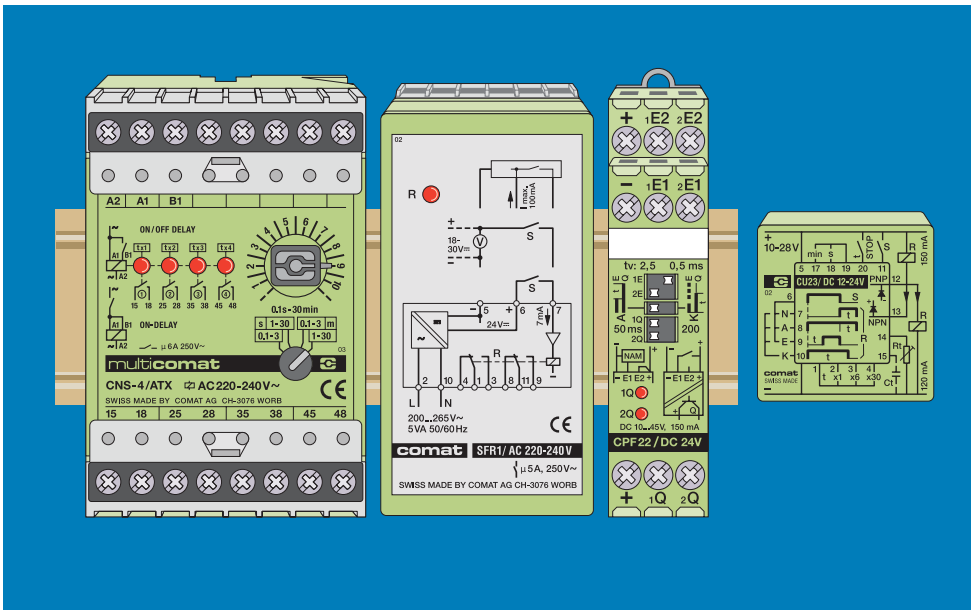
comat
INDUSTRIELLE ELEKTRONIK

Time Delay Relays

Specially Time Delay Relays

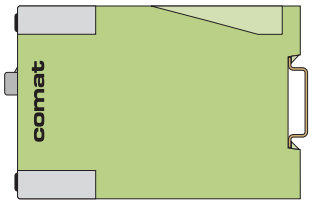


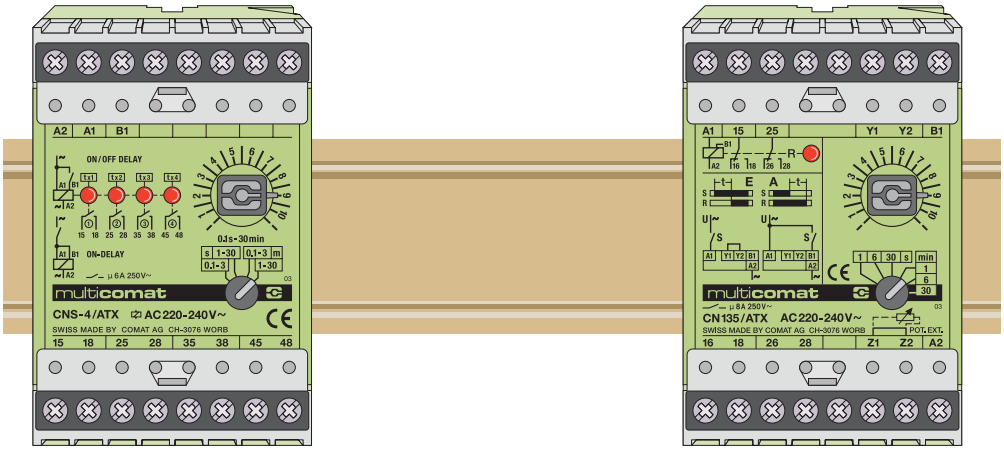
DIN 11

- CN Series Specially Time Delay Relays
- SFR Serie Amplifier Relays, Switching Amplifier
- SBV Amplifier Blinker
- CPF Pulse Shaper
- CCX Preset Counters

This edition replaces all previous issues.
Availability, errors and specification subject to change without notice.

