

Position displays



Position displays

Position displays		Type	Page
LCD position displays	Phase discriminator (quadrature) x1 and x2 evaluation (battery)	Codix 133	232
LED position displays	6 count modes (DC)	Codix 521	63
	Multifunction – pulse, frequency, time (DC)	Codix 524	240
	6 count modes with tachometer (DC)	Codix 52P	251
	6 count modes (AC+DC)	Codix 541	75
	Multifunction – pulse, frequency, time (AC+DC)	Codix 544	243
	6 count modes with tachometer (AC+DC)	Codix 54P	257
Position displays with limits		Type	Page
LCD position preset counters	1 or 2 presets – pulse, time – 5 kHz (AC+DC)	Codix 907 / 908	123
	Multifunction – pulse, frequency, time – 1...6 presets (AC+DC)	Codix 923 / 924	126
Position preset counters with multicolour or LED look	Multifunction – pulse, frequency, time – 1...6 presets (AC+DC)	Codix 923 / 924	126
LED position preset counters	SSI absolute encoder display (AC+DC)	Codix 570	235
	Multifunction – pulse, frequency, time – 60 kHz, 2 Vorwahlen (AC+DC)	Codix 560	138
	Pulse, frequency, time (also reciprocal), with analogue output (AC+DC)	571	246
	Dual preset counters with 4 outputs and analogue output (AC+DC)	572	143

Position displays

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	Pulse counter/ Totaliser	Phase discriminator	Pulse voltage 4 ... 30 V	Max. count frequency 6 kHz	Temperature range - 10° + 60°	High protection level IP65	DIN front bezel DIN 48 x 24	LCD display 8 LCDs	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 locked out via the Reset Enable input
- For positive or negative counting edge, depending on version

Order code 6.133 . 012 . 8XX

a Backlighting
5 = without ¹⁾
6 = with

b Count input (input type: NPN/PNP ²⁾)

	Input type	INP A			INP B				
0 =	Quad/Quad2 ²⁾	0 ... 0.7 V DC	channel A	NPN	3 kHz	0 ... 0.7 V DC	channel B	NPN	3 kHz
1 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 (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"]
- Gasket
- Instruction manual, multilingual

1) Stock types

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

Position displays

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

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	LCD, 8 digits, 8 mm [0.32"] high
Backlighting	external electrical source 24 V DC $\pm 20\%$, 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]

Electrical characteristics	
Power supply	internal lithium battery approx. 8 years at 20°C [68°F]
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
UL approval	File-No.: E128604

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

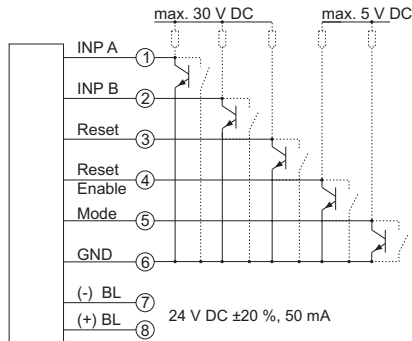
Counting inputs of the DC version (max. 30 V DC)		
Fast counting input		max. 6 kHz (PNP), 3 kHz (NPN)
Switching level NPN	LOW	0 ... 0.7 V
	HIGH	3 ... 30 V DC
Switching level PNP	LOW	0 ... 0.7 V
	HIGH	4 ... 30 V DC
Switching		x1 or x2 evaluation can be set via the mode input
Contact input		Open Collector 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 (for DC and AC)		
Contact input		Open Collector NPN (switching at 0 V DC)
Switching level – NPN	LOW	0 ... 0.7 V
	HIGH	3 ... 5 V DC

Position displays

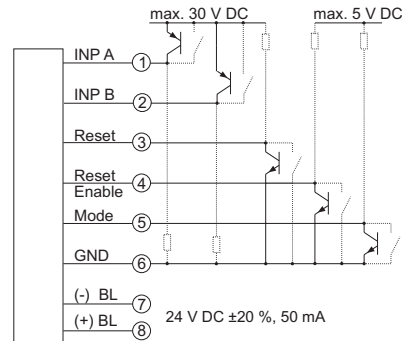
LCD position displays Phase discriminator (quadrature) x1 and x2 evaluation Codix 133

