

FA-1.1 and FA-1.4

- For wall or rail mounting
- 3 operating modes
- Line break monitoring
- Alarm contact with „safety-first“ switching and pull-in and drop-off time lag
- LED's for displaying operational and fault status
- Automatically controlled luminosity of the flow-monitoring sensor FA®

Electronic controller series FA®

versions FA-1.1, FA-1.4, K-FA

for flow monitoring sensors series FA® and for liquid alarm sensor series KS®, version KS 2

Application

The M&C electronic controllers series FA® are required for the operation of the flow-monitoring sensors FA-1/2/3bi and FA1-H (see 5-6.15) as well as the liquid sensor KS2 (not KS 2.Ex).

Description

The M&C electronic controllers series FA® are available in two types of housings for wall-mounting or rail-mounting.

Each of these types includes three operating modes determined by the electrical connection:

- Electronic controller for flow-monitoring in **bi-stable** execution in combination with the flow alarm sensors FA-1/2/3bi.
- Electronic controller for flow-monitoring in **mono-stable** execution in combination with the flow alarm sensors FA-1/2/3bi or FA1-H.
- Electronic controller for liquid sensor **KS 2** or operation in combination with the external pre-amplifiers **K-FA** and **K-FA-H** (see 5-6.15) if the wiring length between the flow alarm sensor FA.. and the electronic FA-1.. is more than 10 meters or if strong stray electrical signals influence the evaluation via the sensor cable.

For sure operation a line break monitoring is integrated and for sure alarm signaling a potential-free change-over contact with "safety-first" switching is existing. In order to avoid unwanted alarm signals in case of pulsating gas flow, the alarm switch has a pull-in and drop-off time-lag. For displaying operational and fault status there are two LED's.

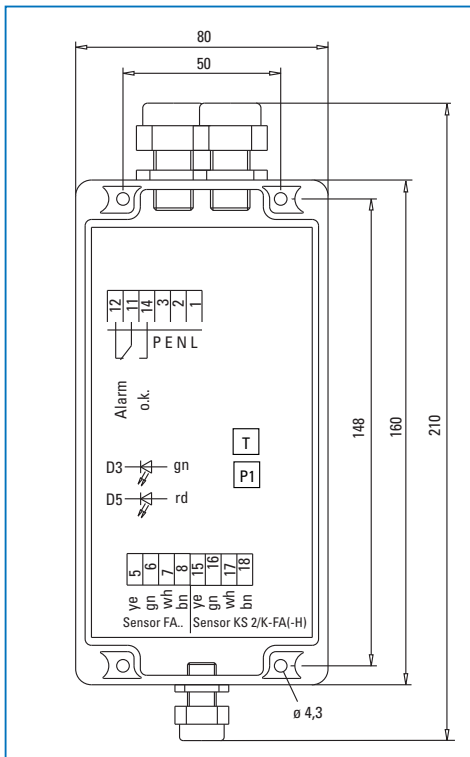
The FA-1.. electronic controllers are balanced in the factory for the sensors FA.. and the measuring glass of the FM-1/10/40 flowmeter. Additionally, the luminosity of the flow-monitoring sensor FA.. is automatically controlled in dependence on the ambient and operating conditions (lighting conditions, temperature, aging of the LED's, contamination of the flowmeter glass, ...).

In case of operating a bi-stable flow monitoring, the identification of the set flow rate value adjusted by the optical flow alarm sensor FA.. in the event of exceeding or falling below the present value (**MIN** or **MAX**) is guaranteed .

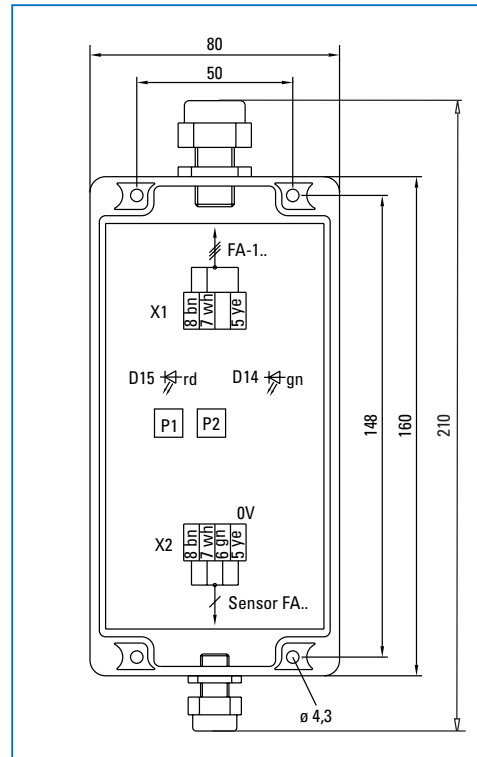
In case of mono-stable operation, a statement is only given whether the float is located in the light beam of the optical flow alarm sensor FA.. , or above it or below it.

