



MAGNETOSTRICTIVE PROBES

AUTOMATIC TANK GAUGE
SERVICE STATIONS AND DEPOTS



**STATE OF THE ART
MAGNETOSTRICTIVE
ATG TECHNOLOGY**

GENERAL FEATURES

GENERAL CHARACTERISTICS

THE MAGNETOSTRICTIVE LEVEL PROBE BASES HIS PHYSICAL PHENOMENA ON THE WIEDEMANN EFFECT.

- ▶ The main features are:
 - ▶ Very high accuracy and repeatability
 - ▶ Reliability and robustness
 - ▶ Sharp leakage control
 - ▶ Full stainless steel execution
 - ▶ Ultra compact design
- ▶ Commonly used in the fuel level control, it allows the measure of the three essential parameters:
 - ▶ Fuel level
 - ▶ Water level on the bottom of the tank
 - ▶ Fuel temperature
- ▶ The magnetostrictive sensor measures with an high resolution of 0,01 mm and a final accuracy of 0,25 mm on the full scale range (Plus version only).
- ▶ Measuring length of the rigid pipe, range from 0,4 m up to 5,5 m
- ▶ Measuring length of the flexible pipe, range from 5,5 m up to 15 m

WIRELESS MAGNETOSTRICTIVE PROBE COMMON FEATURES

- ▶ Transmission frequency 169 MHz for a safe and reliable data transmission from the underground reliable data transmission from the underground sump tanks
- ▶ Wireless magnetostrictive sensor battery powered
- ▶ Intrinsically safe version suitable for 0 zone
- ▶ Ultra low power mode
- ▶ Data transmission up to 3 km
- ▶ line of sight
- ▶ Battery life up to 7 years (depending of settings)
- ▶ No costs for cabling and digging
- ▶ Fast and easy installation
- ▶ Compact design

PRECISION EXD/SS



WIRED MAGNETOSTRICTIVE LEVEL GAUGE

MECHANICAL CHARACTERISTICS

- ▶ ExD:
 - ▶ Aluminum pressure die casting enclosure IP 68 degree protection up to 1 m. water submersion max. 24h
- ▶ ExD/SS:
 - ▶ Stainless Steel AISI303 Ø 50 mm enclosure IP 68 degree protection up to 10 m. water submersion max. 24h
 - ▶ Tank connection: threaded or flanged
 - ▶ Explosion proof construction, Exd brass nickel coated ½" NPT cable gland
 - ▶ Stainless steel pipe AISI 304 / 316 Ø 14.0 mm
 - ▶ N. 2 stainless steel AISI 316 / expanded NBR floats Ø 42 / 52 mm

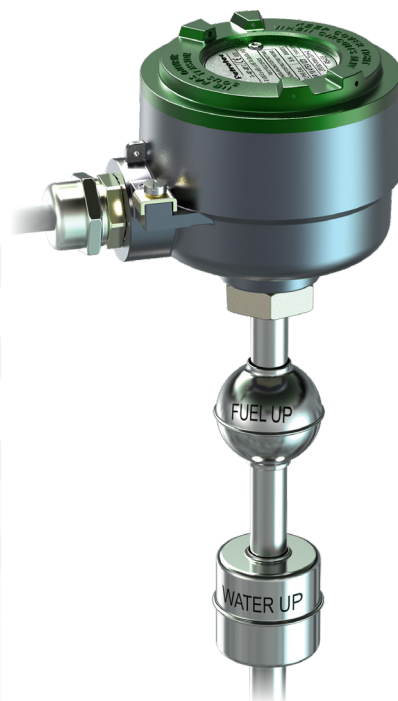
ELECTRICAL FEATURES

- ▶ 2 m fuel resistant cable type CEI EN 50363 - ENI 001.181.00
- ▶ Power supply 12 - 30 VDC
- ▶ RS485 serial port communication

METROLOGICAL DATA

- ▶ Product Level / mm
- ▶ Interface Level / mm (water presence detection)
- ▶ Product average temperature up to max. 5 temp. sensors
- ▶ Temperature accuracy in range -20 ÷ +50 °C: ± 0,2 °C
- ▶ Standard Version:
 - ▶ Measuring probe accuracy: ± 0,5 mm
 - ▶ Real probe resolution: ± 0,05 mm
- ▶ Plus Version:
 - ▶ Measuring probe accuracy: ± 0,05 mm
 - ▶ Real probe resolution: ± 0,01 mm

PRECISION EXD



Certificate AR 18 ATEX 023
FISCO POWER SUPPLY



II 1/2G Ex ia/Ex d IIB T6 Ga/Gb IP68Tamb = -20
Tamb = -40 +70°C

CE compliance

PRECISION RS



WIRED MAGNETOSTRICTIVE LEVEL GAUGE

MECHANICAL CHARACTERISTICS

- ▶ Stainless steel enclosure AISI 304 - Ø 42/35 mm
- ▶ IP 68 Protection up to 10 m/24h water submersion
- ▶ Tank connection: in riser, threaded or flanged
- ▶ Stainless steel pipe AISI 316 Ø 14.0 mm
- ▶ N. 2 INOX AISI 316 / NBR floats Ø 42 / 52 mm

