

# Level Plus®

Liquid-Level Sensors  
With Temposonics® Technology



M-Series Model MG Transmitter  
Additional Lightning Protection for AST Applications

551105 A

## Technical Tip



**Model 485FPP Fused RS-485  
Communications Line Protector**

When the ground is not strong enough, the surge damages part of the electronics in the transmitter. The cost to the customer is either replacing part or all of the electronics.

MTS Sensors recommends a device that will provide additional protection. The solution is a disposable fused RS-485 communications line protector from B&B Electronics, the Model 485FPP Fused RS-485 Communications Line Protector. The Model 485FPP provides surge suppression for ports with RS-485 signal levels. In addition to surge suppression, fast-acting fuses are used to protect the device against transient voltages too large or long in duration for the device to suppress. The Model 485FPP was designed as a disposable device. Once a fuse is blown, the unit should be replaced.

MTS Sensors recommends that customers using Level Plus MG gauges in large above ground storage tanks install the 485FPP on any gauges that have previously experienced electronics failures because of lightning strikes. To order the Model 485FPP line protector, either contact MTS or visit B&B Electronics at <http://www.bb-elec.com/> to order online.

### Technical Tip overview

This Technical Tip provides a solution for customers that have large Above Ground Storage Tank (AST) installation sites that are at risk for increased lightning strikes that can result in damage to the M-Series Model MG transmitter.

### Lightning protection

MTS Sensors has noticed a trend at certain installation sites of increased lightning strikes that result in damage to the Level Plus® Model MG transmitter. One possibility why the damage is occurring is the inadequacy of the earth ground connection between the tank and the transmitter. The earth ground should dissipate any surge away from the electronics in the transmitter in order to keep them safe.

### Notes:

1. MTS Sensors recommends the usage of the Model 485FPP line protector in lightning prone environments. The end user is responsible to ensure all equipment is installed in accordance with all electrical codes and/or hazardous environment regulations.
2. All specifications are subject to change. Contact MTS for specifications and engineering drawings that are critical to your application. Go to <http://www.mtssensors.com> for the latest support documentation.

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All Temposonics sensors are covered by US patent number 5,545,984. Additional patents are pending.

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**UNITED STATES**  
MTS Systems Corporation  
Sensors Division

3001 Sheldon Drive  
Cary, NC 27513  
Tel: (800) 633-7609  
Fax: (919) 677-0200  
(800) 498-4442  
[www.mtssensors.com](http://www.mtssensors.com)  
[sensorsinfo@mts.com](mailto:sensorsinfo@mts.com)

**GERMANY**  
MTS Sensor Technologie  
GmbH & Co. KG

Auf dem Schüffel 9  
D - 58513 Lüdenscheid  
Tel: +49 / 23 51 / 95 87-0  
Fax: +49 / 23 51 / 56 491  
[www.mtssensor.de](http://www.mtssensor.de)  
[info@mtssensor.de](mailto:info@mtssensor.de)

**JAPAN**  
MTS Sensors Technology  
Corporation

Ushikubo Bldg.  
737 Aihara-cho, Machida-shi  
Tokyo 194-0211, Japan  
Tel: +81 (42) 775 / 3838  
Fax: +81 (42) 775 / 5516  
[www.mtssensor.co.jp](http://www.mtssensor.co.jp)  
[info@mtssensor.co.jp](mailto:info@mtssensor.co.jp)