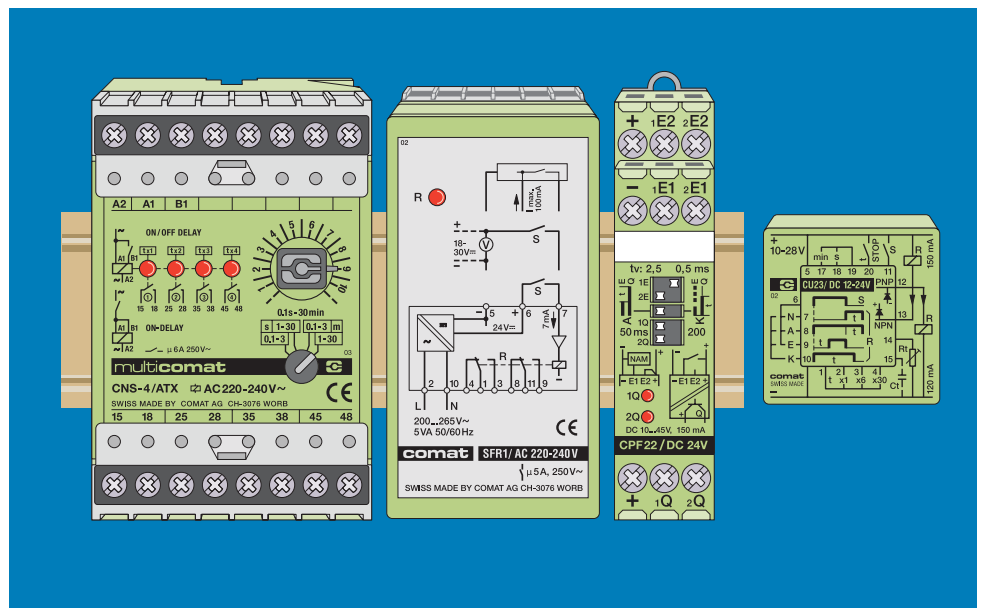
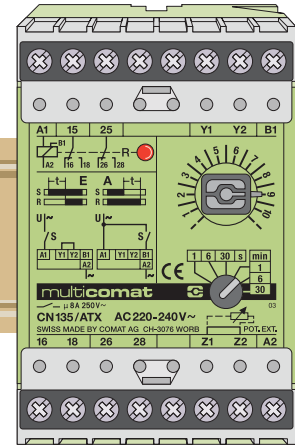
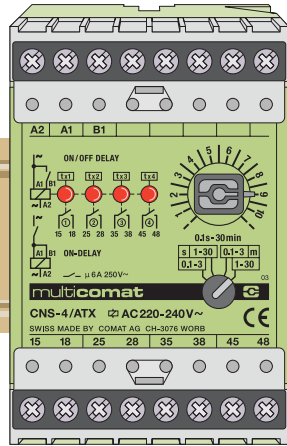
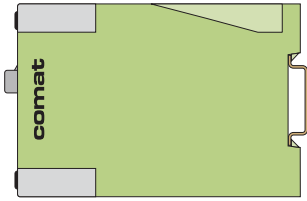


Time Delay Relays

Specially Time Delay Relays



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



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

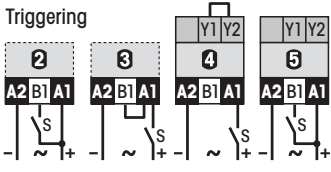
CN 135

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 *)

Time range
Partial range



AC 50/60Hz

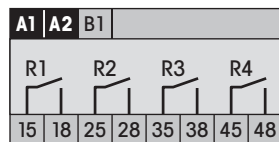
UC AC/DC

Ordering no. **➔**

E4 **3**
EA4 **2**

0.1s-30min
s, min

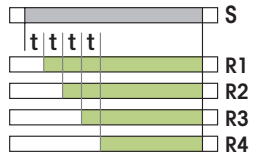
6 A 250V~



AC220-240V **ATX**
AC110-120V **ANP**
UC24-48V **UFK**

CNS-4 / ... V

E4 **On delay**



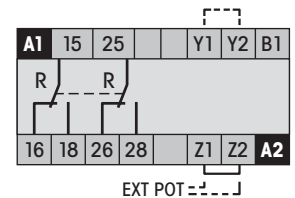
EA4 **On delay**
Off delay



E **4**
A **5**

0.1s-30min
s, min

8 A 250V~

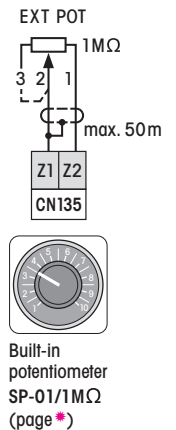
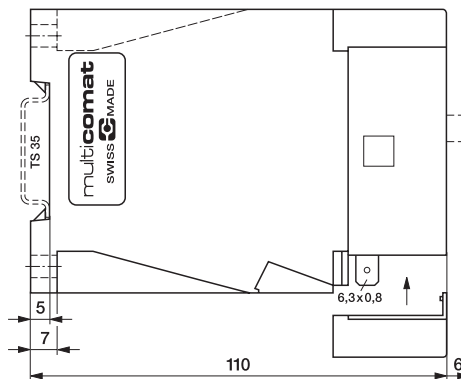
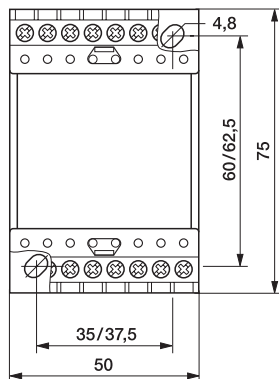


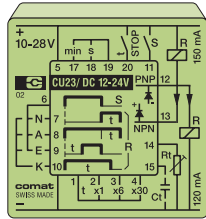
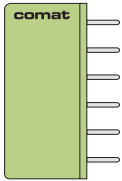
AC220-240V **ATX**
AC110-120V **ANP**
UC24-48V **UFK**

CN 135 / ... V

Ordering example

Cascade Relay CNS-4/ATX





Universal Timer Module
with soldering pins for printed
circuit mounting.

CU23

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

E-0 Triggering
Function (page *)

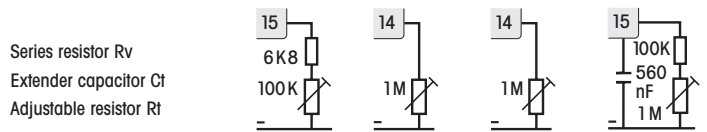
Time range
Partial range



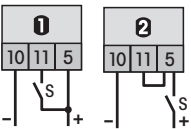
E-0-2
A-K-N-0-W-2

0.01s-300min
s, min

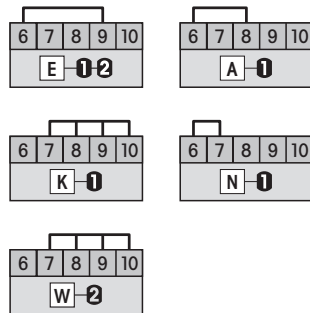
120 mA 24V=



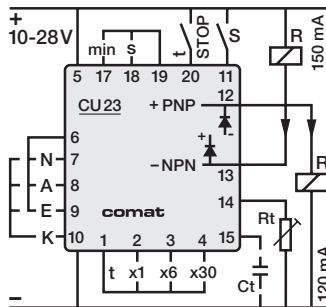
Triggering



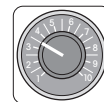
Programming



Wiring (view from the back)



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



DC 10%

DC12-24V

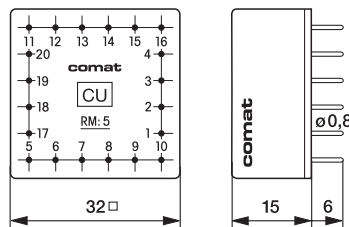
Ordering no. →

CU23/ ... V

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

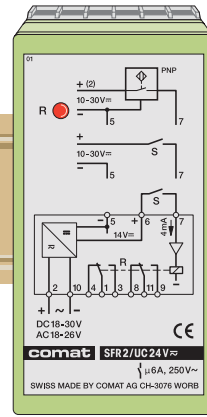
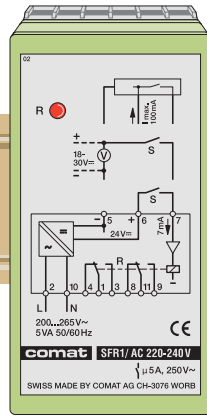
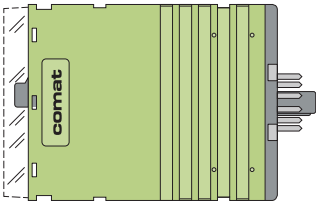
Ordering example

Timer module CU23/DC12-24V





Amplifier Relays



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.

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

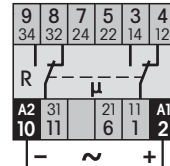
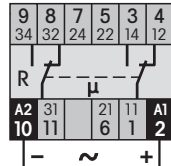
SFR2
Amplifier Relay
• switching amplifier for:
- PNP 3 wire sensors
- NAMUR sensors
• potential-free contact
• integrated sensor supply voltage 14 V
• The input wiring is specifically suitable for long connection lines

μ' MAX

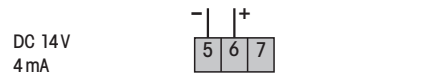
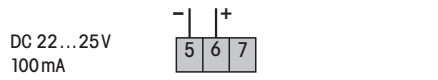
Diagram
Connection with socket C11A

5 A 250 V ~

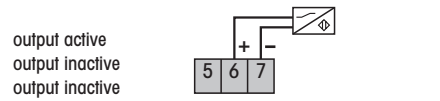
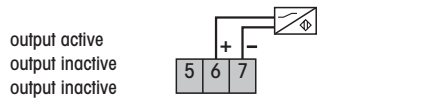
6 A 24 V ~



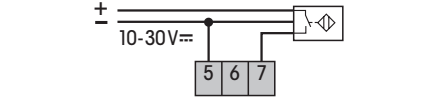
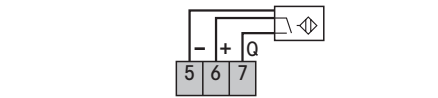
Output supply
DC output supply
Output voltage
Output current max.



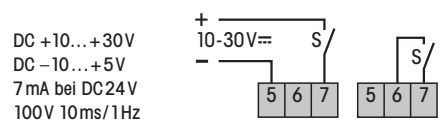
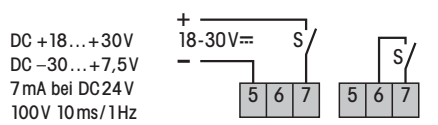
Triggering
NAMUR sensor
Not damped
Damped
Wire break



PNP three-wire sensor



External power supply/contact
On-signal
Off-signal
triggering current
Parallel load energy



Galvanic isolation

>2kV (triggering to supply and output)
>2kV (triggering to supply and output)

>2kV (triggering to supply and output)

~ AC 50/60Hz ~ UC AC/DC

AC220-240V AC110-120V

UC24V

Ordering no. →

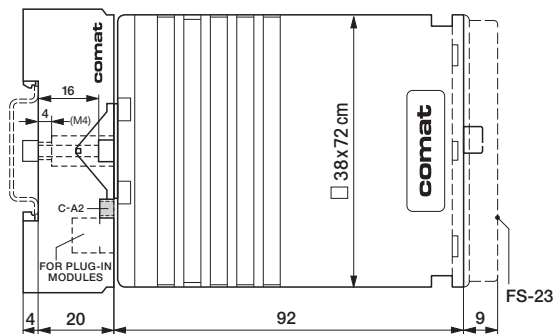
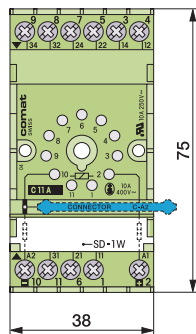
SFR1/ ...

SFR2/ ...

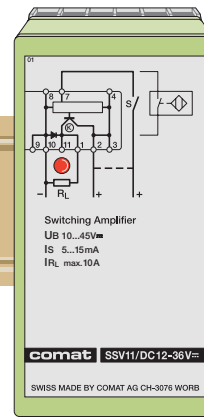
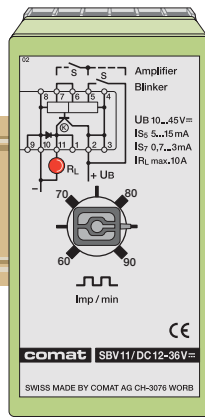
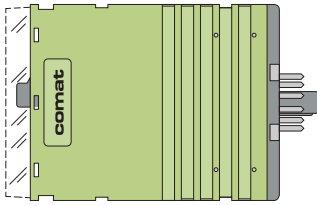
Ordering example

Amplifier relay SFR1/AC 220-240V
Socket C11A

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



Amplifier Relays



Blinker and Amplifier

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 allows 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 4)

Time range



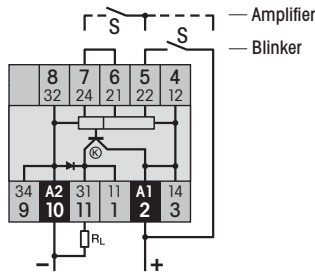
Diagram

Connection with socket CS11

B

60-90 I/min

10A 10-45V=

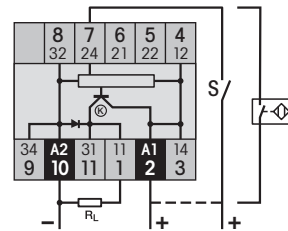


DC24-48V

DC12-36V

SBV11/ ...

10A 10-45V=



DC12-36V

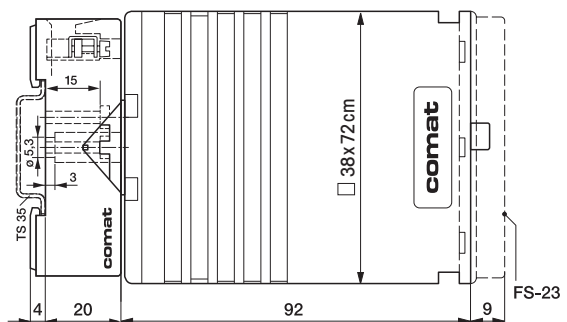
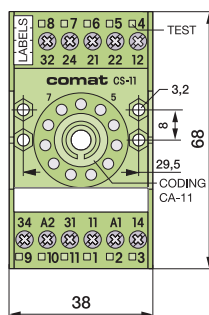
SSV11/ ...

DC 10%

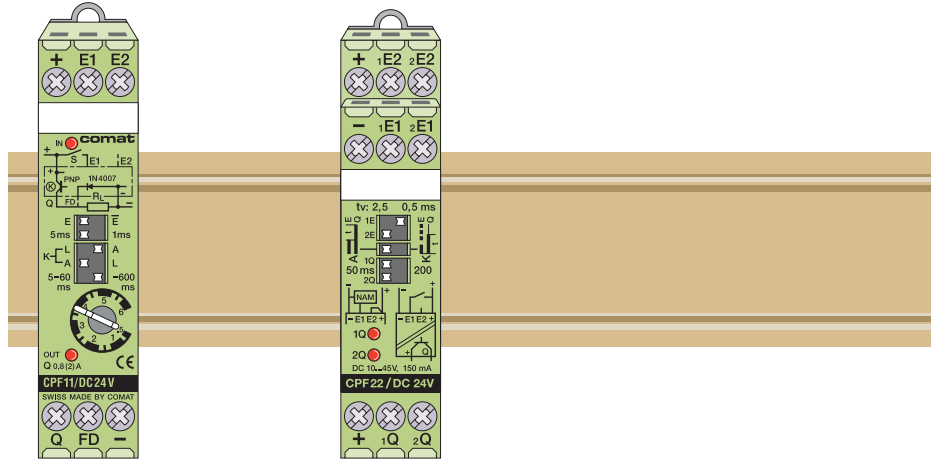
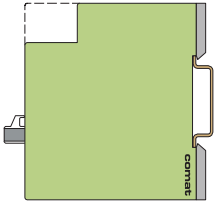
Ordering no. →

Ordering example

Amplifier relay SBV11/DC12-36V
Socket CS11



Pulse Shapers



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 connecting 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

Single Channel Pulse Shaper

- Input reversible (E-E)
- Input and output times separately settable
- 3 (6) functions to choose
- Additional free wheel diode 1A
- LED display for E and Q

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

Function (page *)

Time range

K L A

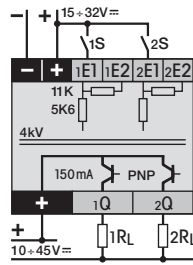
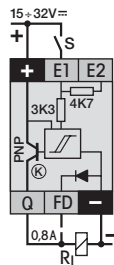
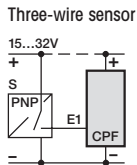
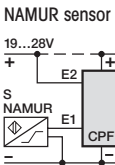
K A

input pulse
≥ 1/5 ms

output pulse
5 ÷ 600 ms

input pulse
≥ 0,5/2,5 ms

output pulse
50/200 ms



DC ±10%

DC 24V

DC 24V

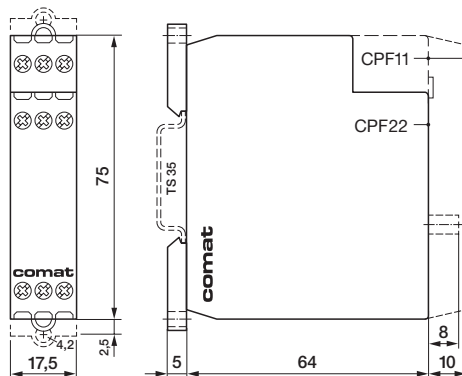
Ordering no. →

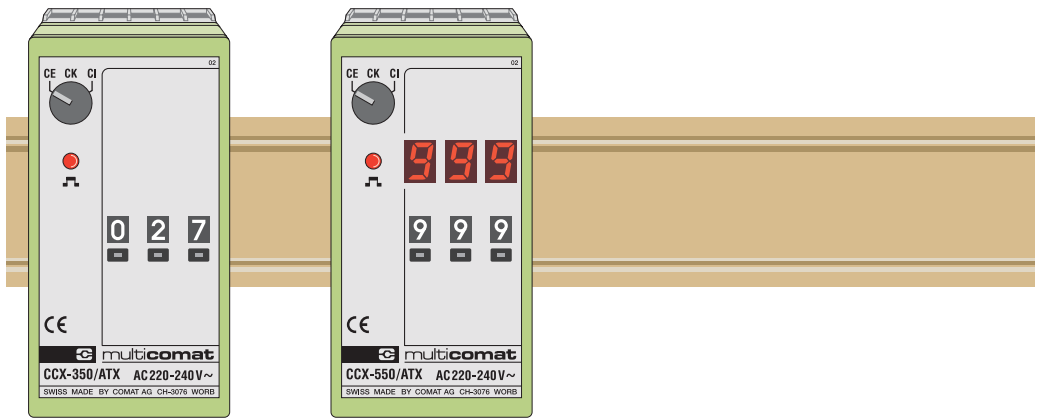
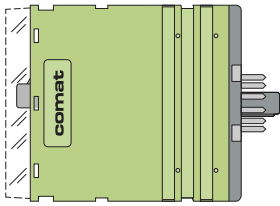
CPF11 / ... V

CPF22 / ... V

Ordering example

Pulse shaper CPF11/DC 24V





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

Function

Preselection
Count frequency

μ MAX

Diagram
Connection with socket CS11

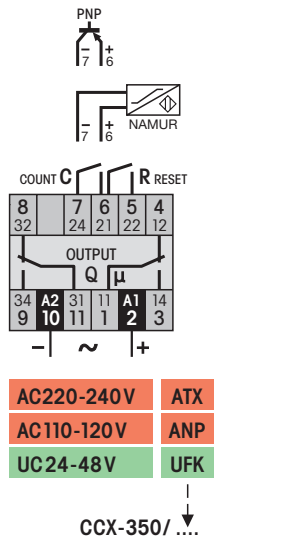
AC 50/60Hz

UC AC/DC

Ordering no. →

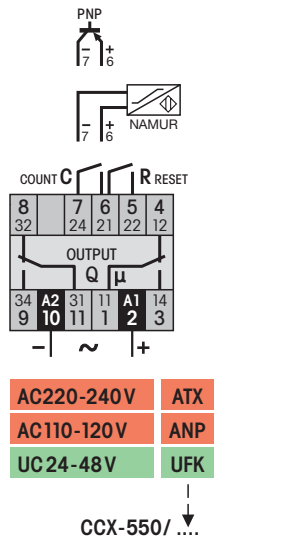
CCX-350
Preset Counters
Switching after the preset number of pulses are reached.
Triggering:
• potential-free contact
• NAMUR sensor
• PNP

CE CK CI
0-999
200Hz
6 A 250V~

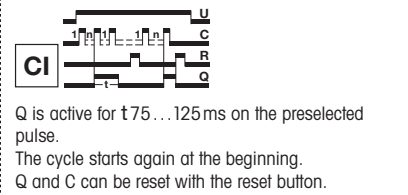
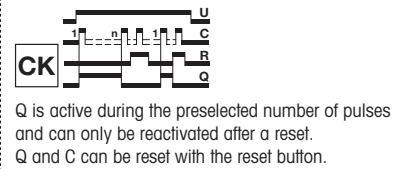
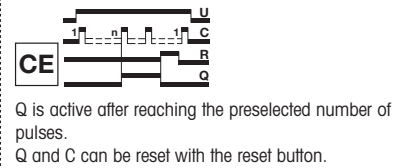


CCX-550
Preset Counters with display
Switching after the preset number of pulses are reached.
• 7 digit LED display
Triggering:
• potential-free contact
• NAMUR sensor
• PNP

CE CK CI
0-999
200Hz
6 A 250V~



Functions



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

Ordering example
Counters CCX-350
Socket CS11

