Hour meters / timers, electronic

LED timers	h, min, sec or hh.mm.ss (AC+DC)	Codix 543

The Codix 543 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.

DC 10 … 30 V	AC 10 … 240 V	DIN 96x48	-20°… +65°C	IP65		ProG		≥ 1 ms
Supply voltage		DIN front bezel	Temperature range	High protection level	Plug-in screw terminal	Menu-driven programming	Timer	Resolution

Powerful

- High accuracy thanks to quartz time base.
- Robust housing – IP65 protection.
- Very bright LED display 14 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 (utilisable même avec des gants).
- Programming
  - Simple and unified programming and operation thanks to menu-driven programming.
  - 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.
- AC or DC supply voltage with sensor supply voltage.
- As an alternative to the HTL inputs, devices with a 5 V DC input level are available, for use as parallel displays for PLCs.
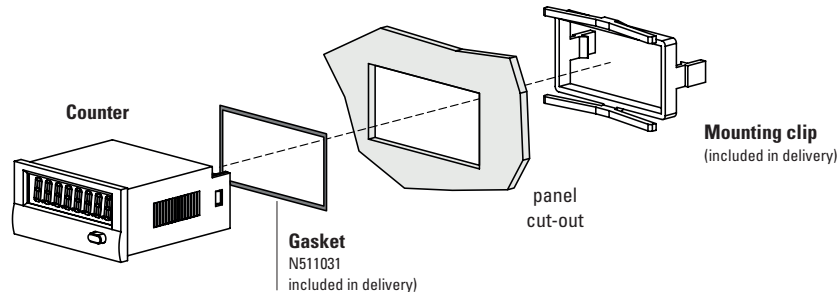- Optional output: 1 Hz clock pulse in case of active time measurement.

Order code

6.543 . 01X . XX0
       (a)   (b)(c)

(a) *Output*
1 = Optocoupler
2 = No output [1]

(b) *Supply voltage*
0 = 100 … 240 V AC, ±10 % [1]
3 = 10 … 30 V DC [1]

(c) *Input switch level*
0 = Standard (HTL) [1]
A = 4 … 30 V DC

Delivery specification
· Digital display
· Mounting clip
· Gasket
· 2 screw terminals
· Instruction manual, multilingual

[1] Stock types

LED timers	h, min, sec or hh.mm.ss (AC+DC)	Codix 543

Accessories / Mounting examples

Counter

Gasket
N511031
included in delivery)

panel cut-out

Mounting clip
(included in delivery)

		Type / size	Description		Order no.	
Gasket counter			96 x 49 mm [3.78 x 1.93"]		N511031	
Mounting frame		cut-out **92 x 45 mm** [3.62 x 1.77"]	for snap-on mounting on 35 mm [1.38"] top-hat DIN rail	grey	G300005	
Screw terminal (Replacement part)			1 ... 7, pitch 3.81	7 pin	N100387	
			1 ... 2, pitch 5.08	2 pin	N100133	

incl. in delivery

Technical data

General technical data

Display	6 digit, red 7 segment LED display; 14 mm [0.55"] high
Data backup	EEPROM
Operating temperature	-20 °C ... +65 °C [-4 °F ... +149 °F] (non-condensing)
Storage temperature	-25 °C ... +70 °C [-13 °F ... +158 °F]
Relative humidity	< 85 % (non-condensing)
Altitude	up to 2000 m [6562']

Electrical characteristics

Supply voltage	10 ... 30 V DC, with reverse polarity protection 100 ... 240 V AC, ±10 %
Current consumption	max. 50 mA, 8 VA
EMC standards	EN 55011 class B, EN 61000-6-2, EN 61000-6-3
Device safety designed to protection class application area	EN 61010 part 1 2 pollution level 2

Mechanical characteristics

Housing	front panel mount 96 x 48 mm [3.74 x 1.89"] acc. to DIN 43700; RAL 7021, dark grey
Protection	IP65 (front side)
Weight	approx. 150 g [5.29 oz]

Inputs

Polarity of inputs	programmable, NPN or PNP for all inputs
Input resistance	approx. 5 kΩ
Resolution	up to 0.001 s
Minimum pulse duration of the reset input	5 ms

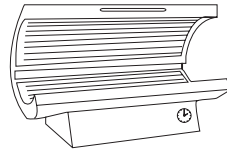| **Input switching level standard version (HTL)**		
DC supply voltage	LOW	$0 ... 0.2 \times U_B$ [V DC]
	HIGH	$0.6 \times U_B ... 30$ V DC
AC supply voltage	LOW	0 ... 4 V DC
	HIGH	12 ... 30 V DC
Input switching level at 4 ... 30 V DC	LOW	0 ... 2 V DC
	HIGH	4 ... 30 V DC
Accuracy		< 50 ppm

Outputs

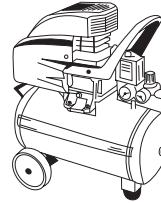|	
Sensors power sully (AC version)	24 V DC ±15 %/100 mA
Output power optocoupler	max. 30 V DC, 10 mA

| LED timers | h, min, sec or hh.mm.ss (AC+DC) | Codix 543 |

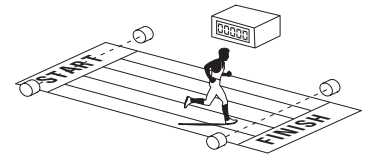## Applications for time and hour meters, short-time meters

- 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
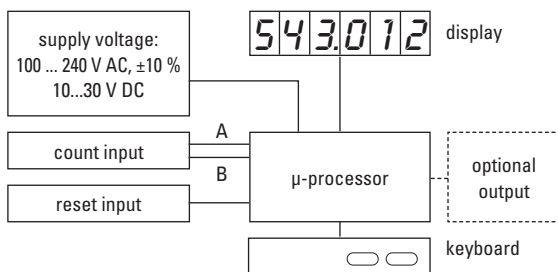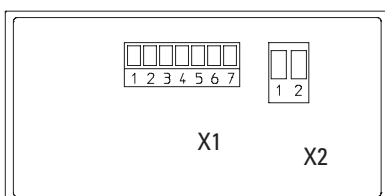
Hours run of UV lamps

Operating hours

Short time measurement > 1 ms

Block diagram

supply voltage:
100 ... 240 V AC, ±10 %
10...30 V DC

display

count input — A

reset input — B

µ-processor

optional output

keyboard

Terminal assignment

X1

X2

Connection X1

PIN	AC version	DC version
1	Optocoupler output	emitter
2	Optocoupler output	collector
3	Reset	
4	INP B	
5	INP A	
6	GND out	n.c.
7	+24 V out	n.c.

Connection X2

PIN	AC version	DC version
1	100 ... 240 V AC, ±10 %	0 V DC (GND)
2	100 ... 240 V AC, ±10 %	10...30 V DC

Dimensions

Dimensions in mm [inch]

96 [3.78]

48 [1.89]

max. 19 [0.748]

44.9 x 91.9 [1.768 x 3.619]

15.5 [0.61]

4 [0.158]

6.5 [0.256]

67.1 [2.642]

45 +0.6 [1.772 +0.024]

Panel cut-out

92 +0.8 [3.622 +0.032]