

# 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).



<b>DC</b> 10 ... 30V	<b>AC</b> 100 ... 240V	 - 20° + 65°	 IP65	 Plug-in screw terminal	 Menu-driven programming	 Operation with gloves	 1/sec 1/min	 HRA
Power supply		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 power supply with sensor power supply
- Optional output for zero-speed monitoring

Frequency displ. Tachometers

### Order code

6.542 . 01 X . X X 0

**a** Output

- 1 = Optocoupler output
- 2 = No output <sup>1)</sup>

**b** Power supply

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

**c** Input switching level

- 0 = Standard level (HTL) <sup>1)</sup>
- A = 4 ... 30 V DC level

*Delivery specification*

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

Accessories	Dimensions in mm [inch]	Order-No.
<b>Mounting frame</b> 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 <b>G300005</b>

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](http://www.kuebler.com/accessories).

1) Stock types

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### 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 ... +60°C [-4°F ... +140°F] (non-condensing)
Storage temperature	-20°C ... +70°C [-4°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	Emitted interference EN 55011 class B Immunity to interference EN 61000-6-2
Device safety	Designed to EN 61010 part 1 Protection class 2 Application area Pollution level 2

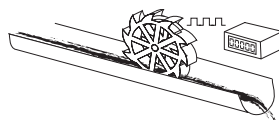
Mechanical characteristics	
Housing	front panel mount 96 x 48 mm [3.74 x 1.89"] acc. to DIN 43700; RAL 7021, dark grey
Protection	IP65 (front side)
Weight	approx. 150 g [5.29 oz]

Inputs	
Polarity of inputs	programmable, NPN or PNP for all inputs
Input resistance	approx. 5 kΩ
Counting frequency <sup>1)</sup>	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)
<b>Input switching level standard version (HTL)</b>	
DC power supply	LOW 0 ... 0.2 x U <sub>B</sub> [V DC] HIGH 0.6 x U <sub>B</sub> ... 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

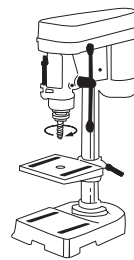
Outputs	
Sensors power supply (AC version)	24 V DC ±15 %/100 mA
Output power optocoupler	max. 30 V DC, 10 mA

### Applications for speed and frequency displays

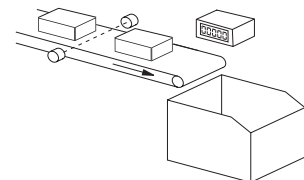
- Rotary speed applications, e.g. OEM equipment or retrofitting to drilling machines
- OEM equipment for flow rate measuring, e.g. current flow rate; production data such as volume/time
- Speed applications on motors, turbines, machines; feed-rate measurement
- Recording of production rates
- Frequency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



Mass flow rate



Drilling machine head, rotary speed



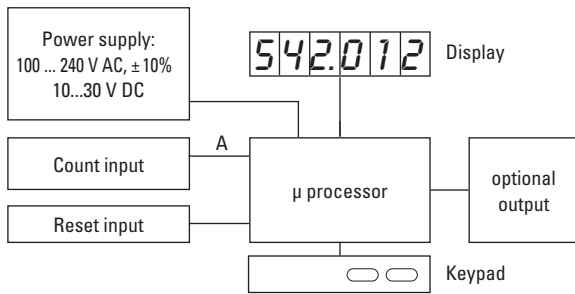
Production rate

1) Please refer to the manual

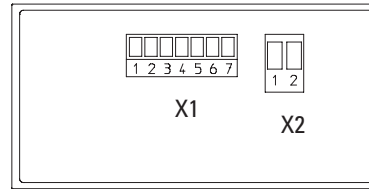
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### Block diagram



### 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]

