

Advanced sensor technology.

The VITO MTT temperature & water probe together with Honeywell Enraf automatic tank gauging equipment is the answer for accurate inventory management on tanks containing product and free water. VITO MTT uses industry leading Multiple Thermosensor Thermometer sensing technology for reliable measurement of average product temperature, water bottom level, vapor temperature and temperature profiles. It is also fully compliant with legal metrology requirements and API MPMS Chapter 7, Section 3. A robust design,

meanwhile, ensures minimal maintenance and easy installation.

Global Experience. Locally Applied.

Technical Specifications

Temperature Sensing: 766 VITO Temperature & Water Probe

Principle

Measuring principle	Cold junction compensated thermocouples (type T) to measure the temperature differentials with respect to a 4 wire 1/5 DIN Class A Pt100 reference resistor, physically embedded to cold junction.
Number of elements	16 temperature elements

Measuring Specifications

766 Probe temp. range	-55 °C to +135 °C (-67 °F to +275 °F)
Storage temperature	-55 °C to +135 °C (-67 °F to +275 °F)
Probe accuracy	±0.1 °C (±0.18 °F) ^{*1}
Measuring resolution	0.01 °C (0.01 °F)
Measuring length	Refer to Identification Code (also see dimensional drawing). For longer probes consult factory.

Water Sensing: 766 VITO Temperature & Water Probe

Principle

Principle	PTFE sheathed capacitive probe
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Measuring Specifications

Measuring range	Depending on identification code, 50 cm (20"), 100 cm (39") and 200 cm (79")
Accuracy	±2 mm (0.078") ^{*1} , water is measured only between 0 °C to +100 °C (+32 °F to +212 °F) process temperature range.
Measuring resolution	0.1 mm (0.004")
Minimum water level	25 mm (0.98")

General: 766 VITO Temperature & Water Probe

Mechanical

Sheathing	Stainless steel AISI 316L (mat. no. 1.4404) corrugated probe
Adjusting pipe	Stainless steel AISI 316L (mat. no. 1.4404), adjustable length: ±230 mm (±9"), ISO 228/1-G1/2B (1/2" BSP)
Lining water probe	PFA (fluoropolymer)
Outer diameter of probe	40 mm (1.57")
Mounting flange	Optional, 1/2 BSP threaded mounting hole required
Anchor weight	Optional, max. 23 kg (50 lb)

Environmental Safety

Operating pressure	5 bar / 500 kPa (72 psi) Hydrostatic pressure
Safety	<ul style="list-style-type: none">- II 1G Ex ia IIB T4 Ga; acc. to ATEX KEMA 01ATEX1212- Ex ia IIB T4 Ga; acc. to IECEx KEM 05.0014- Ex ia IIB Ta; acc. to Kosha certificate; 13-AV4BO-0487- Class I, Division 1, Groups C & D; acc. to FM I. D. 3015746- Class I, Division 1, Groups C & D; acc. to CSA certificate 1635480- Ex ia IIB T4 Ga; acc. to INMETRO TÜV 13.0975 X For other approvals and updates please consult factory

Electrical

Flying lead length	Color coded PTFE insulated stranded wires. Length: 35 cm (14") and 120 cm (47")
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762 VITO Interface

Specifications

Application	An electronic converter used in combination with the VITO probes
Data communication	HART® communication to Tank Gauging ATG ^{*2}
Ambient temp. range	-40 °C to +60 °C (-40 °F to +140 °F)
Storage temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Cable entry	Cable entry options; M20 x 1.5, 3/4" NPT via reducer and PG16 via reducer
Mounting	Direct on VITO probes using standard 1/2" BSP entry
Housing	Chromatized, Polyurethane coated Aluminum, GD-AISI10Mg
Ingress protection	IP66 / IP67 according to EN 60529 (NEMA 4X)
Safety	<ul style="list-style-type: none">- II 1/2G Ex ia IIB T4 Ga/Gb; acc. to ATEX KEMA 01ATEX1212- Ex ia IIB T4 Ga/Gb; acc. to IECEx KEM 05.0014- Ex ia IIB Ta; acc. to Kosha certificate; 13-AV4BO-0487- Class I, Division 1, Groups C & D; acc. to FM I. D. 3015746- Class I, Division 1, Groups C & D; acc. to CSA certificate 1635480- Ex ia IIB T4 Ga/Gb; acc. to INMETRO TÜV 13.0975 X For other approvals and updates please consult factory

Note(s):

^{*1} Under reference conditions.

