

# FF04

## Membrane-Level Transmitter for Bunks

- applicable as full or empty indicator
- simple mounting
- requires no room in the bulk tank
- membrane mad of NBR, FKM or stainless steel
- high temperature version up to 200 °C
- output signal: changeover relay with high switching capacity (4 A / 250 V)
-  Ex- version acc. to ATEX optional



### Description:

The membrane-level transmitter of the model series FF04 consists of a plastic- or aluminum housing with a membrane which is held by a fastening ring. The devices get installed flush with the tank wall. So they do not extend into the tank. The bulk material pushes against the membrane, which is pre-stressed by a spring, thereby it activates a micro-switch. Depending on the sort and the weight of the bulk the devices can be delivered with different membrane-diameters and different membrane-materials.

### Typical application:

For all bunks, from free flowing till hardly flowing, in pressure-less tanks.

## Models:

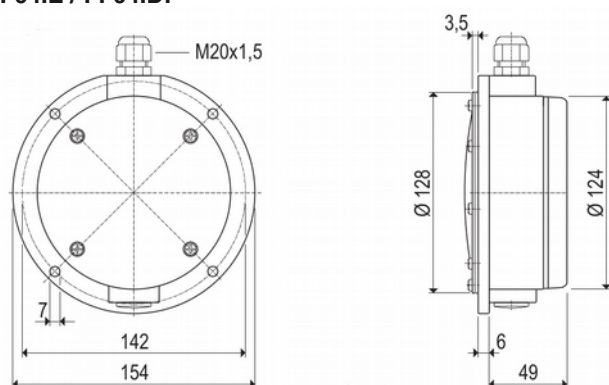
- E:** standard version  
membrane diameter 128 mm
- D:** standard version, protection class IP65  
membrane diameter 128 mm
- F:** for greater wall thickness  
membrane diameter 128 mm
- B:** aluminum housing, high temperature version  
membrane diameter 187 mm

## Range of application:

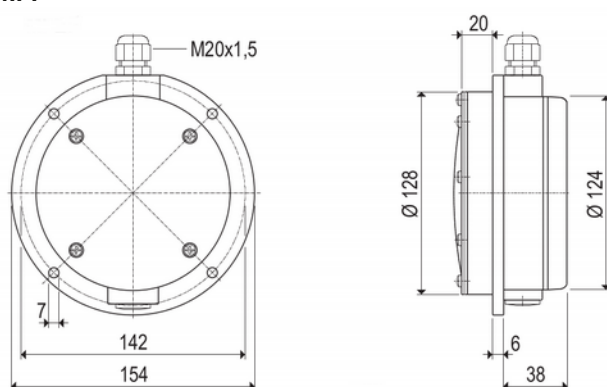
| Type   | Membrane                | Operating temperature                          | Application:       |
|--------|-------------------------|------------------------------------------------|--------------------|
| FF04.E | NBR / FKM               | -20...+60 °C                                   | simple, grain-type |
| FF04.D | NBR / FKM               | -20...+60 °C                                   | simple, grain-type |
| FF04.F | NBR / FKM               | -20...+60 °C                                   | bis 30 mm grit     |
| FF04.B | NBR<br>FKM<br>st. steel | -20...+60 °C<br>-20...+150 °C<br>-20...+200 °C | bis 100 mm grit    |

## Dimensions:

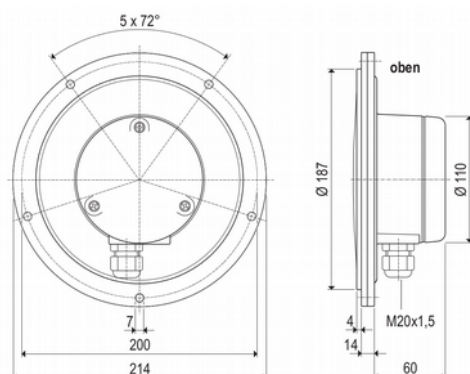
FF04.E / FF04.D:



FF04.F:



FF04.B:



## Order Code:

|                                                                                                                                                     |              |           |           |           |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|-----------|-----------|----------|
| <b>Order number:</b>                                                                                                                                | <b>FF04.</b> | <b>E.</b> | <b>N.</b> | <b>N.</b> | <b>0</b> |
| <b>Membrane-level transmitter for bulks</b>                                                                                                         |              |           |           |           |          |
| <b>Housing type:</b><br>E = plastic housing<br>D = plastic housing, IP65<br>F = for greater wall thickness, plastic housing<br>B = aluminum housing |              |           |           |           |          |
| <b>Membrane material:</b><br>N = NBR<br>V = FKM<br>E = stainless steel (not for FF04.D)                                                             |              |           |           |           |          |
| <b>Supporting ring:</b><br>A = aluminum (FF04.B only)<br>N = steel, galvanized (not for FF04.B)<br>E = stainless steel                              |              |           |           |           |          |
| <b>Options:</b><br>0 = without<br>9 = please specify in plain text                                                                                  |              |           |           |           |          |

## Technical Data:

### Material:

- Housing:** plastic, glass fiber reinforced (FF04.B: aluminum)
- Membrane:** NBR, FKM or stainless steel
- Supp.- ring:** aluminum, steel, galvanized or stainless steel

### Installation position:

- Sensitivity:** 60...200 g (FF04.E/D/F)  
100...500 g (FF04.B)

### Bulk weight:

- 0,3 t/m³ bis 2,5 t/m³ (FF04.D/B)

### Temperature range:

- see table „range of application“

### Pressure range:

- for pressureless tanks

### Contact rating:

- potential free SPDT  
4 A / 250 VAC

### Cable entry:

### Protection class:

- housing type E + F: IP40 (DIN EN 60529)  
IP53 (if screwing on top)  
IP 65 (with st. steel membrane)
- housing type D: IP 65
- housing type B: IP40 (DIN EN 60529)  
IP 53 (if screwing at the bottom)  
IP 65 (with st. steel membrane)

## Electrical connection:

