Multifunction devices, electronic

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.

DC	AC	DIN 96 x 48	Temperature range	IP65	Plug-in screw terminal	Menu-driven programming	max. 30 kHz	Frequency meter/ tachometer	POSITION	HRA
10 ... 30V	100 ... 240 V	000000	-20°... +65°C			ProG		1/sec 1/min		t / Hz
Power supply		DIN 96 x 48	Temperature range	High protection level	Plug-in screw terminal	Menu-driven programming	Pulse counter/ Totalizer	Frequency meter/ tachometer	Position display	Frequency meter HRA

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 power supply.
- 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
         ⓐ ⓑ

ⓐ Power supply	ⓑ Input switching level	Delivery specification	Replacement parts	
0 = 100 ... 240 V AC, ±10 %	0 = Standard (HTL)	· Digital display	7 pin screw terminal RM 3.81 1 ... 7:	N100387
3 = 10 ... 30 V DC	A = 4 ... 30 V DC	· Mounting clip	2 pin screw terminal RM 5.08 1 ... 2:	N100133
		· Gasket		
		· 2 plug-in screw terminals		
		· Instruction manual, multilingual		

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Accessories	Dimensions in mm [inch]		Order no.
Mounting frame with cut-out 92 x 45 [3.62 x 1.77]	for snap-on mounting on 35 [1.38] top-hat DIN rail, for counters 96 x 48 [3.74 x 1.89]	grey	**G300005**

Suitable gaskets as well as further accessories can be found in the accessories section or in the accessories area of our website at: www.kuebler.com/accessories.

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]
Altitude	up to 2000 m [6562']

Electrical characteristics

Power supply	10 ... 30 V DC, with reverse polarity protection 100 ... 240 V AC, ±10 %
Current consumption	max. 50 mA, 6 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
UL approval	file E128604

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
Counting frequency [1]	max. 30 kHz, can be damped to 30 Hz
Display range tachometer	1/min or 1/sec
Minimum pulse duration of the reset input	5 ms

Input switching level standard version (HTL)

DC power supply	LOW	0 ... 0.2 x U_B [V DC]
	HIGH	0.6 x U_B ... 30 V DC
AC power supply	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 %

Outputs

|	
Sensor power supply (AC version)	24 V DC ±15 %/100 mA

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
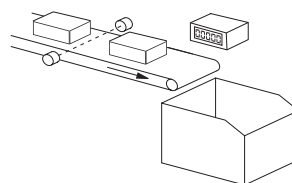
Piece count on conveyor and production speed
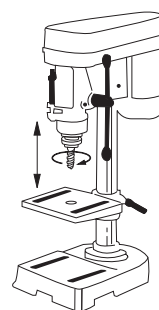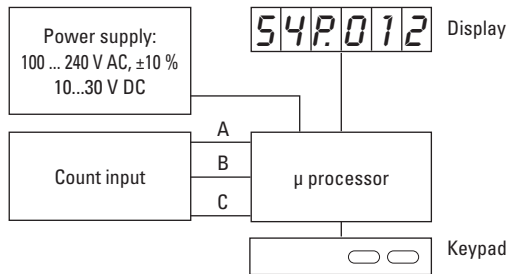
Rotary speed and drilling depth
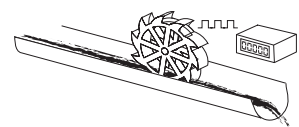
Flow rate and total volume
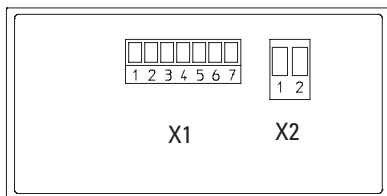
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1) Details see manual

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Block diagram

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

Display

5 4 P. 0 1 2

Count input

A
B
C

µ processor

Keypad

Terminal assignment

1 2 3 4 5 6 7

1 2

X1   X2

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

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]