ELECTRICAL FEATURES

- ▶ Intrinsically safe circuit to be connected to the passive barrier ISB
- ▶ Circular connector M12 - 4 pin polarized
- ▶ 2 m Fuel resistant cable type CEI EN 50363 ENI 001.181.00
- ▶ Power supply 12-30 Vdc
- ▶ RS485 serial port communication

METROLOGICAL DATA

- ▶ Product level / mm
- ▶ Interface level / mm (water presence detection)
- ▶ Product average temperature up to 5 temp. sensors
- ▶ Temperature accuracy $-20 \div +50\text{ }^{\circ}\text{C}$: $\pm 0,2\text{ }^{\circ}\text{C}$

STANDARD VERSION:

- Measuring probe accuracy: $\pm 0,5\text{ mm}$
- Real probe resolution: $\pm 0,05\text{ mm}$

PLUS VERSION:

- Probe accuracy $\pm 0,25\text{ mm}$
- Real probe resolution: $\pm 0,01\text{ mm}$

PRECISION RTD



WIRELESS MAGNETOSTRICTIVE LEVEL GAUGE

MECHANICAL CHARACTERISTICS

- ▶ Stainless steel AISI 305 and Delrin enclosure, external diameter Ø 42 mm
- ▶ IP 68 protection up to 10 m/24h water submersion
- ▶ Tank connection: in riser, threaded or flanged
- ▶ Stainless steel pipe AISI 304 / 316 Ø 14.0 mm
- ▶ N. 2 INOX AISI 316 / NBR floats Ø 42 / 52 mm

ELECTRICAL FEATURES

- ▶ Intrinsically safe construction for installation in classified 0 zone
- ▶ Integrated battery and antenna
- ▶ Power supply: intrinsically safe lithium battery

METROLOGICAL DATA

- ▶ Product level / mm
- ▶ Interface level / mm (water presence detection)
- ▶ Product average temperature max 5 sensors
- ▶ Measuring probe accuracy: $\pm 0,5\text{ mm}$
- ▶ Real probe resolution: $\pm 0,05\text{ mm}$
- ▶ Temperature accuracy $-20 \div +50\text{ }^{\circ}\text{C}$: $\pm 0,2\text{ }^{\circ}\text{C}$



PRECISION 485FX \ RTD-FX

FLEXIBLE MAGNETOSTRICTIVE PROBE - WIRED AND WIRELESS EXECUTIONS

MECHANICAL CHARACTERISTICS

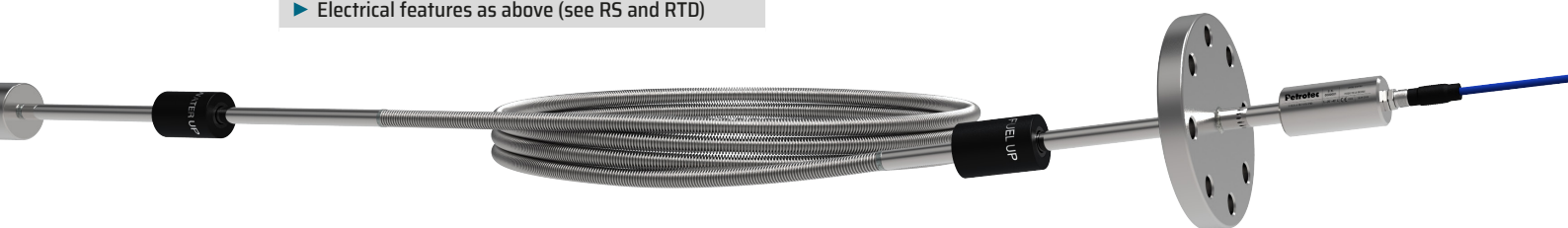
- ▶ Measuring range up to 15 m
- ▶ Stainless steel AISI 303 and Delrin enclosure Ø 42 mm
- ▶ IP 68 degree protection up to 10 m. water submersion max. 24h.
- ▶ Tank connection: threaded or flanged
- ▶ Corrugated stainless steel pipe AISI 31 Ø 18.0 mm
- ▶ N. 2 INOX AISI 316 / NBR floats Ø 105 / 50 mm

ELECTRICAL FEATURES

- ▶ Intrinsically safe construction 0 zone classified
- ▶ Wired RS485 and wireless versions
- ▶ Electrical features as above (see RS and RTD)

METROLOGICAL DATA

- ▶ Product level / mm
- ▶ Interface level / mm (water presence detection)
- ▶ Product average temperature max 5 sensors
- ▶ Measuring probe accuracy: ± 1.0 mm
- ▶ Real probe resolution: $\pm 0,05$ mm
- ▶ Repeatability $\pm 0,2$ mm
- ▶ Temperature accuracy $-20 \div +50$ °C: $\pm 0,2$ °C



Certificate AR 18 ATEX 023
FISCO FIELD DEVICE



II 1/G Exia/h IIB T6 Ga/Ga IP68
Tamb = -40 +70°C

CE compliance



Management
System
IECEX-Scheme
94/9/EG

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