

**LED timers**      **h, min, sec or hh.mm.ss (DC)**      **Codix 523**



The Codix 523 is an externally powered timer, hour meter or short-time meter with 4 start input types and individually adjustable time base.

The 6-digit LED display shows the NPN, PNP input signals used for pulse width or time interval measurement.



<b>DC</b> 10 ... 30 V Power supply	 DIN 48 x 24 DIN front bezel	 - 20° + 65° Temperature range	 IP65 High protection level	 Menu-driven programming	 Timer	 ≥ 1 ms Resolution
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### Powerful

- High accuracy thanks to quartz time base.
- Robust housing – IP65 protected.
- Very bright LED display, 8 mm high.
- Time base can be set individually
  - hours, minutes or seconds, the decimal point allows setting it even more accurately, up to max. 3 decimal places.
  - smallest achievable resolution: milliseconds.
  - time base hours (minutes and seconds as real-time display).
- Short start-up time – detects incoming pulses already 16 ms after having been switched on => no loss of pulses in case of a simultaneous motor start.
- Individually adjustable Start/Stop function  
2 Start/Stop inputs allow achieving 4 different measuring principles such as, for example, active or passive pulse width measurement, time interval measurement with one single input or with separate inputs.

### User-friendly and universal

- Large keys – pressing either of the keys switches between displays (can also be operated wearing gloves).
- Programming
  - simple uniform menu-driven programming and operation.
  - possibility to enter the programming mode also during operation with an authentication query.
- Manual or electrical reset  
Tamper-proof thanks to lockable reset function.
- Freely programmable setpoint  
Start time at which time counting begins.
- As an alternative to the HTL inputs, devices with a 4 ... 30 V DC input level are available, for use as parallel displays for PLCs.
- Optional output: 1 Hz clock pulse in case of active time measurement.

### Order code

6.523 . 01 X . 3 X 0  
a    b

**a** Output

- 1 = Optocoupler
- 2 = No output <sup>1)</sup>

**b** Input switch level

- 0 = Standard (HTL) <sup>1)</sup>
- A = 4 ... 30 V DC

*Delivery specification*

- Timer
- Mounting clip
- Gasket
- Instruction manual, multilingual
- Front bezel for screw mounting (T008181) 56 x 40 mm [2.20 x 1.57"], panel cut-out 50 x 25 mm [1.97 x 0.98"]
- Front bezel for clip mounting (T008180) 53 x 28 mm [2.09 x 1.10"], panel cut-out 50 x 25 mm [1.97 x 0.98"]

1) Stock types

# Hour meters / timers, electronic

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<b>Accessories</b>	Dimensions in mm [inch]	Order no.
<b>Adapter front bezel, 72 x 36 [2.83 x 1.42]</b>	For cut-out 68 x 33 [2.68 x 1.30] to cut-out 45 x 22.2 [1.77 x 0.87], for counters 48 x 24 [1.89 x 0.94], as set black and silver anodised	<b>162704 Set</b>
<b>Adapter front bezel, 48 x 48 [1.89 x 1.89]</b>	For cut-out 45 x 45 [1.77 x 1.77] to cut-out 45 x 22.2 [1.77 x 0.87], with clip mounting for counters 48 x 24 [1.89 x 0.94]	black <b>T008883</b>
<b>Adapter front bezel, 60 x 50 [2.36 x 1.97]</b>	For cut-out 54 x 29 [2.13 x 1.14] to cut-out 45 x 22.2 [1.77 x 0.87], with screw mounting and gasket for counters 48 x 24 [1.89 x 0.94]	black <b>N003001</b>
<b>Transparent cover, lockable, IP65</b>	For cut-out 54 x 29 [2.13 x 1.14], for screw mounting to front bezel F1B or adapter front bezel N003001, for counters with cut-out 50 x 25 [1.97 x 0.98] or 45 x 22.2 [1.77 x 0.87]	<b>N003002</b>
<b>Sealing cover type K1, IP65</b>	Suitable for front bezel 60 x 50 [2.36 x 1.97], for screw mounting of electromech. counters and via adapter front bezel N003001 for counters 48 x 24 [1.89 x 0.94]	<b>G008301</b>
<b>Mounting frame</b> with cut-out 50 x 25 [2.36 x 1.97] via separate adapter also for 45 x 22.2 [1.77 x 0.87]	For snap-on mounting on 35 [1.38] top-hat DIN rail, for counters 53 x 28 [2.09 x 1.10] and via separate adapter (T008180) for counters 48 x 24 [1.89 x 0.94]	chromated <b>G300004</b>