Terminal assignment

DC type: 6.133.012.8x0



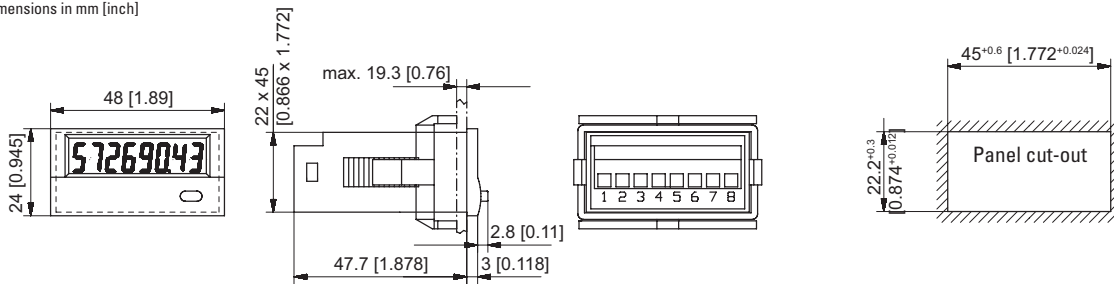
DC type: 6.133.012.8x1



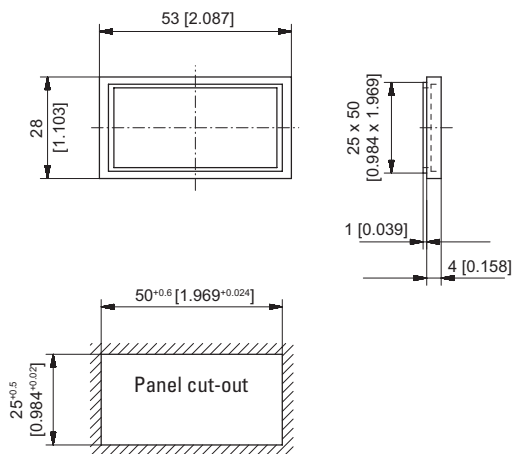
BL = backlighting

Dimensions

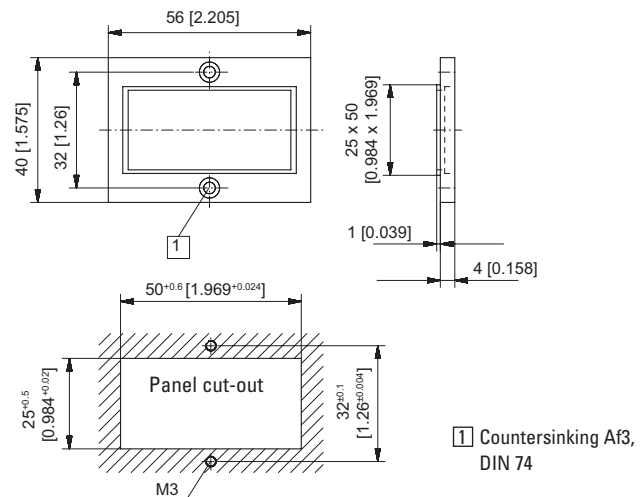
Dimensions in mm [inch]



Front bezel for clip mounting (included in delivery)



Front bezel for screw mounting (included in delivery)



Position displays with limits

LED position preset counters	SSI absolute encoder display (AC+DC)	570
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The fast SSI display type 570 is designed for absolute SSI encoders with a resolution up to 32 bits. It can be used as either a master or a slave display.

Thanks to simple bit assignment and bit blanking the display, which can be scaled and linearized, can also be cascaded, in order to extend the display range as desired. Output options include 2 limit values, analogue output or interface.



