

# Hour meters / timers, electronic

<b>LED timers</b>	<b>h, min, sec or hh.mm.ss (DC)</b>	<b>Codix 523</b>
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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 Supply voltage	<b>DIN 48x24</b> DIN front bezel	<b>-20°...+65°C</b> Temperature range	<b>IP65</b> High protection level	<b>Prog</b> Menu-driven programming	<b>Timer</b> Timer	<b>≥ 1 ms</b> 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 Output

- 1 = Optocoupler
- 2 = No output

### b Input switch level

- 0 = Standard (HTL)
- A = 4 ... 30 V DC

### Stock types

6.523.012.300

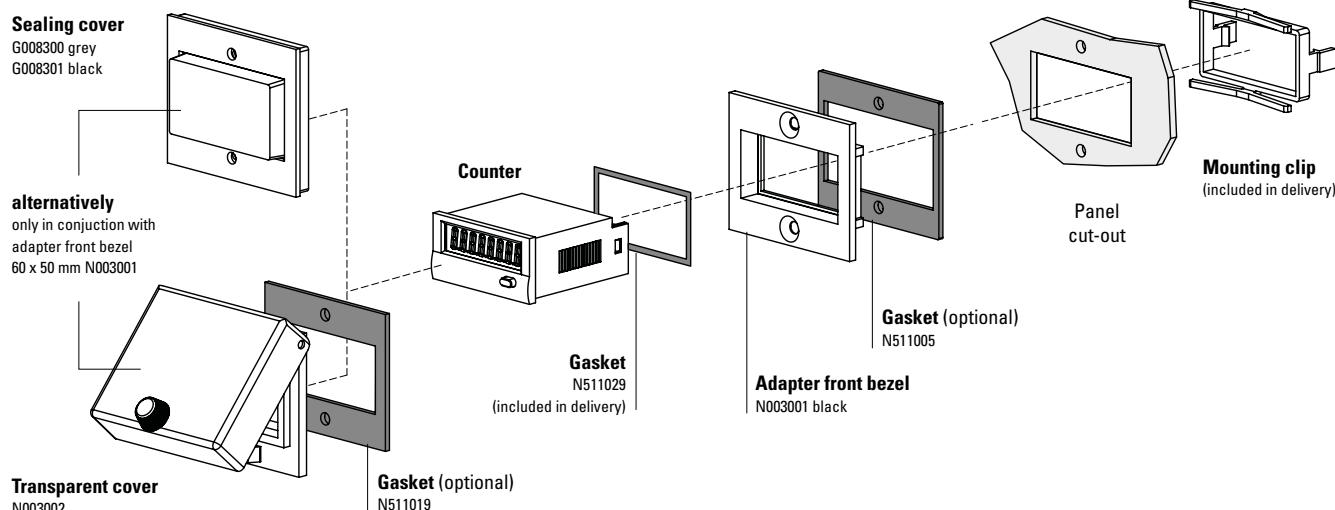
### Delivery specification

- 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"]

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## Accessories / Mounting examples



		Type / size	Description		Order no.	suitable gasket
<b>Adapter front bezel</b>		<b>53 x 28 mm</b> [2.09 x 1.10"]	for cut-out 50 x 25 mm [1.97 x 0.98"] to cut-out 45 x 22.2 mm [1.77 x 0.94"]	black anthracite	<b>T008165</b> <b>T008180</b>	<b>N511015</b>
		<b>56 x 40 mm</b> [2.20 x 1.57"]	for cut-out 50 x 25 mm [1.97 x 0.98"] to cut-out 45 x 22.2 mm [1.77 x 0.94"] screw mounting	black anthracite	<b>T008161</b> <b>T008181</b>	<b>N511045</b>
		<b>72 x 36 mm</b> [2.83 x 1.42"]	for cut-out 68 x 33 mm [2.68 x 1.30"] to cut-out 45 x 22.2 mm [1.77 x 0.94"]	black and silver anodised as set	<b>162704Set</b>	—
		<b>60 x 50 mm</b> [2.36 x 1.97"]	for cut-out 54 x 29 mm [2.13 x 1.14"] to cut-out 45 x 22.2 mm [1.77 x 0.94"] screw mounting	black	<b>N003001</b>	<b>N511005</b>
		<b>48 x 48 mm</b> [1.89 x 1.89"]	for cut-out 45 x 45 mm [1.77 x 1.77"] to cut-out 45 x 22.2 mm [1.77 x 0.94"]	black	<b>T008883</b>	—
<b>Sealing cover IP65</b>		<b>K1</b>	only in conjunction with adapter front bezel 60 x 50 mm N003001	transparent / grey transparent / black	<b>G008300</b> <b>G008301</b>	—
<b>Transparent cover IP65</b>		<b>1 Dv</b> (mounted on bezel)	cover lockable, for cut-out 54 x 29 mm [2.13 x 1.14"], only in conjunction with adapter front bezel 60 x 50 mm N003001	transparent / black	<b>N003002</b>	<b>N511019</b>
<b>Gasket counter</b>			48 x 24 mm (for installation in adapter front bezel) 49 x 25 mm		<b>N511029</b> <b>N511034</b>	
<b>Mounting frame</b>		<b>cut-out</b> <b>50 x 25 mm</b> [1.97 x 0.98"]	via adapter T008180 for snap-on mounting on 35 mm [1.38"] top-hat DIN rail	chromated	<b>G300004</b>	—
<b>Enclosure blind</b>		<b>48 x 24 mm</b> [1.89 x 0.94"]	for cut-out 45 x 22.2 mm [1.77 x 0.94"] and cut-out 50 x 25 mm [1.97 x 0.98"]	anthracite	<b>G003836</b>	—

incl. in delivery

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## 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]

