



## Capacitance level switch CapFox® ENT 21



### Benefits

- Easy adjustment via magnetic pin
- IP 68 degree of protection
- For temperatures of the medium of up to 300 °C
- EX version suitable for mining

### Application

For level detection of conductive and non-conductive liquids in tanks, ducts, pipes or silos. Particularly suitable for application in the food, pharmaceutical and chemical industries. Also ideal for level detection of bulk solids such as sand, gravel, cement and granular material stored in open or closed containers.

### Versions

#### CapFox® ENT 21 MK

Model / series	Process connection	Output signal	Part no.
CapFox® ENT 21 MK -05 ST	G1B	3-wire PNP	5656005ST-L-1B01
CapFox® ENT 21 MK -05 ST	G1B	3-wire NPN	5656005ST-L-1B02
CapFox® ENT 21 MK -05 ST	G $\frac{3}{4}$ B	3-wire PNP	5656005ST-L-2B01
CapFox® ENT 21 MK -05 ST	G $\frac{3}{4}$ B	3-wire NPN	5656005ST-L-2B02
CapFox® ENT 21 MK -05 ST	$\frac{1}{4}$ " NPT	3-wire PNP	5656005ST-L-3B01
CapFox® ENT 21 MK -05 ST	$\frac{1}{4}$ " NPT	3-wire NPN	5656005ST-L-3B02
CapFox® ENT 21 MK -05 ST	Tri-Clamp DIN 32676, $\varnothing$ 34 mm	3-wire PNP	5656005ST-L-4B01
CapFox® ENT 21 MK -05 ST	Tri-Clamp DIN 32676, $\varnothing$ 34 mm	3-wire NPN	5656005ST-L-4B02
CapFox® ENT 21 MK -05 ST	Tri-Clamp DIN 32676, $\varnothing$ 50.5 mm	3-wire PNP	5656005ST-L-5B01
CapFox® ENT 21 MK -05 ST	Tri-Clamp DIN 32676, $\varnothing$ 50.5 mm	3-wire NPN	5656005ST-L-5B02
CapFox® ENT 21 MK -05 HT	G1B	3-wire PNP	5656005HT-L-1B01

Blue part no. = in-stock items



Model / series	Process connection	Output signal	Part no.
CapFox® ENT 21 MK -05 HT	G1B	3-wire NPN	5656005HT-L-1B02
CapFox® ENT 21 MK -05 HT	G¾B	3-wire PNP	5656005HT-L-2B01
CapFox® ENT 21 MK -05 HT	G¾B	3-wire NPN	5656005HT-L-2B02
CapFox® ENT 21 MK -05 HT	¾" NPT	3-wire PNP	5656005HT-L-3B01
CapFox® ENT 21 MK -05 HT	¾" NPT	3-wire NPN	5656005HT-L-3B02
CapFox® ENT 21 MK -05 HT	Tri-Clamp DIN 32676, ø 34 mm	3-wire PNP	5656005HT-L-4B01
CapFox® ENT 21 MK -05 HT	Tri-Clamp DIN 32676, ø 34 mm	3-wire NPN	5656005HT-L-4B02
CapFox® ENT 21 MK -05 HT	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire PNP	5656005HT-L-5B01
CapFox® ENT 21 MK -05 HT	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire NPN	5656005HT-L-5B02
CapFox® ENT 21 MK -10 ST	G1B	3-wire PNP	5656010ST-L-1B01
CapFox® ENT 21 MK -10 ST	G1B	3-wire NPN	5656010ST-L-1B02
CapFox® ENT 21 MK -10 ST	G¾B	3-wire PNP	5656010ST-L-2B01
CapFox® ENT 21 MK -10 ST	G¾B	3-wire NPN	5656010ST-L-2B02
CapFox® ENT 21 MK -10 ST	¾" NPT	3-wire PNP	5656010ST-L-3B01
CapFox® ENT 21 MK -10 ST	–	3-wire NPN	5656010ST-L-3B02
CapFox® ENT 21 MK -10 ST	Tri-Clamp DIN 32676, ø 34 mm	3-wire PNP	5656010ST-L-4B01
CapFox® ENT 21 MK -10 ST	Tri-Clamp DIN 32676, ø 34 mm	3-wire NPN	5656010ST-L-4B02
CapFox® ENT 21 MK -10 ST	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire PNP	5656010ST-L-5B01
CapFox® ENT 21 MK -10 ST	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire NPN	5656010ST-L-5B02
CapFox® ENT 21 MK -10 HT	G1B	3-wire PNP	5656010HT-L-1B01
CapFox® ENT 21 MK -10 HT	G1B	3-wire NPN	5656010HT-L-1B02
CapFox® ENT 21 MK -10 HT	G¾B	3-wire PNP	5656010HT-L-2B01
CapFox® ENT 21 MK -10 HT	G¾B	3-wire NPN	5656010HT-L-2B02
CapFox® ENT 21 MK -10 HT	¾" NPT	3-wire PNP	5656010HT-L-3B01
CapFox® ENT 21 MK -10 HT	¾" NPT	3-wire NPN	5656010HT-L-3B02
CapFox® ENT 21 MK -10 HT	Tri-Clamp DIN 32676, ø 34 mm	3-wire PNP	5656010HT-L-4B01