Industrial Time Delay Relays multicomat





CE UL

Industrial Time Delay Relays
CN135 with 2 change-over contacts.
CNS-4 with 4 independent outputs.

CNS-4

Cascade Relay
- ON cascades
- ON/OFF cascades
- 4 outputs
- detachable terminals

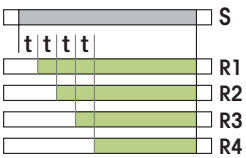
CN 135

Specially Time Delay Relays
- 2 functions
- connections for external potentiometer 1 MΩ
- 4 outputs
- detachable terminals
- seismic approved according IEE 323 and IEE 344

E 1 Triggering
Function (page *)

E4 3
EA4 2

E4 On delay



E 4
A 5

Time range
Partial range

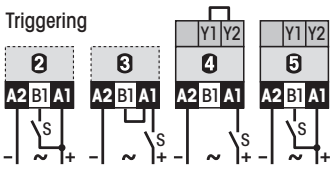
0.1s-30min
s, min

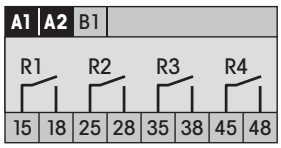
μ MAX

6A 250V~

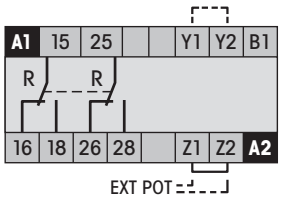
8A 250V~

Triggering





EA4 On delay
Off delay

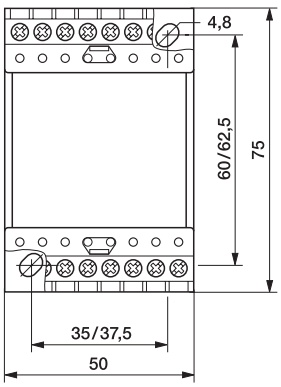


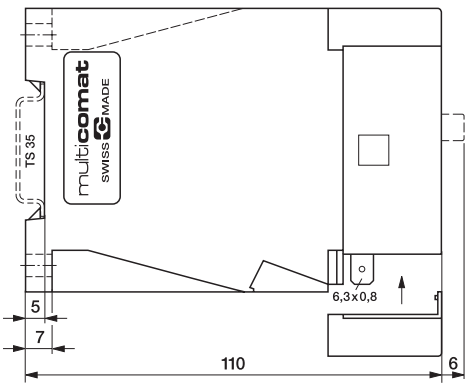
AC 50/60 Hz	AC220-240V	ATX
	AC110-120V	ANP
UC AC/DC	UC24-48V	UFK

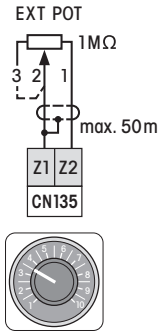
Ordering no. ➡ CNS-4/ V

AC 50/60 Hz	AC220-240V	ATX
	AC110-120V	ANP
UC AC/DC	UC24-48V	UFK

Ordering no. ➡ CN 135/ V





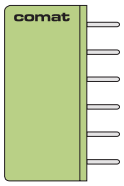


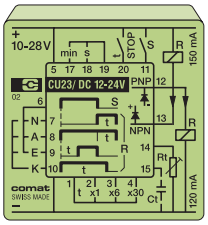
Built-in potentiometer SP-01/1MΩ (page *)

Ordering example
Cascade Relay **CNS-4/ATX**

comat CU

Universal Timer Module





CE UL

CU23

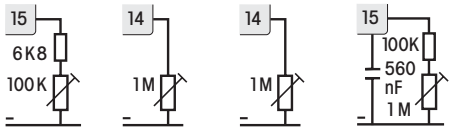
Universal Timer Module
with soldering pins for printed circuit mounting.

