FA-1/2/3, bi

Optical bi-stable flow alarm sensors series FA®

Version FA-1/2/3, bi forked lightbarrier

Special Features

- **Easy mounting without dismounting the measuring glass**
- **Also for very low flow quantities**
- **Also for non-metallic or very small floating balls**
- **Easy adjustment of any alarm set-point**

Application

The patented forked light-barrier FA-.., bi is used in gas and water analysis for flow-monitoring in flowmeters with measuring tubes made of transparent material, e.g. Duran glass. Thanks to optical scanning, very low flow quantities can be detected even in flowmeters with non-metallic or very small (1 mm) floating balls.

A special sensor head FA2-H is supplied for temperatures up to +180 °C. Here, a fibre-optic light guide is located in the sensor head.

Via this light guide the incident and emergent light is conducted by the transmitter/receiver located externally in a separate adapter in the "cold area".

Description

The patented M&C forked light-barrier FA-.., bi consists of a compact aluminium body with a fixed, open prism and a pressure screw. This makes positioning of the sensor FA-.., bi on the flowmeter's measuring glass very easy; it is not necessary to disassemble the measuring glass. Three basic versions cover a measuring glass diameter range of 5 - 55 mm.

Within the sensor's body, a mechanically protected, high-intensity LED is mounted on the left side as a light source and two photo-transistors are mounted on the opposite side as receivers.

The standard 3-meter long connection cable exits on the left side adjacent to the pressure screw. The LED emitters' light beam is incident on the photo-transistors through the flow measuring glass. As soon as a floating ball breaks the light beam, one or both of the photo-transistors are blanked out.

The necessary FA-1.. electronic controllers analyse this status changes accordingly. The bi-stable operation of the FA-1.. electronic controllers ensure identification of the set flow rated value in the event of measured values falling below or exceeding this pre-set value with the sensor in any position. The mono-stable operation of the FA-1.. electronic controller indicates only whether the float is located in the light beam of the light-barrier, above or below it.

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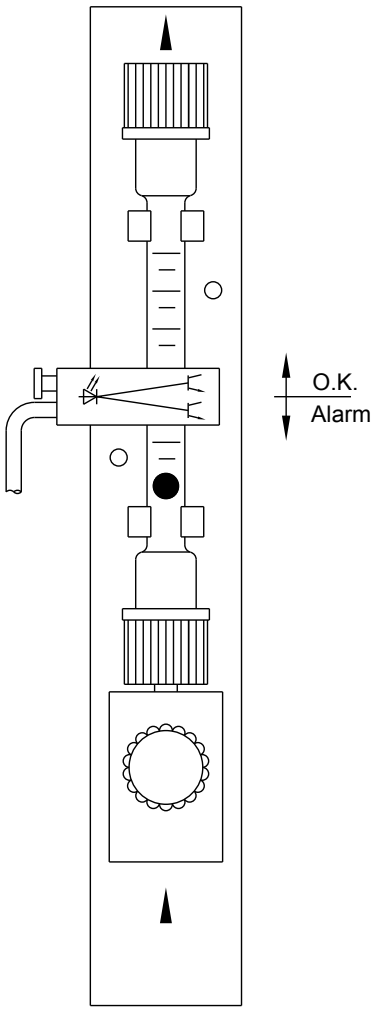
Attachment of flow monitor

FA-1,bi to flowmeter FM10



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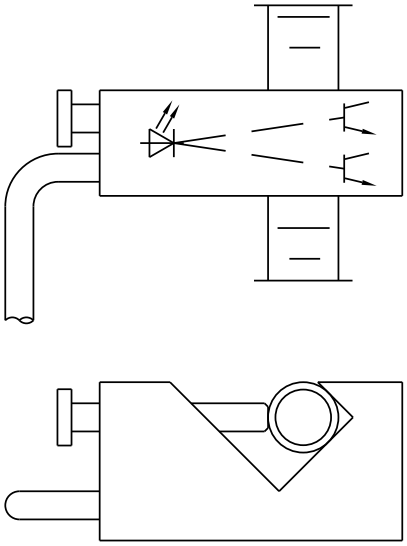

Technical Data

Flow alarm sensors type	FA-1,bi	FA-2,bi	FA-3,bi
Part No.	02E1000	02E2000	02E3000
Measuring tube	5-14 mm	13-27 mm	26-55 mm
Dimensions W x D x H in mm	35 x 23 x 15	63 x 40 x 22	103 x 75 x 25
Weight	50 g	100 g	200 g
Operating temperature	-25 °C to +60 °C		
Storage temperature	-25 °C to +70 °C		
Electrical connection	3 m connection cable standard; 4.5 mm ø, 4 core (each additional meter of sensor connection cable = Part No: 02E9000, max. 10 meters) (>10 meters = with pre-amplifier K-FA.. max. 200 meters)		
Mounting	with clamping screw		
Function	bi-stable and mono-stable		
Power supply voltage	from FA.. electronic controller		
Protection type	IP65 EN 60529		
Material	aluminium-anodized, epoxy, PVC cable, semi-conductors		

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