Blue part no. = in-stock items



Model / series	Process connection	Output signal	Part no.
CapFox® ENT 21 MK -10 HT	Tri-Clamp DIN 32676, ø 34 mm	3-wire NPN	5656010HT-L-4B02
CapFox® ENT 21 MK -10 HT	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire PNP	5656010HT-L-5B01
CapFox® ENT 21 MK -10 HT	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire NPN	5656010HT-L-5B02

Blue part no. = in-stock items

**CapFox® ENT 21 MS**

Model / series	Process connection	Output signal	Part no.
CapFox® ENT 21 MS -20 ST	G1B	3-wire PNP	5656020ST-L-1B01
CapFox® ENT 21 MS -20 ST	G1B	3-wire NPN	5656020ST-L-1B02
CapFox® ENT 21 MS -20 ST	G¾B	3-wire PNP	5656020ST-L-2B01
CapFox® ENT 21 MS -20 ST	G¾B	3-wire NPN	5656020ST-L-2B02
CapFox® ENT 21 MS -20 ST	¾" NPT	3-wire PNP	5656020ST-L-3B01
CapFox® ENT 21 MS -20 ST	¾" NPT	3-wire NPN	5656020ST-L-3B02
CapFox® ENT 21 MS -20 ST	Tri-Clamp DIN 32676, ø 34 mm	3-wire PNP	5656020ST-L-4B01
CapFox® ENT 21 MS -20 ST	Tri-Clamp DIN 32676, ø 34 mm	3-wire NPN	5656020ST-L-4B02
CapFox® ENT 21 MS -20 ST	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire PNP	5656020ST-L-5B01
CapFox® ENT 21 MS -20 ST	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire NPN	5656020ST-L-5B02
CapFox® ENT 21 MS -20 HT	G1B	3-wire PNP	5656020HT-L-1B01
CapFox® ENT 21 MS -20 HT	G1B	3-wire NPN	5656020HT-L-1B02
CapFox® ENT 21 MS -20 HT	G¾B	3-wire PNP	5656020HT-L-2B01
CapFox® ENT 21 MS -20 HT	G¾B	3-wire NPN	5656020HT-L-2B02
CapFox® ENT 21 MS -20 HT	¾" NPT	3-wire PNP	5656020HT-L-3B01
CapFox® ENT 21 MS -20 HT	¾" NPT	3-wire NPN	5656020HT-L-3B02
CapFox® ENT 21 MS -20 HT	Tri-Clamp DIN 32676, ø 34 mm	3-wire PNP	5656020HT-L-4B01
CapFox® ENT 21 MS -20 HT	Tri-Clamp DIN 32676, ø 34 mm	3-wire NPN	5656020HT-L-4B02
CapFox® ENT 21 MS -20 HT	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire PNP	5656020HT-L-5B01
CapFox® ENT 21 MS -20 HT	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire NPN	5656020HT-L-5B02
CapFox® ENT 21 MS -21 ST	G1B	3-wire PNP	5656021ST-L-1B01
CapFox® ENT 21 MS -21 ST	G1B	3-wire NPN	5656021ST-L-1B02
CapFox® ENT 21 MS -21 ST	G¾B	3-wire PNP	5656021ST-L-2B01

