

LED pulse counters **6 count modes (DC)** **Codix 521**



The Codix 521 is a voltage powered pulse counter / position display for fast and slow count pulses, with 6-digit LED display for NPN, PNP input signals.

Equipped with 4 count input modes: count direction, difference, addition, quadrature (phase discriminator) x1, x2 and x4.



DC 10 ... 30 V	000000 DIN 48x24	-20...+65°C	IP65	PROG	max. 60 kHz	Position	1 2 1	1 2 1	1 3 4	1 1 2 3 4
Supply voltage	DIN front bezel	Temperature range	High protection level	Menu-driven programming	Pulse counter/ Totalizer	Position display	Count with direction (DIR)	Differential count (up.dn)	Add/Add count (up.up)	Phase discriminator

Powerful

- Fast count input – input frequency max. 60 kHz.
- Robust housing – IP65 protected.
- Very bright LED display, 8 mm high.
- Position, difference, adding or count direction detection
 - programmable for positive (PNP) or OV (NPN) switching input pulses.
 - fast count input with an input frequency of max. 60 kHz, can be damped to 30 Hz for mechanical contacts.
- 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

- 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.
- Individually programmable scaling: Multiplication and division factor (0.0001...99.9999), to display corresponding engineering units, e.g. position in 1/10 mm or packing units.
- 4 different count input modes: 2-channel count input for detecting count direction, difference or adding mode, quadrature with x1, x2 or x4 evaluation.
- Freely programmable setpoint.
- 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 - as zero signal.

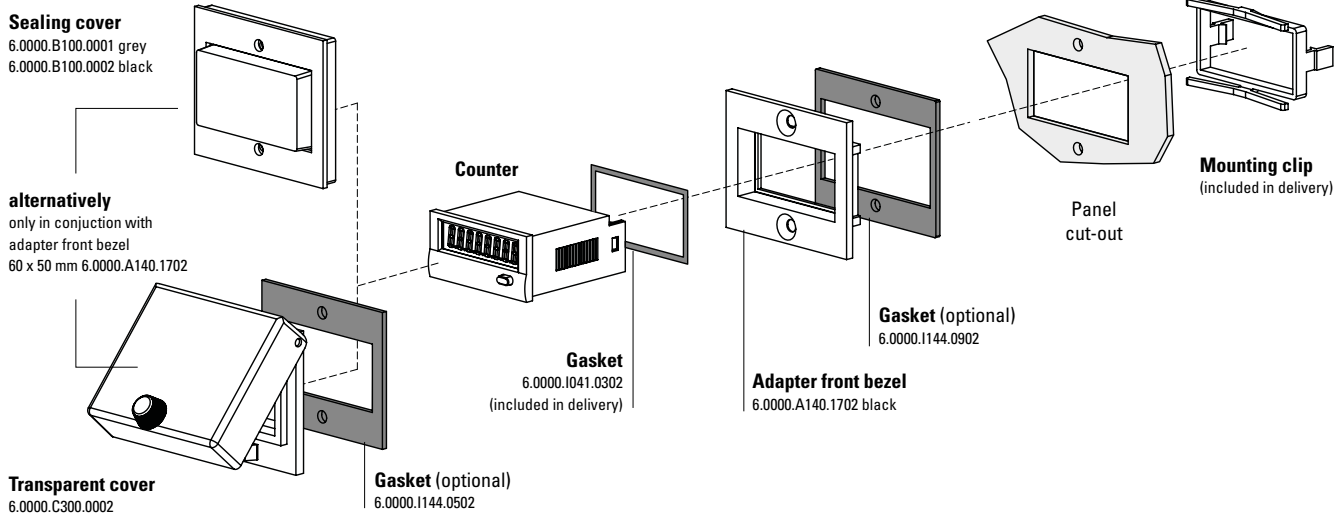
Order code **6.521 . 01X . 3X0**

- a** Output
1 = optocoupler output
2 = no output
- b** Input switching level
0 = Standard (HTL)
A = 4 ... 30 V DC

- Delivery specification**
- Counter
 - Mounting clip
 - Front bezel for screw mounting (6.0000.A110.0503) 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 (6.0000.A080.0503) 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



		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"]	black anthracite	6.0000.A080.0502 6.0000.A080.0503	6.0000.I082.0502
		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	6.0000.A110.0502 6.0000.A110.0503	6.0000.I113.0502
		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	6.0000.A210.1802	–
		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	6.0000.A140.1702	6.0000.I144.0902
		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	6.0000.A040.0402	–
Sealing cover IP65		K1	only in conjunction with adapter front bezel 60 x 50 mm 6.0000.A140.1702	transparent / grey transparent / black	6.0000.B100.0001 6.0000.B100.0002	–
Transparent cover IP65		1 Dv (mounted on bezel)	cover lockable, for cut-out 54 x 29 mm [2.13 x 1.14"], only in conjunction with adapter front bezel 60 x 50 mm 6.0000.A140.1702	transparent / black	6.0000.C300.0002	6.0000.I144.0502
Gasket counter			48 x 24 mm (for installation in adapter front bezel) 49 x 25 mm		6.0000.I041.0302 6.0000.I063.0302	
Mounting frame		cut-out 50 x 25 mm [1.97 x 0.98"]	via adapter 6.0000.A080.0503 for snap-on mounting on 35 mm [1.38"] top-hat DIN rail	chromated	6.0000.F300.0006	–
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	6.0000.H100.0003	–

incl. in delivery

Pulse counters, electronic

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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 VDC, with reverse polarity protection
Current consumption	max. 55 mA

