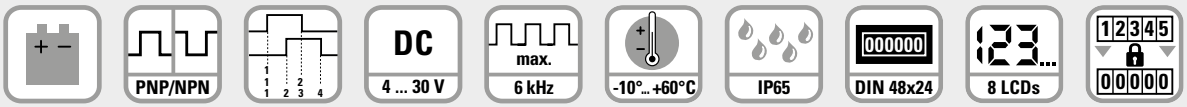
LCD position displays | Phase discriminator (quadrature) x1 and x2 evaluation | Codix 133



The Codix 133 is a simple battery-powered position display with a phase discriminator (quadrature) counting input.

NPN and PNP pulses can be shown on the 8-digit LCD display that is also available with optional backlighting.



Battery powered | Type of input | Phase discriminator | Pulse voltage | Max. count frequency | Temperature range | High protection level | DIN front bezel | LCD display | Lockable reset

Powerful

- High quality 8-digit LCD display with 8 mm high figures with optional backlighting.
- Counting modes include phase discriminator (quadrature) counting (also with pulse doubling) for connection to incremental encoders.
- Battery life approx. 8 years.
- Count frequency max. 6 kHz.
- High protection level IP65.

Simple

- Screw terminals, RM 5 mm.
- Reset key can be enabled via “Reset Enable“ input.
- For positive or negative counting edge, depending on version.

Order code

6.133 . 012 . 8 X X
(a) (b)

(a) *Backlighting*
5 = without
6 = with

(b) *Count input (input type: NPN/PNP [2])*

Input type		*INP A*				*INP B*			
0	= Quad/Quad2 [1]	0 ... 0.7 V DC	channel A	NPN	3 kHz	0 ... 0.7 V DC	channel B	NPN	3 kHz
1	= Quad/Quad2 [1]	4 ... 30 V DC	channel A	PNP	6 kHz	4 ... 30 V DC	channel B	PNP	6 kHz

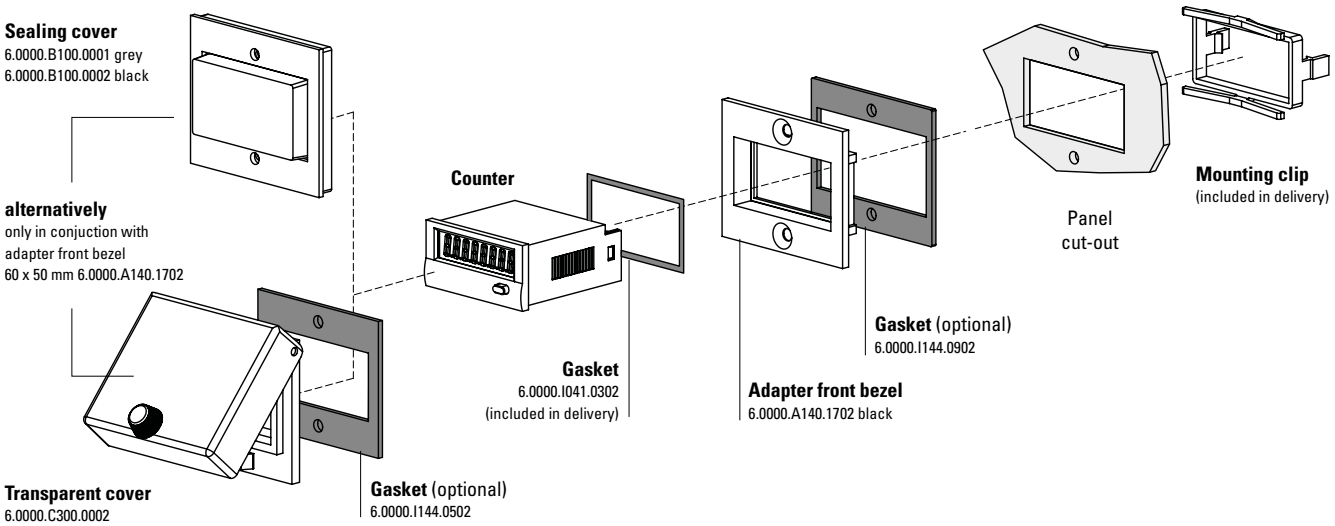
Delivery specification
- Counter
- Mounting clip
- Front bezel for screw mounting (6.0000.A110.0503) 56 x 40 mm [2.20 x 1.57“], panel cut-out 50 x 25 mm [1.97 x 0.98“]
- Front bezel for clip mounting (6.0000.A080.0503) 53 x 28 mm [2.09 x 1.10“], panel cut-out 50 x 25 mm [1.97 x 0.98“]
- Gasket
- Instruction manual, multilingual

1) Phase discriminator for incremental encoders with x1 / x2 evaluation

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LCD position displays | Phase discriminator (quadrature) x1 and x2 evaluation | Codix 133

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 conjuction 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 conjuction 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

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LCD position displays | Phase discriminator (quadrature) x1 and x2 evaluation | Codix 133

Technical data

General technical data

Display	LCD, 8 digits, 8 mm [0.32“] high
Backlighting	external electrical source 24 V DC ±20 %, 50 mA
Modes	phase discriminator x1 or x2 evaluation selectable
Display range	-9999999 ... 99999999, with overflow display
Reset	manual and electrical
Working temperature	-10 °C ... +55 °C [+14 °F ... +131 °F] (non-condensing)
Operating temperature	-10 °C ... +60 °C [+14 °F ... +140 °F] (non-condensing)
Storage temperature	-20 °C ... +70 °C [-4 °F ... +158 °F]
Relative humidity	< 85 % (non-condensing)
Altitude	up to 2000 m [6562‘]

Electrical characteristics

Supply voltage	internal lithium battery approx. 8 years at 20 °C [68 °F]

Mechanical characteristics

Housing	dark grey RAL 7021
Protection	IP65 (front side)
Weight	approx. 50 g [1.76 oz]

Counting inputs

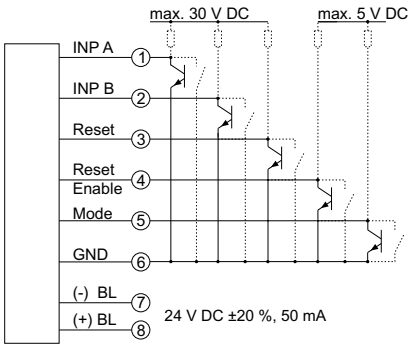
Fast counting input		max. 6 kHz (PNP), 3 kHz (NPN)
Switching level NPN	LOW	0 ... 0.7 V
	HIGH	3 ... 30 V DC
Switching level PNP	LOW	0 ... 0.7 V
	HIGH	4 ... 30 V DC
Switching		x1 or x2 evaluation can be set via the mode input
Switching (mode)		
Contact input		Open Collector NPN (switching at 0 V DC)
Switching level NPN	LOW	0 ... 0.7 V
	HIGH	3 ... 5 V DC
Reset input		
Minimum pulse time	DC	50 ms
	high voltage	16 ms
Contact input DC – NPN	LOW	0 ... 0.7 V
	HIGH	3 ... 30 V DC
Electrical reset key locking		
Contact input		Open Collector NPN (switching at 0 V DC)
Switching level – NPN	LOW	0 ... 0.7 V
	HIGH	3 ... 5 V DC

Approvals

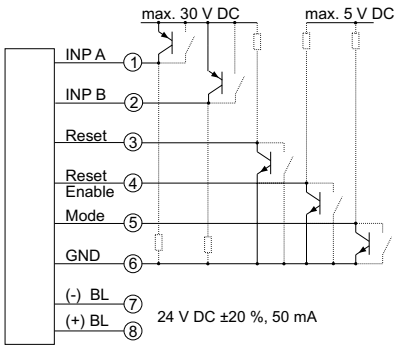
UL compliant in accordance with	File no. E128604
CE compliant in accordance with	
EMC Directive	2014/30/EU
RoHS Directive	2011/65/EU
Low Voltage Directive	2014/35/EU

Terminal assignment

DC type: 6.133.012.8x0



DC type: 6.133.012.8x1



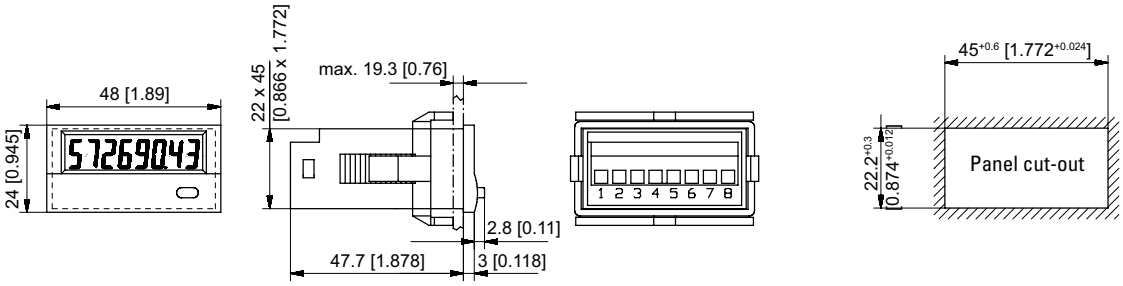
BL = backlighting

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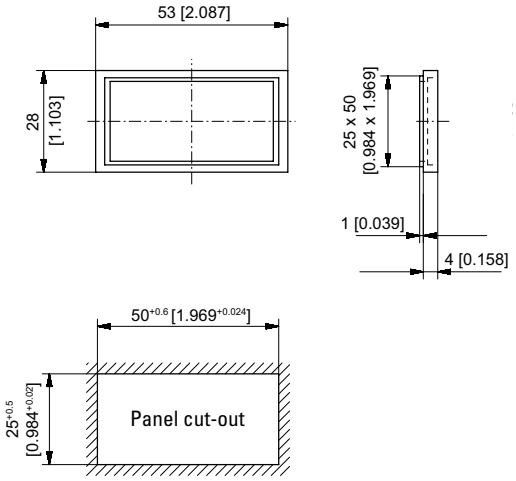
LCD position displays | **Phase discriminator (quadrature) x1 and x2 evaluation** | **Codix 133**

Dimensions

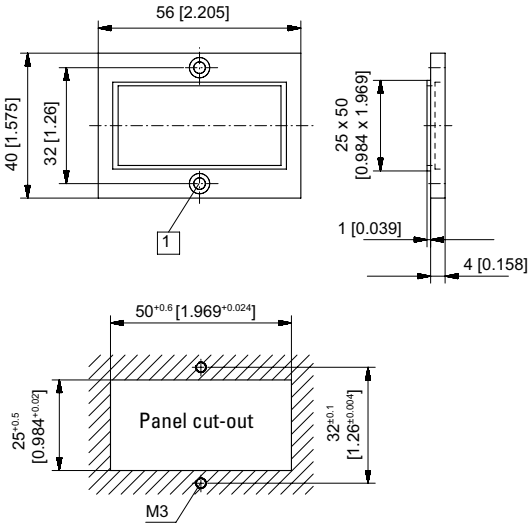
Dimensions in mm [inch]



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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