

CXL231/281

Electronic hour meters

- Timer for the display of run times
- Time ranges selective h/mins or h (CXL231), h/mins/s or s (CXL281)
- Battery-powered (lithium battery)
- Optional backlight display
- Reset-key lockable
- Screw terminal connection in 5 mm grid
- Low voltage inputs for 10...260 VAC/DC

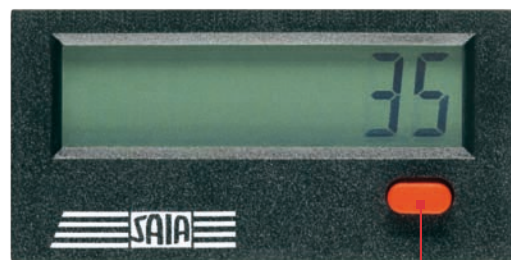


		CXL231						CXL281					
Mounting	Flush mounting	•	•	•	•	•	•	•	•	•	•	•	•
Input type	Max. Display range 9999-59 h/99999-99 h	•	•	•	•	•	•						
	Max. Display range 9999.59.59 h/9999999.9 s							•	•	•	•	•	•
Display	Standard LCD display		•		•		•		•		•		•
	Display backlight	•		•		•		•		•		•	
Start input	NPN			•	•					•	•		
	PNP					•	•					•	•
	Control for 10...260 VAC/DC	•	•					•	•				
Order no.		CXL231VGL	CXL231VGN	CXL231VHL	CXL231VHN	CXL231VJL	CXL231VJN	CXL281VGL	CXL281VGN	CXL281VHL	CXL281VHN	CXL281VJL	CXL281VJN

Applications

- Timing of systems, machines for monitoring and service purposes

Settings



Reset key,
lockable

Technical data

Power supply	Internal lithium battery: approx. 8 years at 20 °C
Display backlight*	External voltage supply 24 VDC +/-20%, 50 mA
Display	LCD, 8-digit, 8 mm high
Counting direction	Adding
Display range	See table
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 VJL types

Counting inputs

Start input of DC devices input B

Switching level	NPN: Low 0...0.7 VDC, High 3...30 VDC PNP: Low 0...0.7 VDC, High 4...30 VDC
Counting start	NPN: when low signal is on timer input PNP: when high signal is on timer input

Start input of low-voltage devices input A

	Optocoupling input Minimum pulse time: 16 ms
Switching level	Low 0...2 VDC/AC, High 10...260 VDC/AC
Counting start	when high signal is on timer input

Change-over of the counting ranges

Counting mode	see 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	DC: 50 ms, low voltage 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)

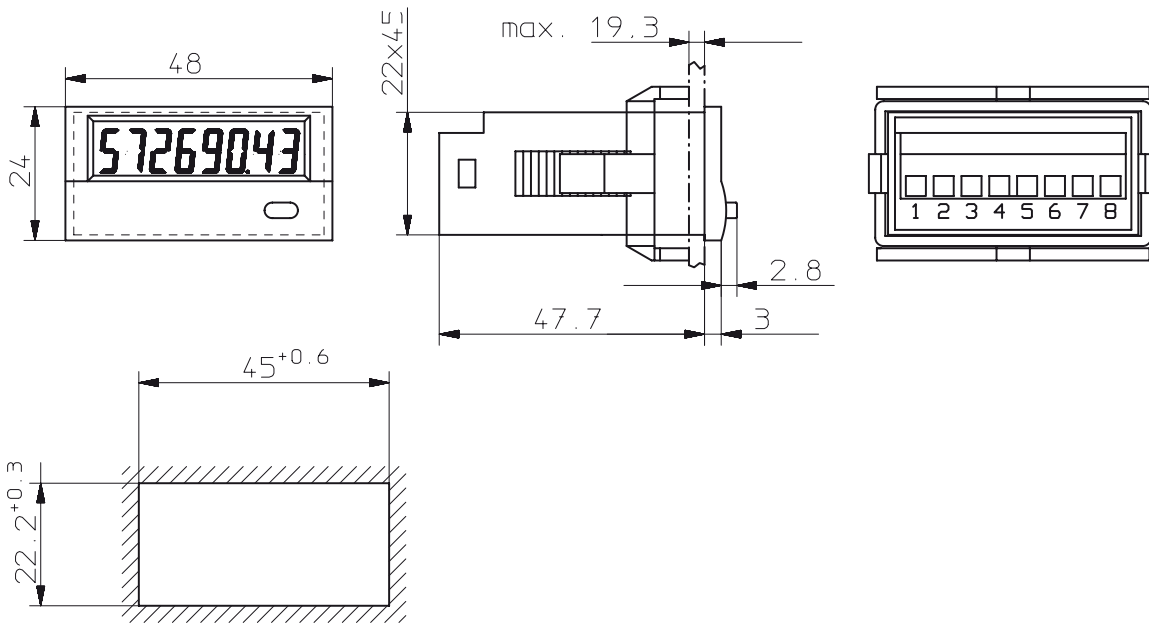
Contact input	pen collector (NPN switching after 0 V)
Switching level	NPN: Low 0...0.7 VDC, High 3...5 VDC