Blue part no. = in-stock items



Model / series	Process connection	Output signal	Part no.
CapFox® ENT 21 MS -21 ST	G¾B	3-wire NPN	5656021ST-L-2B02
CapFox® ENT 21 MS -21 ST	¾" NPT	3-wire PNP	5656021ST-L-3B01
CapFox® ENT 21 MS -21 ST	¾" NPT	3-wire NPN	5656021ST-L-3B02
CapFox® ENT 21 MS -21 ST	Tri-Clamp DIN 32676, ø 34 mm	3-wire PNP	5656021ST-L-4B01
CapFox® ENT 21 MS -21 ST	Tri-Clamp DIN 32676, ø 34 mm	3-wire NPN	5656021ST-L-4B02
CapFox® ENT 21 MS -21 ST	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire PNP	5656021ST-L-5B01
CapFox® ENT 21 MS -21 ST	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire NPN	5656021ST-L-5B02
CapFox® ENT 21 MS -21 HT	G1B	3-wire PNP	5656021HT-L-1B01
CapFox® ENT 21 MS -21 HT	G1B	3-wire NPN	5656021HT-L-1B02
CapFox® ENT 21 MS -21 HT	G¾B	3-wire PNP	5656021HT-L-2B01
CapFox® ENT 21 MS -21 HT	G¾B	3-wire NPN	5656021HT-L-2B02
CapFox® ENT 21 MS -21 HT	¾" NPT	3-wire PNP	5656021HT-L-3B01
CapFox® ENT 21 MS -21 HT	¾" NPT	3-wire NPN	5656021HT-L-3B02
CapFox® ENT 21 MS -21 HT	Tri-Clamp DIN 32676, ø 34 mm	3-wire PNP	5656021HT-L-4B01
CapFox® ENT 21 MS -21 HT	Tri-Clamp DIN 32676, ø 34 mm	3-wire NPN	5656021HT-L-4B02
CapFox® ENT 21 MS -21 HT	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire PNP	5656021HT-L-5B01
CapFox® ENT 21 MS -21 HT	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire NPN	5656021HT-L-5B02
CapFox® ENT 21 MS -22 ST	G1B	3-wire PNP	5656022ST-L-1B01
CapFox® ENT 21 MS -22 ST	G1B	3-wire NPN	5656022ST-L-1B02
CapFox® ENT 21 MS -22 ST	G¾B	3-wire PNP	5656022ST-L-2B01
CapFox® ENT 21 MS -22 ST	G¾B	3-wire NPN	5656022ST-L-2B02
CapFox® ENT 21 MS -22 ST	¾" NPT	3-wire PNP	5656022ST-L-3B01
CapFox® ENT 21 MS -22 ST	¾" NPT	3-wire NPN	5656022ST-L-3B02
CapFox® ENT 21 MS -22 ST	Tri-Clamp DIN 32676, ø 34 mm	3-wire PNP	5656022ST-L-4B01
CapFox® ENT 21 MS -22 ST	Tri-Clamp DIN 32676, ø 34 mm	3-wire NPN	5656022ST-L-4B02
CapFox® ENT 21 MS -22 ST	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire PNP	5656022ST-L-5B01
CapFox® ENT 21 MS -22 ST	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire NPN	5656022ST-L-5B02
CapFox® ENT 21 MS -22 HT	G1B	3-wire PNP	5656022HT-L-1B01

Blue part no. = in-stock items



Model / series	Process connection	Output signal	Part no.
CapFox® ENT 21 MS -22 HT	G1B	3-wire NPN	5656022HT-L-1B02
CapFox® ENT 21 MS -22 HT	G¾B	3-wire PNP	5656022HT-L-2B01
CapFox® ENT 21 MS -22 HT	G¾B	3-wire NPN	5656022HT-L-2B02
CapFox® ENT 21 MS -22 HT	¾" NPT	3-wire PNP	5656022HT-L-3B01
CapFox® ENT 21 MS -22 HT	¾" NPT	3-wire NPN	5656022HT-L-3B02
CapFox® ENT 21 MS -22 HT	Tri-Clamp DIN 32676, ø 34 mm	3-wire PNP	5656022HT-L-4B01
CapFox® ENT 21 MS -22 HT	Tri-Clamp DIN 32676, ø 34 mm	3-wire NPN	5656022HT-L-4B02
CapFox® ENT 21 MS -22 HT	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire PNP	5656022HT-L-5B01
CapFox® ENT 21 MS -22 HT	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire NPN	5656022HT-L-5B02

Blue part no. = in-stock items

**CapFox® ENT 21 MF**

Model / series	Process connection	Output signal	Part no.
CapFox® ENT 21 MF -60 ST	G1B	3-wire PNP	5656060ST-L-1B01
CapFox® ENT 21 MF -60 ST	G1B	3-wire NPN	5656060ST-L-1B02
CapFox® ENT 21 MF -60 ST	G¾B	3-wire PNP	5656060ST-L-2B01
CapFox® ENT 21 MF -60 ST	G¾B	3-wire NPN	5656060ST-L-2B02
CapFox® ENT 21 MF -60 ST	¾" NPT	3-wire PNP	5656060ST-L-3B01
CapFox® ENT 21 MF -60 ST	¾" NPT	3-wire NPN	5656060ST-L-3B02
CapFox® ENT 21 MF -60 ST	Tri-Clamp DIN 32676, ø 34 mm	3-wire PNP	5656060ST-L-4B01
CapFox® ENT 21 MF -60 ST	Tri-Clamp DIN 32676, ø 34 mm	3-wire NPN	5656060ST-L-4B02
CapFox® ENT 21 MF -60 ST	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire PNP	5656060ST-L-5B01
CapFox® ENT 21 MF -60 ST	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire NPN	5656060ST-L-5B02
CapFox® ENT 21 MF -60 HT	G1B	3-wire PNP	5656060HT-L-1B01
CapFox® ENT 21 MF -60 HT	G1B	3-wire NPN	5656060HT-L-1B02
CapFox® ENT 21 MF -60 HT	G¾B	3-wire PNP	5656060HT-L-2B01
CapFox® ENT 21 MF -60 HT	G¾B	3-wire NPN	5656060HT-L-2B02
CapFox® ENT 21 MF -60 HT	¾" NPT	3-wire PNP	5656060HT-L-3B01
CapFox® ENT 21 MF -60 HT	¾" NPT	3-wire NPN	5656060HT-L-3B02
CapFox® ENT 21 MF -60 HT	Tri-Clamp DIN 32676, ø 34 mm	3-wire PNP	5656060HT-L-4B01