Universal Timer Module for Print Mounting
- the time module for industrial application
- 5 functions
- t-stop
- PNP/NPN output

Example for external wiring

Time range		sec 18 19		min 17 19	
		0,01-3s	0,05-30s	0,05-30m	1-300min
Partial range	x1 1 2	0,01-0,1s	0,05-1s	0,05-1min	1-10min
	x6 1 3	0,06-0,6s	0,3 - 6s	0,3 - 6min	6-60min
	x30 1 4	0,3-3s	1,5-30s	1,5-30min	30-300min

Series resistor Rv
Extender capacitor Ct
Adjustable resistor Rt



E–1 Triggering
Function (page *)

E–1–2
A K N–1 W–2

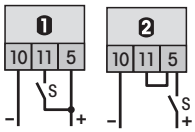
Time range
Partial range

0.01s-300min
s, min

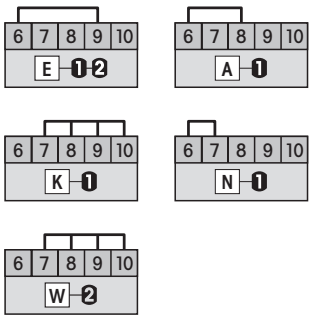
MAX

120mA 24V⎓

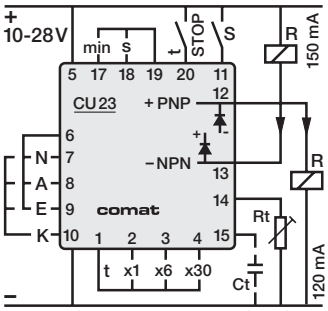
Triggering



Programming



Wiring (view from the back)



Built-in potentiometer (page *)
SP-01/100k
SP-01/1MΩ

DC ⎓ 10%

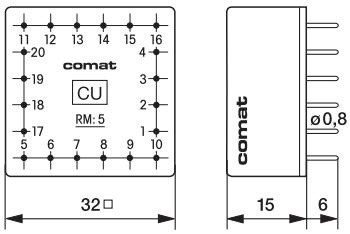
DC12-24V

Time stop (t-STOP) = the elapsing time is interrupted

Ordering no. ➡

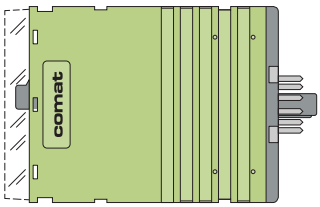
CU23/ V

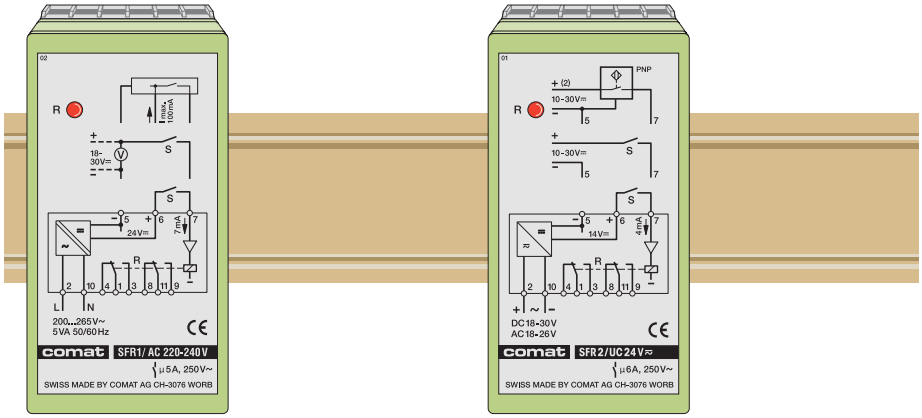
Ordering example
Timer module CU23/DC12-24V



comat
SFR

Amplifier Relays





CE UL

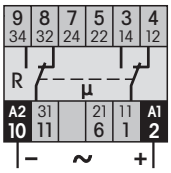
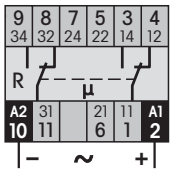
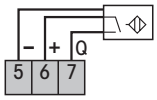
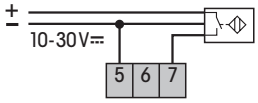
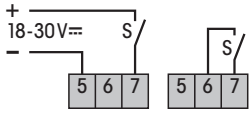
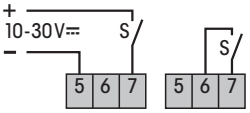
SFR1

