Multifunction devices, electronic

LED dual function displays	6 count modes with tachometer (DC)	Codix 52P

The Codix 52P 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 10 ... 30V	000000 DIN 48 x 24	- 20° + 65°	IP65	ProG	max. 30 kHz	1/sec 1/min	POSITION	t / Hz HRA
Power supply	DIN front bezel	Temperature range	High protection level	Menu-driven programming	Pulse counter/ Totaliser	Frequency meter/ tachometer	Position display	Frequency meter HRA

Powerful

- Fast count and frequency input – input frequency max. 30 kHz
- Robust housing – IP65 protected
- Very bright LED display, 8 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
- Inputs: as an alternative to the HTL inputs, devices are available with a 4 … 30 V DC input level, for use as parallel displays to PLCs

Multifunction devices

Order code

6.52P	.	0	1	2	.	3	X	0

a

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

Delivery specification
- Digital counter
- Mounting clip
- Gasket
- Instruction manual, multilingual

- Front bezel for screw mounting (T008181)
  56 x 40 mm, panel cut-out 50 x 25 mm
- Front bezel for clip mounting (T008180)
  53 x 28 mm, panel cut-out 50 x 25 mm

[1] Stock types

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Accessories

			Order-No.
Adapter front bezel, 72 x 36 mm	For cut-out 68 x 33 mm to cut-out 45 x 22.2 mm, for counters 48 x 24 mm, as set	black and silver anodised	**162704 Set**
Adapter front bezel, 48 x 48 mm	For cut-out 45 x 45 mm to cut-out 45 x 22.2 mm, with clip mounting for counters 48 x 24 mm	black	**T008883**
Adapter front bezel, 60 x 50 mm	For cut-out 54 x 29 mm to cut-out 45 x 22.2 mm, with screw mounting and gasket for counters 48 x 24 mm	black	**N003001**
Transparent cover, lockable, IP65	For cut-out 54 x 29 mm, with screw mounting to front bezel F1B or adapter front bezel N003001, for counters with cut-out 50 x 25 mm or 45 x 22.2 mm		**N003002**
Sealing cover type K1, IP65	Suitable for front bezel 60 x 50 mm with screw mounting of electromechanical counters and via adapter front bezel N003001, for counters 48 x 24 mm		**G008301**
Mounting frame with cut-out 50 x 25 mm via separate adapter also for 45 x 22.2 mm	For snap-on mounting on 35 mm top-hat DIN rail, for counters 53 x 28 mm and via separate adapter (T008180) for counters 48 x 24 mm	chromated	**G300004**

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.

General technical data

Display	6 digits, red 7 segment LED display; 8 mm high
Data backup	EEPROM
Operating temperature	10 ... 26 V DC -20°C ... +65°C > 26 ... 30 V DC -20°C ... +55°C (non-condensing)
Storage temperature	-25°C ... +70°C

Electrical characteristics

Power supply		10 ... 30 V DC, with reverse polarity protection
Current consumption		max. 40 mA
EMC	Emitted interference	EN 55011 class B
	Immunity to interference	EN 61000-6-2

Mechanical characteristics

Housing	front panel mount 48 x 24 mm acc. to DIN 43700; RAL 7021, dark grey
Protection	IP65 (front side)
Weight	approx. 50 g

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 (HTL)	LOW	$0 ... 0.2 \times U_B$ [V DC]
	HIGH	$0.6 \times U_B ... 30$ V DC
Input switching level at 4 ... 30 V DC	LOW	0 ... 2 V DC
	HIGH	4 ... 30 V DC
Accuracy		< 0.1 % frequency meter, tachometer

Applications for frequency and position display / totaliser

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
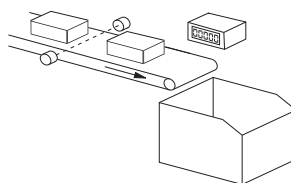
Piece count on conveyor and production speed
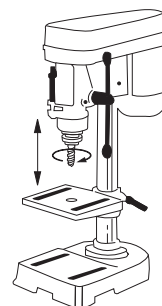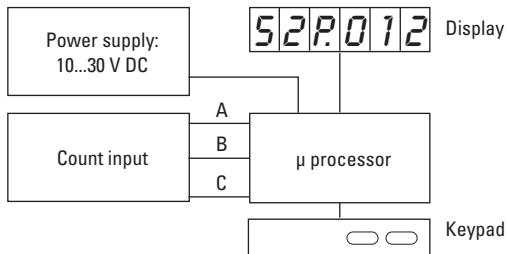

Rotary speed and drilling depth
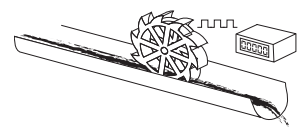
Flow rate and total volume

