

Электронные таймеры 571Т, Codix 134, Codix 135, Codix 143, 194, 198, Codix 523, Codix 543

Технические характеристики

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Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
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Multifunction devices, electronic

LCD touch multifunction preset counters

Pulse, frequency, time (also reciprocal) – (AC+DC)

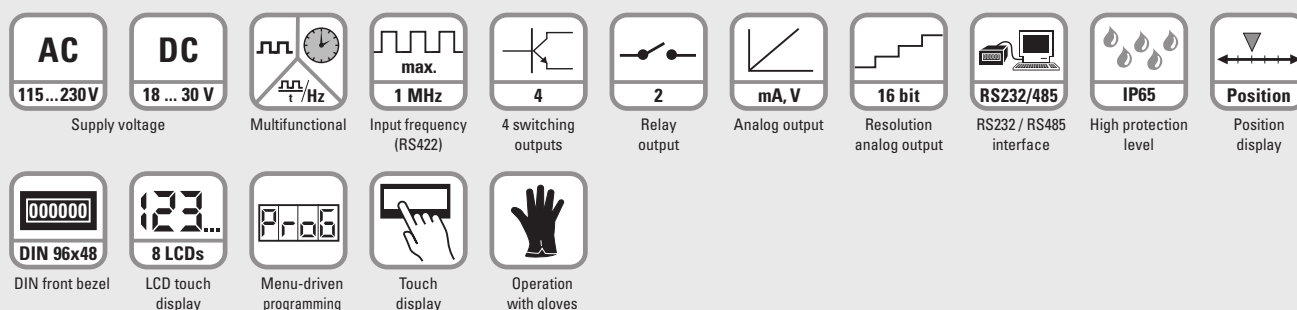
571T



The multifunction preset counter 571T with its max. 250 kHz count frequency is ideal for fast counting tasks. It can also be used as a tachometer, short time meter, stop-watch or to measure machine cycle times or throughput times.

Output options include 4 limit values, analog output and RS232 or RS485 interface.

This device is thus able to carry out virtually all count, measurement and control tasks.



Characteristics

- Fast count input, works with our Limes measuring system (250 kHz/HTL, 1 MHz/RS422).
- 4 switching outputs to work as limit values (reaction time < 1 ms).
- Scalable analog output (reaction time < 150 ms), resolution 16 bit, -10 ... +10 V, 0 ... 20 mA or 4 ... 20 mA.
- Serial interface RS232 or RS485 for reading data in and out.
- Sensor power supply 24 V DC / 150 mA (AC version) or $U_B - 1 V$ / max. 250 mA (DC version).
- 96 x 48 mm DIN housing, IP65.
- Touch display with 8-digit display value and menu-driven programming.
- 2 relay outputs that can be assigned to the limit values.

Benefits

- AC and DC supply voltage in one unit.
- Measuring function can be programmed for RPM, speed, speed from elapsed time, machine cycle time, throughput time (reciprocal rotary speed), as well as numerous count and stop-watch functions.
- 4 switching outputs; can also be programmed as a tracking preset.
- Freely programmable.
- Large 13 mm high LCD display, 8-digit, with adjustable brightness. Tri-color – red / green / yellow – programmable.
- Display linearization with teach function.

Multifunctional display

Large-scale 4-digit display over the whole display surface.

2-line display modes for the simultaneous display of 2 separate measured or calculated values.

Color change of the display to green, yellow or red.

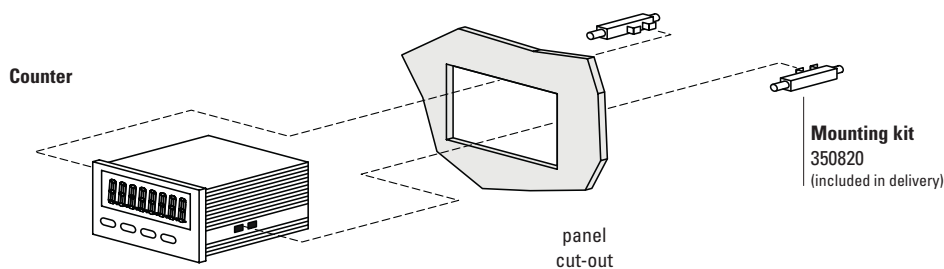


Multifunction devices, electronic

LCD touch multifunction preset counters	Pulse, frequency, time (also reciprocal) – (AC+DC)	571T
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Order code		6.571T . 01 X . XXX
a Relay outputs 0 = 2 relay outputs 2 = without output	c Further options 0 = HTL count inputs (standard) A = RS422 / HTL differential / HTL count inputs (option)	d Electrical outputs 0 = none 1 = RS232, 4 switching outputs 2 = RS232, 4 switching outputs, analog output 3 = RS485, 4 switching outputs 4 = RS485, 4 switching outputs, analog output
b Supply voltage 3 = 18 ... 30 V DC E = 18 ... 30 V DC + 115 ... 230 V AC		Delivery specification · Display 571T · Gasket · Mounting kit · Manual German/English

Accessories / Mounting examples



		Type / size	Description		Order no.	
Mounting kit			1 kit consists of 2 latch hooks		350820	
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	—
Software for parameter setting OSxx			https://de/docu-finder search box: OS1			

incl. in delivery

Multifunction devices, electronic

LCD touch multifunction preset counters	Pulse, frequency, time (also reciprocal) – (AC+DC)	571T
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Technical data

General technical data

Display	LCD touch display, 13 mm high 8 decades + sign, 3-color
Operating temperature	-20 °C ... +60 °C [-4 °F ... +140 °F] (non-condensing)
Storage temperature	-25 °C ... +70 °C [-13 °F ... +158 °F]
Altitude	up to 2000 m [6562']

Electrical characteristics

Supply voltage	18 ... 30 V DC, with reverse polarity protection (rated voltage 24 V DC) 115 ... 230 V AC, 50/60 Hz (option)
Current consumption DC	100 mA, without load
Power consumption AC	approx. 3 VA, without load
Auxiliary voltage for sensors (with RS 422 switchable from 24 V DC to 5 V DC / 250 mA)	
AC supply	24 V DC ±15 %, 150 mA (up to +45 °C) 80 mA (from +46 °C)
DC supply	U _B - 1 V, 250 mA
Device safety	designed to protection class application area
	EN 61010 part 1 2 pollution level 2

Mechanical characteristics

Housing	ABS UL94-V-0
Weight	approx. 200 g
Protection	IP65 (front side) IP20 (rear side)
Terminals	max. 1.5 mm ²

Inputs

2 incremental inputs (A, B)	
HTL (standard)	pulse input frequency input level load
	Tri-State, PNP, NPN and Namur max. 250 kHz Low: 0 ... 3 V / High: 9 ... 30 V max. 6 mA / R _i > 5 kΩ / 470 pF

4 incremental inputs (A, /A, B, /B)	
RS422 / HTL differential / HTL PNP-NPN (option)	
input frequency	RS422: max. 1 MHz HTL differential: max. 500 kHz HTL: max. 250 kHz
input level	RS422: > 0.5 V HTL differential: > 2 V HTL: Low 0 ... 3 V / High 9 ... 30 V
load	max. 3 mA / R _i > 10 kΩ / 47 pF

3 control inputs (Cnt 1 - 3)	
input frequency	PNP max. 10 kHz
input level	HTL: Low 0 ... 3 V / High 9 ... 30 V
load	max. 2 mA / R _i > 15 kΩ / 470 pF

Accuracy frequency	±1 ppm ±1 digit
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Outputs (option)

4 switching outputs	5 ... 30 V DC/200 mA (PNP) reaction time < 1 ms
Interface	RS232 or RS485 Drivecom protocol / Modbus / Printer 9600 ... 38400 Baud
Analog output	-10 ... +10 V (max. 2 mA) or 0 ... 20 mA, 4 ... 20 mA (max. 270 Ω) resolution accuracy reaction time
	16 bit (15 bit + sign) ±0.1 % < 150 ms
Relay output	2 changeover contacts (potential free) max. 250 V AC / 3 A / 750 VA max. 150 V DC / 2 A / 50 W reaction time
	< 20 ms

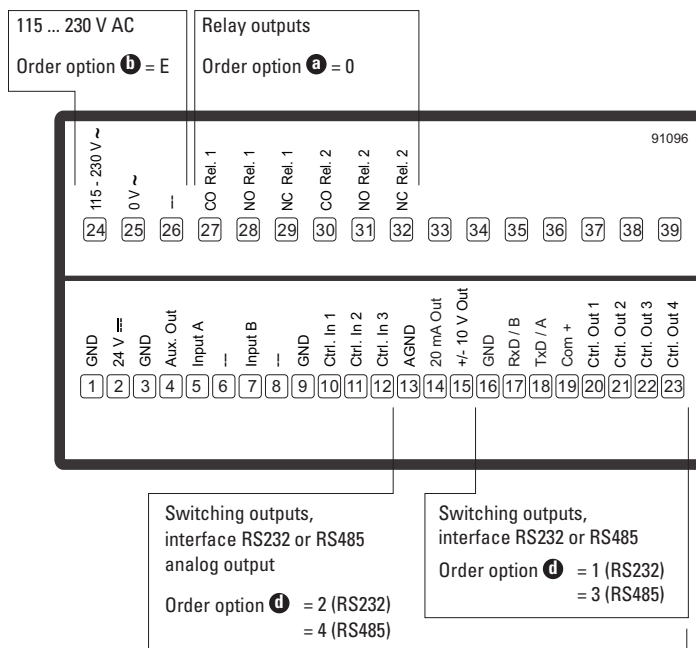
Approvals

CE compliant in accordance with		
EMC Directive	2014/30/EU	
RoHS Directive	2011/65/EU	
Low Voltage Directive	2014/35/EU	

