

# CXF312/322

## Multifunctional preset counters

- Pulse, frequency or time preset counter with sign
- 1 or 2 presets
- Supply voltage 10...30 VDC or 90...260 VAC
- Simple programmable by 4 keys
- Figure scalable by multiplier and divisor factor
- Optional with serial interface RS 232
- Max. counting frequency up to 20 kHz



		CXF312				CXF322			
Mounting	Flush mounting	•	•	•	•	•	•	•	•
Function	One-channel, adding counting method	•	•	•	•	•	•	•	•
	Two-channel counting method, counting direction, difference, phase discriminator (single, double, 4 times)	•	•	•	•	•	•	•	•
	Rotation display, frequency display, speed display (1/sec, 1/min)	•	•	•	•	•	•	•	•
	Operating hours/timer meters with resolution in msec	•	•	•	•	•	•	•	•
	1 relay output	•	•	•	•	•	•	•	•
	2 relay output					•	•	•	•
Supply voltage	10...30 VDC	•	•			•	•		
	90...260 VAC			•	•			•	•
Interface	RS 232		•	•	•		•	•	•
	Without	•		•		•		•	
Order no.		CXF312M4N0	CXF312M4N1	CXF312V3N0	CXF312V3N1	CXF322M4N0	CXF322M4N1	CXF322V3N0	CXF322V3N1

## Applications

- Quantity control, length control, time control
- Wire wound coil, filling processes, flow-rate monitoring

## Interface

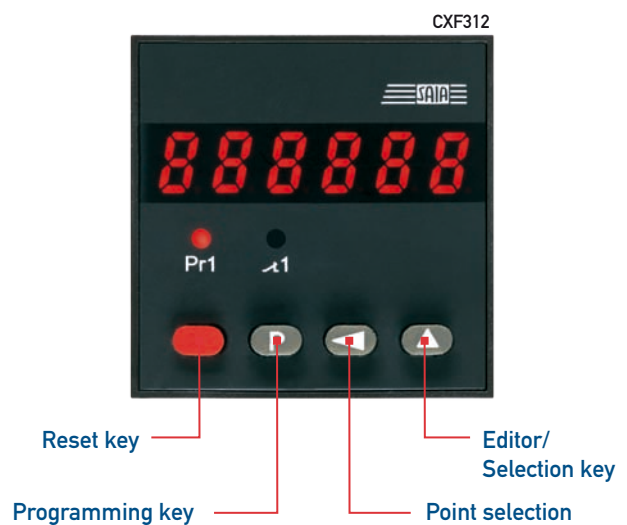
The counters can also be delivered with RS 232 interface. They can be used to programme the devices and to perform remote selection. Simple ESC sequences are used for controlling. The transfer rate is up to 4800 Baud.

A control software optionally available.

With it the counters can be easily programmed via a PC.

- Upload and download function
- Monitor and deadline programme for simple diagnosis
- Multilingual
- Online display of the measurement values in the monitor programme
- Simple parameterization software for the CXF312, 322 counter types

## Settings



## Technical data

Power supply	10...30 VDC with integrated reverse voltage protection or 90...260 VAC
Power consumption	1.2 W or 5 VA
Display	6-digit red, 7-segment LED display, 8 mm high
Data protection	EEPROM
Keyboard	4 keys (cursor keyboard)
Reset	Manual, electrical or lockable
Standards	IEC 61 000-6-4/IEC 55 011 class B IEC 61 000-6-2
EMC	CE-compliant with EU Directive 89/36/EC
Housing	Dark grey RAL 7021
Ambient temperature	-10 °C to +50 °C, no condensation
Storage temperature	-25 °C to +70 °C
Protection type	IP 65 front
Dimensions	Front dimensions and switchboard section see dimension diagram