### Electrical characteristics

<b>Supply voltage</b>	10 ... 30 V DC, with integrated reverse polarity protection
<b>Current consumption</b>	max. 55 mA

### Mechanical characteristics

<b>Housing</b>	front panel mount 48 x 24 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

### 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

### Outputs (optional)

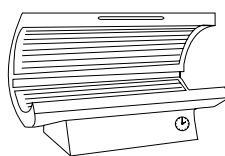
<b>Output power optocoupler</b>	max. 30 V, 10 mA
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### Approvals

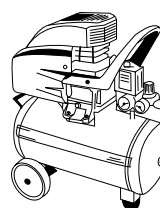
<b>UL compliant</b> in accordance with	File no. E128604
<b>CE compliant</b> in accordance with	
EMC Directive	2014/30/EU
RoHS Directive	2011/65/EU

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

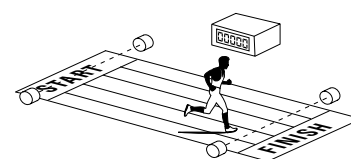
- Time measurements such as hours run recording on all machines and plant, e.g. compressors, solariums, special lights and lamps
- Accessories, OEM equipment or retrofitting to production machine
- Measurement of short times on processes and procedures, time recording (stopwatch function) at sporting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



Hours run of UV lamps



Operating hours

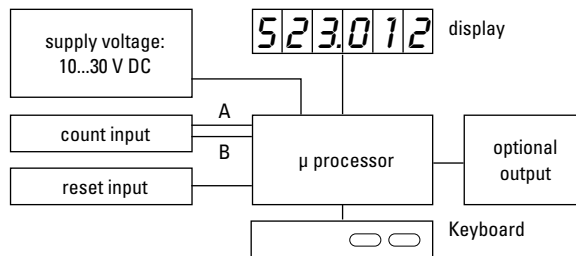


Short time measurement > 1 ms

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## Block diagram



## Terminal assignment

1	2	3	4	5

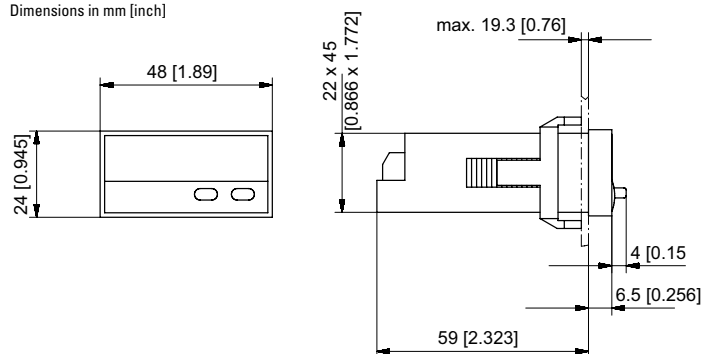
PIN	without optocoupler
1	10 ... 30 V DC
2	0 V GND
3	INP A
4	INP B
5	reset

1	2	3	4	5	6	7

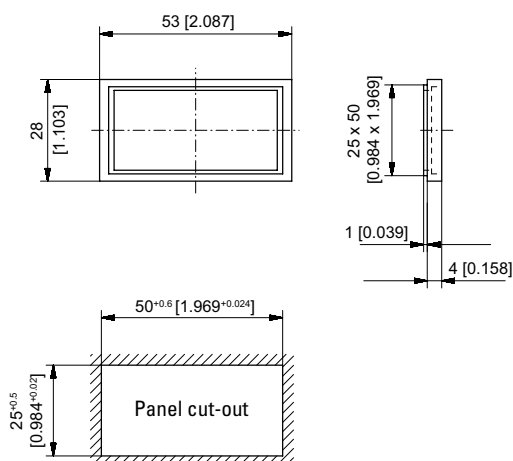
PIN	with optocoupler (NPN)
1	10 ... 30 V DC
2	0 V GND
3	INP A
4	INP B
5	reset
6	emitter
7	collector

## Dimensions

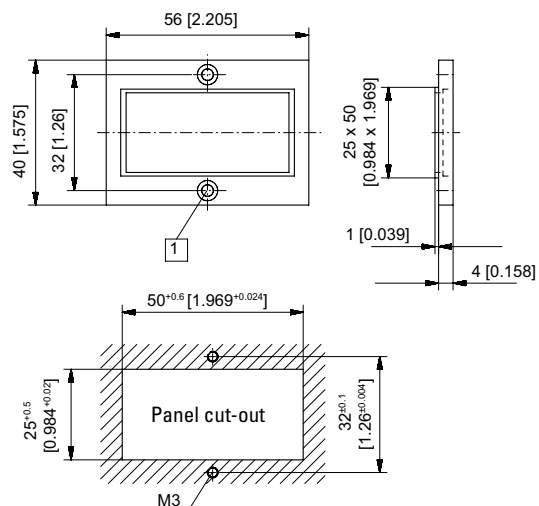
Dimensions in mm [inch]



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



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



① Countersinking Af3, DIN 74