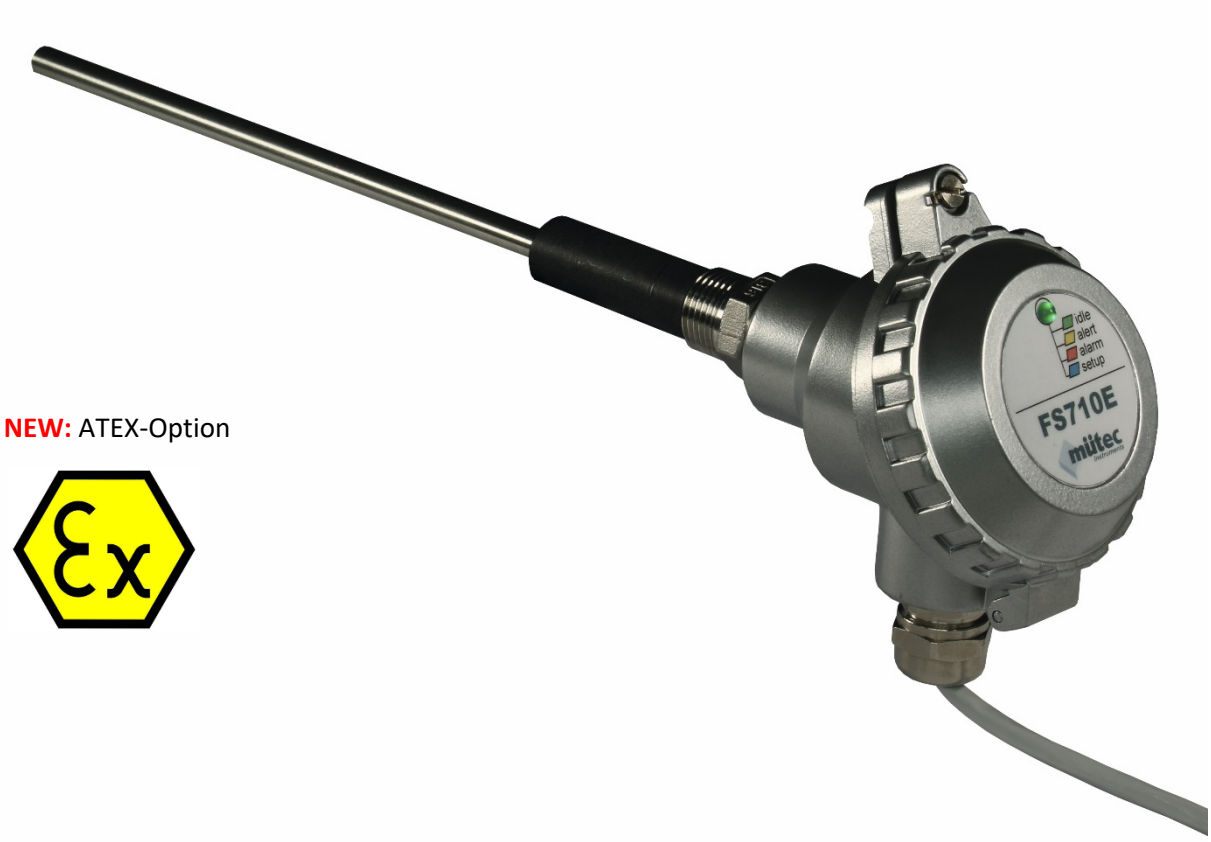
FlowSwitch 710E

Dust monitoring for filter break



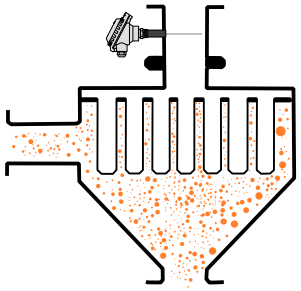
NEW: ATEX-Option

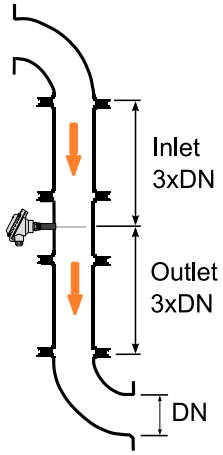
Application

The dust indicator FS710E is designed for the use on the clean air side to detect dust behind a filter. In this way, filter cracks, fractures or assembly errors are reported automatically and reliably. With the new ATEX certified explosion-proof option, the FS 710E is ready for use in explosive zone 20 Ex-areas.

