



MTG™ Product Line

The MTG™ Multi-function Tank Gauge

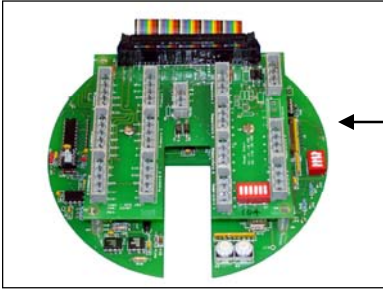
The MTG™ Product Line consists of MTG™ configurations for different physical tank structures, product or service applications, and installation requirements that we have experienced to date.

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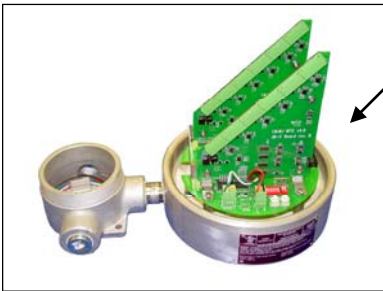
• **MTG™ “Multi-function Tank Gauge” (GSI-3000)** The original MTG design provides: Mass, Level, Multi-point spot temperature, Multi-strata density, Free & Entrained water, Vapor pressure, and Vapor temperature. Configured with 4 to 6 sensor sections in a 2” diameter probe with no moving parts. Original design uses a Multi-processor transmitter card and provides raw measured data to the E/TGI or Host. One electrical connection, bottom referenced, self calibrating and self diagnostic. Tank heights from 8’ to 70’ (2.4m to 21.3m), 2” pipe diameter.
- **NEW MTG™ “Multi-function Tank Gauge” (GSI-3012)** This new design provides: Mass, Level, Multi-point spot temperature and Average product temperature, Multi-Strata density and Average product density, Free Water, Entrained Water, Vapor Pressure, Vapor Temperature, Atmospheric pressure, Atmospheric Temperature, and optional Leak Detection. Configured with 4 to 12 sensor sections in a 2” diameter probe with No Moving Parts. Multi-processor transmitter card supports 1,000 strapping points and provides volumetric calculations to API, ISO, or GOST standards. One tank entry, One electrical connection, bottom referenced, self calibrating and self diagnostic. Tank heights from 8’ to 70’ (2.4m to 21.3m), 2” pipe diameter.
- **NEW MTG²™ Redundant “Multi-function Tank Gauge” (GSI-3024)**
This new design provides the exact same data as the New GSI-3012 above, however, it consists of two independent MTG’s in one probe. Configured with 8 to 24 sensor sections in a 3” or 4” diameter probe with No Moving Parts. The two independent transmitters each support: a separate and independent array of sensors within the probe and each Multi-processor transmitter card supports 1,000 strapping points and provides volumetric calculations to API, ISO, or GOST standards. The MTG 3024 - Two independent tank gauges, One tank entry, One electrical connection, Bottom referenced, Self calibrating and Self diagnostic. Tank heights from 8’ to 70’ (2.4m to 21.3m), 3” pipe diameter.
- **NEW MTP™ “Multi-function Tank Probe” (GSI-3025)**
The MTP provides Multi-point spot temperature, Average density, and Water. Designed for use with Level Instruments (Radar, Servo, etc.) for Volumetric custody transfer applications under API 3.6 “Hybrid Method”. Normally these applications require multiple instruments, multiple tank openings, and multiple wiring & conduit runs to provide this information. The GSI-3025 MTP™ provides all Hybrid variables from one tank top flange opening and one electrical connection, in addition to the level instrument. The MTP™ is designed to work with most level manufacturers’ electrical standards and communications protocols for ease of integration.

- **NEW HTP™ “Hydrostatic Tank Probe” (GSI-3050)** Is a New Hydrostatic Tank Gauge design for applications requiring Mass (Weight) measurement (Chemicals, etc.). The GSI-3050 HTP eliminates the high installation costs and poor design of previous HTG systems. The GSI-3050 provides Mass, Spot temperature, and Average density. The HTP™ is a top mounted probe with 3 or 4 sensor sections, No moving parts, bottom referenced, and only one electrical connection. The HTP™ requires No Hot Taps, calibration valves, heat trace, multiple instruments, etc.
- **MTG-L™ “Multi-function Tank Gauge - Long”** provides all of the functionality of the original GSI-3000: Mass, Level, Multi-point spot temperature and Average product temperature, Multi-Strata density and Average product density, Free Water, Entrained Water, Vapor Pressure, and Vapor Temperature. Configured with 12 to 60 sensor sections in a 2-1/2” to 4” probe diameter depending upon tank height. Multiple transmitter cards are used to gather sensor information, each transmitter card then passes the raw data to a MTG-L CPU. The MTG-L CPU has a dedicated program to map data from numerous transmitter cards, compute the data, and provide all volumetric calculations to API, ISO, or GOST standards. One tank entry, One electrical connection, bottom referenced, self calibrating and self diagnostic. For Tank heights from 70’ to 265’ (21.3m to 81m), 3” to 4” pipe diameter.
- **NEW GSI-3012 MTG™ “Leak Detection Option”** (Patent Pending) - A new hardware and software option has been added to the GSI –3012 MTG™. It provides leak detection for static tank testing. The original GSI-3000 MTG had gone through third party testing and tested to an accuracy of 1.10 gallons per hour over a 72 hour period. The **NEW** GSI-3012 MTG with the leak detection option has been tested to 0.90 gallons per hour over a 24 hour period and 0.49 gallons per hour over a 72 hour period, thus, providing Tank tightness indication.
- **MTG-S™ “Multi-function Tank Gauge - Sanitary”** GSI-3012 MTG with a wash down system for food & beverage industries, and pharmaceutical applications. MTG-S™ provides: Mass, Level, Multi-point spot temperature and Average product temperature, Multi-Strata density and Average product density, Free Water, Vapor Pressure, and Vapor Temp. One tank entry, One electrical connection, self calibrating and self diagnostic. Tank heights from 8’ to 70’ (2.4m to 21.3m), 2” pipe diameter.
- **MTG-H™ “Multi-function Tank Gauge - High Pressure”** for spherical tank applications requiring Inventory or Process Accuracy. MTG-H™ provides: Mass, Level, Multi-point spot temperature and Average product temperature, Multi-Strata density and Average product density, Free Water, Vapor Pressure, and Vapor Temp. One tank entry, One electrical connection, self calibrating and self diagnostic. The MTG-H™ is top referenced with a tripod bottom assembly. Tank heights from 8’ to 70’ (2.4m to 21.3m), 3” pipe diameter. **NOTE: The MTG-H 3024 is a redundant version, offering two separate and independent gauges within one probe assembly.**
- **MTG-P™ “Multi-function Tank Gauge - Production”** for lower accuracy process applications requiring Mass, Level, Temperature, Density, and Water measurement. The current MTG-P™ uses the rigid pipe construction while on-going R & D completes testing of a flexible cable version with bottom anchor and microprocessor based transducers (Patents Pending).

