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	DIN 48x24	-20°…+65°C	IP65	ProG	max. 30 kHz	1/sec - 1/min	Position	t / Hz
10 … 30 V								HRA
Supply voltage	DIN front bezel	Temperature range	High protection level	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, 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.

Order code

6.52P . 012 . 3 X 0
a

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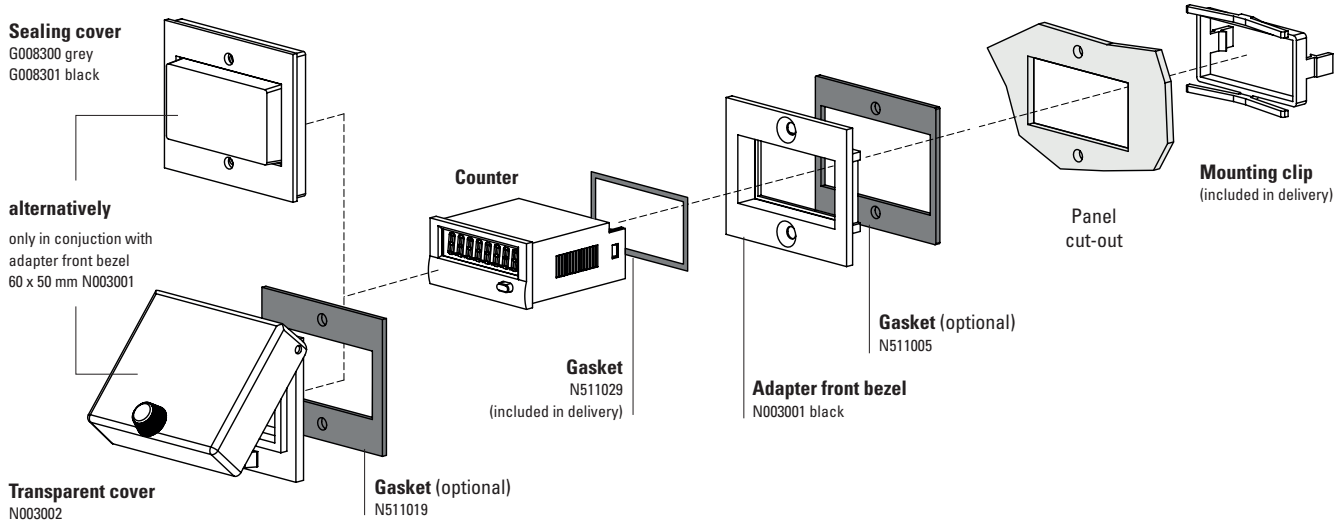0 = Standard (HTL)
A = 4 … 30 V DC

Delivery specification
· Counter
· 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

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Accessories / Mounting examples

Sealing cover
G008300 grey
G008301 black

alternatively

only in conjuction with adapter front bezel 60 x 50 mm N003001

Transparent cover
N003002

Counter

Gasket (optional)
N511019

Gasket
N511029
(included in delivery)

Gasket (optional)
N511005

Adapter front bezel
N003001 black

Panel
cut-out

Mounting clip
(included in delivery)

		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"]	grey / black / anthracite	T008164 / 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 conjuction 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 conjuction 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

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Technical data

General technical data

Display		6 digits, red 7 segment LED display; 8 mm [0.32"] 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

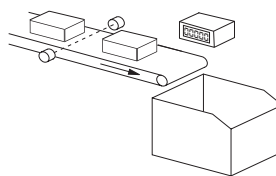|	
Supply voltage	10 ... 30 V DC, with integrated reverse polarity protection
Current consumption	max. 40 mA
EMC standards	EN 55011 class B, EN 61000-6-2, EN 61000-6-3 EN 61326-1
UL approval	file E128604

Mechanical characteristics

Housing	front panel mount 48 x 24 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

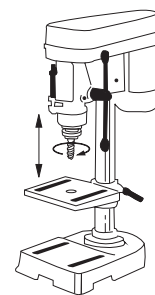|		
Polarity of inputs		programmable, NPN or PNP for all inputs
Input resistance		approx. 5 kΩ
Counting frequency [1]		max. 30 kHz, can be damped to 30 Hz
Display range	tachometer	1/min or 1/sec
Minimum pulse duration of the reset input		5 ms
Input switching level (HTL)		
	LOW	$0 ... 0.2 \times U_B$ [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 / totalizer

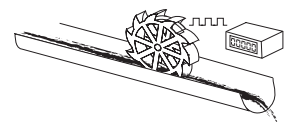Position and rotary speed applications, e.g.