Blue part no. = in-stock items



Model / series	Process connection	Output signal	Part no.
CapFox® ENT 21 MF -60 HT	Tri-Clamp DIN 32676, ø 34 mm	3-wire NPN	5656060HT-L-4B02
CapFox® ENT 21 MF -60 HT	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire PNP	5656060HT-L-5B01
CapFox® ENT 21 MF -60 HT	Tri-Clamp DIN 32676, ø 50.5 mm	3-wire NPN	5656060HT-L-5B02

Blue part no. = in-stock items

## Description

The capacitance level switch CapFox® ENT 21 consists of an electronics module integrated in a robust stainless steel housing and the measuring electrode. The electrode is partially or fully insulated; in conjunction with a conductive tank wall or an earthed counter-electrode, it forms a capacitor whose capacitance depends on the electric characteristics of the environment. As soon as the dielectric (electric field) is no longer formed by a air or a another gas (free electrode), but by a liquid or the bulk solids, the capacitance changes. This is converted into a switching signal by the electronics. An NPN or a PNP transistor output is available as electrical output. The sensor output of the EX version complies with EN 60947 (NAMUR).

Fully or partially insulated rigid probes or flexible probes are available, depending on the medium and the application. Only fully insulated electrodes are used for level detection of adhesive, corrosive or electrically conductive media.

## Technical specifications

### Indicator

LED green: Operation  
LED orange: Status

### Process connection

G1B  
G $\frac{3}{4}$ B  
 $\frac{3}{4}$ " NPT  
Tri-Clamp DIN 32676, ø 34 mm  
Tri-Clamp DIN 32676, ø 50.5 mm

### Material

Housing: Stainless steel 304  
MS: Stainless steel 316 L  
MF: Stainless steel 316

### Supply voltage

DC 7 – 34 V  
Load current: Max. 300 mA

### Switching point adjustment

Adjustment via magnetic pin, included

### Current input

Max. 5 mA without load

### Degree of protection

IP 68 (EN 60529)