## Counting inputs

### Inputs

Polarity of inputs	Positive (PNP) or negative (NPN) switching, programmable for all inputs	
Counting frequency	Max. 20 kHz, can be reduced to 30 Hz	
Input resistance	Approx. 10 kΩ	
Switching level	<b>DC supply voltage</b> Low: $0...0.2 \times U_B$ (VDC), High: $0.6 \times U_B...30$ VDC	<b>AC supply voltage</b> Low: 0...4 VDC, High: 12...30 VDC
Minimum pulse duration of Control inputs	Min. 5 ms	

### Outputs

	CXF312, 322 output 2	CXF322 output 1
	Programmable change-over contact	Programmable as NC or NO contact
	Switching voltage max. 250 VAC/300 VDC	Switching voltage max. 250 VAC/125 VDC
	Switching current max. 3 A (with DC min. 30 mA)	Switching current max. 3 A (with DC min. 30 mA)
	Switching capacity with DC 50 W, with AC max. 2000 VA	Switching capacity at DC 90 W, with AC max. 750 VA
Output signal type	Approx. 7 ms Active or inactive, programmable as monostable or bistable	Approx. 7 ms

### Pulse counter and position display

Display range	-199 999...999 999, decimal space 0.0...0.000
Display scaling	Multiplicator: 0.0001 - 99.9999

### Frequency counter

Display range	0...999 999, decimal space 0.0...0.000
Display scaling	Multiplicator: 0.0001 - 99.9999
Display unit	1/min, 1/sec, period duration measurement principle

### Hour meters

Display range	0...999 999, decimal space 0.0...0.000 (determines the resolution of the time range)
Time range	Hrs, mins or sec and hh.mm.ss
Resolution	1 ms

### Various measurement types of timing (pulse widths and period duration)

RS 232 interface	Simple ASCII log
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## Connections CXF312

### Terminal assignment X1

Terminal No	AC versions	10..30 VDC versions
1	n.c.	
2	n.c.	
3	Output Common relay contact (C) Emitter when optocoupler output	
4	Output Relay Closing contact (NO)	
5	Output Relay with opening contact (NC) Collector when optocoupler output	
6	Supply voltage 90 ... 250 V AC	Operating voltage 10..30 V DC
7	Supply voltage 90 ... 250 V AC	0 VDC (GND)

Attention: In case of a  $\overline{L}$  and a  $\overline{L}$  setting (reversed relay control), the connections of terminals 4 and 5 are reversed:

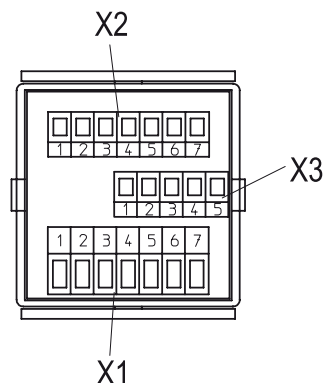
Terminal No	AC and DC versions
4	Opening contact relay (NC)
5	Closing contact relay ( NO)

### Terminal assignment X2

Terminal No	Designation	AC versions	10..30 VDC
1	+ 24 VDC	Sensor supply voltage	Not connected
2	0 VDC (GND)	Reference voltage	Not connected
3	INP A	Counting input A	
4	INP B	Counting input B	
5	RESET	Reset input	
6	GATE	GATE input	
7	KEY	Push-button locking input	

### Terminal assignment X3

Klemme Nr.	RS 232
1	GND
2	RxD
3	TxD
4	RTS
5	CTS



## Anschlussbelegung CXF322

### Terminal assignment X1

Terminal No	AC versions	VDC versions
1	Output 1, relay contact optocoupler output collector	
2	Output 1, relay contact optocoupler output emitter	
3	Output 2, relay output common contact (C) optocoupler output emitter	
4	Output 2, relay output normally open contact (NO)	
5	Output 2, relay output normally closed contact (NC) optocoupler output collector	
6	Power supply 90 ... 260 V AC	11...30 VDC operating voltage
7	Power supply 90 ... 260 V AC	0 VDC (GND)

