MHT Technology Ltd's Tank Gauging Hardware

Temperature Muliplexer

MHT Technology Ltd

Digital Transformation with Human Design

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Multi-spot temperature transmitter capable of accepting up to 16 RTD inputs, intended for use within hazardous areas.

Learn more about our scalable, open solution suitable for depots, terminals, and refineries.

Launched in 2006

Trusted by customers for over 16 years

over 380 in use across the world

Supported with LMS

Overview

The Temperature Multiplexer is a multi-spot temperature transmitter capable of accepting up to 16 RTD inputs, intended for use within hazardous areas. It presents a unified Modbus, GPU or Current Loop interface to the control systems, for larger numbers of RTDs, multiple units can be multi dropped seamlessly onto the same field bus as other devices such as level gauges.

Used in conjunction with our Mini Receiver and LMS software the TM188 provides a simple, proven skin temperature monitoring system used during the cooldown commissioning phase of dozens of LNG tanks the world over.

Compatible gauge manufacturers

- Endress+Hauser
- Honeywell Enraf
- Whessoe
- Emerson Rosemount (Saab)
- Scientific Instruments

Compatible host systems

- Endress+Hauser
- Honeywell Enraf
- Whessoe
- Emerson Rosemount (Saab)
- Scientific Instruments

Key Features

- Multi-spot temperature transmitter capable of accepting up to 16 RTD inputs in a single unit.
- Capable of multi-dropping on to a field bus to support more temperature sensors.
- Performs measurements locally, and can share level gauge buses reducing the amount of expensive cabling required.
- ATEX/IECEx Hazardous Area Zone 1 certified.
- GOST certified.
- Large installed base of sites from the Artic to the Equator.
- Supports redundant designs for increased resilience.

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Key Features

Reliabilty

Significant cost reductions are made using this device by eliminating runs of expensive cabling from the hazardous area to the safe area for each RTD. Instead, the measurements are performed locally and transmitted over a 2 wire digital field bus. System resilence can be increased by providing dual redundant field bus ports.

Cost Savings

A number of protocols and field bus technologies are supported allowing the unit to be integrated with old legacy systems or more modern open systems. By connecting the devices to cable runs for other field instruments (e.g. level gauges) cabling costs can be reduced. Supported protocols include, but are not limited to, Enraf BPM, RS485, and Current Loop.

Precision

The internal electronics scale and amplify the input signals before a precision analogue to digital converter, under the control of the processor, digitises the measurements and converts them to engineering units. Each intrinsically safe sensor will be continuously scanned and its temperature calculated and stored in an in-memory real-time database. The unit is given a unique address by which it can be polled from a host system such as LMS.

Safety

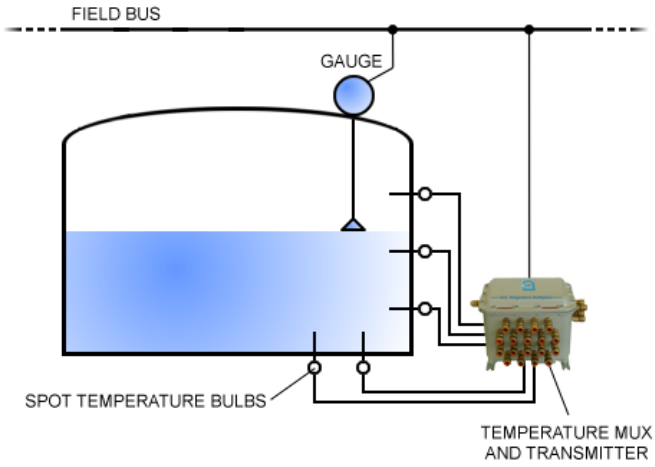
No other analogue-digital multi-channel interface holds certification for IECEx, ATEX, and GOST for Zone 1. Produced in the UK from a manufacturer with over 15 years experience of designing and manufacturing solutions for explosive atmospheres.

Applications

The unit is ATEX, IECEx and GOST approved for installation into a Zone 1 hazardous area. The unit has many applications for accurate measurement within a hazardous or non-hazardous area but has been specifically designed for temperature measurement requirements within a tank gauging system designed for bulk measurement of oil and gas. Petroleum storage installations such as Refineries, Marketing / Distribution Terminals, and Liquified Gases.

Natural Gas (LNG) storage facilities use these devices for skin temperature measurement. The two field bus ports help to support the redundant architectures often demanded by LNG applications,

and each port can be polled simultaneously for data by two independent host systems if necessary. Field bus interfaces are available for a range of host systems.



Power:	100-240 Vac 50-60 Hz 25 VA 0.375 A max
Certification:	ATEX II 2 G D EExd IIB [ia] T6
Environment:	Hazardous Area Zone 1
Operating temperature:	-20 °C to +55 °C
Storage temperature:	-40 °C to +85 °C
Enclosure:	Aluminium alloy Painted RAL 7035 grey epoxy
IP rating:	IP66
Entries:	M20 threaded entries Quantity 23 off

External dimensions:	365 x 320 x 280 mm
Fixings:	To suit M8 bolts, 4 positions
Weight:	14 kg
RTD Input:	3 or 4 wire Copper or Platinum
Resolution:	0.1 °C
Accuracy:	0.1 °C
No. of host ports:	2 ports
Interfaces supported:	RS-232, RS-422/485, Enraf BPM, 'Saab' Emerson TRL/2, Current Loop
Protocols:	GPU, Modbus RTU, WM550, WM660