### Electrical connection

Cable gland M12 x 1.5 with fixed cable connection  
Cable length: 2 m

### Weight

ST version: Approx. 0.3 kg  
HT version: Approx. 0.6 kg

### Scope of delivery

- CapFox® ENT 21 according to configuration
- Magnetic pin

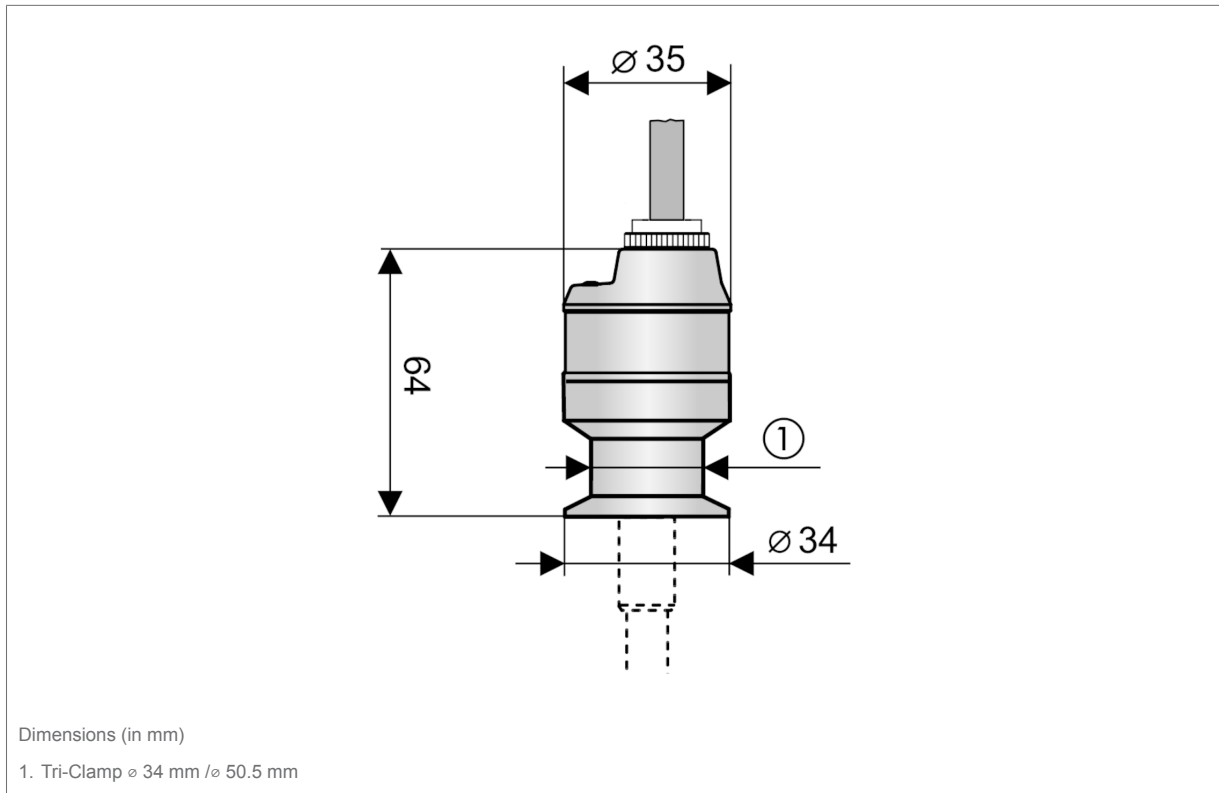
## Options

- Other process connections
- FEP/PFA coatings
- Ex version
- Ex II 1 G Ex ia IIB T6 Ga
- Ex II 1 D Ex ia IIIC T80°C Da
- Ex I M1 Ex ia I Ma
- HT EX version
- Ex II 1/2 G Ex ia IIB T6 Ga/Gb
- Ex II 1/2 D Ex ia IIIC T80°C Da/Db