- 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
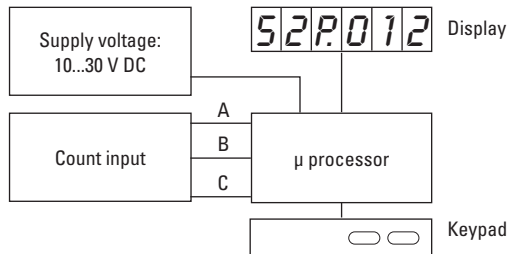
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1) Details see manual

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Block diagram

- Supply voltage: 10...30 V DC
- Count input
- A B C
- µ processor
- 52P.012 Display
- Keypad

Terminal assignment

| 1 | 2 | 3 | 4 | 5 |

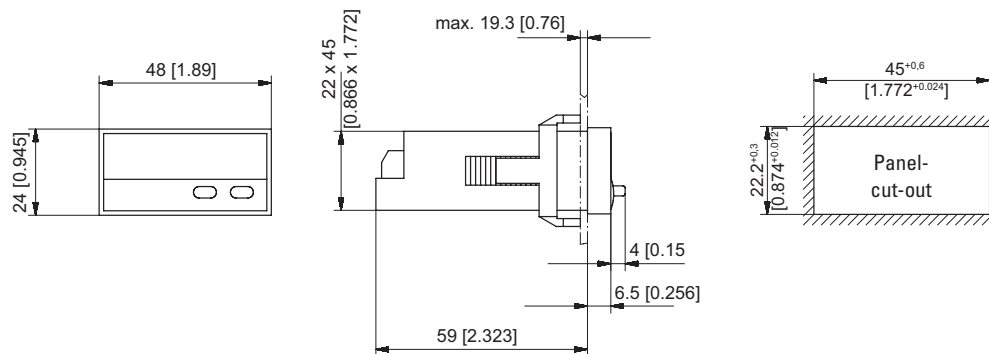| PIN	DC version
1	10 ... 30 V DC
2	0 V GND
3	INP A (count)
4	INP B (count)
5	INP C (frequency)

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

INP A and INP B:
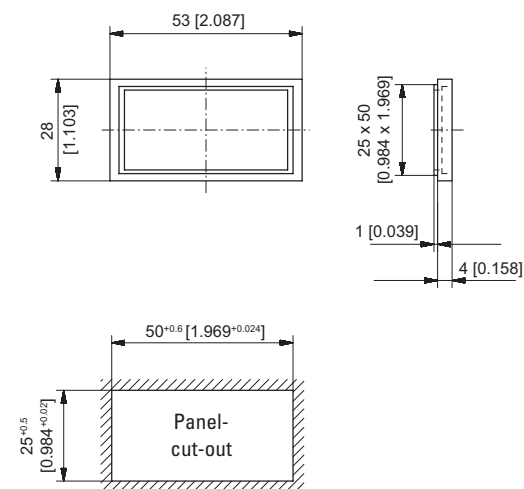Two channel pulse input with 6 different count modes

INP C:
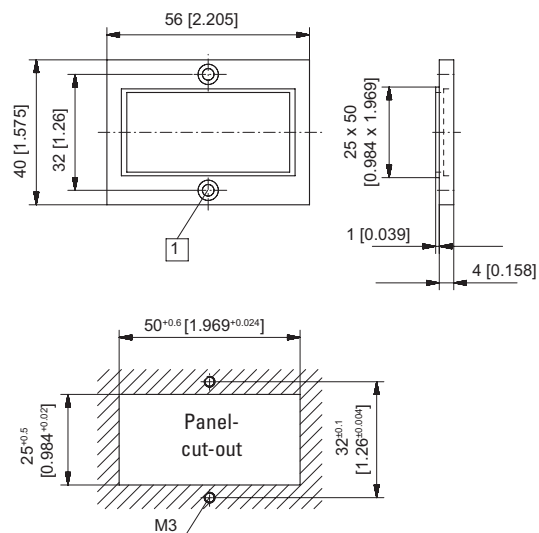Frequency input, single channel

Dimensions
Dimensions in mm [inch]

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