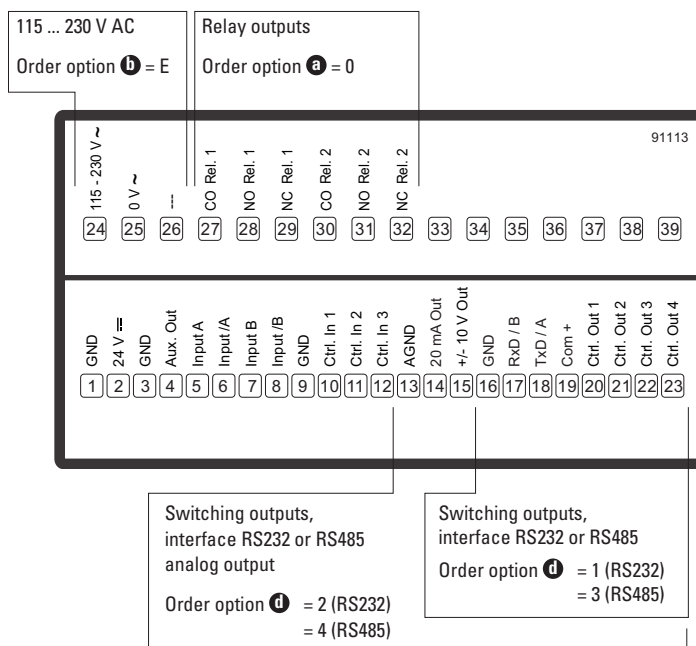
Multifunction devices, electronic

LCD touch multifunction preset counters Pulse, frequency, time (also reciprocal) – (AC+DC) 571T

Terminal assignment HTL (standard)

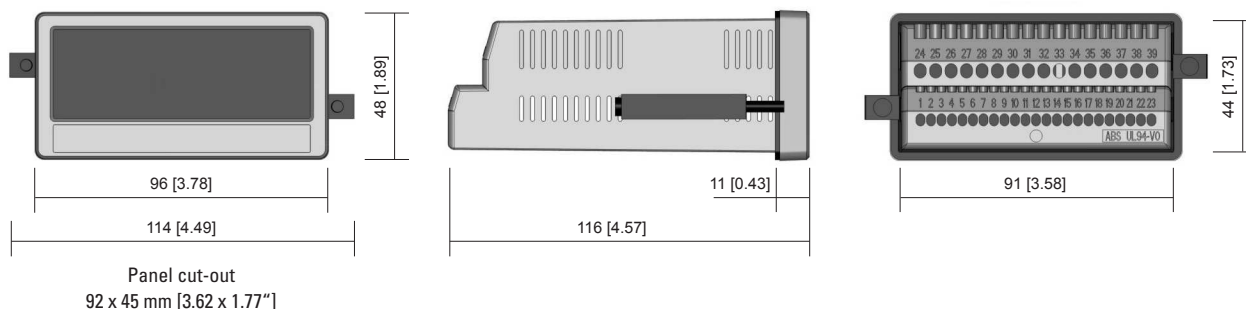


Terminal assignment RS422 / HTL differential / HTL (option)



Dimensions

Dimensions in mm [inch]



Hour meters / timers, electronic

LED timers

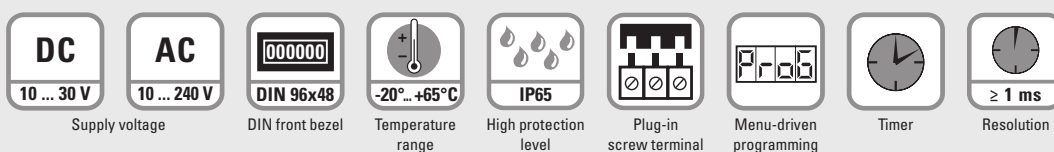
h, min, sec or hh.mm.ss (AC+DC)

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.



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 . 01 X . X X 0

a Output

- 1 = Optocoupler
- 2 = No output

c Input switch level

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

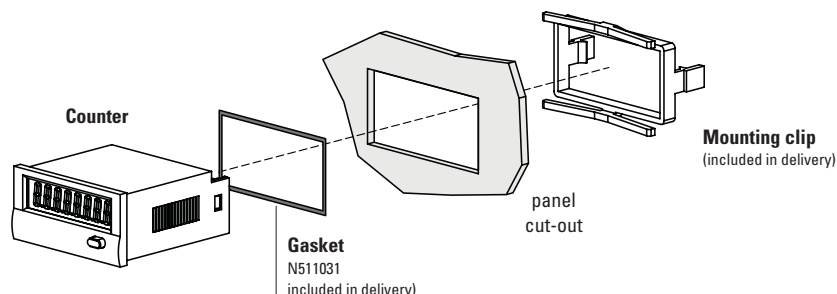
b Supply voltage

- 0 = 100 ... 240 V AC, ±10 %
- 3 = 10 ... 30 V DC

Hour meters / timers, electronic

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



		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 1 ... 2, pitch 5.08	7 pin 2 pin	N100387 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
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 x U _B [V DC] HIGH 0.6 x 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 supply (AC version)	24 V DC ±15 %/100 mA
Output power optocoupler	max. 30 V DC, 10 mA

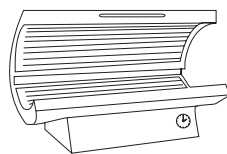
Approvals	
UL compliant in accordance with	File no. E128604
CE compliant in accordance with	
EMC Directive	2014/30/EU
RoHS Directive	2011/65/EU
Low Voltage Directive	2014/35/EU

Hour meters / timers, electronic

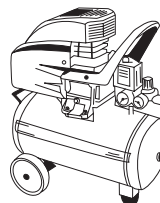
LED timers	h, min, sec or hh.mm.ss (AC+DC)	Codix 543
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Applications for time and hour meters, short-time meters

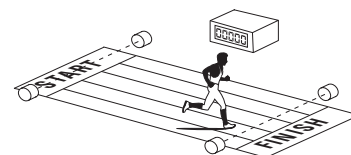
- Time measurements such as hours run recording on all machines and plant, e.g. compressors, solariums, special lights and lamps
- Accessories, OEM equipment or retrofitting to production machine
- Measurement of short times on processes and procedures, time recording (stopwatch function) at sporting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



Hours run of UV lamps

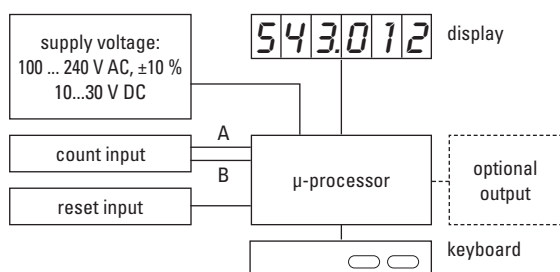


Operating hours

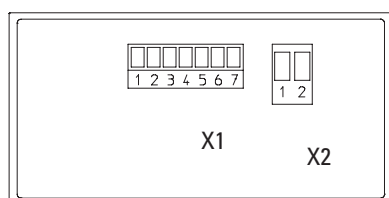


Short time measurement > 1 ms

Block diagram



Terminal assignment



Connection X1

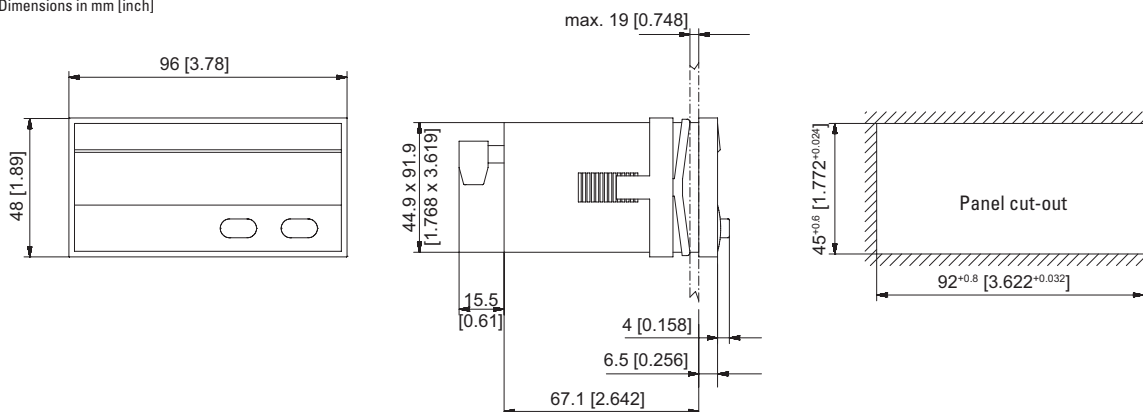
PIN	AC version	DC version
1	Optocoupler output	emitter
2	Optocoupler output	collector
3	Reset	
4	INP B	
5	INP A	
6	GND out	n.c.
7	+24 V out	n.c.

