



## FS4408

Transducer particulate matter / particles, active output (0-10V and 4-20mA)

Measuring size: particulate matter

Output: 0-10 V, 4-20 mA, Relay

Highlights: PM2.5, PM10



### Description

The laser-based fine dust/particle sensor detects and quantifies the particle sizes PM2.5/PM10 in the ambient air. The transmitter converts the measured value 0...1000 µg/m³ into a standardized, analog output signal 0-10 V and 4-20 mA.

There are 3 detection variants available, which can be easily switched over in the device as required using DIP switch technology. With the setting PM2.5, only fine dust with particle sizes up to 2.5 µm is counted, with PM10 only particle sizes up to 10 µm. With Auto, both are counted, but only the higher measured value is output.

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 of the changeover contact can be set using a potentiometer.

The housing with innovative hinge locking technology, 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 AC/DC (±5%)
Current consumption	U operating: 50 mA (basic current); I operating: 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 current
Analogue output 0-10 V	3-wire connection
Analogue output 4-20 mA	3-wire connection
Alarm output	1 x potential-free change-over contact, 48 V, 1 A
Switching Hysteresis Relay	2% FS (without Display), 0,5...5% FS adjustable (with Display)
Electrical connection	screw terminals max. 1,5 mm²
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 PM2.5/PM10	Equipment
<b>FS4408-UI-A51-D</b>		
0 µg/m³ ... 1000 µg/m³	0-10 V, 4-20 mA	Display
<b>FS4408-UI-A51-DR</b>		
0 µg/m³ ... 1000 µg/m³	0-10 V, 4-20 mA	Display, Relay
<b>FS4408-UI-A51-R</b>		
0 µg/m³ ... 1000 µg/m³	0-10 V, 4-20 mA	Relay
<b>FS4408-UI-A51-X</b>		
0 µg/m³ ... 1000 µg/m³	0-10 V, 4-20 mA	-



## Dimensional Drawing