Type	Operating mode	Time range	Counting inputs					
			INP A			INP B		
...VHN, ...VHL	Timer	99999 h 59m/ 99999.99 h				0...0.7 Vdc	Timing	NPN
...VJN, ...VJL	Timer					4...30 VDC	Timing	PNP
...VGN, ...VGL	Timer		10...260 VAC/DC	Timing	AC/DC	10...260 VAC/DC	reset	AC/DC

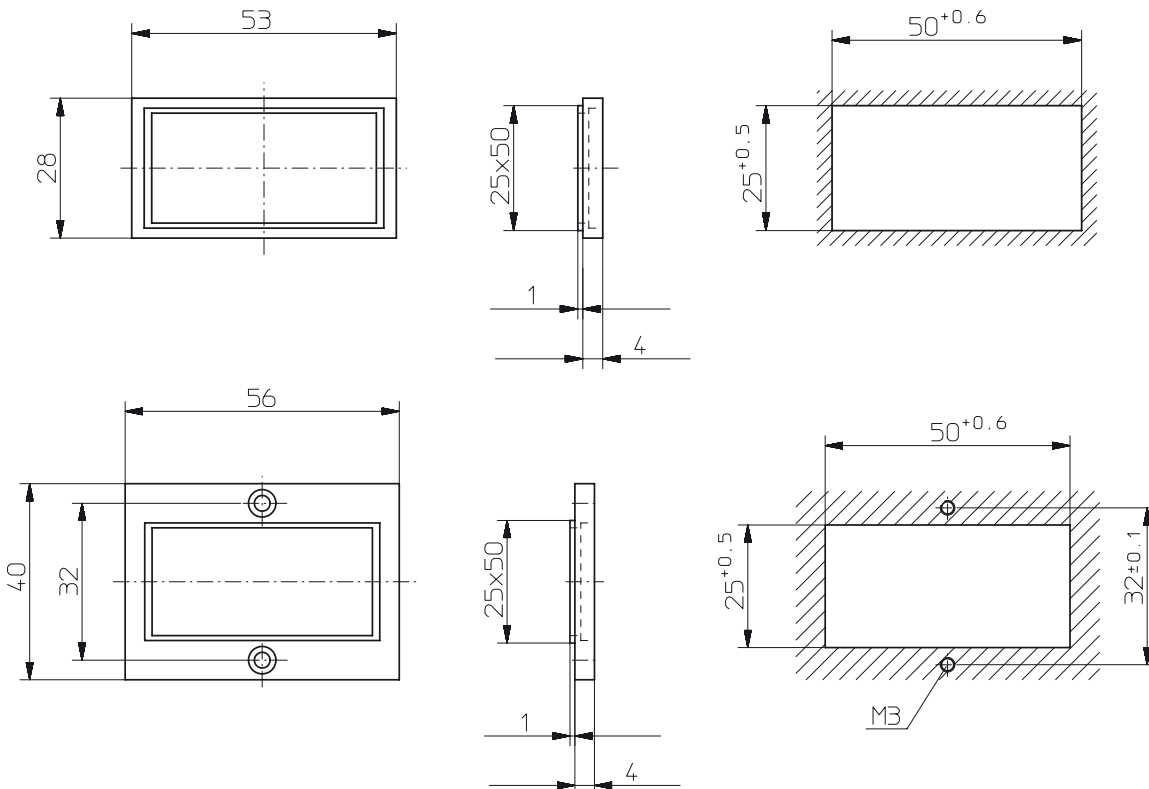
Type	Operating mode	Time range	Counting inputs					
			INP A			INP B		
...VHN, ...VHL	Timer	9999 h 59m 59s/ 9999999.9s				0...0.7 Vdc	Timing	NPN
...VJN, ...VJL	Timer					4...30 Vdc	Timing	PNP
...VGN, ...VGL	Timer		10...260 VAC/DC	Timing	AC/DC	10...260 VAC/DC	reset	AC/DC

Dimension diagrams

Dimensions



Dimensions for mounting frames (included in scope of delivery)



Scope of delivery

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

Terminal assignment

Input specifications, terminal assignment and adjustable time ranges (DC versions)
The time range is set via a control input (screw terminal 5).

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	Time range (Mode)	GND	BL -	BL +		
CXL231VHX	no function	Timer Enable Input	NPN	Reset input NPN	NPN reset key locking input. Contact with GND. key free	not active = 99999 h 59 m	contact with GND = 99999,99 h	GND = 0 V DC	backlight (-)	backlight (+)
CXL231VJX			PNP							
CXL281VHX			NPN							
CXL281VJX			PNP							

Input specification, terminal assignment and adjustable time ranges (AC versions)

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	Time range (Mode)	GND	BL -	BL +	
CXL231VGX	Timer Enable Input AC/DC	Common connection for INP A and INP B	reset input AC/DC	NPN reset key locking input. Contact with GND. key free.	not active = 99999 h 59 m	contact with GND = 99999,99 h	GND = 0 V DC		
CXL281VGX					not active = 9999 h 59 m 59 s	contact with GND = 9999999,9 s			