

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 | 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 . 8XX
a b

a Backlighting

5 = without ¹⁾
 6 = with

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

| Input type | INP A | | | INP B | | | | |
|---|----------------|-----------|-----|-------|----------------|-----------|-----|-------|
| 0 = Quad/Quad ²⁾ | 0 ... 0.7 V DC | channel A | NPN | 3 kHz | 0 ... 0.7 V DC | channel B | NPN | 3 kHz |
| 1 ¹⁾ = Quad/Quad ²⁾ | 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, other accessories and installation examples for optional accessories can be found in chapter accessories or in the accessories section under: 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 standards | EN 55011 class B EN 61000-6-2, EN 61000-6-3 |
| UL approval | file E128604 |

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

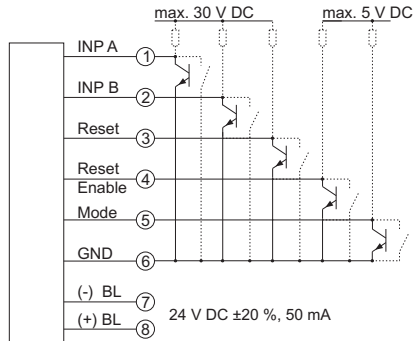
| Counting inputs | | |
|--|--------------|--|
| Fast counting input max. 6 kHz (PNP), 3 kHz (NPN) | | |
| Switching level NPN | LOW | 0 ... 0.7 V |
| | HIGH | 3 ... 30 V DC |
| Switching level PNP | LOW | 0 ... 0.7 V |
| | HIGH | 4 ... 30 V DC |
| Switching | | x1 or x2 evaluation can be set via the 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 |

Position displays

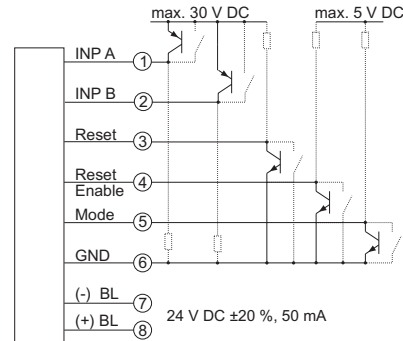
LCD position displays Phase discriminator (quadrature) x1 and x2 evaluation Codix 133

Terminal assignment

DC type: 6.133.012.8x0



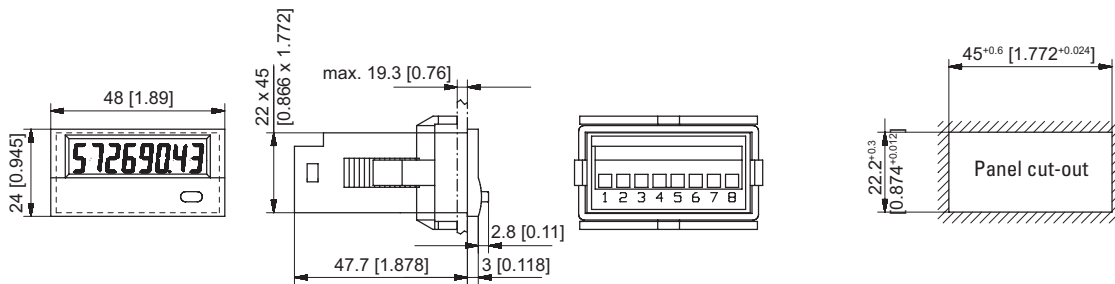
DC type: 6.133.012.8x1



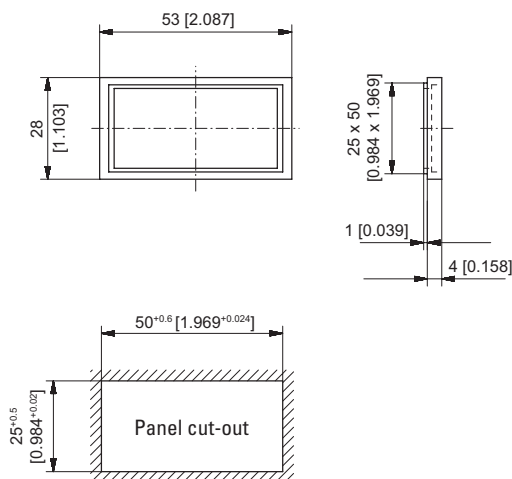
BL = backlighting

Dimensions

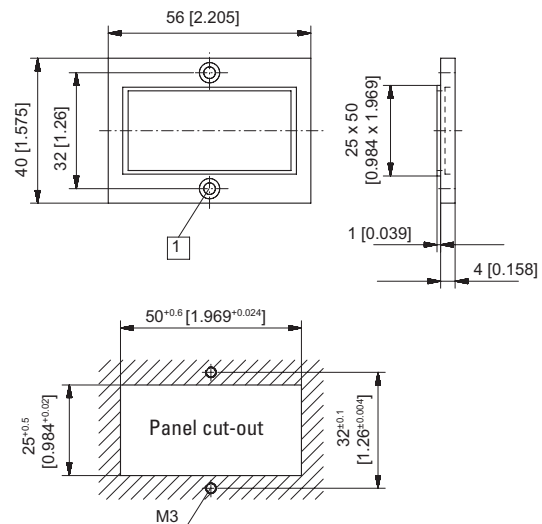
Dimensions in mm [inch]



Front bezel for clip mounting (included in delivery)



Front bezel for screw mounting (included in delivery)



1 Countersinking Af3, DIN 74