX20
UC ≂ ~ 50/60 Hz / ⎓	24, 230 RIC20-110/UC V	24, 230 RIC25-220/UC V	24, 230 RIC40-220/UC V	24, 230 RIC63-220/UC V	RIC-AUX11
UC ≂ ~ 50/60 Hz / ⎓	24, 230 RIC20-020/UC V	24, 230 RIC25-040/UC V	24, 230 RIC40-040/UC V		RIC-AUX02

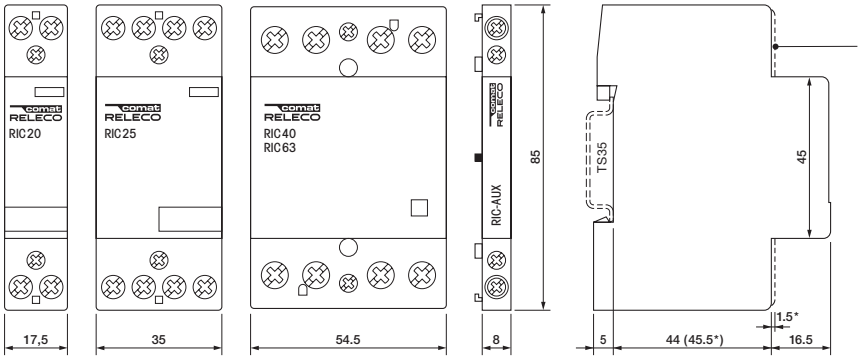
RIC20 RIC25-63

Ordering example

Installation contactor
RIC25-400/UC230V

Aux block
RIC-AUX20

Sealing cover
RIC-SEAL20



*Option
Sealing cover
Type: RIC-SEAL20
RIC-SEAL25
RIC-SEAL40-63

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