

# GroundGuardian®

## Active Floating Roof Tank Monitoring System

ALLTEC has developed, using patented\* innovative active monitoring technology, an easy way to monitor your existing lightning strike mitigation measures as well as those in the American Petroleum Institute (API) RP 545 and National Fire Protection Association (NFPA) 780.

The GroundGuardian® Floating Roof Tank Monitor (FRTM) detects hazardous changes in resistance of the electrical bond between the floating roof and the storage tank's grounding system.

The GroundGuardian® FRTM continuously monitors for unsafe deviations in resistance produced by corrosion, product/wax accumulation, or shunt breakage. By using an intrinsically safe ground loop supervisor circuit, the state of your existing shunts are monitored. If a dangerous state change occurs, the GroundGuardian® FRTM can notify your facility's Process Control monitoring system.

\*U.S. Patent No. 8,624,748.

### Features & Benefits

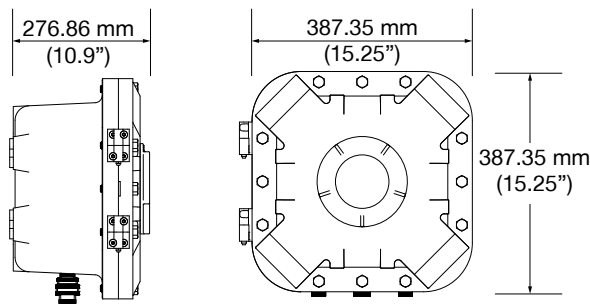
Dry Relay Contacts (DRCs) standard. Other interface protocols available.

The GroundGuardian® Monitor and your facility's Process Control System can:

- Initiate external alarms
- Activate product transfer interlocks
- Update time/date stamp records
- Trigger lightning protection bonding inspection/maintenance
- The GroundGuardian® FRTM is housed in an ATEX rated flame-proof/explosion proof metal enclosure suitable for installation in the hazardous environment of your External Floating Roof Tank (EFRT).

### Specifications

GroundGuardian® Floating Roof Tank Monitor & Reel	
Power supply	110-120V 50/60Hz system (Supply voltage range: 108V to 125V) 220-240V 50/60Hz system (Supply voltage range: 216V to 250V)
Power rating	12 Watt
Temperature rating	-25°C to +55°C
Enclosure Type	KILLARK EXB-10106 N34, or equivalent For use in Class I, Groups B, C & D, Type 3 & 4, Class II, Groups E, F & G and Class III Hazardous Locations, as defined by the Canadian Electrical Code and the National Electrical Code.
Weight	80 lb (36.3 kg)
Construction	Copper-Free Cast Aluminum
Monitoring circuit	Intrinsically safe
Output Relay Contact and rating	2 sets of voltage free change-over switch contacts (DPDT)  Relay contact maximum ratings (resistive load): 250Vac, 5A, 500VA; 30Vdc, 2A, 60W
Surge Protection Device	Model: PT-RD-20-120V-30A or PT-RD-20-250V-30A
Fuse Size And Type	2A Fast Acting Glass Type
Environmental Testing	<b>CEI/IEC 68-2-52 Part 2, Severity 2 &amp; per ASTM BB117-11:</b> Passed Operational Testing - Salt Spray/Temperature & Humidity Test  <b>EN ISO 6988-1985(E):</b> Passed Operational Testing - Humid Sulphurous Atmosphere Treatment Test



Part Number	Description
<b>FRTM-120-JB1-MR-100</b>	Floating Roof Tank Monitor, 120 Vac, Junction Box, with 100 Ft. Monitoring Reel
<b>FRTM-240-JB1-MR-100</b>	Floating Roof Tank Monitor, 240 Vac, Junction Box, with 100 Ft. Monitoring Reel

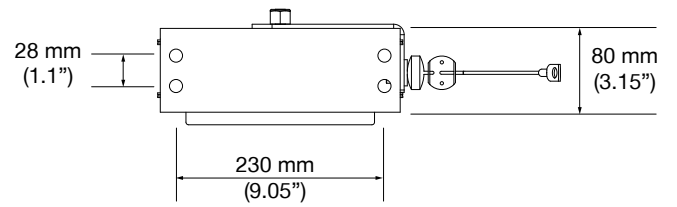
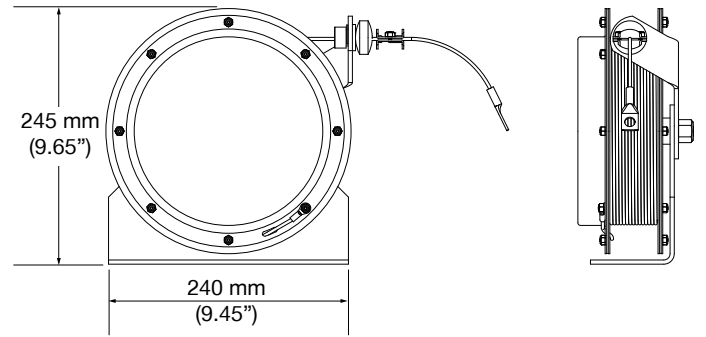
ACTIVE FLOATING ROOF TANK MONITORING SYSTEM

GroundGuardian® Active Floating Roof Tank Monitoring System

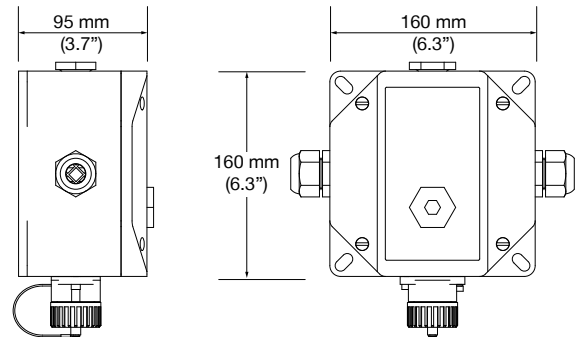
Section 4.1

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Monitoring Reel with Insulators	
Weight	22 lb (10 kg)
Cable Specification	75 foot cable length models meet USAF MIL-R-83325 and U.S. Government specifications A-A-50696 (replaces MIL-R-83232) which spell out that the reel must be functional under very severe environmental conditions. Conforms to MIL-STD 808 red paint. 7 x 7 Galvanized steel: 3/32 "Hytrel" coated to 1/8" dia. is standard 3/16" coated diameter (stainless steel available).



Junction/Test Box	
Enclosure	GRP with carbon loading
Terminals	2 Terminals each with AWG#14 conductor capacity
Weight	2 lb (0.9 kg)
Test Trigger	Compression Sealed, Push Button, 11 Ohm Resistance Test.
Test Trigger Switch	Push Button Normally-Closed Momentary Switch, SPST.



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