AC/DC 17 ... 260V Power supply	SSI SSI Input	max. 1 MHz Count frequency	2 2 limit values	mA, V Analogue output	14 bit Resolution	RS 232/485 RS232/485 Interface	IP65 High protection level	POSITION Position display	DIN 96 x 48 DIN front bezel	6 LED LED display
Prog Menu-driven programming	SSI Display linearization	Plug-in screw terminal Plug-in screw terminal								

Characteristics

- Suitable for SSI-protocols from 8 up to 32 bits
- Version with 2 optocoupler outputs to work as limit or preset values; also with programmable tracking preset
- Version with scaleable analogue output, resolution 14 bits, 0 ... 10 V, -10 ... +10 V, 0 ... 20 mA or 4 ... 20 mA
- Version with serial interface for reading data in and out (RS232 / RS485)
- **NEW:** Version with 2 relay outputs as limit values or presets; can also be programmed as tracking preset and with RS232 / RS485 interface
- Gray or binary code
- 96 x 48 mm DIN-housing, IP65

Benefits

- AC and DC power supply in one unit
- Master- or slave mode
- Plug-in screw terminals
- SSI-clock frequency from 100 Hz up to 1 MHz
- Display may be adjusted using scaling- and offset-features
- Large 15 mm high LED display, 6-digit, with adjustable brightness
- Round-loop function
- Linearization with teach option
- Bit blanking

Position-displays

Order specifications

Display with:	Order-No.	Delivery specification
2 optocoupler outputs ¹⁾	0.570.011.E00	- Display 570
Analogue output ¹⁾	0.570.012.E90	- Gasket
Serial interface RS232/485	0.570.012.E05	- Mounting kit
2 relay outputs and RS232/485	0.570.010.305	- Operating instruction German/English

Accessories

Accessories	Order-No.
Mounting frame 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 G300005

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.

1) Stock types

Position displays with limits

LED position preset counters SSI absolute encoder display (AC+DC) 570

Technical data

General technical data	
Display	LED display, 15 mm high 6 decades
Operating temperature	0°C ... +45°C [+32°F ... +113°F] (non-condensing)
Storage temperature	-25°C ... +70°C [-13°F ... +158°F]
Altitude	up to 2000 m [6562']

Electrical characteristics	
Power supply	(0.570.01X.EXX) 17 ... 30 V DC and 115/230 V AC, ± 12.5 % (0.570.010.305) 17 ... 30 V DC
Current consumption DC	17 V 190 mA 24 V 150 mA 30 V 120 mA
Power consumption AC	7.5 VA
Sensor power supply (for encoder)	24 V DC ± 15%, 120 mA
EMC	Immunity to interference EN 55011 class B Emitted interference EN 61000-6-2
Device safety	Designed to EN 61010 part 1 Protection class 2 Application area Pollution level 2

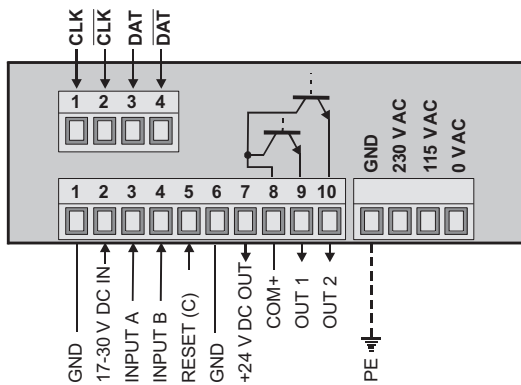
Mechanical characteristics	
Protection	IP65 (front side)
Weight	approx. 200 g [7.06 oz]

Inputs	
SSI data inputs	Differential RS422 input
Input frequency range	100 Hz ... 1 MHz
SSI clock output	Differential RS422 output
Output frequency range	100 Hz ... 1 MHz
Input reset	PNP or NPN, programmable 5.1 mA, 24 V DC R _i = 4.7 kOhm
Input level	LOW 0 ... 2 V HIGH 9 ... 35 V
Min. reset pulse time	min. 5 ms

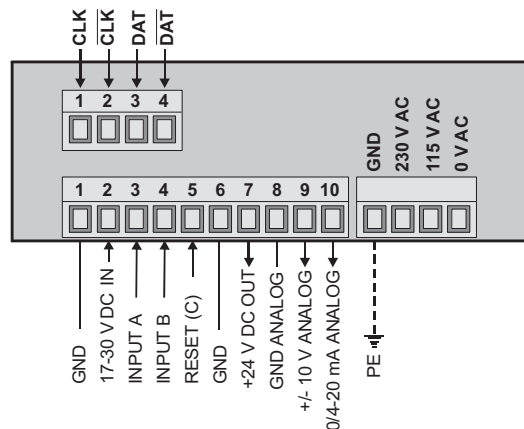
Outputs	
Scaleable analogue output	(0.570.012.E90) 0 ... 10 V, -10 ... + 10 V or 0 ... 20 mA, 4 ... 20 mA
Resolution	14 bit + sign
Accuracy	0.1 %
Optocoupler output	(0.570.011.E00) 5 ... 35 V DC/150 mA reaction time approx. 5 ms
Interface	(0.570.012.E05 + 0.570.010.305) RS232 and RS485 acc. to ISO 1745 drivecom protocol or printer protocol
Relay output	(0.570.010.305) 2 changeover contacts max. 250 V AC / 1 A / 250 VA max. 100 V DC / 1 A / 100 W reaction time approx. 10 ms

Terminal assignment

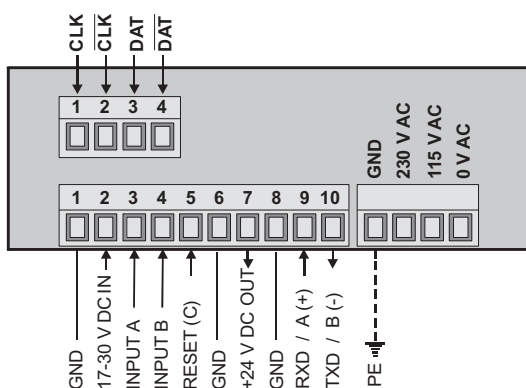
Display with 2 optocoupler outputs (0.570.011.E00)



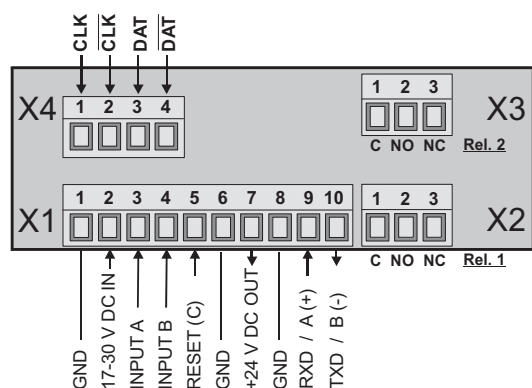
Display with analogue output (0.570.012.E90)



Display with serial interface RS 232/485 (0.570.012.E05)



Display with 2 relay outputs, RS 232/485 (0.570.010.305)



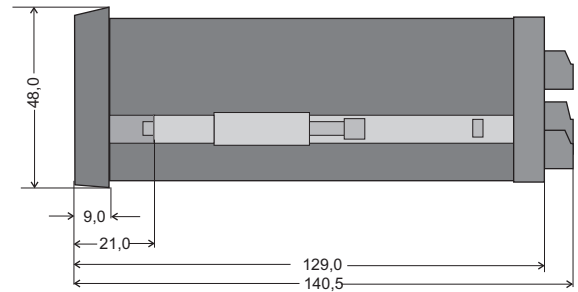
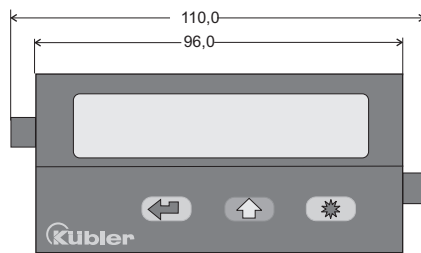
Position displays with limits

LED position preset counters	SSI absolute encoder display (AC+DC)	570
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Dimensions

Dimensions in mm [inch]

Panel cut-out
92 x 45 [3.62 x 1.77]



Position-
displays