



## FS1308

### Transducer particulate matter, digital output

Measuring size: particulate matter

Output: Modbus RTU, Relay

Highlights: PM2.5, PM10



### Description

The laser-based fine dust/particle sensor detects and quantifies PM2.5/PM10 particles in the ambient air. The transmitter converts the measured value 0...1000 µg/m<sup>3</sup> into a BUS signal (Modbus RTU).

As an option, the measuring device has a backlit display and potential-free changeover contact. In the version with a backlit LCD display, the measured value and min/max values, the relay status, etc. are displayed. The switching threshold and hysteresis of the changeover contact can be set via bus command.

The address, transmission mode/speed, terminating resistor and master/slave function of the bus devices are conveniently configured using innovative DIP switch technology. This means that the devices can be integrated quickly and easily into the system and later parameterized via the master.

The bus devices can even be reset to factory settings by the master during operation. In this way, the basic functionality of the device is restored in a matter of seconds. This can happen in the case of incorrect parameterizations of e.g. Offset, switching threshold, display modes etc. may be necessary.

The housing with innovative hinge locking technology, double PG, sufficient terminal space and easy-to-connect elevator terminals offers maximum installation freedom and speed.

The fine dust measuring device is ideal for use in workplaces, schools, living rooms, medical facilities to minimize damage to the human body (asthma attacks, cardiovascular diseases) caused by air pollution.



## Technical Specifications

Measurement range PM2.5/PM10	0 µg/m³ ... 1000 µg/m³
Accuracy PM2.5/PM10	±5 µg/m³ + max. ±4% FS (@ 20°C, 45% r.F., 1013 mbar)
Temperature dependency	±1% FS / 10 K
Response time (t90)	< 10 s
Long term stability	±1% FS/year
Sensor	laser-based sensor
Supply voltage	24 V DC (±5%)
Current consumption	70mA (basic current); R: +15mA in addition to the basic current; D (DBL off): 3mA in addition to the basic current; D (DBL on): +15mA in addition to the basic
Digital output	Modbus RTU
Alarm output	1 x potential-free change-over contact, 48 V, 1 A
Switching Hysteresis Relay	can be entered in the register
Electrical connection	push-in terminal, no tools required, time-saving
Housing	Polycarbonate PC UL 94 V0 with hinge locks, color signal white similar to RAL 9003
Cable gland	PG11 high-strength cable gland with strain relief
Display	optional LCD display with backlight on/off/auto
Dimensions	Housing: L 89 x W 80 x H 47 mm
Protection type	IP65 (housing/electronic), IP20 (sensor)
Protection class	III
Working range r.H.	0...98% r.H. in contaminant-free, non-condensing air
Working temperature	0...+50°C
Storage temperature	-20...+50°C
Installation	screw fastening
Approvals	CE, EAC, RoHS

## Variants

Article Number		
Measurement range PM2.5/PM10	Output	Equipment
<b>FS1308-MBR-A51-D</b>		
0 µg/m³ ... 1000 µg/m³	Modbus RTU	Display
<b>FS1308-MBR-A51-DR</b>		
0 µg/m³ ... 1000 µg/m³	Modbus RTU	Display, Relay
<b>FS1308-MBR-A51-R</b>		
0 µg/m³ ... 1000 µg/m³	Modbus RTU	Relay
<b>FS1308-MBR-A51-X</b>		
0 µg/m³ ... 1000 µg/m³	Modbus RTU	-



### Dimensional Drawing