Connection X2

PIN	AC version	DC version
1	100 ... 240 V AC, $\pm 10\%$	0VDC (GND)
2	100 ... 240 V AC, $\pm 10\%$	10...30 V DC

Dimensions

Dimensions in mm [inch]



Hour meters / timers, electronic

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



DC 10 ... 30 V Supply voltage	DIN 48x24 DIN front bezel	-20°... +65°C Temperature range	IP65 High protection level	Prog Menu-driven programming	Timer 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 Output

- 1 = Optocoupler
- 2 = No output

b Input switch level

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

Stock types

6.523.012.300

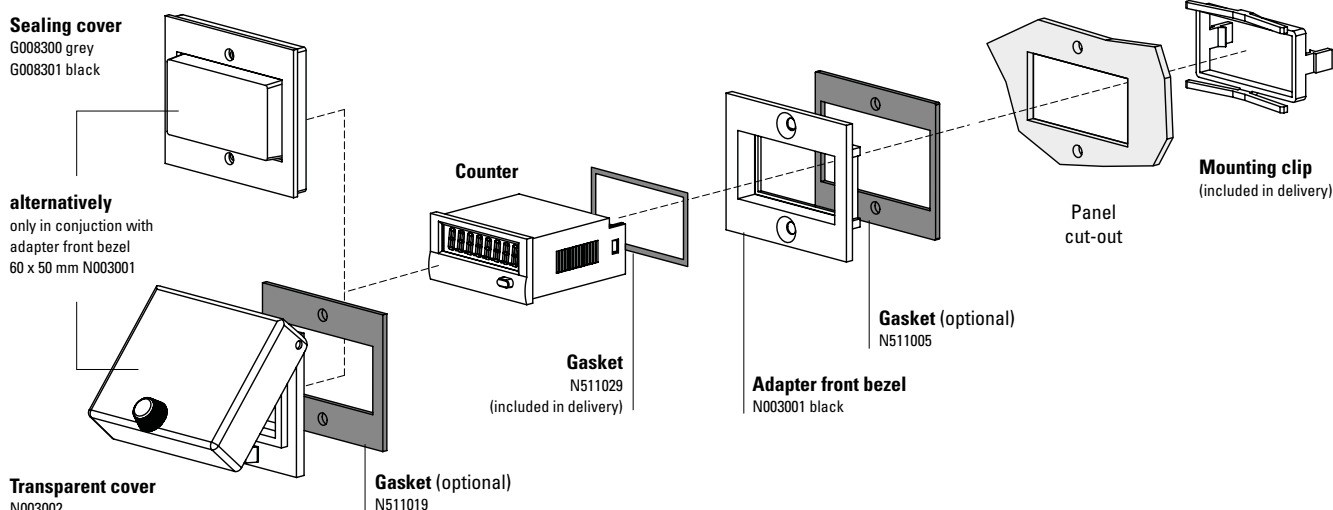
Delivery specification

- 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"]

Hour meters / timers, electronic

LED timers	h, min, sec or hh.mm.ss (DC)	Codix 523
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Accessories / Mounting examples



		Type / size	Description		Order no.	suitable gasket
Adapter front bezel		53 x 28 mm [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	T008165 T008180	N511015
		56 x 40 mm [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	T008161 T008181	N511045
		72 x 36 mm [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	162704Set	—
		60 x 50 mm [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	N003001	N511005
		48 x 48 mm [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	T008883	—
Sealing cover IP65		K1	only in conjunction with adapter front bezel 60 x 50 mm N003001	transparent / grey	G008300	—
				transparent / black	G008301	—
Transparent cover IP65		1 Dv (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	N003002	N511019
Gasket counter			48 x 24 mm (for installation in adapter front bezel) 49 x 25 mm		N511029	
					N511034	
Mounting frame		cut-out 50 x 25 mm [1.97 x 0.98"]	via adapter T008180 for snap-on mounting on 35 mm [1.38"] top-hat DIN rail	chromated	G300004	—
Enclosure blind		48 x 24 mm [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	G003836	—

incl. in delivery

Hour meters / timers, electronic

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

General technical data

Display	6 digits, red 7 segment LED display; 8 mm [0.31"] high
Data backup	EEPROM
Operating temperature	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)
Storage temperature	-25 °C ... +70 °C [-13 °F ... +158 °F]

Electrical characteristics

Supply voltage	10 ... 30 VDC, with integrated reverse polarity protection
Current consumption	max. 55 mA

Mechanical characteristics

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

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)	LOW 0 ... 0.2 x U _B [V DC] HIGH 0.6 x U _B ... 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 (optional)

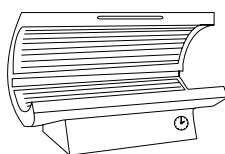
Output power optocoupler	max. 30 V, 10 mA
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Approvals

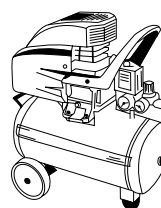
UL compliant in accordance with	File no. E128604
CE compliant in accordance with	
EMC Directive	2014/30/EU
RoHS Directive	2011/65/EU

Applications for time and hour meters, short-time meters

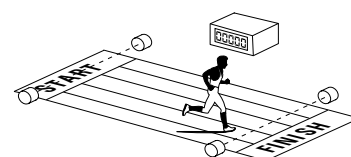
- Time measurements such as hours run recording on all machines and plant, e.g. compressors, solariums, special lights and lamps
- Accessories, OEM equipment or retrofitting to production machine
- Measurement of short times on processes and procedures, time recording (stopwatch function) at sporting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



Hours run of UV lamps



Operating hours

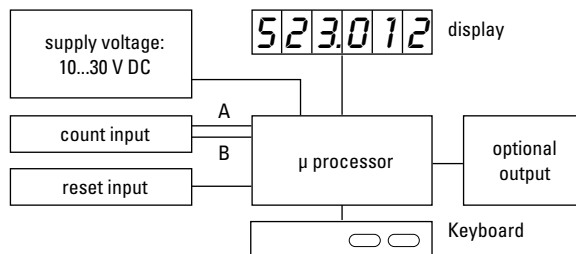


Short time measurement > 1 ms

Hour meters / timers, electronic

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



Terminal assignment

1	2	3	4	5

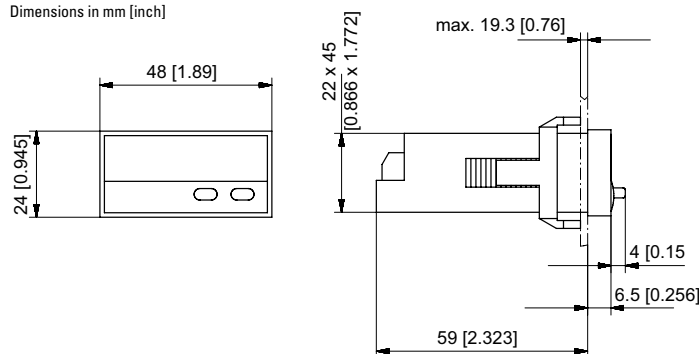
PIN	without optocoupler
1	10 ... 30 V DC
2	0 V GND
3	INP A
4	INP B
5	reset

1	2	3	4	5	6	7

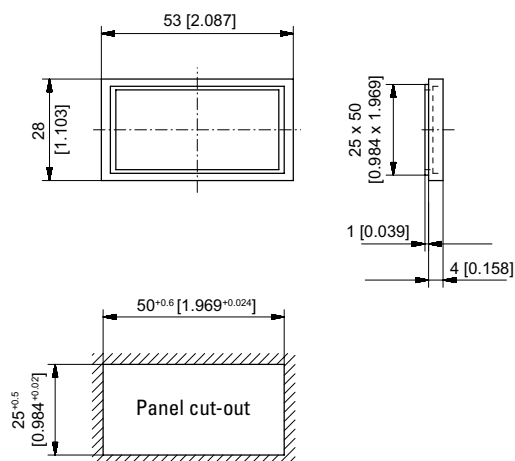
PIN	with optocoupler (NPN)
1	10 ... 30 V DC
2	0 V GND
3	INP A
4	INP B
5	reset
6	emitter
7	collector

Dimensions

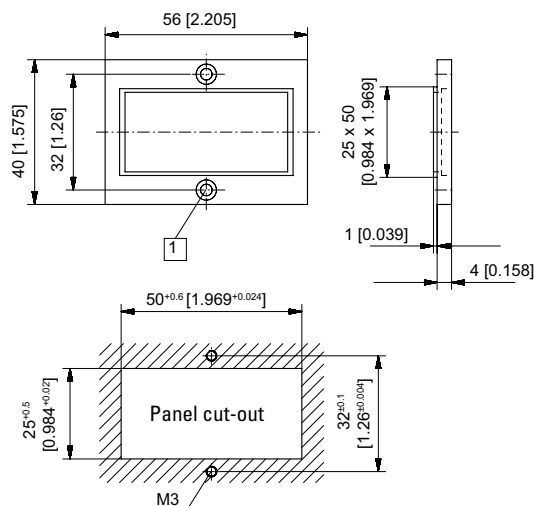
Dimensions in mm [inch]



Front bezel for clip mounting (included in delivery)



Front bezel for screw mounting (included in delivery)



① Countersinking Af3, DIN 74

Hour meters / timers, electronic

LCD time modules

Max. time range 99999.9 h (DC)

198



The timer module of the type 198 with 6-digit LCD display for PCB mounting features a wide voltage range from 8 to 28 V DC.