Caution! For settings  $\overline{L}$  and  $\overline{L}$  (inverted operation of relay or optocoupler) the connections of terminal 4 and 5 change as follows:

Terminal No	AC and DC versions
4	Opening contact relay (NC)
5	Closing contact relay ( NO)

### Terminal assignment X2

Terminal No	Designation	AC versions	10..30 VDC
1	+ 24 VDC	Transmitter voltage	-
2	0 VDC (GND)	0 VDC reference voltage	-
3	INP A	Counting input A	
4	INP B	Counting input B	
5	RESET	Reset input	
6	GATE	GATE input	
7	KEY	Push-button locking input	

- CX-Control programming software

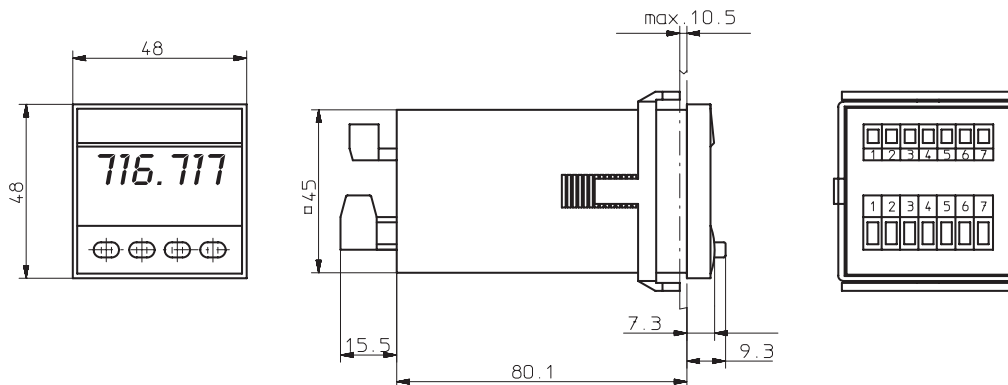
CJ460

- Cable RS232

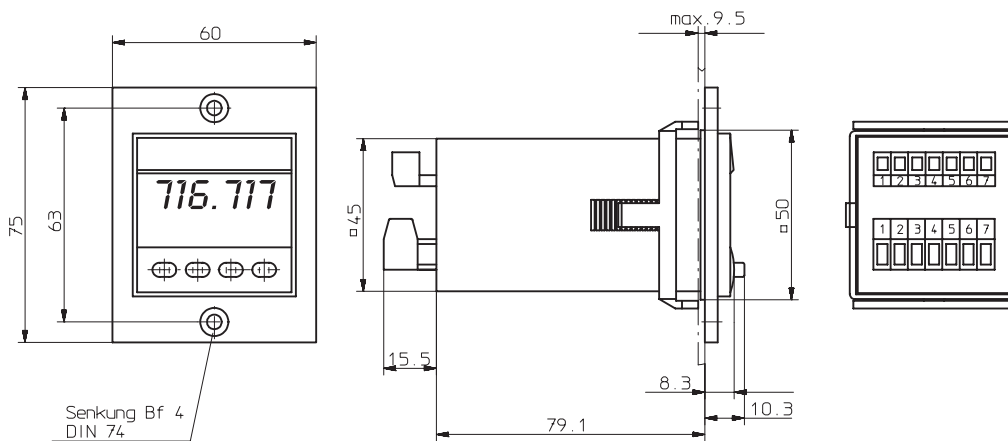
CJ461

## Dimension diagrams

Dimensions with front frames for clamping spring mounting



Dimensions with front frames for screw mounting



## Scope of delivery

- Counters
- Screw terminal 7-pole, RM 5.08
- Screw terminal 7-pole, RM 3.81
- Front frames for screw mounting or panel cut-out (50 × 50 mm)
- Clamping springs
- Template for front panel cutout
- Instruction manual