



FA1.1, FA1.4

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

Special Features

- 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®

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).

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, ...).

Description

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

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 .

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

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.

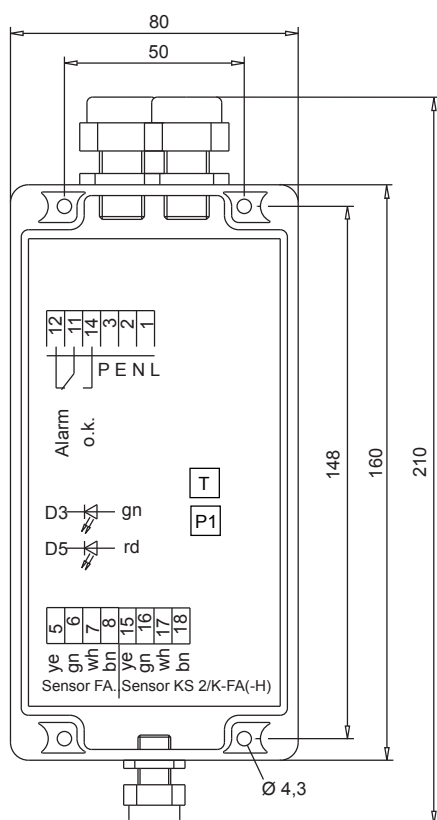
- Electronic controller for flow-monitoring in bi-stable execution in combination with the flow alarm sensors FA-1/2/3bi.
- Electronic controller for flow-monitoring in mono-stable execution in combination with the flow alarm sensors FA-1/2/3bi or FA2-H.
- Electronic controller for liquid sensor KS 2 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 signalling 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.

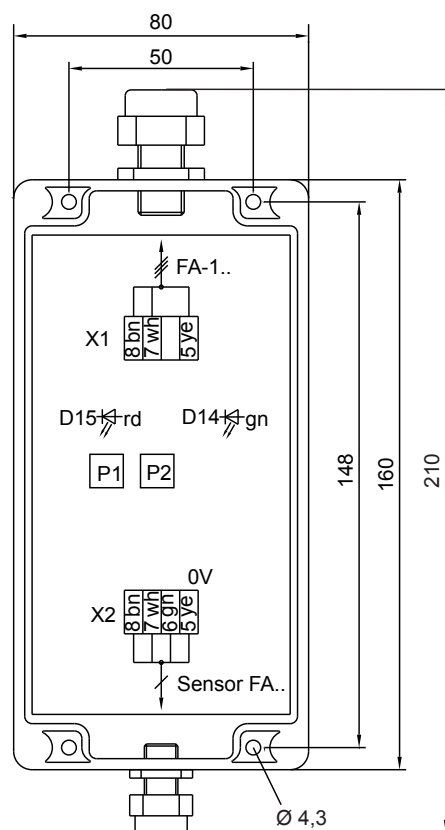
The FA-1.. electronic controllers are balanced in the factory for the sensors FA.. and the measuring glass of the FM-1/10/40 flowmeter.

Dimensions

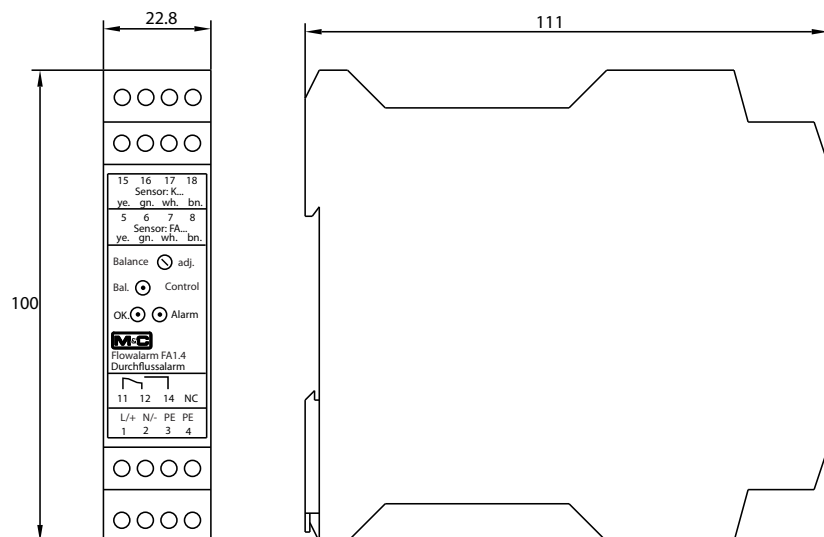
FA-1.1 in wall-mounting housing



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.			02 E 4020
230V 50/60Hz	02 E 7300*	02 E 7110	
115V 50/60Hz	02 E 7300*	02 E 7110 a	
24V _{DC}	02 E 7300 d	02 E 7110 d	
24V _{AC}	02 E 7300 b	02 E 7110 d	
Mounting	Wall mounting housing	Rail mounting housing EN 50022	Wall mounting housing
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