It is extremely robust and suitable for many different applications thanks to its wide temperature range.



Timer



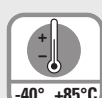
Supply voltage



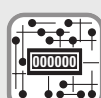
Input type



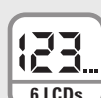
High shock resistance



Temperature range



PCB mount



LCD display



Electrical reset

Powerful

- Display range up to 99999.9 hours.
- 6-digit LCD display, 5 mm high.
- Low power consumption.
- Wide voltage and temperature range.
- Very high shock and vibration resistance.

Simple

- Non-volatile memory (no battery).
- Start/Stop input.
- Electrical reset.
- Very high reliability.
- Small size and low cost.

Order specifications

Supply voltage

8 ... 28 V DC

Order no.

6.198.012.H00

Delivery specification

- LCD counter module type 198
- Operating instructions

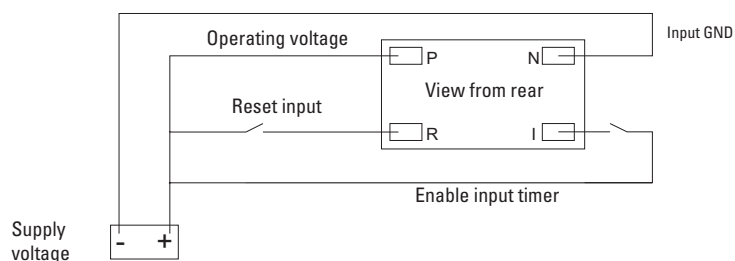
Hour meters / timers, electronic

LCD time modules	Max. time range 99999.9 h (DC)	198
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Technical data

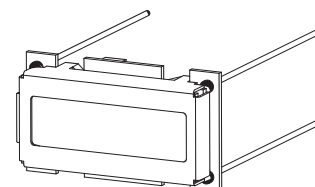
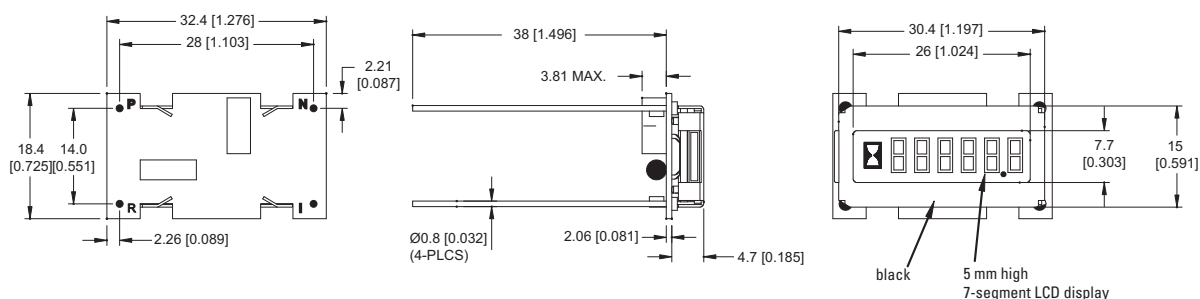
General technical data		Mechanical characteristics	
Display	6 digits, LCD display, figure height 5 mm [0.20"]	Housing	dimensions 18.4 x 32.4 mm [0.72 x 1.28"] color black
Display range	99999.9 h	Weight	approx. 8 g [0.28 oz]
Data backup	CMOS EEPROM non-volatile memory up to 10 years (without battery)	Vibration resistance acc. to DIN-IEC 68-2-6	10 ... 80 m/s ² , 10 ... 75 Hz
Operating / working / storage temperature	-40 °C ... +80 °C [-40 °F ... +185 °F] (non-condensing)	Inputs	
Humidity	95 % RH at +32 °C [+90 °F] for max. 2 hours	Start/Stop input (Enable input timer) On-times smaller than 16 sec will not be counted	8 ... 28 V DC
Electrical characteristics		Reset input	8 ... 28 V DC pulse length min. 500 ms
Supply voltage	8 ... 28 V DC	Approvals	
Current consumption	3 mA max. at 4.5 V DC 10 mA at 28 V DC	CE compliant in accordance with	
The module must be protected against inductive voltage spikes and high energy noise interference.		EMC Directive	2014/30/EU
		RoHS Directive	2011/65/EU
		Low Voltage Directive	2014/35/EU

Terminal assignment



Dimensions

Dimensions in mm [inch]



Hour meters / timers, electronic

LCD time modules

Max. time range 9999.99 h (DC)

194



The timer module of the type 194 for PCB mount features a 6-digit LCD display and 2 voltage ranges (4.75 ... 15 V DC and 9 ... 60 V DC).

It is extremely robust and suitable for many different applications thanks to its wide temperature range.



Timer



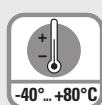
Supply voltage



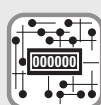
Input type



High shock resistance



Temperature range



PCB mount



LCD display



Electrical reset

Powerful

- Display range up to 9999-99 hours.
- 6-digit LCD display, 6 mm high.
- Low power consumption.
- Wide voltage and temperature range.
- Very high shock and vibration resistance.

Simple

- Non-volatile memory (no battery).
- Counting starts as soon as supply voltage is applied.
- Electrical reset.
- Very high reliability.
- Small size and low cost.

Order specifications

Supply voltage

4.75 ... 15 V DC

9 ... 60 V DC

Order no.

6.194.012.F00

6.194.012.G00

Art.-No.

162 137

162 138

Delivery specification

- LCD hour meter module type 194
- Operating instructions

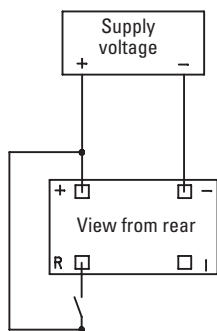
Hour meters / timers, electronic

LCD time modules	Max. time range 9999.99 h (DC)	194
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Technical data

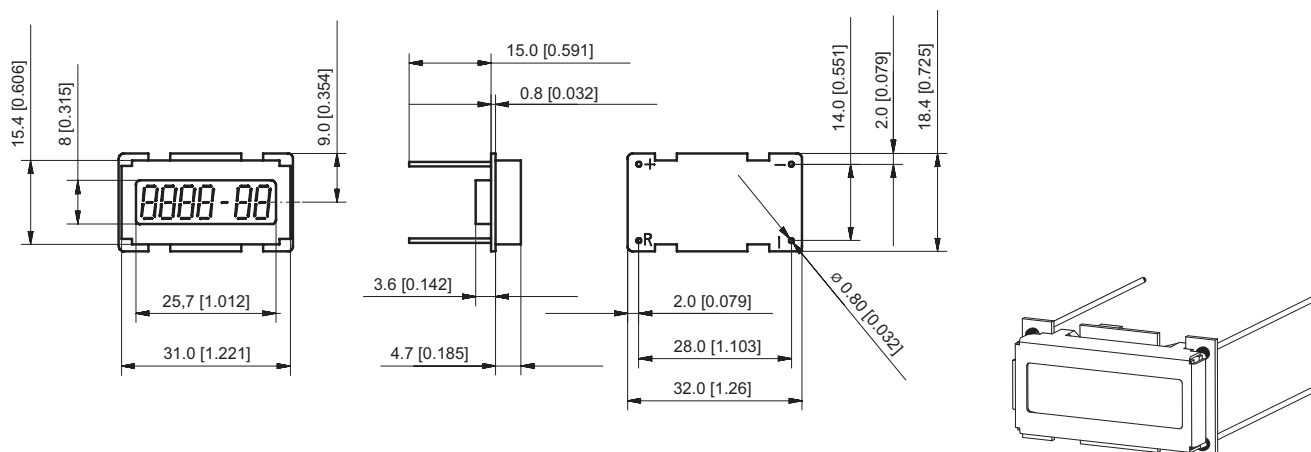
General technical data		Mechanical characteristics	
Display	6 digits, LCD display, figure height 6 mm [0.24"]	Housing	color black
Display range	9999.99 h	Weight	approx. 8 g [0.28 oz]
Data backup	CMOS EEPROM non-volatile memory up to 10 years	Shock resistance acc. to DIN-IEC 68-2-27	550 m/s ² , 11 ms
Operating temperature	-40 °C ... +85 °C [-40 °F ... +185 °F] (non-condensing)	Vibration resistance acc. to DIN-IEC 68-2-6	50 ... 200 m/s ² , 10 ... 80 Hz
Working temperature	-20 °C ... +80 °C [-4 °F ... +176 °F] (non-condensing)	Inputs	
Storage temperature	-50 °C ... +90 °C [-58 °F ... +194 °F]	Reset input	HIGH 4 ... 60 V DC LOW 0 ... 0.7 V DC pulse length min. 1 ms, edge triggered (rising)
Electrical characteristics		Measuring error	a max. error of 36 sec. occur per Start/Stop cycle
Supply voltage	...F00 4.75 ... 15 V DC, with reverse polarity protection ...G00 9 ... 60 V DC	Accuracy (Quarz)	max. 200 ppm 25 °C [+77 °F]
Current consumption	...F00 8 mA at 4.75 ... 15 V DC ...G00 6 mA at 9 ... 60 V DC	Approvals	
The module must be protected against inductive voltage spikes and high energy noise interference.		CE compliant in accordance with	
		EMC Directive	2014/30/EU
		RoHS Directive	2011/65/EU

Terminal assignment



Dimensions

Dimensions in mm [inch]



Hour meters / timers, electronic

LCD hour meters	Adding counter / service timer, 99999.99 h (DC)	Codix 141 / 143
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The Codix 141 / 143 is a simple externally powered hour meter with 7-digit LCD display for PNP, NPN input signals, optionally factory-programmable.

