Preset counters, electronic

LCD preset counters	Adding or subtracting (battery)	901

Type 901 is a simple battery powered preset pulse counter with 12 ... 250 V AC/DC count and reset input.

The 6-digit, 2-line LCD display shows the current count value and the preset value.

Battery powered	Sensor power supply 12...250 V	Max. count frequency 30 Hz	Temperature range -10° +50°	High protection level IP65	DIN front bezel DIN 48 x 48	LCD display 6 LCDs	Lockable reset	Menu-driven programming	Decade key entry	Relay output 1

Powerful

- Count and reset input electrically separated from the counter: input switching levels 12 ... 250 V AC/DC
- 2-line LCD display for count, preset and switching status of the output
- Data retention thanks to exchangeable lithium batteries, battery life 8 years
- Output: relay, programmable as normally open or normally closed

Simple

- Easy to programme
- Simple preset entry; one key per decade
- Plug-in screw terminals
- Replacement for electromechanical preset counters
- No external power supply necessary

Order specifications

	Order-No.	Delivery specification	
LCD preset counter	**6.901.010.800** [1]	- Counter 901 - 2 lithium batteries - 1 screw terminal - 1 spring clip - 1 operating instructions	- 1 front bezel for screw mounting, panel cut-out 50 x 50 mm (T008860) - 1 front bezel for spring clip mount, panel cut-out 50 x 50 mm (T008853) - 1 template for panel cut-out

Accessories

			Order-No.
Adapter front bezel, 72 x 72 mm	For cut-out 68 x 68 mm to cut-out 45 x 45 mm (Mating clip T009420 must be ordered separately)	black	T008177
		mating clip	T009420
Adapter front bezel, ø 72 mm	For cut-out ø 60 mm to cut-out 45 x 45 mm with clip mounting for counters 48 x 48 mm	black	N510226
Transparent cover, IP65	For cut-out 50 x 50 mm, with screw mounting for counters	lockable	G008143
	with cut-out 45 x 45 mm and front bezel 48 x 48 mm	key lockable	G008153
Sealing cover type K2, IP65	Suitable for front bezel 75 x 60 mm with screw mounting	transparent/black	G008303
Mounting frame with cut-out 50 x 50 mm (via supplied adapter also for 45 x 45 mm)	For snap-on mounting on 35 mm top-hat DIN rail, for counters 48 x 48 mm, 53 x 53 mm and 55 x 55 mm	chromated	G300003

Replacement parts			
7-pin connector	1 ... 7, pitch 5.08		N100548

Suitable gaskets as well as further accessories can be found in the accessories section or in the accessories area of our website at: www.kuebler.com/accessories.

1) Stock types

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Kübler

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General technical data

Display	2 line LCD display, 6 digits 999999; 7 or 4.5 mm high
Operating temperature	-10°C ... +50°C, (non-condensing)
Storage temperature	-25°C ... +60°C
Altitude	up to 2000 m

Electrical characteristics

Power supply		2 pcs user exchangeable lithium-batteries type 1/2 AA lithium 3.6 V
Data retention		8 years at 5×10^6 power operations of the output relay and an operating temperature of 25°C
EMC	Emitted interference	EN 55011 class B
	Immunity to interference	EN 61000-6-2
Device safety	Designed to	EN 61010 part 1
	Protection class	2
	Application area	Pollution level 2
UL approval		File-No.: E128604

Mechanical characteristics

Protection	IP65 (front side)
Weight	approx. 80 g

Inputs

Inputs		reset, count and key lock inputs
Polarity of the inputs		bidirectional optocoupler input for the reset and count inputs, keyboard lock is connected to +3 V DC
Min. pulse duration of the inputs	reset input	50 ms
	keyboard lock input	15 ms
Switching levels of the inputs	LOW	< 3 V AC/DC
	HIGH	12 ... 250 V AC/DC
Input frequency		max. 25 Hz
Input resistance		110 kΩ