Suitable gaskets, other accessories and installation examples for optional accessories can be found in chapter accessories or in the accessories section under: [www.kuebler.com/accessories](http://www.kuebler.com/accessories).

## Technical data

General technical data	
<b>Display</b>	6 digits, red 7 segment LED display; 8 mm [0.31"] high
<b>Data backup</b>	EEPROM
<b>Operating temperature</b>	10 ... 26 V DC -20°C ... +65°C [-4°F ... +149°F] > 26 ... 30 V DC -20°C ... +55°C [-4°F ... +131°F] (non-condensing)
<b>Storage temperature</b>	-25°C ... +70°C [-13°F ... +158°F]

Mechanical characteristics	
<b>Housing</b>	front panel mount 48x24 mm [1.89 x 0.94"] acc. to DIN 43700; RAL 7021, dark grey
<b>Protection</b>	IP65 (front side)
<b>Weight</b>	approx. 50 g [1.76 oz]
<b>Vibration resistance</b> acc. to EN 60068-2-6	10 ... 55 Hz / 1 mm [0.04"] / 30 min
<b>Shock resistance</b> acc. to EN 60068-2-27	100 G: 2 ms 10 G: 6 ms

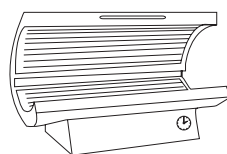
Outputs (optional)	
<b>Output power optocoupler</b>	max. 30 V, 10 mA

Electrical characteristics	
<b>Power supply</b>	10 ... 30 V DC, with integrated reverse polarity protection
<b>Current consumption</b>	max. 55 mA
<b>EMC standards</b>	EN 55011 class B, EN 61000-6-2, EN 61000-6-3 EN 61326-1
<b>UL-Zulassung</b>	File E128604

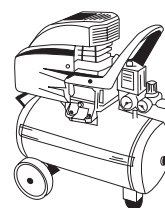
Inputs	
<b>Polarity of inputs</b>	programmable, NPN or PNP for all inputs
<b>Input resistance</b>	approx. 5 kΩ
<b>Resolution</b>	up to 0.001 s
<b>Minimum pulse duration of the reset input</b>	5 ms
<b>Input switching level standard version (HTL)</b>	LOW 0 ... 0.2 x U <sub>B</sub> [V DC] HIGH 0.6 x U <sub>B</sub> ... 30 V DC
<b>Input switching level at 4 ... 30 V DC</b>	LOW 0 ... 2 V DC HIGH 4 ... 30 V DC
<b>Accuracy</b>	< 50 ppm

## Applications for time and hour meters, short-time meters

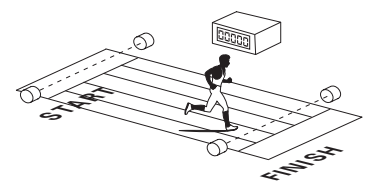
- Time measurements such as hours run recording on all machines and plant, e.g. compressors, solariums, special lights and lamps
- Accessories, OEM equipment or retrofitting to production machine
- Measurement of short times on processes and procedures, time recording (stopwatch function) at sporting events
- Hours run recording for motor vehicles and time monitoring for rally vehicles