Scope of use

The FlowSwitch 710E can be put in metallic pipes and channels which shall be monitored on dust





Main Benefits

- Automatic calibration
- Maintenance free
- Three-condition monitoring
- Two switching points via switching output
- Condition indication by different LED colors
- Compact form
- Protection class IP65
- Easy installation

Function

The measurement system is based on the triboelectric effect: Particles collide permanently with each other or with other materials, e.g. the wall. Because of this process the particles will be charged in a natural way. If these electrically charged particles are flying next to the sensor rod of FS710E or even touch it, the particles are detected via the charge transfer. Resting particles, such as deposits etc., do not affect the measurement. Therefore a subsequent installation into existing exhaust ducts is possible without any problems.

Installation is quick and easy by welding a threaded socket. The sensor rod is inserted into the pipe and fixed by the thread. The sensor rod length should be at least 1/3 of the pipe diameter and must not touch the opposite side.

During operation, the emerging particle load is continuously gathered and classified in three different categories.

	Particle load	Status	LED	Switch output 1	Switch output 2
Load category I	low	good condition	green	closed	closed
Load category II	medium	pre alarm	yellow	opened	closed
Load category III	high	main alarm	red	closed	opened

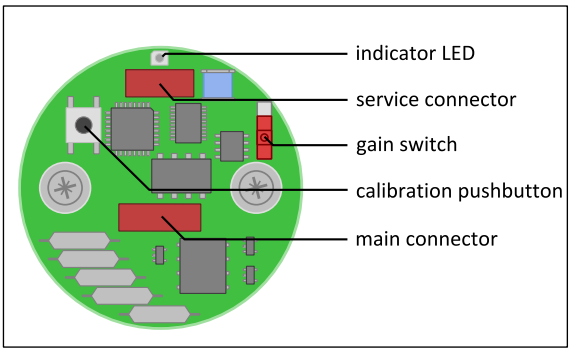


Figure 1 - View of board

Technical Data

Material	Housing	Aluminium
	Sensor rod (standard)	Stainl. Steel 1.4571
	Isolation (standard)	PPS
Process cond.	Temperature	-20°C to +150°C
	(ATEX)	(-10°C to +180°C)
	Pressure	0 to 2 bar
Power supply	Voltage	24 VDC
	Power consumption	max. 50 mA
	Power	< 2 W
	Storage	-20°C to +60°C
	EMC	According to EN 61326-1
Output	Switch1 and switch2	
	Switch output	Normally energized
	Switching voltage	60 VAC/DC
	Switching current	Max. 100 mA
	Switching capacity	6 W
Calibration	Precalibration and automatical recalibration	
Certificates/ Directives	Protection Class	IP 65 (EN 60529)
	EMC	According to EN 61326-1
	ATEX (optional)	II 1/2 D Ex ia ta/tb IIC T200°C Da/Db
Other	Ambient Temp.	-20°C to +50°C*
	Storage Temp.	-20°C to +70°C
	Cable	Assembled, 3m

*if max. process temp is <90°C, max. amb. Temp. increases to 70°C

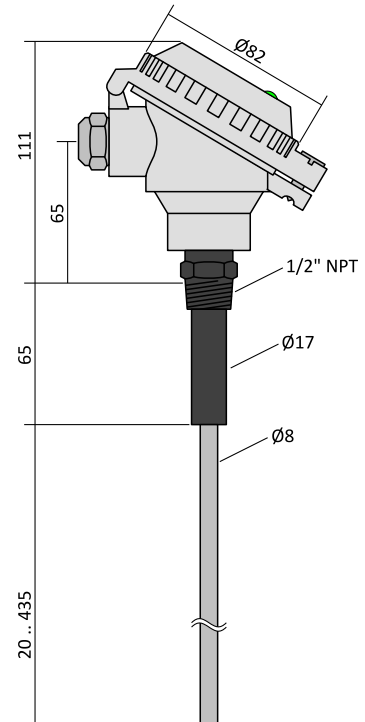


Figure 2 - Dimension of sensor

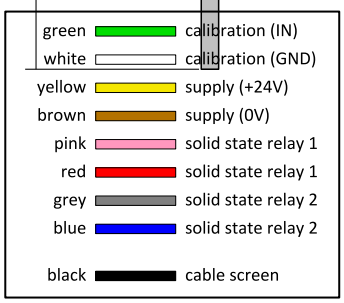


Figure 3 - Wiring

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