

LED dual function displays

Universal with dual functions, 4 combinations (AC+DC)

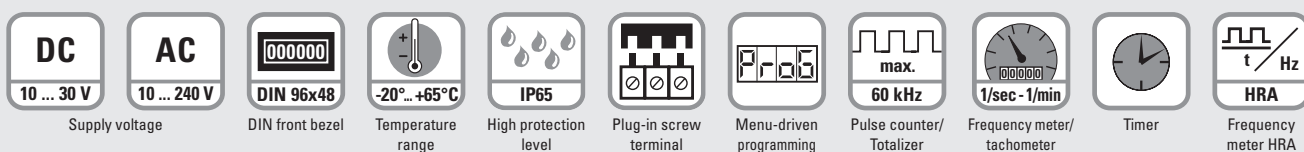
Codix 54U



The Codix 54U is a voltage-powered dual function counter with 4 functions in one device:

Counter with 2 totalizing ranges, totalizer and timer, totalizer and frequency meter, timer with 2 time ranges.

For fast and slow count pulses, with 6-digit LED display for NPN, PNP input signals.



Powerful

- Fast count and frequency input – input frequency max. 60 kHz (can be damped to 30 Hz for mechanical contacts).
- Robust housing – IP65 protected.
- Very bright LED display, 14 mm high, 6 digits.
- Very accurate precise frequency measurement principle (HRA-High Rate Accuracy System)
Frequencies up to 38 Hz are calculated using time-interval (period duration) measurement. Frequencies > 38 Hz are calculated using a special time base (gate time) measurement. A very high accuracy of < 0.1 % is achieved, even with very short gate times. The resulting measurement is available after a max. of 50 ms.
- Short start-up time – detects input pulses just 16 msec after being switched on => no pulses are lost with a simultaneous motor start-up.

User-friendly and universal

- Large keys – can also be operated when wearing gloves.
- Programming:
 - Simple uniform menu-driven programming and operation.
 - Possible to enter the programming also during operation with a confirmation prompt.
 - Pressing the right key switches between displays.
- Individually programmable scaling: multiplication and division factor (0.0001...99.9999), to display corresponding engineering units, e.g. position in 1/10 mm and speed in RPM.
- Separate factors for frequency- and pulse counting.
- AC or DC supply voltage.
- Inputs: as an alternative to the HTL inputs, devices with a 5 V DC input level are available, for use as parallel displays for PLCs.
- Timer specials: timer or hours-run meter with various Start/Stop measurements, time range settings in hours, minutes or seconds, with decimal point. Resolutions up to 1/1000 can be programmed.

Order code

6.54U . 012 . XX0
a b

- a** Supply voltage
0 = 100 ... 240 V AC, $\pm 10\%$
3 = 10 ... 30 V DC

- b** Input switching level
0 = Standard (HTL)
A = 4 ... 30 V DC

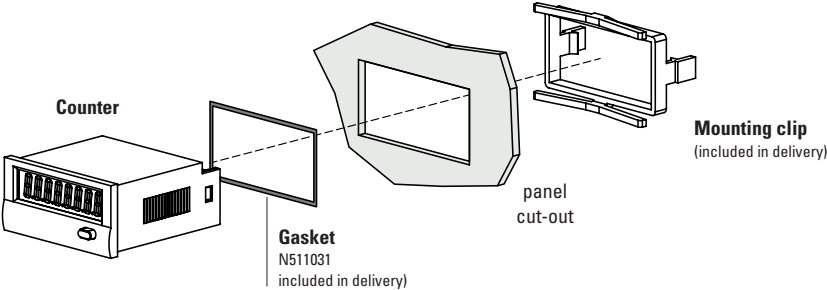
Delivery specification


- Digital display
- Mounting clip
- Gasket
- 2 plug-in screw terminals
- Instruction manual, multilingual

Multifunction devices, electronic

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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

Multifunction devices, electronic

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Technical data

General technical data

Display	6 digit, red 7 segment LED display; 14 mm [0.55"] high
Data backup	EEPROM
Operating temperature	10 ... 26 V DC -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 2 application area 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 k Ω
Counting frequency ¹⁾	max. 60 kHz, can be damped to 30 Hz
Display range	timer 0.001 s ... 999999 h frequency meter 1/min or 1/sec
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	
frequency meter / tachometer	< 0.1 %
timer	< 50 ppm

Outputs

Sensor supply voltage (AC version)	24 V DC ± 15 %/100 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
Low Voltage Directive	2014/35/EU

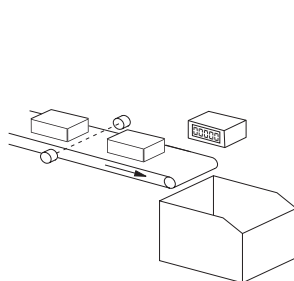
1) Details see manual

Multifunction devices, electronic

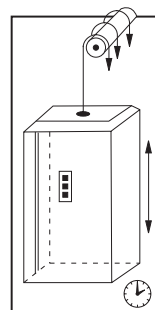
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Applications for dual functions

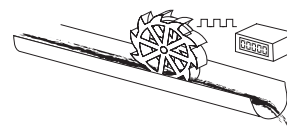
- Pulse and frequency (speed)
e.g. production data acquisition: total piece count and speed on OEM equipment, flow rate measuring systems – total flow and current flow
- 2 pulse counters
Measurement of batch and total piece count or of daily production count and total count values
- Pulse and time (maintenance counter)
Used in the lift industry as trip counters and hours-run meters and on production machines for piece and time counting, flow and time measurement, materials handling time and quantities
- 2 timers
Measurement of total time and orderspecific times, maintenance intervals and total time, time of day and total time



Piece count on conveyor and production speed

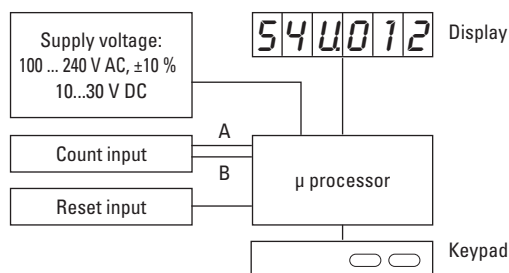


Trip counter and hours-run

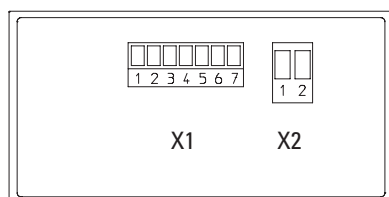


Flow rate and total volume

Block diagram



Terminal assignment



Connection X1

PIN	AC version	DC version
1	n.c.	
2	n.c.	
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

Function of the inputs INP A, INP B

Counter with 2 totalizing ranges:

INP A: Dynamic count input counter 1 and counter 2
INP B: Inactive

Totalizer and timer:

INP A: Dynamic count input for totalizer
INP B: Start/Stop or gate input for timer

Totalizer and frequency meter:

INP A: Dynamic count input/frequency input
INP B: Inactive

Timer with 2 time ranges:

INP A: Start input (depends on input type)
INP B: Start/Stop or gate input for timer (depends on input type)

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Dimensions

Dimensions in mm [inch]