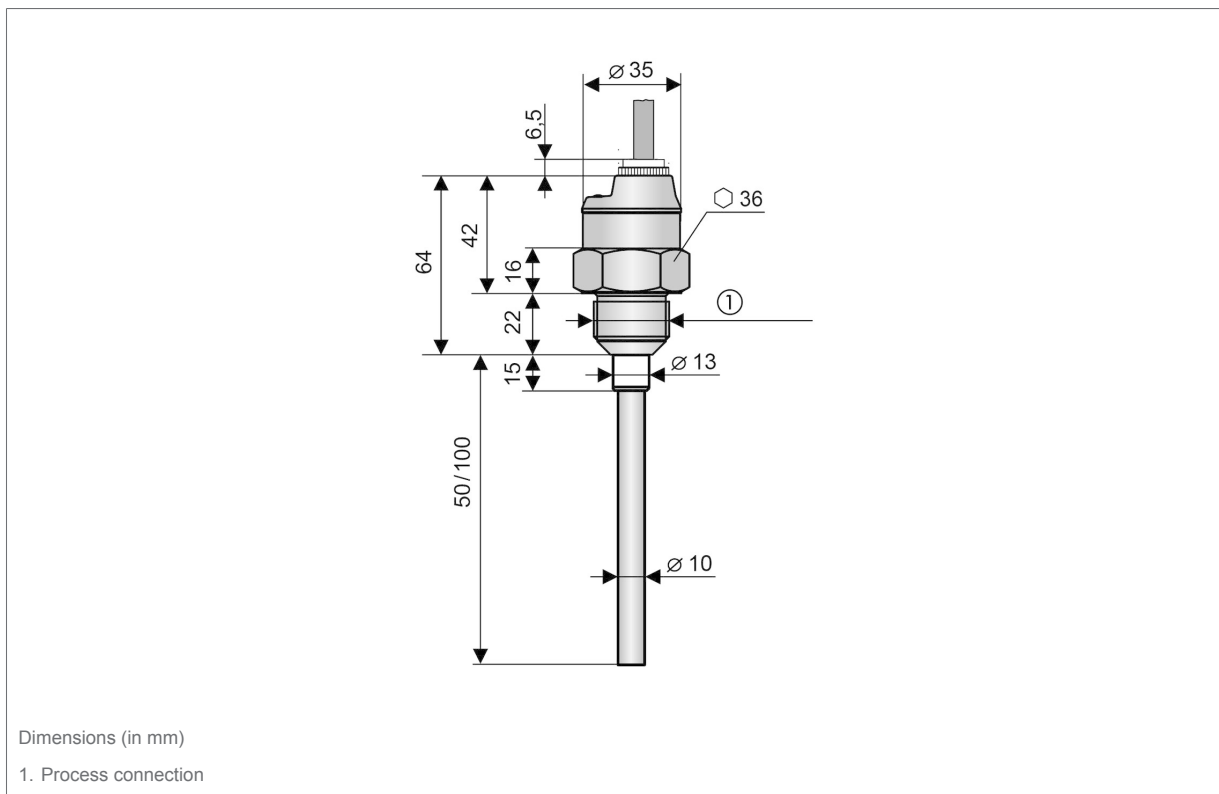


**Detail views**

**CapFox® ENT 21 with process connection Tri-Clamp DIN 32676**

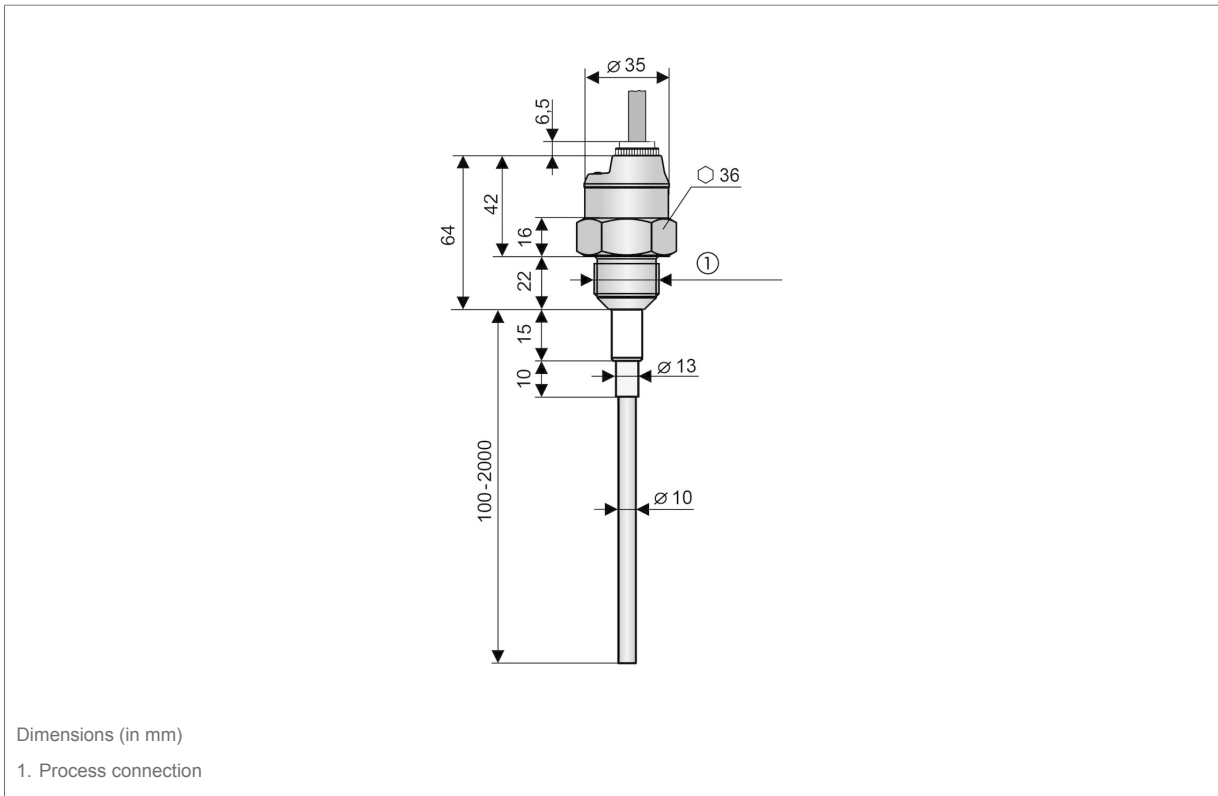


**CapFox® ENT 21 MK - 05/10 compact probe with PPS partial insulation**



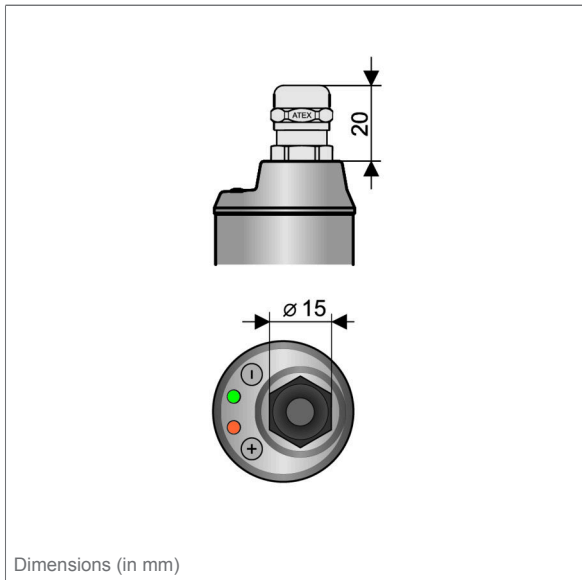


CapFox® ENT 21 MS - 20 with rigid mono probe with FEP partial insulation