Codix 141: Standard timer

Codix 143: Service timer



DC 10 ... 30 V	PNP/NPN	Timer	-20° ... +65°C Temperature range	IP65 High protection level	DIN 48x24	7 LCDs	Lockable reset	Transistor output (143)
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Functional

- Direct display of the total time.
- Pressing the key displays the preset service value and its pre-signal.
- Preset value output as a text on the display and on the transistor output.
- Pre-signal for the service intervals as a text on the display.
- Manual or electrical reset of the display or of the service intervals.
- Fast PNP or damped NPN control via separate inputs.

User-friendly

- Supply voltage 10 ... 30 V DC.
- Values stored in EEPROM.
- Fixed pre-programmed service intervals, e.g.: service at 5000.00 h (service), pre-signal at 4900.00 h (pre-service), blinking text message on the display (service or pre-service).
- Multifunction reset key, lockable via a separate input.
- Can also be reset to its delivery condition.
- Factory programmable.

Order code	6.141 . 012 . 300
Standard timer	

Further options on request ¹⁾

- Multiplier
- Decimal point
- Other options

Delivery specification

- Counter
- Mounting clip
- Gaskets
- Instruction manual, multilingual

Stock types

6.141.012.300

Order code	6.143 . 011 . 300 . XXXX . XX
Service timer	^a ^b

^a Option 2 ¹⁾

Service preset

005K ²⁾ = 5000.00 h

^b Option 1 ¹⁾

Pre-warning, display text, further options

00 ²⁾ = Pre-warning at 100.00 before the preset service value.

Display shows text PrESerV with pre-warning and text SerViCE with preset service value.

Further options on request ¹⁾

- Multiplier
- Decimal point
- Other options

Delivery specification

- Counter
- Mounting clip
- Gaskets
- Instruction manual, multilingual

¹⁾ The option 1 - 3 can be programmed according to customer needs.

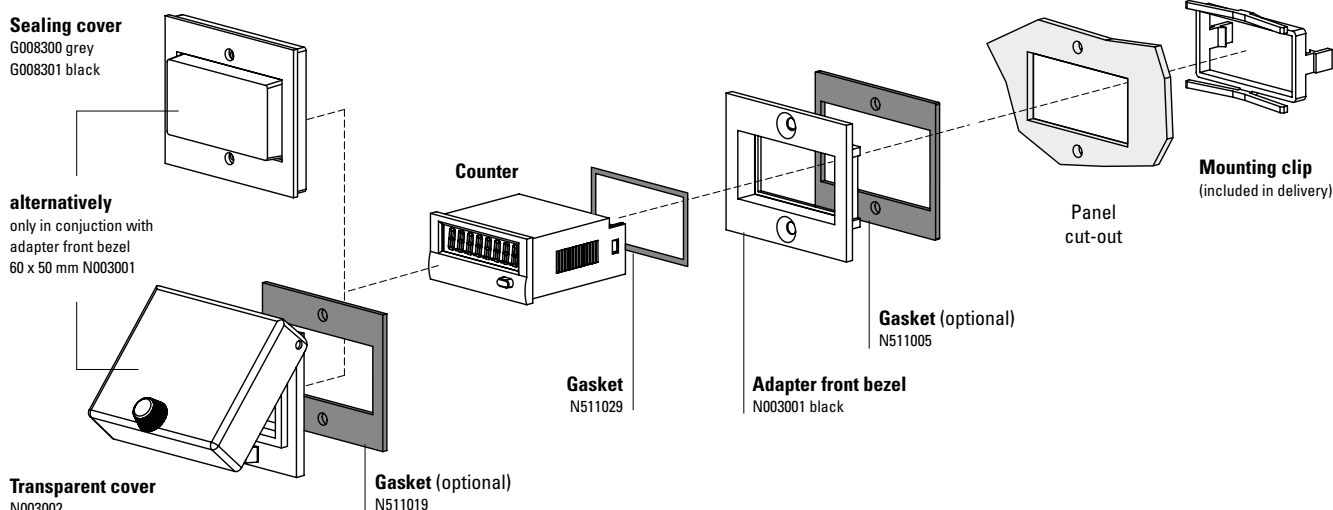
Please note: The min. order quantity for custom versions is 10 pcs with an extra charge, or 200+ pcs with no extra charge.

²⁾ Standard variant without additional charge.

Hour meters / timers, electronic

LCD hour meters	Adding counter / service timer, 99999.99 h (DC)	Codix 141 / 143
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Accessories / Mounting examples



		Type / size	Description		Order no.	suitable gasket
Adapter front bezel		53 x 28 mm [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	T008165 T008180	N511015
		56 x 40 mm [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	T008161 T008181	N511045
		72 x 36 mm [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	162704Set	—
		60 x 50 mm [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	N003001	N511005
		48 x 48 mm [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	T008883	—
Sealing cover IP65		K1	only in conjunction with adapter front bezel 60 x 50 mm N003001	transparent / grey transparent / black	G008300 G008301	—
Transparent cover IP65		1 Dv (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	N003002	N511019
Gasket counter			48 x 24 mm (for installation in adapter front bezel) 49 x 25 mm		N511029 N511034	
Mounting frame		cut-out 50 x 25 mm [1.97 x 0.98"]	via adapter T008180 for snap-on mounting on 35 mm [1.38"] top-hat DIN rail	chromated	G300004	—
Enclosure blind		48 x 24 mm [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	G003836	—

im Lieferumfang

Hour meters / timers, electronic

LCD hour meters	Adding counter / service timer, 99999.99 h (DC)	Codix 141 / 143
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Technical data

General technical data

Display	LCD, 7 digits, 8 mm [0.31"] high
Undervoltage	display for $U_B < 8\text{ V}$: PO-FAIL and data backup
Counting range	0 ... 99999.99 h decimal point 0.00 (further on request)
Data backup	EEPROM
Operating temperature	-20 °C ... +65 °C [-4 °F ... +149 °F] (non-condensing)
Storage temperature	-25 °C ... +75 °C [-13 °F ... +167 °F]

Electrical characteristics

Supply voltage	10 ... 30 V DC, max. 25 mA
Start delay	500 ms

Mechanical characteristics

Housing	front panel mount, DIN 43700 48 x 24 mm [1.89 x 0.94"] dark grey Ral 7021
Connections	8-pole screw terminals, pitch 5.08 mm [2.00"]
Cleaning	the front side should be cleaned using only a soft cloth moistened with water
Weight	40 g [1.41 oz]
Protection	IP65 (front side) IP20 (rear side)
Vibration resistance acc. to EN 60068-2-6	10 ... 55 Hz / 1 mm [0.04"] / 30 min
Shock resistance acc. to EN 60068-2-27	100 G: 2 ms 10 G: 6 ms

Inputs

Input A	static PNP input
Input B	static NPN input
Reset key enable input	static NPN input
Reset	edge-triggered NPN input (min. 20 ms)
Input resistance	10 kOhm
Switching level	LOW 0 ... 2 V DC HIGH 3.5 ... 30 V DC
Switching threshold	approx. 2.7 V DC

Additional data for Codix 143 (service timer)

Output	NPN transistor output, open collector
Output voltage	max. 30 V DC
Output current	max. 50 mA

Approvals

CE compliant in accordance with	
EMC Directive	2014/30/EU
RoHS Directive	2011/65/EU

Display and inquiry mode service timer

If the reset key is not released by means of the activation input of pin 6, pressing the key makes the following functions available to the user.

Press 1x: The text "SErViCE" is displayed

Press 2x: The following service value is displayed

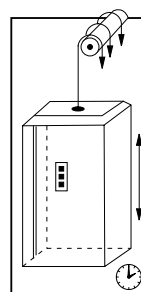
Press 3x: The text „PrESerV“ is displayed

Press 4x: The following preservice value is displayed

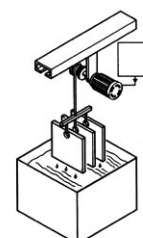
Press 5x: The current value is displayed

For the service timers, the values counted remain stored, the service values are incremented by the stored preset value when resetting. E.g. service value 5000.00 h, counter count when resetting 5100.00 h, new service value 10100.00 h.