Dimensions

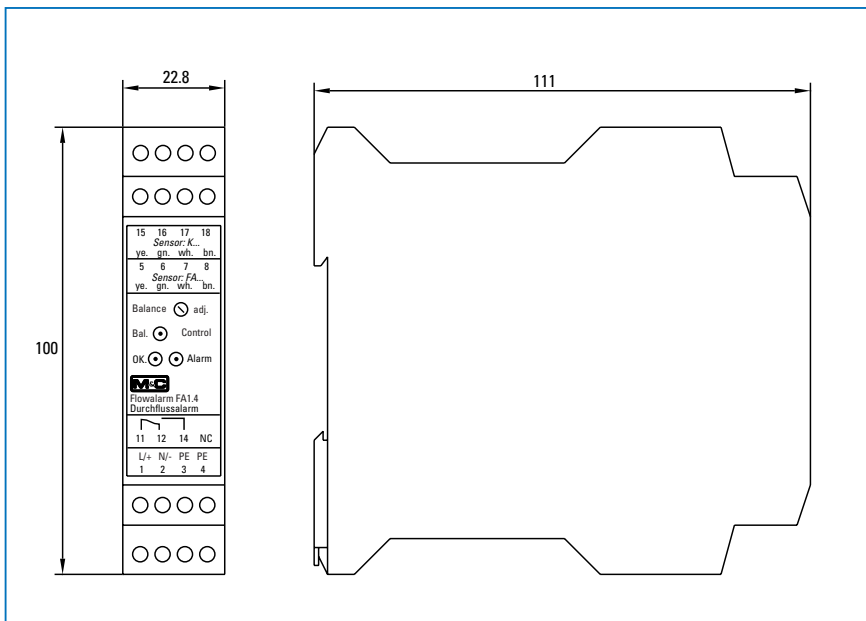
FA-1.1 in wall-mounting housing



Pre-amplifier K-FA



FA-1.4 rail mounting housing



Dimensions in mm

Technical Data

Electronic controller type	FA-1.1	FA1.4	K-FA **
Part No. 230V 50/60Hz 115V 50/60Hz 24V DC 24V AC	02 E 7300* 02 E 7300* 02 E 7300 d 02 E 7300 b	02 E 7110 02 E 7110 a 02 E 7110 d 02 E 7110 d	02 E 4020
Mounting	Wall mounting housing	Rail mounting housing	Wall mounting housing EN 50022
Sensor inlets	1		
Function mono-stable / bi-stable / KS 2	all, selectable by assignment		mono- or bi-stable selectable
Power consumption	2 VA	1 VA	
Alarm-relay (MC/NC/NO) contact rating	250V DC/AC AC=500VA, DC=50W, 3A	250V AC/DC AC=500VA, DC=45W, 2A	
Pull-in/drop-off time lag of alarm relay	2 sec.		
Cable entry	1x clamping range 3mm - 6,5mm 2x clamping range 5mm - 10mm		1x clamping range 3mm - 6,5mm 2x clamping range 5mm - 10mm
Electrical connections	Terminals max. 2,5 mm ²		
Adjustment of sensitivity for sensor FA..	after removing the lid at the potentiometer	in the front side of the housing at the potentiometer	
Distance between sensor and electronic FA-..	max. 10m		>10m, max. 200m
Line break monitoring	yes		
Housing protection type	IP65 EN 60529	IP20 EN 60529	IP65 EN 60529 IP20
Housing material	Polycarbonate	Polyamide	Polycarbonate
Ambient temperature	-25 °C to +60 °C		
Electrical standard	EN61010		
Dimensions	B 80 x L 160 x H 55 mm	B 22,8 x L 100 x T 111	B 80 x L 160 x H 55 mm
Weight	0,31 kg	0,18 kg	0,3 kg

Reversing power consumption 230V 50/60Hz / 115V 50/60Hz, adjusted at works: 230V 50/60Hz

**For use in combination with electronic controller FA-1.1 or FA-1.4 if the wiring length between the flow alarm sensor and the electronic controller is more than 10m