Amplifier Relay
- switching amplifier for:
  - PNP 3 wire sensors
  - NAMUR sensors
- potential-free contact
- integrated sensor supply voltage 24 V
- The input wiring is specifically suitable for long connection lines

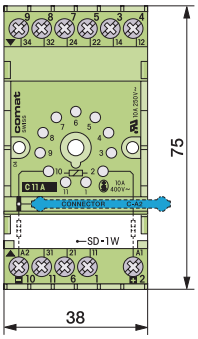
SFR2

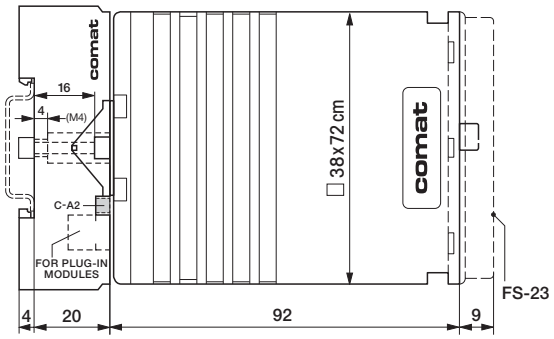
Amplifier Relay
- switching amplifier for:
  - PNP 3 wire sensors
  - NAMUR sensors
- potential-free contact
- integrated sensor supply voltage 14 V
- The input wiring is specifically suitable for long connection lines

Amplifier Relay
Supply unit with integrated switching amplifier for 3-wire PNP sensors, NAMUR as per DIN 19234 as well as for contact triggering also with external power supply.
The input wiring is specifically suitable for long feed wires.

	μ MAX	5 A 250 V~	6 A 24 V≂
Diagram Connection with socket C11A			
Output supply	DC output supply		
	Output voltage	DC 22…25 V	DC 14 V
	Output current max.	100 mA	4 mA
Triggering	**NAMUR sensor**		
	Not damped	output active	output active
	Damped	output inactive	output inactive
	Wire break	output inactive	output inactive
	PNP three-wire sensor		
	External power supply/contact		
	On-signal	DC +18…+30 V	DC +10…+30 V
	Off-signal	DC −30…+7,5 V	DC −10…+5 V
	triggering current	7 mA bei DC 24 V	7 mA bei DC 24 V
	Parallel load energy	100 V 10 ms/1 Hz	100 V 10 ms/1 Hz
			
Galvanic isolation		>2 kV (triggering to supply and output) >2 kV (triggering to supply and output)	>2 kV (triggering to supply and output)
		~ AC 50/60 Hz ≂ UC AC/DC	AC 220-240 V AC 110-120 V	UC 24 V
Ordering no.		SFR1/	SFR2/ ....

System socket C11A
Figure: with plug-in neutral conductor connector C-A2 (standard delivery).