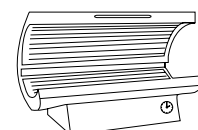
Applications



Operating time and
service interval



Total time and
service interval



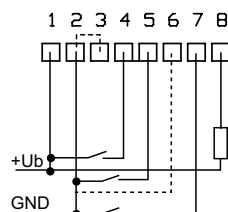
Service interval and total
time of the UV lamps

Hour meters / timers, electronic

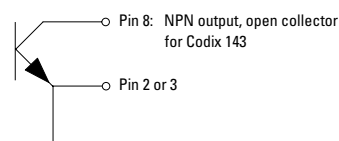
LCD hour meters	Adding counter / service timer, 99999.99 h (DC)	Codix 141 / 143
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Terminal assignment

PIN	Description	Standard timer	Service timer
Supply voltage			
1	+U _B	10 ... 30 V DC	10 ... 30 V DC
2	0 V DC, GND	GND	GND
Inputs			
3	0 V DC, GND	GND	GND
4	Fast counting input	INP PNP	INP PNP
5	Slow counting input	INP NPN	INP NPN
6	Reset enable input	RESET MANUAL ENABLE	RESET MANUAL ENABLE
7	Reset input	RESET	RESET
Output			
8	NPN output	n.c.	OUT

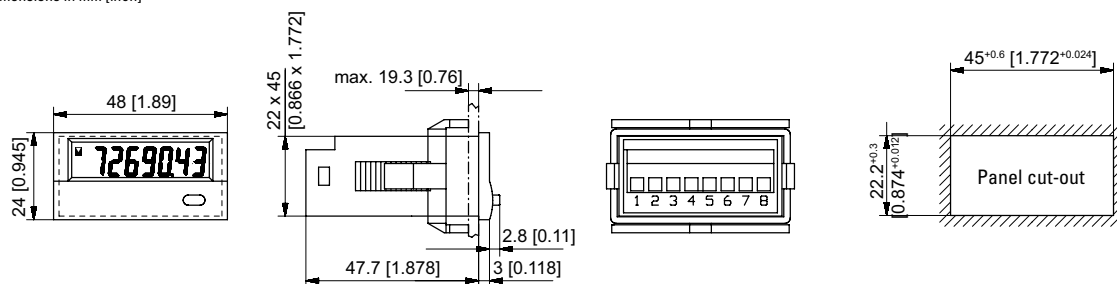


Output 8 is only used with Codix 143 as a NPN output



Dimensions

Dimensions in mm [inch]



Hour meters / timers, electronic

LCD hour meters	Max. time range 9999 h 59 min 59 sec or 9999999.9 sec	Codix 135
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The Codix 135 is a simple battery-powered hour meter for PNP, NPN and high-voltage applications.

Its 8-digit LCD display with optional backlighting can display various time ranges.



Battery powered	Timer	Input type	Pulse voltage	Pulse voltage	Temperature range	High protection level	DIN front bezel	LCD display	Lockable reset

Powerful

- High quality LCD display with 8 mm high figures - optional display backlighting.
- Time range up to 9999999.9 seconds or 9999h99m99s programmable via control input.
- Battery lifetime 8 years.
- High voltage versions for 10 ... 260 V AC/DC voltage pulses, thus to be connected directly via contactors, relays and motors.
- Very high accuracy: 100 ppm.

Simple

- Screw terminals, RM 5 mm.
- Reset key lockable via the input 'Reset Enable'.
- According to version for PNP, NPN switching level or high voltage version for 10 ... 260 V AC/DC switching voltage.
- Accumulated time is always readable thanks to battery powering.
- High protection level IP65.

Order code

6.135 . 012 . 8XX
a b

- a** Backlighting
5 = without
6 = with

Stock types
6.135.012.851
6.135.012.853

b Input type: measurement of short times

Input type	INP A	INP B
0 = adding	—	0 ... 0.7 V DC NPN
1 = adding	—	4 ... 30 V DC PNP
3 = adding	10 ... 260 V AC/DC AC/DC	10 ... 260 V AC/DC AC/DC

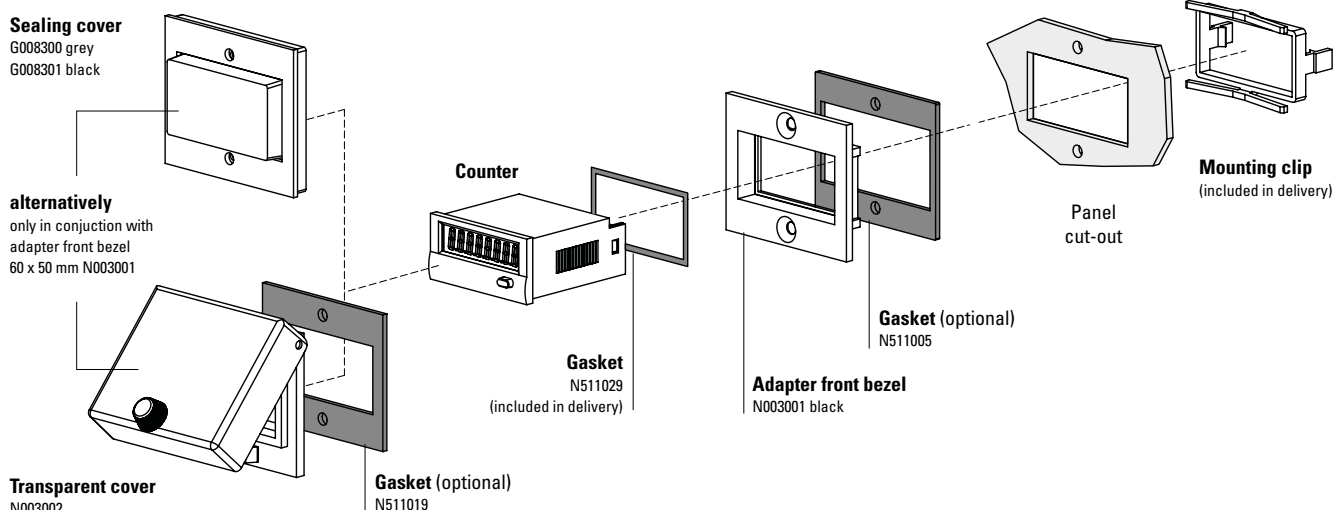
Delivery specification

- Timer
- Mounting clip
- 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"]
- Gasket
- Instruction manual, multilingual

Hour meters / timers, electronic

LCD hour meters	Max. time range 9999 h 59 min 59 sec or 9999999.9 sec	Codix 135
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Accessories / Mounting examples



		Type / size	Description		Order no.	suitable gasket
Adapter front bezel		53 x 28 mm [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	T008165 T008180	N511015
		56 x 40 mm [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	T008161 T008181	N511045
		72 x 36 mm [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	162704Set	—
		60 x 50 mm [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	N003001	N511005
		48 x 48 mm [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	T008883	—
Sealing cover IP65		K1	only in conjunction with adapter front bezel 60 x 50 mm N003001	transparent / grey transparent / black	G008300 G008301	—
Transparent cover IP65		1 Dv (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	N003002	N511019
Gasket counter			48 x 24 mm (for installation in adapter front bezel) 49 x 25 mm		N511029 N511034	
Mounting frame		cut-out 50 x 25 mm [1.97 x 0.98"]	via adapter T008180 for snap-on mounting on 35 mm [1.38"] top-hat DIN rail	chromated	G300004	—
Enclosure blind		48 x 24 mm [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	G003836	—

incl. in delivery

Hour meters / timers, electronic

LCD hour meters	Max. time range 9999 h 59 min 59 sec or 9999999.9 sec	Codix 135
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Technical data

General technical data

Display	LCD, 8-digits, 8 mm [0.31"] high
Backlighting	external electrical source 24 V DC $\pm 20\%$, 50 mA
Counting direction	adding
Display range	see next page
Reset	manual and electrical
Working temperature	-10 °C ... +55 °C [+14 °F ... +131 °F] (non-condensing)
Operating temperature	-10 °C ... +60 °C [+14 °F ... +140 °F] (non-condensing)
Storage temperature	-20 °C ... +70 °C [-4 °F ... +158 °F]
Relative humidity	< 85 % (non-condensing)
Altitude	up to 2000 m [6562']

Electrical characteristics

Supply voltage	internal lithium battery approx. 8 years at 20 °C [68 °F]
Device safety	Designed to Protection class Application area
	EN 61010 part 1 2 pollution level 2

Mechanical characteristics

Housing	dark grey RAL 7021
Protection	IP65 (front side)
Weight	approx. 50 g [1.76 oz]

Count input

A. Timer inputs DC versions (max. 30 V DC) INP B

Timer input	NPN or PNP	depending on the type (see table)
Switching level	NPN	LOW: 0 ... 0.7 V DC HIGH: 3 ... 30 V DC
	PNP	LOW: 0 ... 0.7 V DC HIGH: 4 ... 30 V DC
Counting start	NPN	for LOW signal at the timer input
	PNP	for HIGH signal at the timer input

B. Timer inputs high voltage versions (10 ... 260 V DC/V AC) INP A

Timer input	optocoupler input
Min. pulse time	16 ms
Switching level	LOW: 0 ... 2 V DC/V AC HIGH: 10 ... 260 V DC/V AC
Counting start	for HIGH signal at the timer input

C. Time range change (Mode)

Contact input	open collector (switching at 0 V)
	NPN
	LOW 0 ... 0.7 V DC HIGH 3 ... 5 V DC
Time range	depending on the circuit (s. order inform.)

