

**LED dual function displays**      **6 count modes with tachometer (AC+DC)**      **Codix 54P**



The Codix 54P is a voltage-powered pulse counter/ position display with 4 different count input modes and separate tachometer.

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

<b>DC</b> 10 ... 30 V	<b>AC</b> 10 ... 240 V	<b>000000</b> DIN 96x48	<b>-20°...+65°C</b> Temperature range	<b>IP65</b> High protection level	<b>Plug-in screw terminal</b>	<b>max. 30 kHz</b> Pulse counter/ Totalizer	<b>1/sec - 1/min</b> Frequency meter/ tachometer	<b>Position</b> Position display	<b>HRA</b> Frequency meter HRA
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### Powerful

- Fast count and frequency input – input frequency max. 30 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.
- 4 different count input modes for the position display: 2-channel input for detecting count direction, difference or adding mode, quadrature x1, x2 or x4. 1 separate input for rotary speed and speed, display in 1/min or 1/sec.
- AC or DC supply with sensor 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.

**Order code**      **6.54P . 012 . XX0**

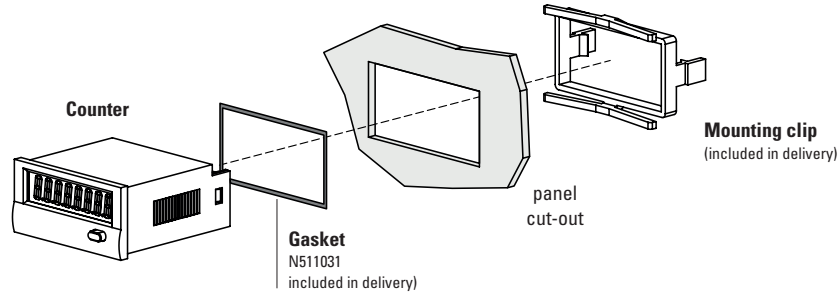
- a** Supply voltage  
0 = 100 ... 240 V AC, ±10 %  
3 = 10 ... 30 V DC
- b** Input switching level  
0 = Standard (HTL)  
A = 4 ... 30 V DC

- 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.	
<b>Gasket counter</b>			96 x 49 mm [3.78 x 1.93"]		<b>N511031</b>	
<b>Mounting frame</b>		<b>cut-out</b> 92 x 45 mm [3.62 x 1.77"]	for snap-on mounting on 35 mm [1.38"] top-hat DIN rail	grey	<b>G300005</b>	-
<b>Screw terminal</b> (Replacement part)			1 ... 7, pitch 3.81 1 ... 2, pitch 5.08	7 pin 2 pin	<b>N100387</b> <b>N100133</b>	
						incl. in delivery

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## Technical data

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

Electrical characteristics	
<b>Supply voltage</b>	10 ... 30 V DC, with reverse polarity protection 100 ... 240 V AC, ±10 %
<b>Current consumption</b>	max. 50 mA, 8 VA
<b>Device safety</b>	designed to protection class application area EN 61010 part 1 2 pollution level 2

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

Inputs	
<b>Polarity of inputs</b>	programmable, NPN or PNP for all inputs
<b>Input resistance</b>	approx. 5 kΩ
<b>Counting frequency <sup>1)</sup></b>	max. 30 kHz, can be damped to 30 Hz
<b>Display range</b>	tachometer 1/min or 1/sec
<b>Minimum pulse duration of the reset input</b>	5 ms
<b>Input switching level standard version (HTL)</b>	
DC supply voltage	LOW 0 ... 0.2 x U <sub>B</sub> [V DC] HIGH 0.6 x U <sub>B</sub> ... 30 V DC
AC supply voltage	LOW 0 ... 4 V DC HIGH 12 ... 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>	frequency meter/tachometer < 0.1 %

Outputs	
<b>Sensor supply voltage (AC version)</b>	24 V DC ±15 %/100 mA

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
Low Voltage Directive	2014/35/EU

1) Details see manual

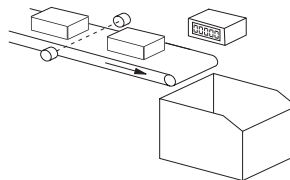
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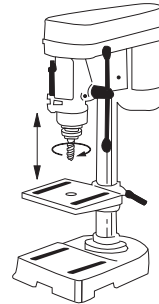
### Applications for frequency and position display / totalizer

Position and rotary speed applications, e.g.

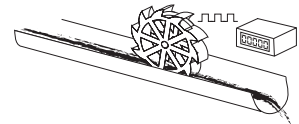
- OEM equipment or retrofitting to drilling machines
- OEM equipment on flow measuring plant, e.g. total flow and current flow
- Total piece count and pieces per minute, where the pulse counting occurs in the add/subtract mode, in order to deduct reject parts
- Production data acquisition: total piece count and production speed, or absolute distance traversed and current speed



Piece count on conveyor and production speed

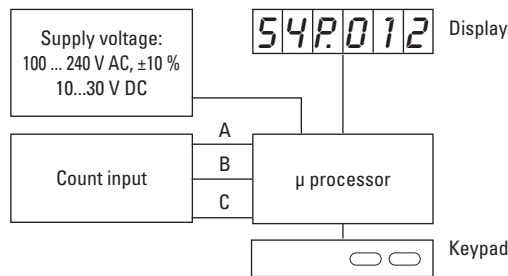


Rotary speed and drilling depth

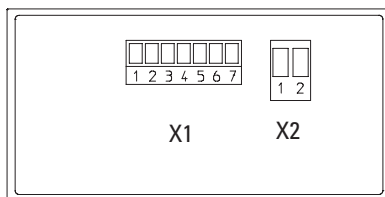


Flow rate and total volume

### Block diagram



### Terminal assignment



#### Connection X1

PIN	AC version	DC version
1	n.c.	
2	n.c.	
3	INP C (frequency)	
4	INP B (frequency)	
5	INP A (Count)	
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, INP C

#### INP A and INP B:

Two channel pulse input with 6 different count modes

#### INP C:

Frequency input, single channel

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## Dimensions

Dimensions in mm [inch]