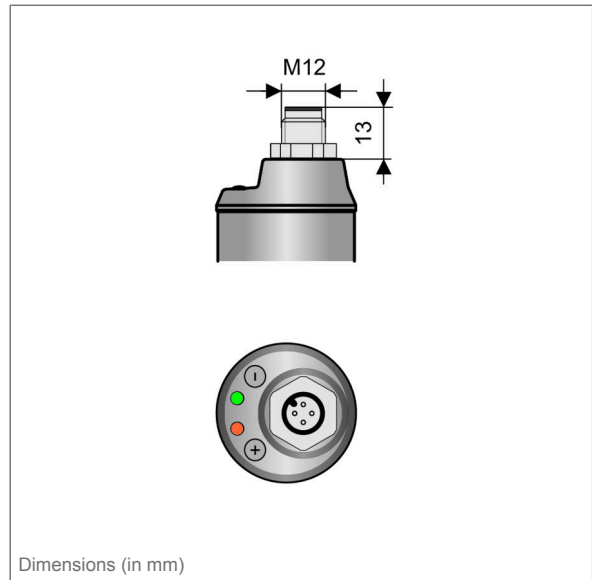


Technical drawings

Electrical connection D with dust-tight cable gland (ATEX)



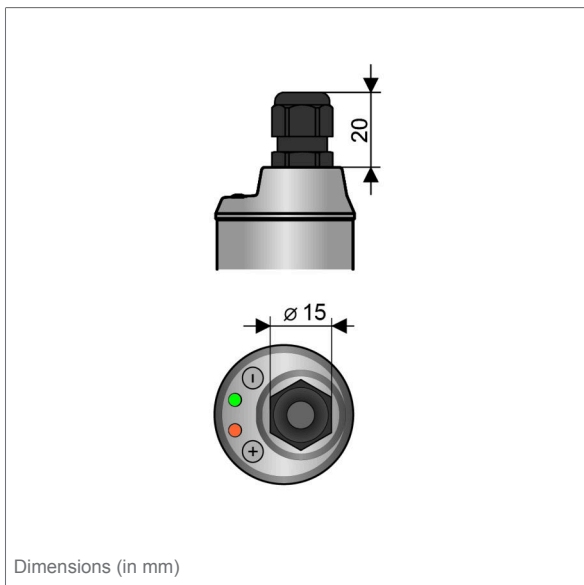
Electrical connection C with connector M12 x 1, 4-pin



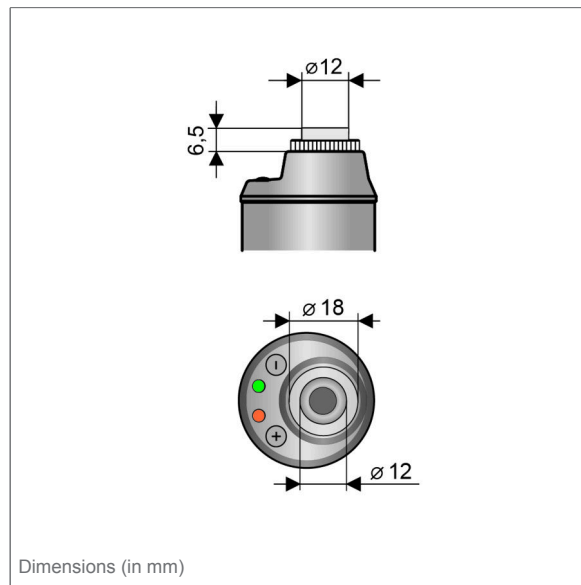




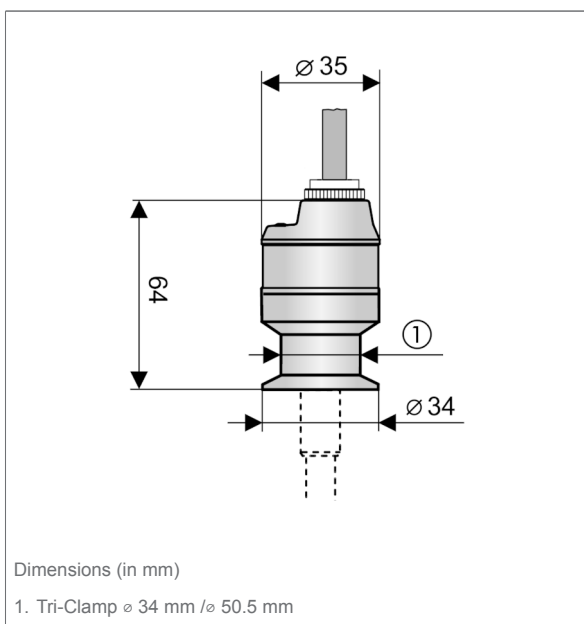
**Electrical connection B with PVC cable gland M12 x 1.5**