D. Reset input for DC and high voltage

Min. pulse time	DC	50 ms
	High voltage	16 ms
Contact input DC	NPN	LOW 0 ... 0.7 V DC HIGH 3 ... 30 V DC
High voltage input		10 ... 260 V AC/DC

E. Reset locking input (for DC and AC)

Electrical reset key locking	
Input not active	reset key locked
Contact input	open collector NPN (switching at 0 V)
Switching level	NPN
	LOW 0 ... 0.7 V DC
	HIGH 3 ... 5 V DC

Approvals

UL compliant in accordance with File no. E128604

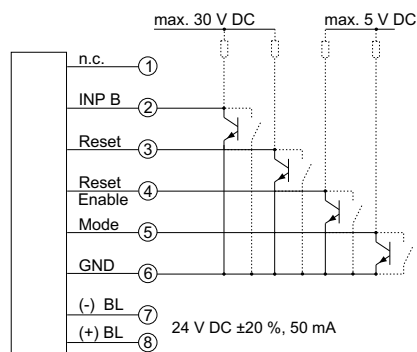
CE compliant in accordance with
 EMC Directive 2014/30/EU
 RoHS Directive 2011/65/EU
 Low Voltage Directive 2014/35/EU

Hour meters / timers, electronic

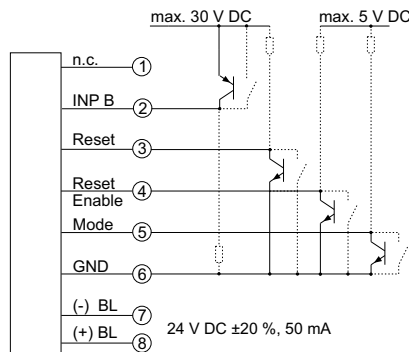
LCD hour meters	Max. time range 9999 h 59 min 59 sec or 9999999.9 sec	Codix 135
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Terminal assignment

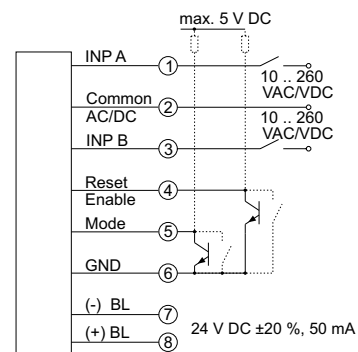
DC type: 6.135.012.8x0



DC type: 6.135.012.8x1



AC type: 6.135.012.8x3



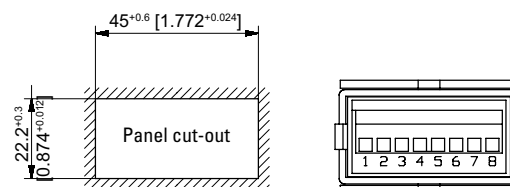
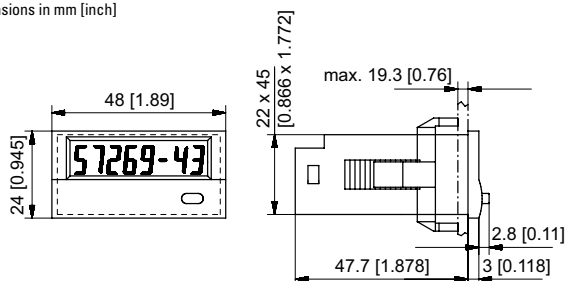
BL = backlighting

Display and time ranges

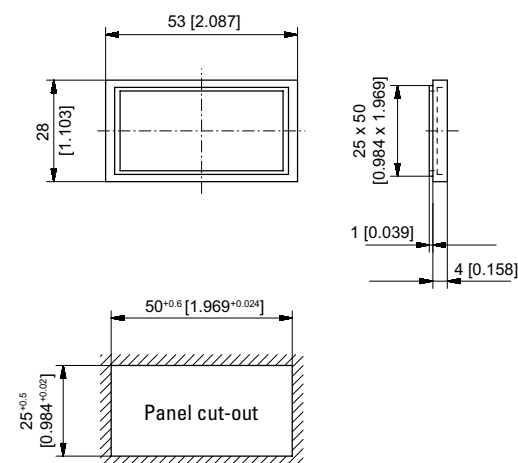
time range	display
9999h 59m 59s	9999.59.59
9999999.9 s	9999999.9

Dimensions

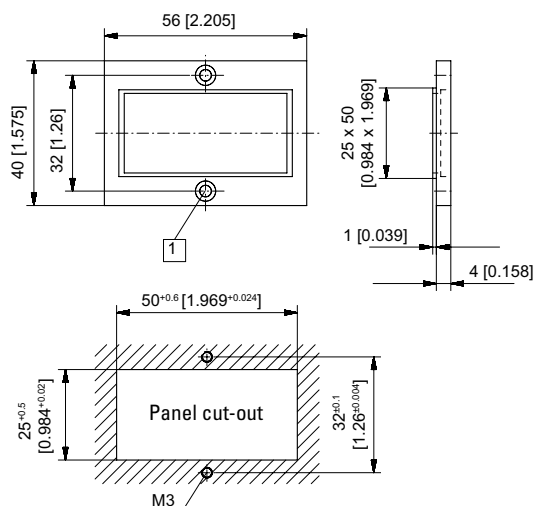
Dimensions in mm [inch]



Front bezel for clip mounting (included in delivery)



Front bezel for screw mounting (included in delivery)



1 Countersinking Af3, DIN 74

Hour meters / timers, electronic

LCD hour meters	Max. time range 99999 h 59 min or 99999.99 h	Codix 134
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The Codix 134 is a simple battery-powered hour meter for PNP, NPN and high voltage applications.

Its 7-digit LCD display with optional backlighting can display various time ranges.



Battery powered	Timer	Input type	Pulse voltage	Pulse voltage	Temperature range	High protection level	DIN front bezel	LCD display	Lockable reset

Powerful

- High quality LCD display with 8 mm high figures – optional display backlighting.
- Time range hours with minutes or industry minutes
1 pulse = 36 sec programmable via control input.
- Battery lifetime 8 years.
- High voltage versions for 10 ... 260 V AC/DC voltage pulses, thus to be connected directly via contactors, relays and motors.
- Very high accuracy: 100 ppm.

Simple

- Screw terminals, RM 5 mm.
- Reset key lockable via the input 'Reset Enable'.
- According to version for PNP, NPN switching level or high voltage version for 10 ... 260 V AC/DC switching voltage.
- Accumulated time is always readable thanks to battery powering.
- High protection level IP65.

Order code

6.134 . 012 . 8XX
a b

a Backlighting

- 5 = without
- 6 = with

b Input type: operating hours counting

Input type	INP A	INP B
0 = adding	–	0 ... 0.7 V DC NPN
1 = adding	–	4 ... 30 V DC PNP
3 = adding	10 ... 260 V AC/DC AC/DC	10 ... 260 V AC/DC AC/DC

Stock types

6.134.012.850
6.134.012.851
6.134.012.853
6.134.012.861

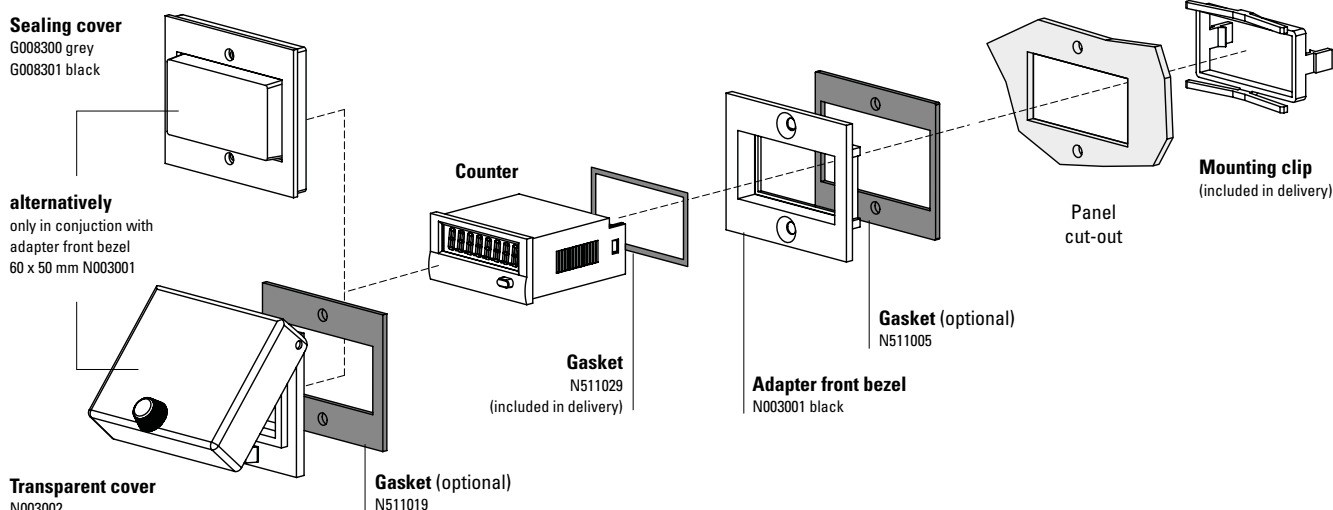
Delivery specification

- Timer
- Mounting clip
- 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"]
- Gasket
- Instruction manual, multilingual

