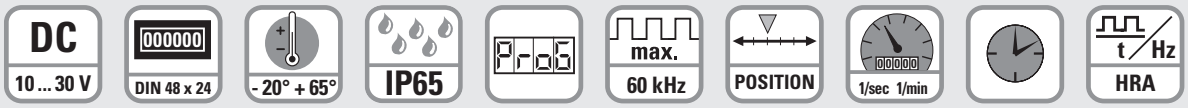
LED multifunction display | Multifunction – pulse, frequency, time (DC) | Codix 524



The Codix 524 is a voltage-powered multifunction counter with 3 functions in one device: pulse, position, frequency and speed display, timer and short time meter for fast and slow count pulses.

With 6-digit LED display for NPN / PNP input signals.



Powerful

- Fast count and frequency input – input frequency max. 60 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
- 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
- 4 different count input modes:
  2-channel count input for detecting count direction, difference or adding mode, quadrature with x1, x2 or x4 evaluation
- Frequency measurement: display in 1/min or 1/sec
- Time counting: pulse width or time interval measurement in hours, minutes or seconds, as well as real-time display
- 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
- Optional output: zero signal for position and count, zero speed monitoring, 1 Hz clock pulse for active time measurement

Order code

6.524	.	01	X ⓐ	.	3	X ⓑ	0

ⓐ *Output*
1 = optocoupler [1)]
2 = no output [1)]

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

Delivery specification
– Digital display
– Mounting clip
– Gasket
– Instruction manual, multilingual
– 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"]

1) Stock types

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Multifunction devices, electronic

LED multifunction display | Multifunction – pulse, frequency, time (DC) | Codix 524

Accessories	Dimensions in mm [inch]	Order-No.
Adapter front bezel, 72 x 36 [2.83 x 1.42]	For cut-out 68 x 33 [2.68 x 1.30] to cut-out 45 x 22.2 [1.77 x 0.87], for counters 48 x 24 [1.89 x 0.94], as set — black and silver anodised	**162704 Set**
Adapter front bezel, 48 x 48 [1.89 x 1.89]	For cut-out 45 x 45 [1.77 x 1.77] to cut-out 45 x 22.2 [1.77 x 0.87], with clip mounting for counters 48 x 24 [1.89 x 0.94] — black	**T008883**
Adapter front bezel, 60 x 50 [2.36 x 1.97]	For cut-out 54 x 29 [2.13 x 1.14] to cut-out 45 x 22.2 [1.77 x 0.87], with screw mounting and gasket for counters 48 x 24 [1.89 x 0.94] — black	**N003001**
Transparent cover, lockable, IP65	For cut-out 54 x 29 [2.13 x 1.14], for screw mounting to front bezel F1B or adapter front bezel N003001, for counters with cut-out 50 x 25 [1.97 x 0.98] or 45 x 22.2 [1.77 x 0.87]	**N003002**
Sealing cover type K1, IP65	Suitable for front bezel 60 x 50 [2.36 x 1.97], for screw mounting of electromech. counters and via adapter front bezel N003001 for counters 48 x 24 [1.89 x 0.94]	**G008301**
Mounting frame with cut-out 50 x 25 [2.36 x 1.97] via separate adapter also for 45 x 22.2 [1.77 x 0.87]	For snap-on mounting on 35 [1.38] top-hat DIN rail, for counters 53 x 28 [2.09 x 1.10] and via separate adapter (T008180) for counters 48 x 24 [1.89 x 0.94] — 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.

Technical data

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. 55 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

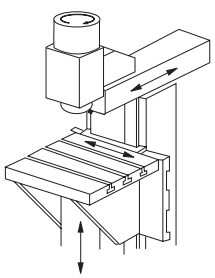
Polarity of inputs		programmable, NPN or PNP for all inputs
Input resistance		approx. 5 kΩ
Counting frequency [1]		max. 60 kHz, can be damped to 30 Hz
	for position display	max. 25 kHz
Display range	timer	0.001 s ... 999999 h
	frequency meter	1/min or 1/sec
Minimum pulse duration of the reset input		5 ms
Input switching level (HTL)	LOW	0 ... 0.2 x U_B [V DC]
	HIGH	0.6 x U_B ... 30 V DC
Input switching level at 4 ... 30 V DC	LOW	0 ... 2 V DC
	HIGH	4 ... 30 V DC
Accuracy	tachometer	< 0.1 %
	timer	< 50 ppm

Outputs (optional)

