

Frequency displays / tachometers

LED frequency displays **Measuring range 1/min or 1/sec HRA-measurement (AC+DC)** **Codix 542**



The Codix 542 is a voltage powered frequency display / tachometer, with 6-digit LED display for NPN, PNP input signals. The display in 1/min or 1/sec is freely scalable for fast and slow count pulses – with fast HRA measurement system (High Rate Accuracy).



DC 10 ... 30 V	AC 10 ... 240 V	 -20°... +65°C	 IP65	 Plug-in screw terminal	 Menu-driven programming	 Operation with gloves	 1/sec - 1/min	 HRA
Supply voltage		Temperature range	High protection level				Frequency display/ Tachometer	Frequency display with HRA

Powerful

- Very bright LED display, 14 mm high.
- Fast count input – input frequency max. 60 kHz.
- Robust housing – IP65 protected.
- 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.

User-friendly and universal

- Large keys – can also be operated when wearing gloves.
- Simple uniform menu-driven programming and operation. Possible to enter the programming also during operation with a confirmation prompt.
- Programmable decimal point, can be set from 0.0 to 0.000 (this determines the resolution).
- As an alternative to the HTL inputs, devices with a 4 ... 30 V DC input level are available.
- Individually programmable scaling – multiplication and division factor (0.0001 to 99.9999), to display corresponding engineering units, e.g. frequency in Hz and speed in RPM.
- Programmable delay until 0 is displayed.
- Display in 1/min or 1/sec.
- AC or DC supply voltage with sensor supply voltage.
- Optional output for zero-speed monitoring.

Order code

6.542 . 01 X . X X 0

a Output

- 1 = Optocoupler output
- 2 = No output ¹⁾

b Supply voltage

- 0 = 100 ... 240 V AC, ±10 % ¹⁾
- 3 = 10 ... 30 V DC ¹⁾

c Input switching level

- 0 = Standard level (HTL) ¹⁾
- A = 4 ... 30 V DC level

Delivery specification

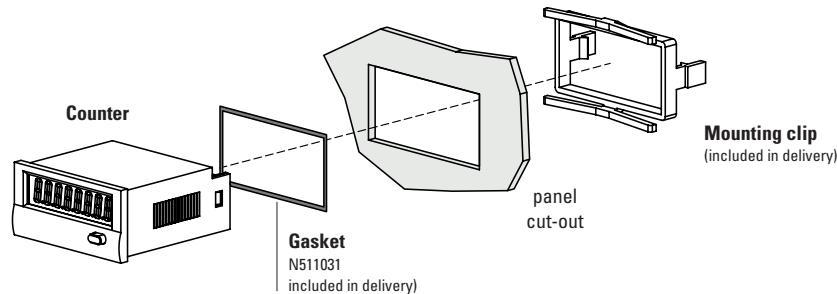
- Digital display
- Mounting clip
- Gasket
- Instruction manual, multilingual

1) Stock types

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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

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]
Relative humidity	< 85 % (non-condensing)
Altitude	up to 2000 m [6562']

Electrical characteristics	
Supply voltage	10 ... 30 VDC, with reverse polarity protection 100 ... 240 V AC, ±10 %
Current consumption	max. 50 mA, 8 VA
Device safety	designed to protection class 2 EN 61010 part 1 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]

Outputs	
Sensors supply voltage (AC version)	24 V DC ±15 %/100 mA
Output power optocoupler	max. 30 V DC, 10 mA

Inputs	
Polarity of inputs	programmable, NPN or PNP for all inputs
Input resistance	approx. 5 kΩ
Counting frequency ¹⁾	max. 60 kHz, can be damped to 30 Hz
Measurement principle / Accuracy	Gate and/or time interval (period duration) measurement, with high accuracy < 0.1 % (HRA)
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

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
UKCA compliant in accordance with	
EMC Regulations	S.I. 2016/1091
RoHS Regulations	S.I. 2012/3032
Low Voltage Regulations	S.I. 2016/1101

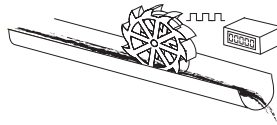
1) Please refer to the manual

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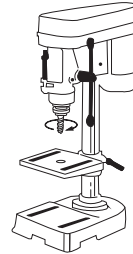
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Applications for speed and frequency displays

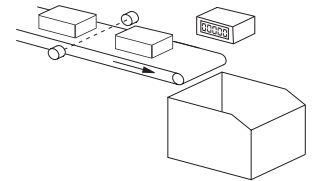
- Rotary speed applications, e.g. OEM equipment or retrofitting to drilling machines
- OEM equipment for flow rate measuring, e.g. current flow rate; production data such as volume/time
- Speed applications on motors, turbines, machines; feed-rate measurement
- Recording of production rates
- Frequency measurement



Mass flow rate

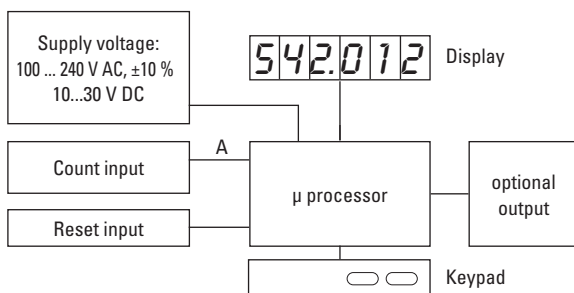


Drilling machine head, rotary speed

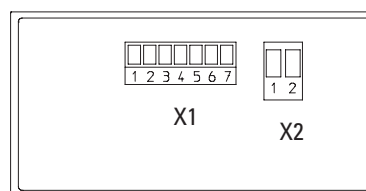


Production rate

Block diagram



Terminal assignment



Connection X1

PIN	AC version	DC version
1	Optocoupler-output	Collector
2	Optocoupler-output	Emitter
3	n.c.	
4	n.c.	
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 %	0VDC (GND)
2	100 ... 240 V AC, ±10 %	10...30 V DC

Dimensions

Dimensions in mm [inch]

