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# Frequency displays / tachometers with limits

**LED** tachometers

Dual frequency displays with 4 outputs and analogue output (AC+DC)



Frequency display for demanding applications, with two individually scalable encoder inputs, in each case A, /A, B, /B for count frequencies up to 1 MHz per channel (also for single channel use).

Operating modes can be selected for tachometer or frequency display with measurements for difference, total value, product or ratio (also with reciprocal display).

























Power supply

DIN front bezel

High protection

RS422-input

Analogue

#### **Innovative**

- 2 separate freely scalable frequency inputs: HTL or TTL (both also with inverted inputs), max. input frequency 1 MHz/channel
- · Very bright LED display, 15 mm high (6 digits)
- 4 freely programmable fast solid-state outputs, each with 350 mA output current
- Many different output modes
- Simple programming with function codes, dependent on the operating mode selected
- With 9 fixed different frequency functions, e.g.:
  - Single, difference and total value measurement of both inputs
- Product and ratio measurement
- Percentage measurement
- In-process time calculated from frequency (reciprocal speed)

## Compact and multifunctional

- Up to 3 display values in a single device: display counter 1. display counter 2 as well as the display calculated from counter 1 and 2
- · AC and DC power supply in one device
- · Simple programming with 4 keys, all keys can be assigned dual programming functions
- · Can be used as a frequency display or tachometer with limit values
- Monitoring function, where 2 values are monitored or calculated with respect to each other
- 4 fast programmable inputs with various functions such as start delay, key lockout, display memory, reference input or switching between the display values
- Scalable analogue output 0/4 ... 20 mA, +/-10 V or 0 ... 10 V
- · Standard interface RS232 for parameter setting, for reading out the values to a PC or PLC, for modifications during operation

# **Order specifications**

4 fast switch outputs, serial interface (RS232)

6 digits

6 digits, scalable analogue output

6 digits, RS232 and RS485

Order-No.

6.574.0116.D05

6.574.0116.D95

6.574.0116.D07

Delivery specification

- Controller 574
- Gasket
- Fastening set
- Instruction manual German/English

Accessories		Dimensions in mm [inch]	Order-No.
Mounting frame for DIN rail mount	123456	with cut-out 92 x 45 [3.62 x 1.77]	G300005
OS2 software for parameter setting		can be downloaded at www.kuebler.com	

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.



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General technical data		
Display	6-digit	LED display, 15 mm [0.59"] high
Operating temperature		0°C +45°C [+32°F +113°F] (non-condensing)
Storage temperature		-25°C +70°C [-13°F +158°F]

Electrical characteristics				
Power supply		24 V AC, + 10%		
		24 (17 30) V DC		
Current consumption DC		100 mA		
		+ Current consumption encoder		
Connected load AC		15 VA		
Auxiliary power supply (for sensors)		2 x 5.2 V DC, each 150 mA		
		2 x 24 V DC, each 120 mA		
EMC	Emitted interference	EN 61000-6-3		
	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 material		Noryl UL94-V-0		
Screw terminal	Cable cross-section	max. 1.5 mm <sup>2</sup> [AWG 15]		
Protection		IP65 from front		
Weight		approx. 250 g [8.82 oz]		

# Inputs 2 universal incremental encoder inputs Count frequency: RS422 and TTL with inv. 1 MHz (per encoder) HTL asymmetric TTL asymmetric 200 kHz Control inputs 4 control inputs HTL, Ri = 3.3 kOhm

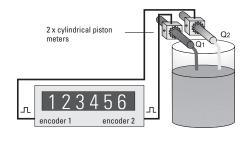
Low < 2.5 V, High > 10 V, min. pulse duration 50  $\mu s$ 

Outputs	
Switch outputs 4 fast power transistors reaction time	5 30 V DC, 350 mA
inductive loads require a freewheeling diod	
Serial interface	RS232, 2400 38400 baud RS485 (6.574.0116.D07)
<b>Analogue outputs</b> (6.574.0116.D95) 0 / 4 20 mA, load max. 270 0hm	

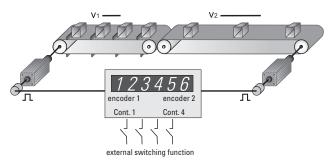
0 / 4 ... 20 mA, load max. 270 0hm 0 ... +10 V (max. 2 mA) Resolution 14 bit, precision 0.1 %, reaction time < 1 ms

## **Application examples**

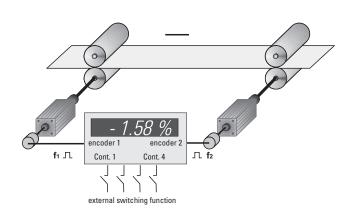
#### Total flow rate



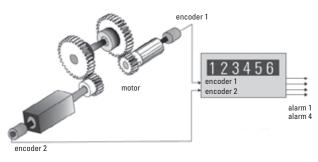
## Speed difference



#### Material stretching to create tensile stress



# Monitoring of torsion, shafts or gear breakage



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<sup>1)</sup> Intensive serial communication can temporarily increase the reaction time.



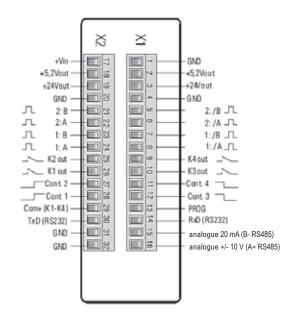
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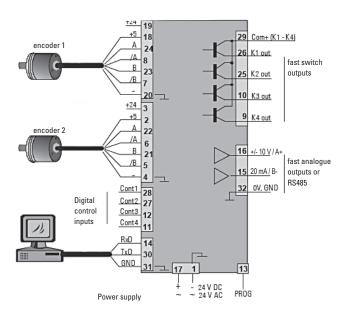
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#### **Terminal assignment**



#### **Application examples**



#### **Dimensions**

Dimensions in mm [inch]