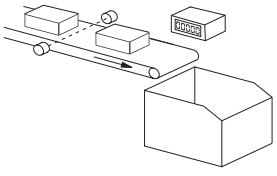
Optocoupler output	max. 30 V, 10 mA

Applications for multifunction display

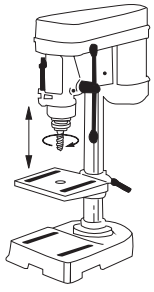
- Counting tasks such as quantity and piece counting, measuring and recording of speed and of operating and processing times
- Piece counting or tool-life measurement on die cutters, presses, extruders, woodworking machines, drilling machines, pick-and-place machines, guillotines, special-purpose vehicles etc.
- Positioning tasks on processing machines, such as sawing machines, milling machines, bending and folding machines, etc.
- Production data acquisition by means of piece counting (using difference or adding), or measurement of production times or production speeds
- Totalizing flow, quantity and other scaleable media, or display of current flow rates



Position or rotary speed on milling machine



Piece count on conveyor or production speed



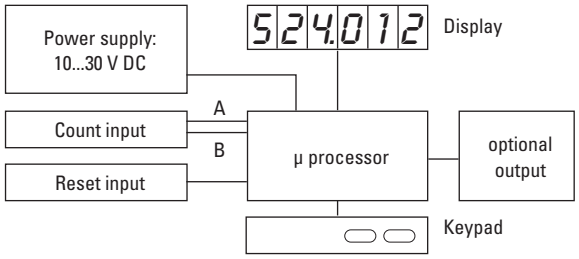
Drilling machine head, speed or drilling depth

1) Details see manual

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Block diagram



Terminal assignment



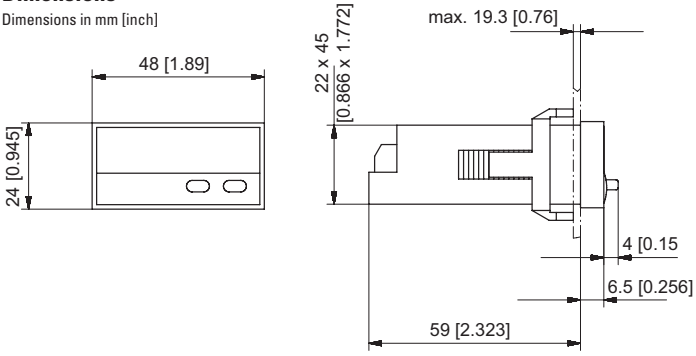
PIN	without optocoupler
1	10 ... 30 V DC
2	0 V GND
3	INP A
4	INP B
5	Reset / Set

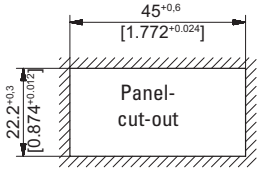


PIN	with optocoupler (NPN)
1	10 ... 30 V DC
2	0 V GND
3	INP A
4	INP B
5	Reset / Set
6	Emitter
7	Collector

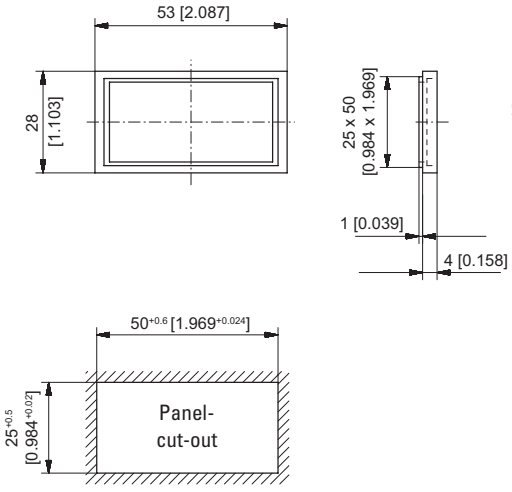
Dimensions

Dimensions in mm [inch]

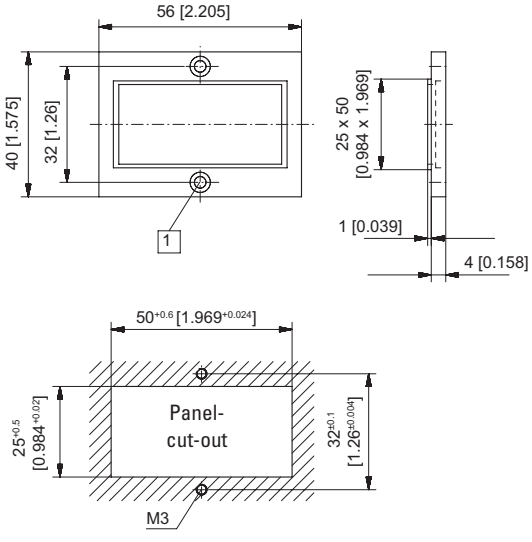




Front bezel for clip mounting (included in delivery)



Front bezel for screw mounting (included in delivery)



1 Countersinking Af3, DIN 74

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