Outputs

Output	bistable relay with potential free contact (programmable as normally closed or normally opened contact)
Max. switching voltage	250 V AC / 220 V DC
Max. switching current	2 A
Max. switching capacity	60 VA / 30 W
Output response time	< 20 ms, max. 4 Hz

Programming

The counter is programmed using the keys on the front. The menu is shown on the display. The following modes are programmable:

1. Count mode (adding or subtracting)
2. Latch or automatic cycle
3. Output (normally open or normally closed)
4. Display hold during automatic cycles in steps of 100 ms between 100 and 500 ms
5. Decimal point up to max. 3 decimal places

Function of the output

- Adding:
  Relay is active , when actual value ≥ preset
- Subtracting:
  Relay is active , when actual value ≤ 0

With automatic repeat cycle the output signal is a timed pulse, programmable in 100 ms steps.

When the relay is active a colon will appear at the bottom left of the display.
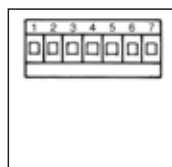
Operating the counter

- Setting or resetting:

  Press the red SET button or apply a pulse to the reset input to set the counter to zero in the adding mode or to the preset in the subtracting mode.

- Presetting:

  The preset value is indicated on the lower row of digits. To set it, use the 6 presetting buttons assigned to each decade. The set value will be accepted with the next set or reset operation.

- Overflow and underflow:

  In the adding mode the overflow is 999 999 to 0; in the subtracting mode it is 0 to 999 999. The output signal remains unaffected.

- Lo-bat-indicator:

  When the battery charge is too low, Lo-bat appears in the lower display. This flashes on a two second cycle. When lo-bat is indicated, the battery should be changed as soon as possible.

- Changing the battery:

  The unit retains the programmed values if the batteries are replaced within 2 minutes.
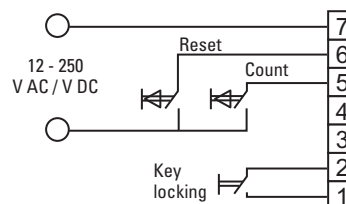
Preset counters, electronic

| LCD preset counters | Adding or subtracting (battery) | 901 |

Terminal assignment

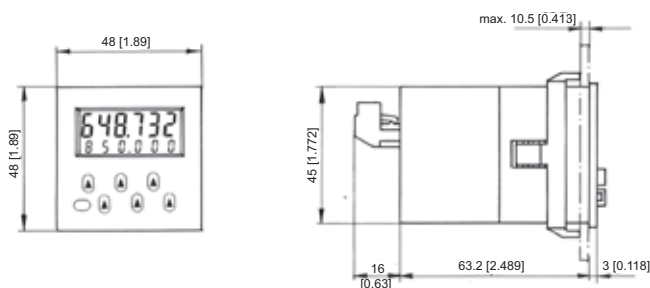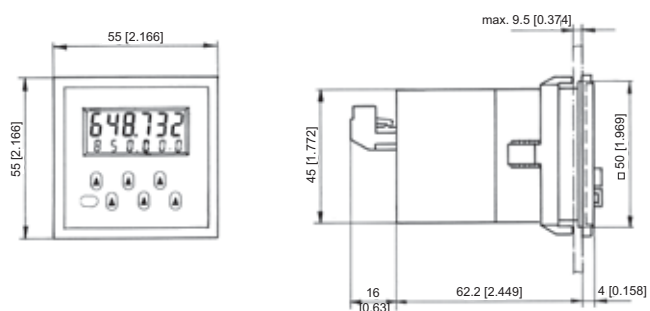| Pin	Inputs / outputs
1	+3 V DC for terminal 2
2	Keyboard lock-input
3	Relay contact
4	Relay contact
5	AC/DC optocoupler count input
6	AC/DC optocoupler reset input
7	Common AC/DC input for terminal 6 and 5

Example of connection

Dimensions

Panel cut-out 45 x 45 mm

With front bezel 55 x 55 mm, panel cut-out 50 x 50 mm

With front bezel 60 x 75 mm, panel cut-out 50 x 50 mm

Dimensions in mm [inch]