

# CXL201

## Electronic display counters

- Simple counter for fast and slow puls-rates counting pulses, counting direction switchable via control input
- Battery-powered (lithium battery)
- Optional backlight display
- Resetkey lockable
- Screw terminal connection in 5 mm grid
- Suitable for counting pulses 10...260 VAC/DC

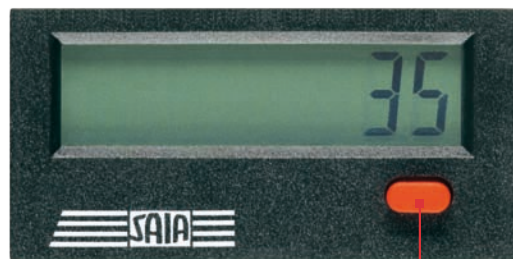


		CXL201					
Mounting	Flush mounting	•	•	•	•	•	•
Input type	One-channel, adding or subtracting counting method	•	•	•	•	•	•
	With counting direction input						
	One adding and subtracting counting input each (difference mode)						
	Phase discriminator for incremental shaft encoder with single analysis						
	Phase discriminator for incremental shaft encoder with double analysis						
Display	Standard LCD display		•		•		•
	Display backlight	•		•		•	
Counting inputs	NPN			•	•		
	PNP					•	•
	Control for 10...260 VAC/DC	•	•				
Order no.		CXL201VGL	CXL201VGN	CXL201VHL	CXL201VHN	CXL201VKL	CXL201VKN

## Applications

- Simple quantity counting through voltage pulses or potential-free contacts
- Low-voltage versions, up to 260 VAC/DC, as replacement for electromechanical counters (counting of relays, activation cycles of engines)

## Settings



Reset key, lockable

## Technical data

Power supply	Internal lithium battery: approx. approx. 8 years at 20 °C
Display backlight*	External power supply 24 VDC +/-20%, 50 mA
Display	LCD, 8-digit, 8 mm high
Operating modes	Adding and subtracting (selectable)
Counting display	-9 99 99 99...99 99 99 99, overflow is displayed
Reset	Manual, electrical or lockable
Standards	IEC 55011 class B, IEC 61 000-6-2 IEC 61 010 part 1 (for AC versions only)
Housing	Dark grey RAL 7021
Ambient temperature	-10 °C to +55 °C, no condensation
Storage temperature	-20 °C to +70 °C
Protection type	IP 65 front
Dimensions	Front dimensions and switchboard section see dimension diagram

\* only for VGL, VHL and VKL types

## Counting inputs

### Counting input of the DC devices (max. 30 VDC)

Slowest counting input	Max. 30 Hz (NPN)
Fast counting input	Max. 12 kHz (PNP), 7 kHz (NPN)
Switching level	NPN: Low 0...0.7 VDC, High 3...30 VDC PNP: Low 0...0.7 VDC, High 4...30 VDC

### Counting inputs of low-voltage devices (10...260 VDC/VAC)

Counter input	Optocoupler input, max. 30 Hz Minimum pulse time: 16 ms
Switching level	Low 0...2 VDC/AC, High 10...260 VDC/AC

### Counting direction change-over (for DC devices only)

Counting mode	s. table
Contact input	Open collector (NPN switching after 0 V)
Switching level	NPN: Low 0...0.7 VDC, High 3...5 VDC

### Reset input (for DC and low voltage)

Minimum pulse time	NPN: 50 ms, 10...260 VDC/AC: 16 ms
DC contact input	NPN: Low 0...0.7 VDC, High 3...30 VDC
Low-voltage input	10...260 VDC/AC

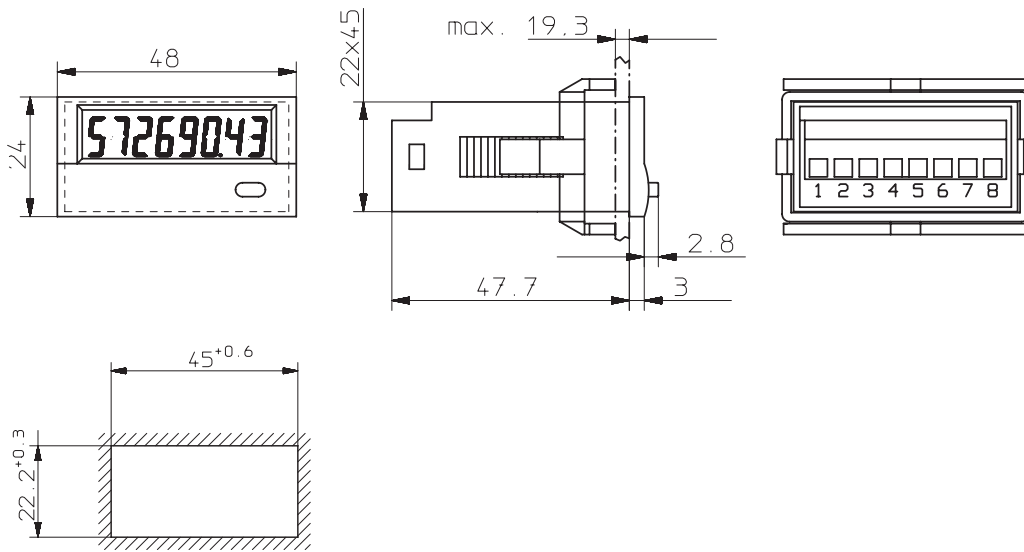
### Electrical locking of the reset key (for DC and AC)