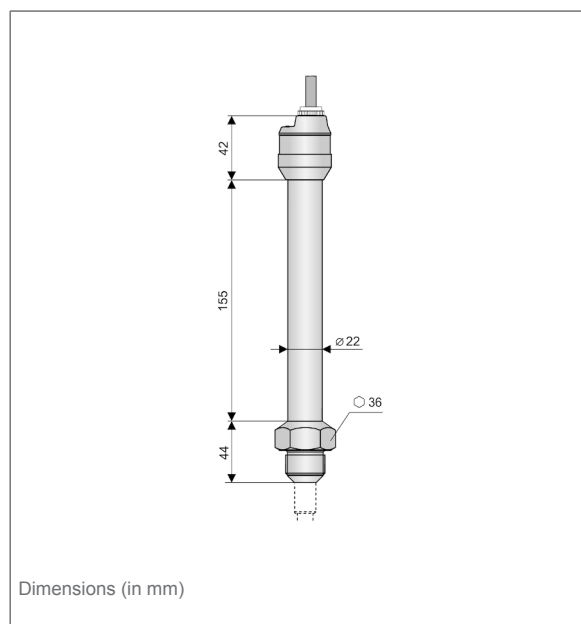
**Electrical connection A with short stainless steel cable gland**



**CapFox® ENT 21 with process connection Tri-Clamp DIN 32676**

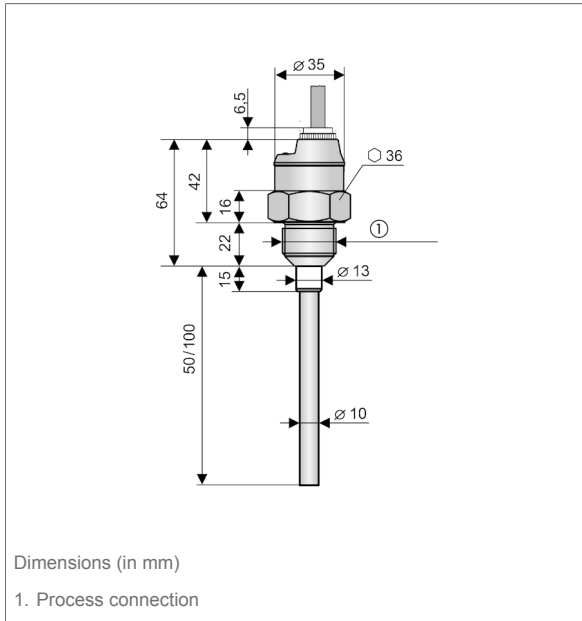


**CapFox® ENT 21 high temperature version**

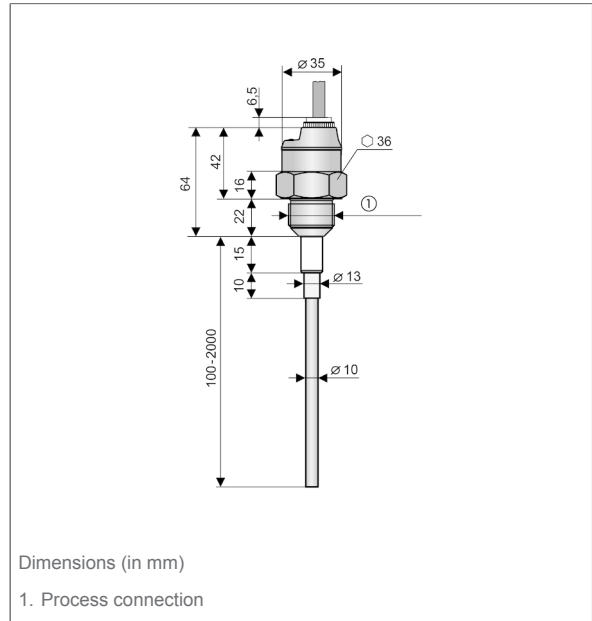




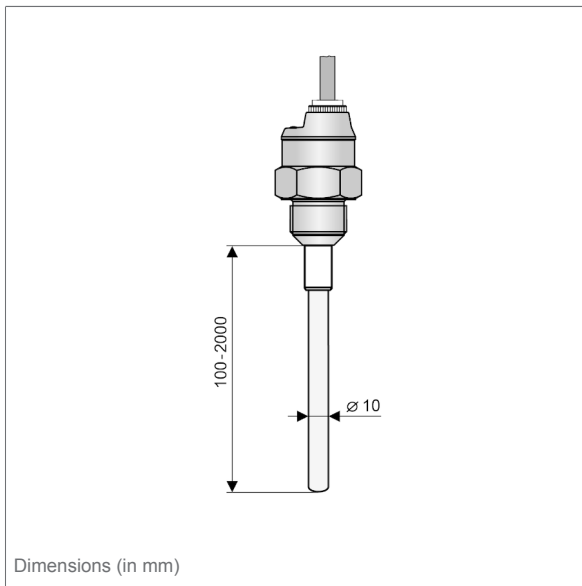
**CapFox® ENT 21 MK - 05/10 compact probe with PPS partial insulation**



**CapFox® ENT 21 MS - 20 with rigid mono probe with FEP partial insulation**



**CapFox® ENT 21 MS - 21 with rigid mono probe with FEP insulation – CapFox® ENT 21 MS - 22 with rigid mono probe with PFA insulation**



**CapFox® ENT 21 MF - 60 with flexible mono probe**