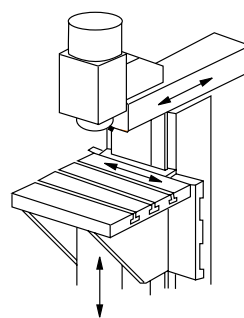
Mechanical characteristics	
Housing	front panel mount 48 x 24 mm [1.89 x 0.94"] acc. to DIN 43700; RAL 7021, dark grey
Protection	IP65 (front side)
Weight	approx. 50 g [1.76 oz]
Vibration resistance acc. to EN 60068-2-6	10 ... 55 Hz / 1 mm [0.04"] / 30 min
Shock resistance acc. to EN 60068-2-27	100 G: 2 ms 10 G: 6 ms

Inputs	
Polarity of inputs	programmable, NPN or PNP for all inputs
Input resistance	approx. 5 kΩ
Counting frequency	max. 60 kHz, can be damped to 30 Hz; for position display max. 25 kHz
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

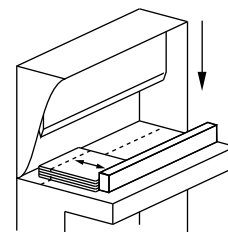
Approvals	
UL compliant in accordance with	File no. E128604
CE compliant in accordance with	
EMC Directive	2014/30/EU
RoHS Directive	2011/65/EU

Applications for position displays / totalizers

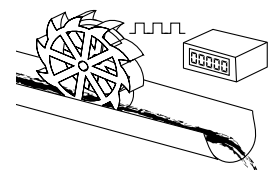
- Positioning tasks on processing machines, such as sawing machines, milling machines, bending and folding machines, etc.
- Production data acquisition by means of piece counting (using difference or adding)
- Totalizing flow, quantity and other scalable media
- Counting tasks such as quantity and piece counting
- Accessories, OEM equipment or retrofitting to production machines
- Piece counting on die cutters, presses, extruders, woodworking machines, drilling machines, pick-and-place machines, guillotines, special-purpose vehicles etc.



Position on milling machine

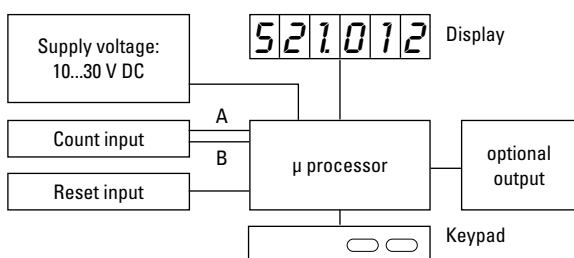


Position or quantity



Flow rate

Block diagram



Terminal assignment

1	2	3	4	5
□	□	□	□	□

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

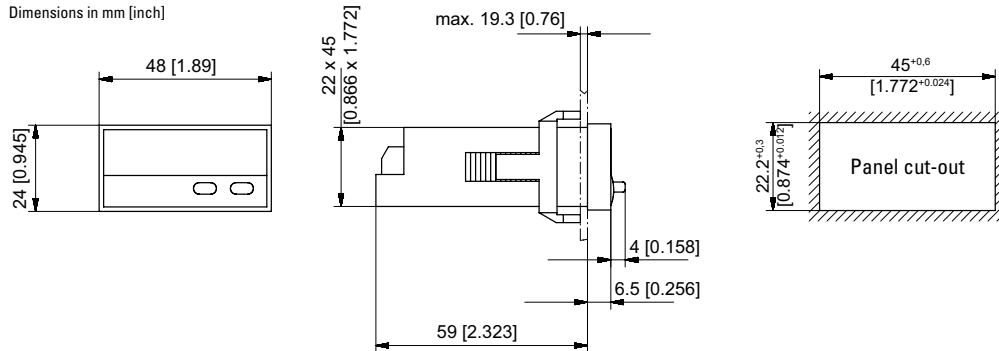
1	2	3	4	5	6	7
□	□	□	□	□	□	□

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

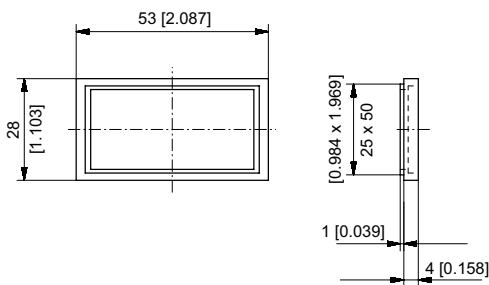
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Dimensions

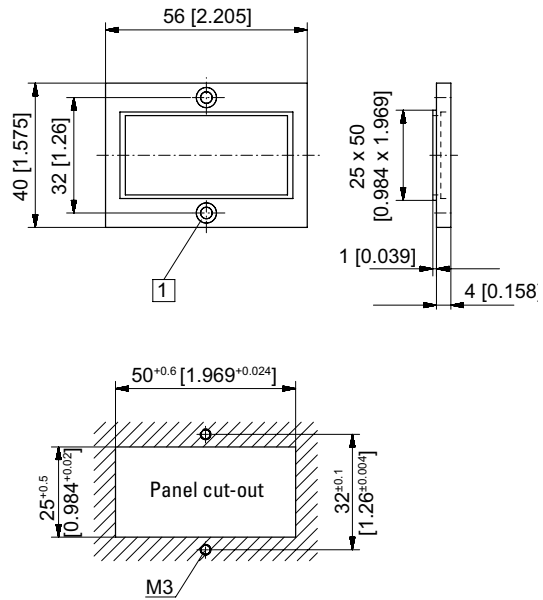
Dimensions in mm [inch]



Front bezel for clip mounting (included in delivery)



Front bezel for screw mounting (included in delivery)



□ Countersinking Af3, DIN 74