Hours run of UV lamps



Operating hours

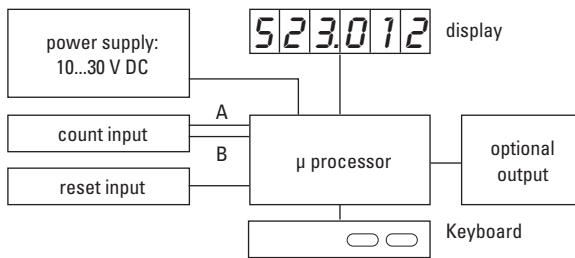


Short time measurement > 1 ms

# Hour meters / timers, electronic

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### Block diagram

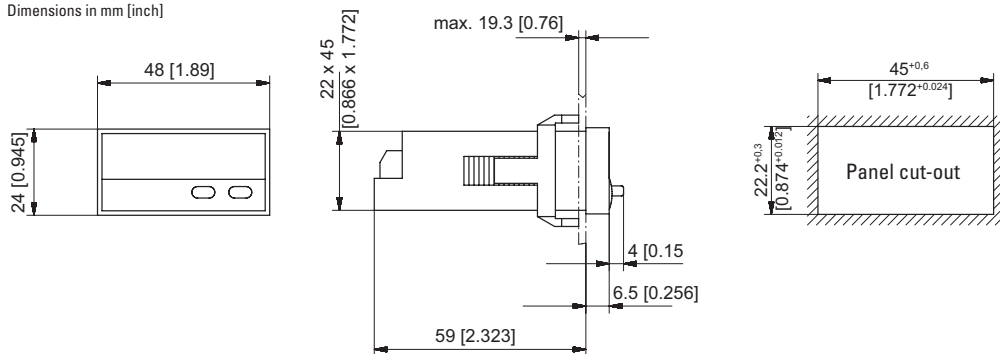


### Terminal assignment

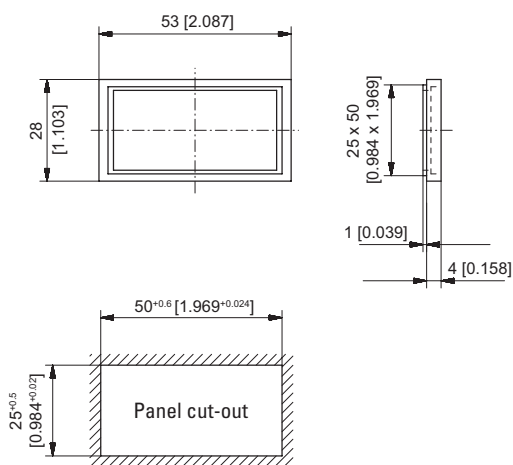
without optocoupler		with optocoupler (NPN)	
PIN		PIN	
1	10 ... 30 V DC	1	10 ... 30 V DC
2	0 V GND	2	0 V GND
3	INP A	3	INP A
4	INP B	4	INP B
5	reset	5	reset
		6	emitter
		7	collector

### Dimensions

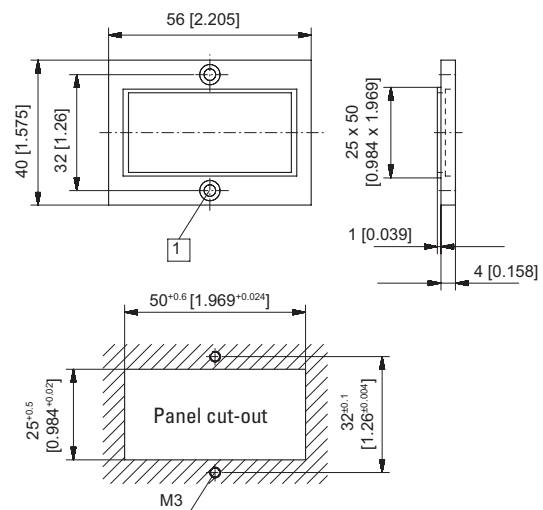
Dimensions in mm [inch]



### Front bezel for clip mounting (included in delivery)



### Front bezel for screw mounting (included in delivery)



1 Countersinking Af3, DIN 74