

Options



MTDE-Mimic Display
Explosion proof heavy cast bronze mimic display give on the spot indication of 95% (yellow LEDs) and 98% (red LEDs) level alarm status. This display eliminates the need for expensive X-MAS tree. Multiple display can be hooked up in series. Includes also ACK switch for easy on deck acknowledgment of level alarms.



Guard Level® DWSG
Double wiper sight glass
Raised glass, largest viewing window and available integral gas freeing vent and flame screen makes it a popular option to enhance safe loading. Also used as a visual aid to give a dryness certificate when located in the aft part of the cargo tanks. All stainless steel construction.

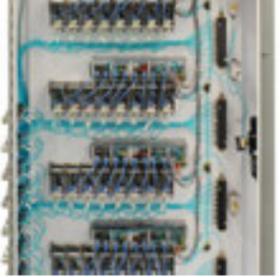


Digital Tank temperatures
Covers temperature range from -20 to +100 deg. C.
Intrinsically safe .
Choose 1, 2 or 3 sensors per tank.
Simple 2 core cable to CCR for ALL sensors.
Mount on sealed thermo-well or FRAMO pump



WSU Work Station Unit
Ideal for load computer or slave instance of MCU. Quiet fan-less design and support screen size 17", 19" or 21" LCD monitors. (19" standard)
Can interface with other software packages such as LoadSafe, Ocean Motion, Locopias, NAPA and others.

Ballast-Service Tanks and Draft Gauging

Pressure Sensor Type	Electro-Pneumatic Type
<p>Guard Level® HPT-3 Hydrostatic Pressure Transducer for Level Gauging of Ballast and Fuel Oil Tanks. Transducer is fitted inside a 2" (50mm) sounding pipe and can be removed and serviced when tanks are in service. Transducer features high accuracy and stability. The HPT-3 is type approved and intrinsically safe. Requires Bergan supplied deck junction box.</p>	<p>Guard Level® Electro-pneumatic gauging for ballast, service tanks and draft point. Economical and reliable bubbler system that is auto-calibrating and highly accurate by use of digital flow control valve and precision air regulator. Optional liquid non-return valve are mounted on tank top. Refer to separate brochure for more details..</p>
<p>Guard Level® HPT-2 Hydrostatic Pressure Transducer For Manifold Pressure, Level sensor for tanks with side Access (FW) Transducer features high accuracy and stability. Type approved and is intrinsically safe.</p>	

Guard Level® Tank Gauging and Alarms System



- **Cargo Tanks / Ballast Tanks / Fuel Oil Tanks / Ship's Draft**
- **Type Approved by ABS, DNV, LR, GL, BV.**
- **Complies with U.S. Coast Guard Regulation 46 CFR 39.20-3, 39.20-7, 153.408, and 153.409**
- **Complies with IMO BCH Rule 4.14, IBC Code Rule 15.19 and Solas 59-1.6**

Specifications subject to change without notice.
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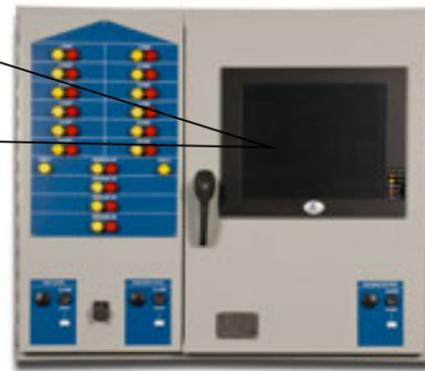


The Guard Level®

Guard Level® MCU, Master Control Unit

Very compact control panel that contains three independent systems. Hi and H/H (overflow) and separate tank gauging. On-line interface to Load computers (Cargomax, LoadSafe, Ocean Motion, Locopias, NAPA and others).
 MODBUS port for automation systems with optical isolation
 Wireless Ethernet optionally available

Built-in trim/list compensation using multi-axis accelerometers.
 Complies with IMO, USCG and Class requirements for closed loading and incorporates intrinsically safe sensor inputs/outputs.
 Required power: Recommended 24VDC from Bergan Guard Power UPS supply.



Guard Level 072H MCU
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Guard Power™ UPS-400 400W UPS Power Supply

Features 6 individual circuits and have built-in power fail alarm and relay output. Fan-less quiet design. Suitable for bulkhead mounting.



System for Tank Ships

CMS+ Cargo Monitoring Software

Sophisticated monitoring and alarm software running on embedded fan-less PC and utilizing compact flash memory. Very user friendly where user can configure his own loading screen for up to 10 ports. Alarm logging and alarm print function supported. Support extensive built-in diagnostic tools and can easily be configured for different sensor configurations.



Bergan Dual Strobe with air horns and Ex solenoid valve or electric horns (Option: Ex)
 Overfill Alarm— red
 Hi alarm— amber
 Power Fail—Blue

Guard Level® 07324 TWIN (shown) or MKII Independent Level Alarm

Built-in lift rod for function testing. Electrical parts can be serviced when the tank is in service. Type approved and intrinsically safe. The ultimate in simplicity and reliability. More than 20,000 Guard Level sensor have been installed world-wide

Option:
 Dual alarm points
 Extended length sensor
 Integral tank pressure sensor
 All 316L construction for chemical tankers.
 High temperature version
 UTI port for MMC or Hermetic type ball valve eliminates another deck penetration.
 Vapor Guard™ Test rod



CargoRadar® 250 Microwave Level Gauge for Cargo Tanks

Two wire, 4-20 mA
 Intrinsically safe
 High Accuracy
 Integral LCD ullage display (no wiring required).
 Ullage displays for easy on deck comparisons with portable MMC/Hermetic tape machines in either metric or feet, inches and fractional inches.
 8" ND200 mounting flange
Options:
 Integral tank pressure sensor with separate 4-20mA output.
 Teflon coated horn for bitumen
 Parabola antenna
 Guided wire for slop tanks applications
 Different size and pressure rated flanges



Cargo Temperature

STS 100 sensor for installation inside shipyard provided thermo well. Each sensors are 4-20 mA, Intrinsically safe and provides for accurate temperature monitoring. Typical 1, 2 and 3 sensor per tank.
Option:
 Digital tank temperature sensors with local LED lighted LCD reflective display. With this option only 2 core cable is required for all temperature and pressure sensor.

MTDE Multifunction Tank Display, Explosion Proof

On deck sunlight viewable from 30Ft distance displays. User can look at any tank from any display. Numeric and graphic display of tank level/ullage, volume, tank pressure and tank temperature. You can look at any tank from any display. When connected to the independent level alarm you can also acknowledge any alarm from any display. Can be connected in series with optional mimic MTDE display. Display can be configured for Metric or US measurements.
 If ballast and service tanks are also monitored, these can also be displayed on same MTDE.