Contact input	Open collector NPN (switching after 0 V)
Switching level	NPN: Low 0...0.7 VDC, High 3...5 VDC

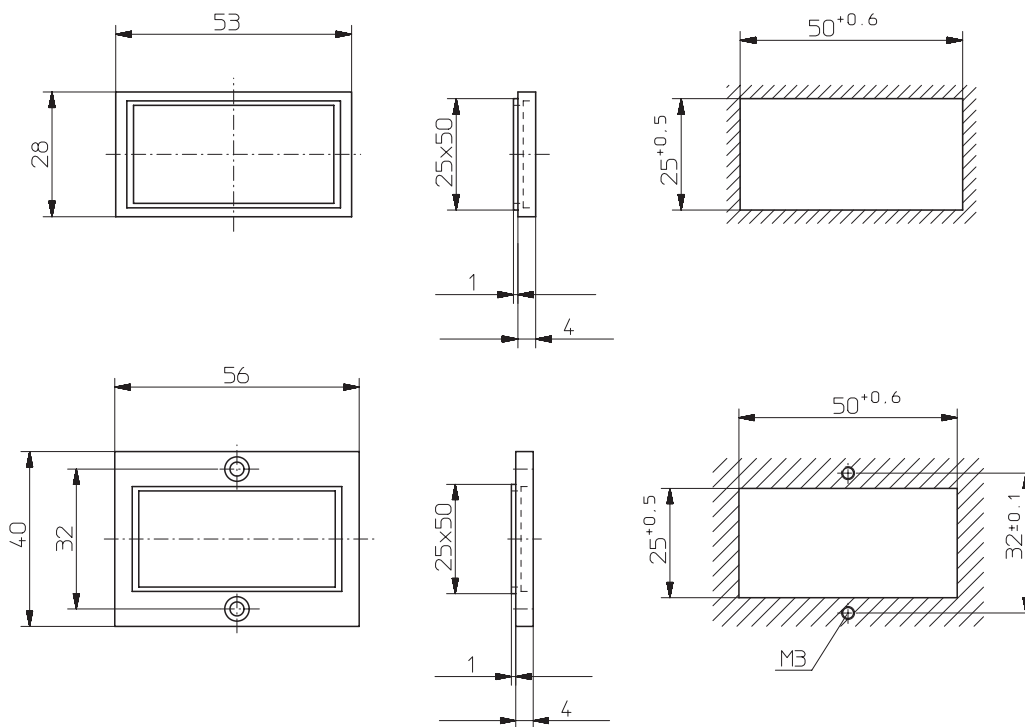
Type CXL201...	Input type	Counting inputs							
		INP A				INP B			
...VHN, ...VHL	One-channel, adding or subtracting	0...0.7 VDC	counting	NPN	7 kHz	0...0.7 VDC	counting	NPN	30 Hz
...VKN, ...VKL		4...30 VDC	counting	PNP	12 kHz	0...0.7 VDC	counting	NPN	30 Hz
...VGN, ...VGL	counting method	10...260 VAC/DC	counting	AC/DC	30 Hz	10...260 VAC/DC	reset	AC/DC	16 ms

## Dimension diagrams

### Dimensions



### Dimensions for mounting frames (included in scope of delivery)



## Pin assignment

A control input (screw terminal 5) allows adjusting the operating mode.

Screw terminal	Nr. 1	Nr. 2	Nr. 3	Nr. 4	Nr. 5	Nr. 6	Nr. 7	Nr. 8
Designation	INP A	INP B	Reset	Reset Enable	Control inputs for operating mode (Mode)	GND	BL -	BL +
CXL201VHX	07 kHz NPN	30 Hz NPN	NPN reset input	NPN reset key locking input, Contact with GND, key free.	not active = adding contact with GND = subtracting	GND = 0 V DC	Backlighting (-)	Backlighting (+)
CXL201VKX	12 kHz PNP	NPN						

Input specification and pin assignment (AC-version)

Screw terminal	Nr. 1	Nr. 2	Nr. 3	Nr. 4	Nr. 5	Nr. 6	Nr. 7	Nr. 8
Designation	INP A AC/DC	Common AC/DC	INP B AC/DC	Reset Enable	Reset	GND	BL -	BL +
CXL201VGX	counting	Common connection for INP A and INP B	reset	NPN reset key locking input, Contact with GND, key free.	not connected	GND = 0 V DC	Backlighting (-)	Backlighting (+)

## Scope of delivery

- Counters
- Clamping springs
- Front frames for screw mounting (56 × 40 mm) or panel cut-out (50 × 25 mm)
- Sealing
- Instruction manual