Hour meters / timers, electronic

LCD hour meters	Max. time range 99999 h 59 min or 99999.99 h	Codix 134
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Accessories / Mounting examples



		Type / size	Description		Order no.	suitable gasket
Adapter front bezel		53 x 28 mm [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	T008165 T008180	N511015
		56 x 40 mm [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	T008161 T008181	N511045
		72 x 36 mm [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	162704Set	—
		60 x 50 mm [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	N003001	N511005
		48 x 48 mm [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	T008883	—
Sealing cover IP65		K1	only in conjunction with adapter front bezel 60 x 50 mm N003001	transparent / grey transparent / black	G008300 G008301	—
Transparent cover IP65		1 Dv (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	N003002	N511019
Gasket counter			48 x 24 mm (for installation in adapter front bezel) 49 x 25 mm		N511029 N511034	
Mounting frame		cut-out 50 x 25 mm [1.97 x 0.98"]	via adapter T008180 for snap-on mounting on 35 mm [1.38"] top-hat DIN rail	chromated	G300004	—
Enclosure blind		48 x 24 mm [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	G003836	—

incl. in delivery

Hour meters / timers, electronic

LCD hour meters	Max. time range 99999 h 59 min or 99999.99 h	Codix 134
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Technical data

General technical data

Display	LCD, 7 digits, 8 mm [0.31"] high
Backlighting	external electrical source 24 V DC $\pm 20\%$, 50 mA
Modes	adding
Display range	see next page
Reset	manual and electrical
Working temperature	-10 °C ... +55 °C [+14 °F ... +131 °F] (non-condensing)
Operating temperature	-10 °C ... +60 °C [+14 °F ... +140 °F] (non-condensing)
Storage temperature	-20 °C ... +70 °C [-4 °F ... +158 °F]
Relative humidity	< 85 % (non-condensing)
Altitude	up to 2000 m [6562']

Electrical characteristics

Supply voltage	internal lithium battery approx. 8 years at 20 °C [68 °F]	
Device safety	designed to protection class application area	EN 61010 part 1 2 pollution level 2
Measuring error	per Start/Stop cycle a maximum error in the order of the smallest measuring time selected can occur	

Mechanical characteristics

Housing	dark grey RAL 7021
Protection	IP65 (front side)
Weight	approx. 50 g [1.76 oz]

Count input

A. Timer inputs DC versions (max. 30 V DC) INP B		
Timer input	NPN or PNP	depending on the type (see table)
Switching level	NPN	LOW: 0 ... 0.7 V DC HIGH: 3 ... 30 V DC
	PNP	LOW: 0 ... 0.7 V DC HIGH: 4 ... 30 V DC
Counting start	NPN	for LOW signal at the timer input
	PNP	for HIGH signal at the timer input

B. Timer inputs high voltage versions (10 ... 260 V DC/V AC) INP A		
Timer input	optocoupler input	
Min. pulse time	16 ms	
Switching level	LOW:	0 ... 2 V DC/V AC
	HIGH:	10 ... 260 V DC/V AC
Counting start	for HIGH signal at the timer input	

C. Time range change (Mode)		
Contact input	NPN	open collector (switching at 0 V) LOW 0 ... 0.7 V DC HIGH 3 ... 5 V DC
Time range	depending on the circuit (s. order inform.)	

D. Reset input for DC (reset) and High voltage (INPB)		
Min. pulse time	DC	50 ms
	High voltage	16 ms
Contact input DC	NPN	LOW 0 ... 0.7 V DC HIGH 3 ... 30 V DC
High voltage input	10 ... 260 V AC/DC	

E. Reset locking input (for DC and AC)		
Electrical reset key locking		
Input not active	reset key locked	
Contact input	open collector NPN (switching at 0 V)	
Switching level	NPN	LOW 0 ... 0.7 V DC HIGH 3 ... 5 V DC

Approvals

UL compliant in accordance with	File no. E128604
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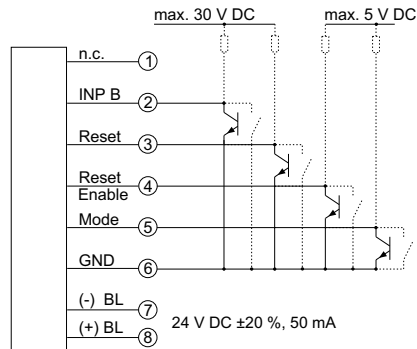
CE compliant in accordance with		
EMC Directive	2014/30/EU	
RoHS Directive	2011/65/EU	
Low Voltage Directive	2014/35/EU	

Hour meters / timers, electronic

LCD hour meters	Max. time range 99999 h 59 min or 99999.99 h	Codix 134
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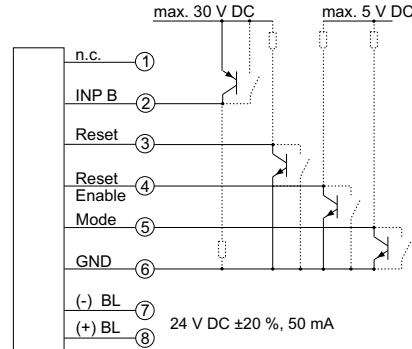
Terminal assignment

DC type: 6.134.012.8x0

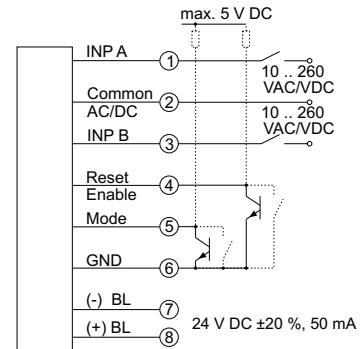


BL = backlighting

DC type: 6.134.012.8x1



AC type: 6.134.012.8x3

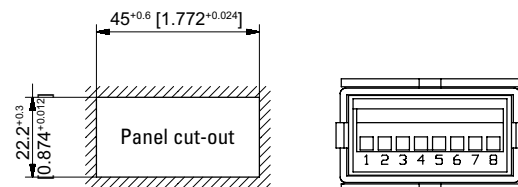
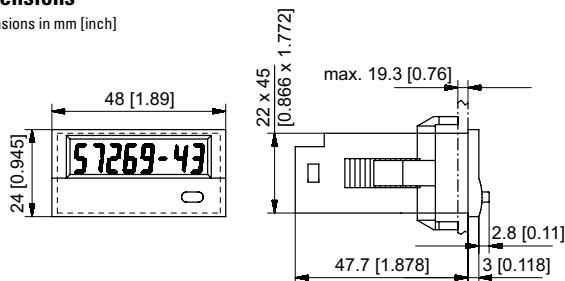


Display and time ranges

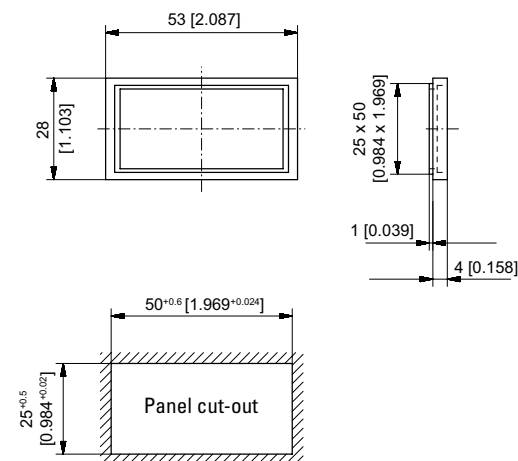
time range	display
99999 h 59 m	99999 - 59
99999.99 h	99999 - 99

Dimensions

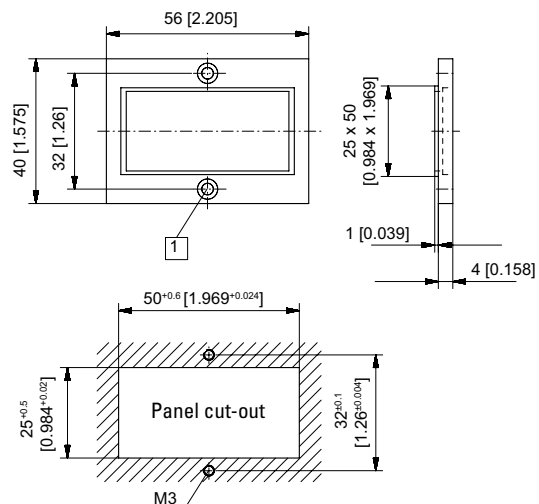
Dimensions in mm [inch]



Front bezel for clip mounting (included in delivery)



Front bezel for screw mounting (included in delivery)



[1] Countersinking Af3, DIN 74



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