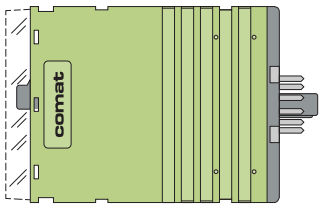


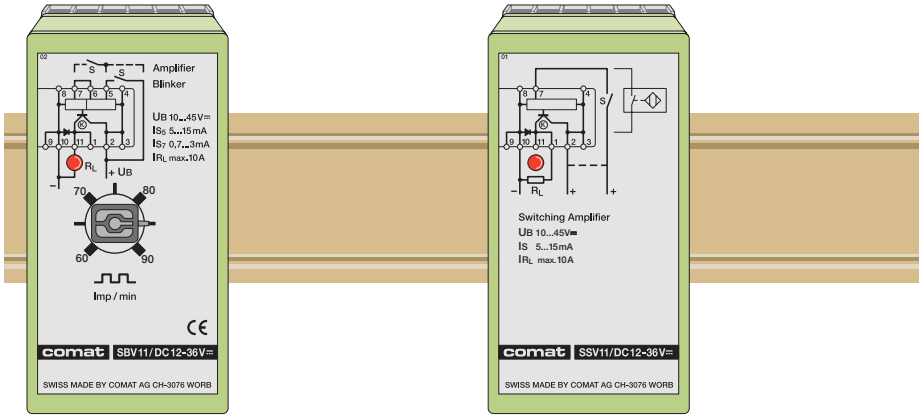


Ordering example
Amplifier relay **SFR1/AC 220-240 V**
Socket **C11A**

comat
SBV

Amplifier Relays





CE UL

Blinker and Aplifier
Relay with solid state output specially suitable for frequent switching cycles.

SBV11

Amplifier-Blinker
With solid state output.
Adjustable electronic flasher for 60-90 pulses/min.
Switching voltage 10-45V DC and switching loads up to 10A. The short circuit limiter and the overload proof design alows wear free switching of filament lamps in general but as well as all ohmic, inductive and capacitive loads.
Triggering supply is indicated by LED.

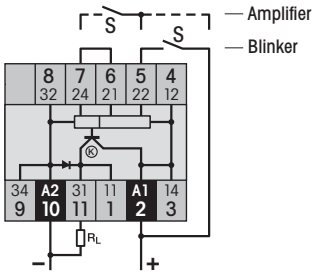
SSV11

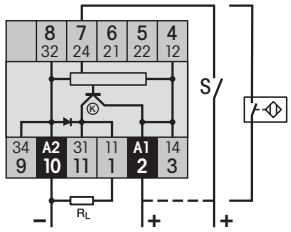
Switching Amplifier
With solid state output.
For applications in automation where high switching cycles and loads up to 10A at 10-45V DC are required. For example for solenoids, magnetic clutches and other ohmic inductive or capacitive loads. With built-in short circuit limiter and over-load protection circuit, this amplifier switches wear free and guarantees high service life.
LED display for trigger signal.

Function (page *)

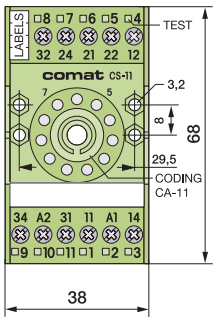
	SBV11	SSV11
	B	
Time range	60-90 l/min	
MAX	10A 10-45V=	10A 10-45V=

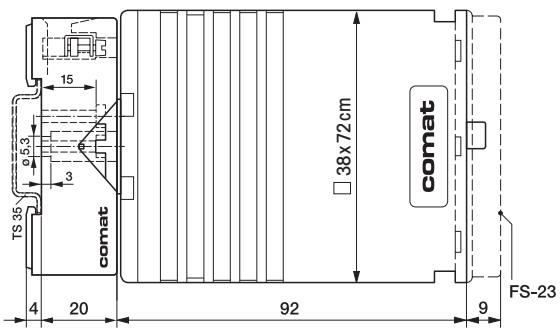
Diagram
Connection with socket CS11





DC 10%	DC24-48V	DC12-36V
Ordering no.	SBV11/	SSV11/ ....

