

# GMTRB003D-EX-ISxx

TRIBOELECTRIC PROBE FOR  
MEASURING DUST CONCENTRATIONS  
WITH STYLUS COMPLETELY COATED IN PTFE  
FOR DAMP AND/OR AGGRESSIVE ENVIRONMENTS

Resolution 0.1 mg/m<sup>3</sup>

2 alarm thresholds: • 5 mg/m<sup>3</sup> • 10 mg/m<sup>3</sup>

Minimum air flow speed: 4m/s - Minimum particle size: 0.3 µm

Maximum operating temperature for 5000 continuous hours: +250°C

3 opto-isolated outputs with solid state relays + RS485 serial output +

Power: 24Vdc - Protection: IP65

Die-cast aluminium enclosure painted RAL 3000

Measurement stylus in AISI 304 steel completely coated in PTFE - Ø = 20 mm

Maximum length of isolated stylus L = 1950 mm as measured from point 'A'\*

Attachment: male 3/4" gas

Complies with ATEX Directive 2014/34/EU - Category 3D/3G  
specify the duct diameter when ordering



GMTRB003D-EX-ISO1 - For ducts up to Ø=250 mm

GMTRB003D-EX-ISO2 - For ducts from Ø=280 mm to Ø=600 mm

GMTRB003D-EX-ISO3 - For ducts from Ø=650 mm to Ø=900 mm

GMTRB003D-EX-ISO4 - For ducts from Ø=950 mm to Ø=2000 mm

Complies with ATEX Directive 2014/34/EU - Category 3D/3G  
FM APPROVED Certified



specify the duct diameter when ordering

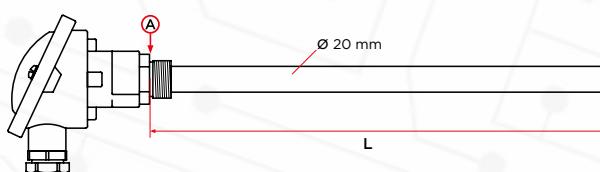
GMTRB003D-EX-ISO1-FM - For ducts up to Ø=250 mm

GMTRB003D-EX-ISO2-FM - For ducts from Ø=280 mm to Ø=600 mm

GMTRB003D-EX-ISO3-FM - For ducts from Ø=650 mm to Ø=900 mm

GMTRB003D-EX-ISO4-FM - For ducts from Ø=950 mm to Ø=2000 mm

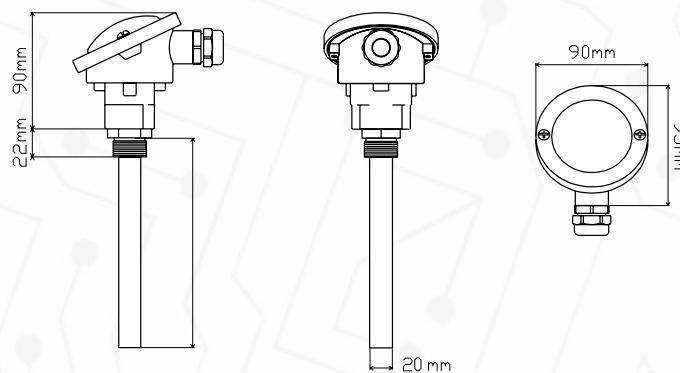
\* To calculate the correct isolated stylus length, start from point 'A'.



Table

MODEL	RESOLUTION	THRESHOLD 1	THRESHOLD 2	OUTPUT 4-20mA	LOWER END OF SCALE@20mA	SELF-ACQUISITION	RS485
GMTRB003D	0.1 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	NO	—	YES	YES

## DIMENSIONS:

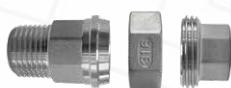


## Industrial Measurements: TRIBOELECTRIC PROBES

### TECHNICAL SPECIFICATIONS

Power supply	24Vdc $\pm$ 10%
Maximum absorbed power	1 W
Resolution	0.1 mg/m <sup>3</sup> (See table)
Range setting	Automatic/manual
Dust particle size	> 0.3 $\mu$ m
Type of measurable products	Dust particles in gaseous fluid
Flow speed	> 4 m/s
Measurement principle	Charge displacement
Alarm threshold 3 (Fault)	Automatically activated by the test function
Alarm outputs	2 opto-isolated outputs with solid state relay, protected with resettable fuses
Maximum output current	100mA
Maximum voltage applicable to the outputs	48V
Output functions	Set normally closed or normally open Common to negative or positive
Maximum operating temperature for 5000 continuous hours	+250°C
Probe operating pressure	< 2 bar
Electrode material	AISI 304 stainless steel
Stylus diameter	Standard 20 mm
Standard Stylus Length	250mm
Minimum Stylus Length	For applications on small-diameter pipelines, the customer may order the probe in the desired length. However, in such cases, GM SISTEMI Srl does not guarantee the preservation of the original operating characteristics.
Enclosure	Die-cast aluminium
Humidity	100% condensing, only on the stylus.
Ambient temperature for electronics	-20°C - +65°C
Dimensions	DIN A
Measurable elements	All non-aggressive and or moist gases
Electrical connection	One 3-pole terminal block + one 6-pole terminal block
Mechanical connection	3/4" G
Protection rating	IP 65
Display	4 LED
Output 4-20 mA	No
Serial output	RS485 with two wires
Certifications	CE/ATEX ZONE 22 D

### ACCESSORI:



**GMTRB-F3-34**  
**FIXING SYSTEM**  
**3 PIECE JUNCTION**  
for dust probes -  
Made in AISI 316L  
Stainless Steel  
3/4" joint



**GMTRB-FX1-34**  
**MOUNTING KIT** for all  
versions of triboelectric probes.  
Suitable for installation  
in zones **classified ATEX:**  
**Category 2D/2G**



### GMTRB-FX2-IS STYLUS SUPPORT MADE IN "POM-C"

Recommended use is when stylus is longer than 850mm.

**Maximum operating temperature for 5000 continuous hours: +110°C**

### GMTRB-FX2-IS-H STYLUS SUPPORT MADE IN "PTFE"

Recommended use is when stylus is longer than 850mm.

**High-Temperature Version.**  
**Maximum operating temperature for 5000 continuous hours: +250°C**