MTG Probe Options and Spare parts:



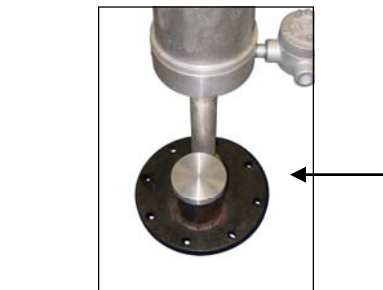
MTG™ 3000 Transmitter Card Set
 3000 CPU Board
 3000 Connector Board



MTG™ 3012 Transmitter Card Set
 3012 CPU Board
 3012 Voltage Sensor Board
 3012 Current Sensor Board



MTG™ 3000 Pressure Sensor - Range
 MTG™ 3012 Pressure Sensor - Range
 Voltage
 Current
 Digital



MTG™ Sensor Housings - 2", 3", or 4" / 304, 316, 316L, Hastelloy C
 Atmosphere / Vapor (Two hole)
 Upper D Housing
 Lower Housing
 Bottom Housing

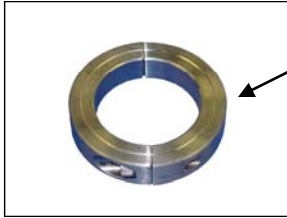
Redundant Sensor Housings (Optional)
 Vapor Housing
 Bottom Housing



Top flange
 Split flange - ATG & Gauge Hatch; 6", 8", 10", 12"
 Flange - ATG Only; 4" - 12"
 API Man way - ATG & Gauge Hatch; 20", 24"
 Gauge Hatch Cover Assembly (contact GSI)



MTG™ Bottom (Feet / Anchor / Cup)
 Pipe Foot (Standard)
 Magnetic Anchor Foot (for cone bottom tanks)
 UMDH Sensor Pad (for coated bottom tanks)
 UMDH Pipe Pad (for coated bottom tanks)
 Weighted Anchor Foot (for highly agitated tanks)
 Tank Floor Cup (requires in tank installation)

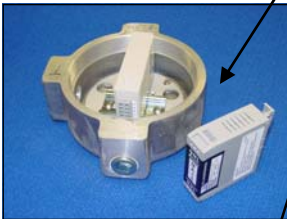


Locking Collar - Used with unstable tank bottoms for top reference measurement.

MTG™ Gauge Accessories:



MTG™ Sensor Covers (Supplied with MTG)



MTG™ Surge / Ground Protector Kit (Optional)

MTG™ Weather / Security Hood (Optional)
Pad Lock
Electronic Lock (I.S.) - Radio Remote Reading

Desiccant Packs for transmitter housing (Optional)

MTG™ IK Installation Kit (Required to Install MTG™)

Gauge Well Covers - 4", 6", 8", 10", 12" (Mesa Rubber Co.)

MTG™ O-Rings and Paste Kit (12 section probe kit)



ISB Box - Intrinsically Safe Barrier Box (Note: MTG™ is designed as an Intrinsically Safe Instrument; all certifications are based upon the use of I.S. barriers when installing MTG™ in classified areas).

PIU - Portable Interface Unit with GSI MTG™ Test Software (A program designed to assist in initial calibration and trouble shooting of MTG's).



PDA (WIFI, Blue Tooth, Zigbee) with MTG™ Test Software (for use with Field Ethernet Topologies with E/TGI and E/IFI radio option).

NOTE: The MTG™ provides data via MODBUS RTU over an IEEE RS 485 (Four wire) electrical connection. I.S. Barriers are located between the MTG™ and interface device. Gauging Systems Inc. manufactures a variety of interfaces to allow protocol, topology, and communications conversion to meet customers' needs.

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