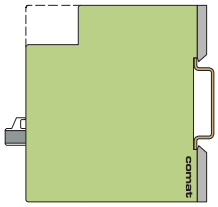


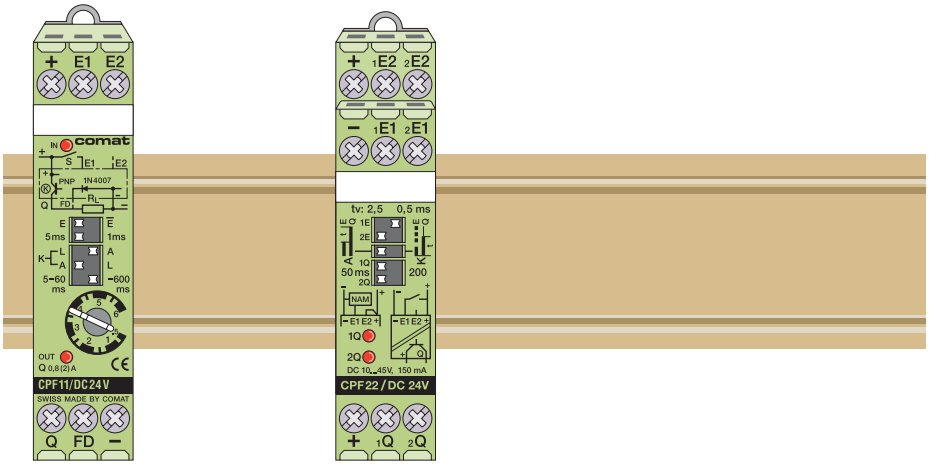


Ordering example
Amplifier relay **SBV11/DC12-36V**
Socket **CS11**

comat
CPF DIN

Pulse Shapers



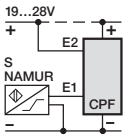


CE UL

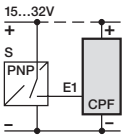
CPF Pulse Shapers
with the timing functions K, L and A are specialist devices for the lengthening or the limitation of control pulses. In this fully electronic design with the facility for also con-necting NAMUR sensors they are the ideal interface modules in modern control systems.
Always there where fast processes, high rotations, i.e. the briefest pulses, are to be evaluated, the cost-effective solution is: **CPF Pulse shapers**.

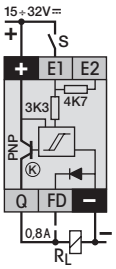
	CPF11	CPF22
	Single Channel Pulse Shaper • Input reversible (E-Ē) • Input and output times separately settable • 3 (6) functions to choose • Additional free wheel diode 1A • LED display for E and Q	**Double Channel Pulse Shaper** • Input/output galvanically isolated 4kV • Input and output times separately settable • 2 functions to choose • LED output display for each channel
Function (page ✱)	K L A	K A
Time range	input pulse ≥ 1/5 ms — output pulse 5 ÷ 600 ms	input pulse ≥ 0,5/2,5 ms — output pulse 50/200 ms