^{*2} HART® is a registered trademark of the HART Communications Foundation.

Identification Code: 766 VITO Temperature & Water Probe

Pos 1 W&M Approved

- U** General purpose
- X** With W&M type approval (only for temperature)

Pos 2 Sensitive Length for Water Bottom Measurement

- A** 050 cm
- B** 100 cm
- C** 200 cm

Pos 3 Safety Approvals

- A** ATEX Europe
- F** FM USA
- I** INMETRO Brazil

Pos 4 Length Flying Lead

- N** 35 cm (standard)
- O** 120 cm

Pos 5, 6, 7 Product Designation

- 7** **6** **6** VITO temperature and water probe

Pos 8 Position of Lowest Temperature Element

- C** Lowest element at minimum 1 meter from bottom of probe (acc. API)
- D** Lowest element at bottom of probe

Pos 9, 10, 11, 12 Overall Length in Steps of 10 cm (Price per Meter)

- # # # 0** Range 0420 - 3390 if Pos 2 = A
- # # # 0** Range 0470 - 3390 if Pos 2 = B
- # # # 0** Range 0570 - 3390 if Pos 2 = C

Pos 13, 14, 15, 16 Position of Highest Temperature Element (at least 70cm from top of probe)

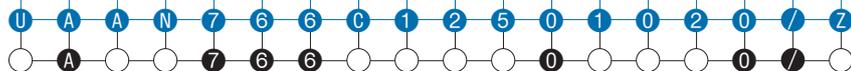
- # # # 0** Range 0350 - 3320 in steps of 10 cm if Pos 2 = A
- # # # 0** Range 0400 - 3320 in steps of 10 cm if Pos 2 = B
- # # # 0** Range 0500 - 3320 in steps of 10 cm if Pos 2 = C

Pos 17 Separator

- /**

Pos 18 Tag Plate

- Z** No Tag plate
- T** Tag plate (Material: CuNi alloy)



Typical Identification Code

Your Identification Code

Identification Code: 762 VITO Interface

Pos 1 W&M Approved

- U General purpose
- X With W&M type approval only if Pos 2 = T

Pos 2 Version

- P VITO LT interface (for VITO LT probe)
- R VITO MRT interface for resistance measurements (MRT/RTD/361 MPT)
- T VITO interface for 764/765/766/864 VITO probes

Pos 3 Position Not Used

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Pos 4 Position Not Used

*

Pos 5, 6, 7 Product Designation

- 7 6 2 VITO interface

Pos 8 Ingress Protection

- * No IP adapter
- I IP adapter (only if Pos 9 = A)

Note: recommended for environments with high humidity and strong fluctuations in ambient temperature.

Pos 9 Entry to Sensor

- A G 1/2 (standard in box)
- B 3/4" NPT (only when Pos 2 = R)

Pos 10 Cable Entry

- G M20 x 1.5 (only when Pos 11 = A or I)
- N 3/4" NPT; via reducer
- S PG16 via reducer (only when Pos 11 = A or I)

Pos 11 Safety Approvals

- A ATEX / IEC Ex Europe / Global
- F FM / CSA USA / Canada
- I INMETRO Brazil

Pos 12 Separator

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Pos 13 Tag Plate

- Z No tag plate
- T Tag plate (Material: CuNi alloy)



Typical Identification Code

Your Identification Code

All technical specifications are subject to change without notice.

For More Information

To learn more about Honeywell Enraf's solutions, visit www.honeywellenraf.com or contact your Honeywell account manager.

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