1) Details see manual

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Block diagram

```
Power supply:        52P.012    Display
10...30 V DC

                  A
Count input       B     µ processor
                  C

                              Keypad
```

Terminal assignment

1	2	3	4	5

PIN	DC version
1	10 ... 30 V DC
2	0 V GND
3	INP A (count)
4	INP B (count)
5	INP C (frequency)

Function of the inputs INP A, INP B, INP C

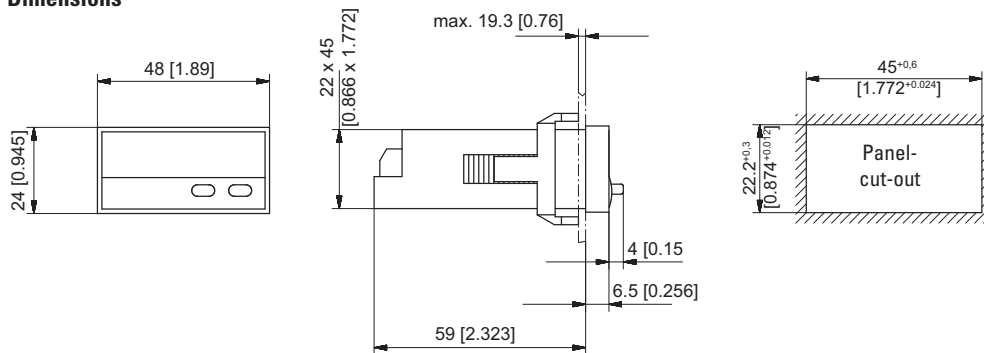**INP A and INP B:**
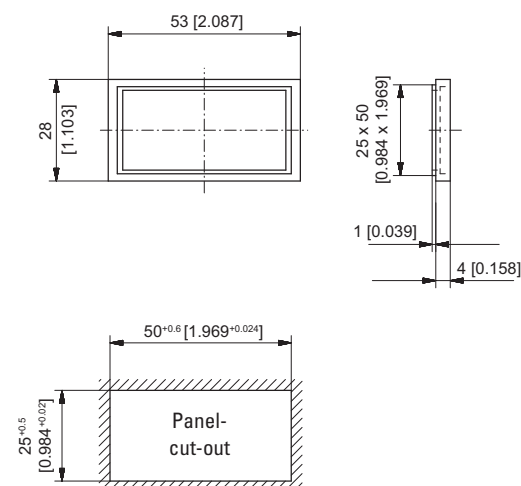Two channel pulse input with 6 different count modes
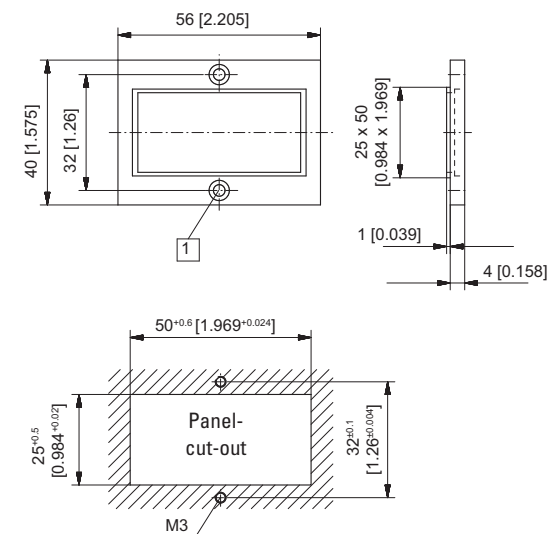**INP C:**
Frequency input, single channel

Dimensions

48 [1.89]
24 [0.945]
22 x 45 [0.866 x 1.772]
max. 19.3 [0.76]
4 [0.15]
6.5 [0.256]
59 [2.323]

45$^{+0,6}$ [1.772$^{+0.024}$]
22.2$^{+0,3}$ [0.874$^{+0.012}$]
Panel-cut-out

Front bezel for clip mounting (included in delivery)

53 [2.087]
28 [1.103]
25 x 50 [0.984 x 1.969]
1 [0.039]
4 [0.158]

50$^{+0.6}$ [1.969$^{+0.024}$]
25$^{+0,5}$ [0.984$^{+0.02}$]
Panel-cut-out

Front bezel for screw mounting (included in delivery)

56 [2.205]
40 [1.575]
32 [1.26]
25 x 50 [0.984 x 1.969]
1 [0.039]
4 [0.158]

50$^{+0.6}$ [1.969$^{+0.024}$]
25$^{+0,5}$ [0.984$^{+0.02}$]
32$^{+0,1}$ [1.26$^{+0.004}$]
Panel-cut-out
M3

1 Countersinking Af3, DIN 74

Dimensions in mm [inch]