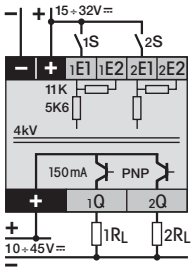
NAMUR sensor



Three-wire sensor







DC ⎓ 10%

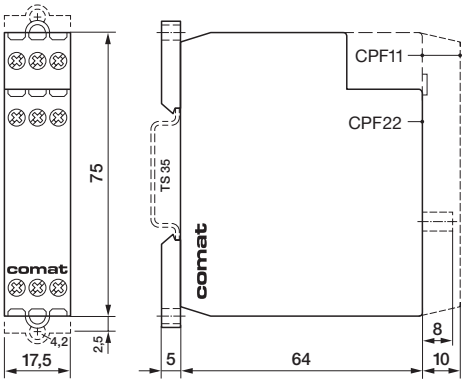
DC 24 V

DC 24 V

Ordering no. ➡

CPF11 / V

CPF22 / V

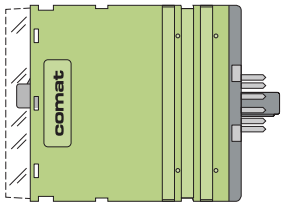


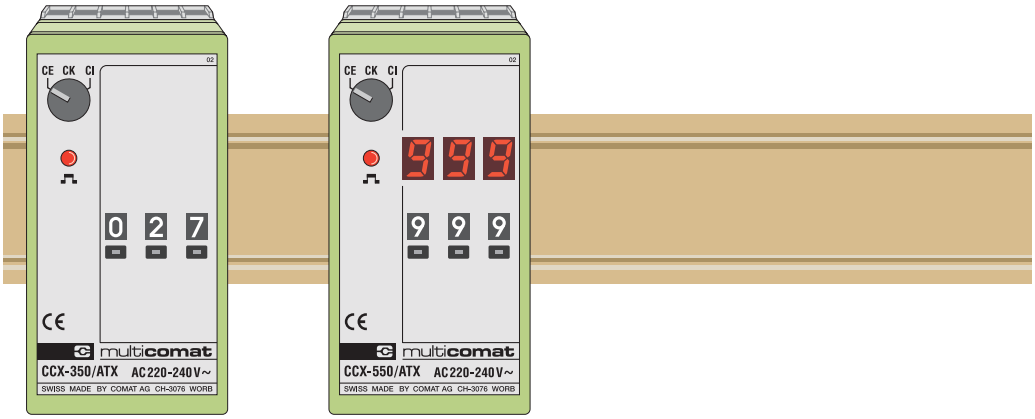
Ordering example

Pulse shaper **CPF11/DC24V**

comat
CCX

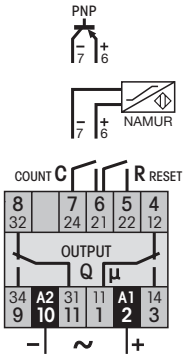
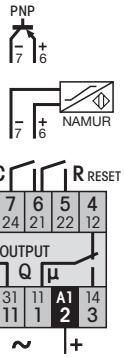
Preset Counters multicomat



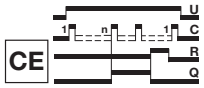


CE UL

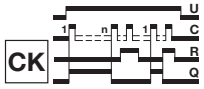
Preset Counters
Electronic pre-select counter with 2 change-over contacts.
Digital value display with LED function indication.
Suitable for front panel mounting.

	CCX-350	CCX-550
	Preset Counters Switching after the preset number of pulses are reached. Triggering: • potential-free contact • NAMUR sensor • PNP	**Preset Counters with display** Switching after the preset number of pulses are reached. • 7 digit LED display Triggering: • potential-free contact • NAMUR sensor • PNP
Function	CE CK CI	CE CK CI
Preselection Count frequency	0-999 200 Hz	0-999 200 Hz
μ MAX	6A 250V~	6A 250V~
Diagram Connection with socket CS11		
AC 50/60Hz	AC220-240V ATX AC110-120V ANP	AC220-240V ATX AC110-120V ANP
UC AC/DC	UC24-48V UFK	UC24-48V UFK
Ordering no.	CCX-350/	CCX-550/ ....

Functions



Q is active after reaching the preselected number of pulses.
Q and C can be reset with the reset button.

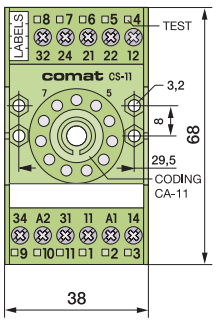


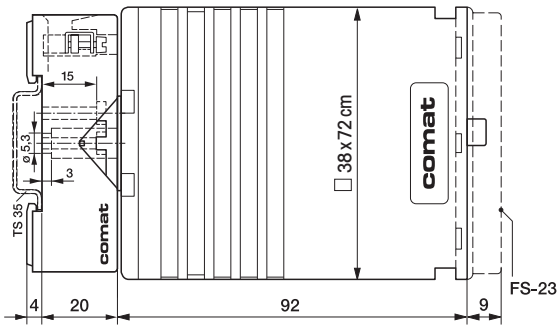
Q is active during the preselected number of pulses and can only be reactivated after a reset.
Q and C can be reset with the reset button.

Q is active for t 75...125 ms on the preselected pulse.
The cycle starts again at the beginning.
Q and C can be reset with the reset button.

U = Voltage
C = Count
R = Reset
Q = Output relays

Ordering example
Counters CCX-350
Socket CS11





Kühn Controls AG

Notes:

You want more information about this product, please call us: tel: +49 (0)7082-940000 or send us a fax: +49 (0)7082-940001, or email: sales@kuehn-controls.de or visit our Website: www.kuehn-controls.de