



GMTRB005D-EX

**TRIBOELECTRIC PROBE 4-20 mA
FOR MEASURING DUST CONCENTRATIONS
TEMPERATURE LESS THAN 110°C**

Resolution 0.1 mg/m³

2 alarm thresholds: • 5 mg/m³
• 10 mg/m³

Minimum air flow speed: 4 m/s

Minimum particle size: 0.3 µm

Ambient temperature for electronics: -20°C - +65°C

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

Analog output 4-20mA: 4mA @ 0 mg/m³, 20mA @ 10 mg/m³

Power: 24Vdc

Protection: IP65

Die-cast aluminium enclosure painted RAL 3000 DIN A

Measurement stylus in AISI 304 steel - Ø = 8 mm - L = 250 mm from point 'A' *
[the stylus can be lengthened with extensions]

Attachment: male ¾" gas



GMTRB005D-EX

Complies with **ATEX Directive 2014/34/EU - Category 3D**

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



GMTRB005D-EX-FM

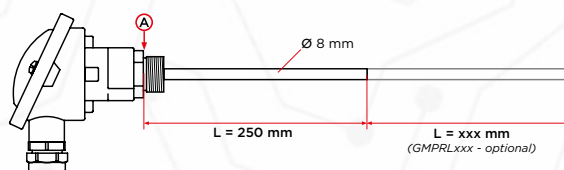
Complies with **ATEX Directive 2014/34/EU - Category 3D/3G**

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



FM APPROVED Certified

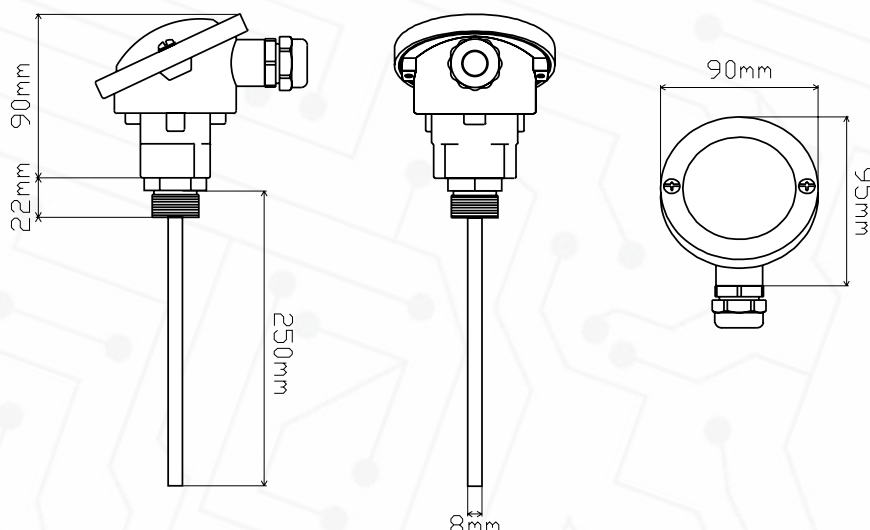
*** To calculate the correct stylus
measurement (with possible extensions),
start from point 'A'.**



Table

MODEL	RESOLUTION	THRESHOLD 1	THRESHOLD 2	OUTPUT 4-20mA	LOWER END OF SCALE@20mA	SELF-ACQUISITION	RS485
GMTRB005D	0.1 mg/m ³	5 mg/m ³	10 mg/m ³	YES	10/50 mg/m ³	NO	YES

DIMENSIONS:



TECHNICAL SPECIFICATIONS

Power supply	24Vdc $\pm$ 10%
Maximum absorbed power	1 W
Resolution	0.1 mg/m ³ (See table)
Range setting	Automatic/manual
Dust particle size	> 0.3 μ 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	+ 110°C
Probe operating pressure	< 2 bar
Electrode material	AISI 304 stainless steel
Stylus diameter	Standard 8 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	< 95% non-condensing.
Ambient temperature for electronics	-20°C - +65°C
Dimensions	DIN A
Measurable elements	All non-aggressive 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	Opto-isolated Max load 500 Ω
Serial output	RS485 with two wires
Certifications	CE/ATEX ZONE 22 D

ACCESSORIES:



EXTENSION FOR TRIBOELECTRIC PROBE STYLUS:

GMRL001-I - Length: 100mm $\varnothing$ = 8 mm

GMRL002-I - Length: 200mm $\varnothing$ = 8 mm

GMRL004-I - Length: 400mm $\varnothing$ = 8 mm



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