

Transient Suppressor Unit

Overview

AMETEK transient suppressor units limit the amount of electrical energy which can enter the fuel tank wiring, while passing low level signals without distortion. They facilitate compliance with SFAR 88 by limiting opportunities for electrical arcing even in the event of multiple failures. Wires leading to fuel quantity probes, densitometers, fuel temperature sensors, and fuel level switches are protected.

The unit protects against lightning induced transients per DO-160D category A4C4 and “hot shorts” to 28 VDC or 115V 400Hz power wiring. Output current is limited to 20 mA. Output voltage is limited to ± 20V.

Electronic switches within the transient suppressor unit allow high or low fuel level switches to function as low power control devices. This feature eliminates the need to run 28 VDC power into the tank.

Construction and Installation

The transient suppressor unit mounts on the outside tank wall. It is suitable for installation in non-pressurized and non-controlled temperature locations. A feed through connector carries the electrical signals into the tank. The connector is hermetically sealed to prevent fuel leakage. The unit must be grounded by faying surface bond or a ground strap.

The unit contains passive circuit elements which are optimized to operate with AMETEK sensors. All components are suitably derated. Circuits are designed to have benign failure modes (loss of signal rather than loss of protection). Most failures can be detected by built-in-test (BIT) of the associated signal processor.

Custom Designs

Both the physical package and the protective circuits can be readily tailored for specific aircraft applications. AMETEK draws upon a wide range of system interface experience to develop and certify custom designs.



Features

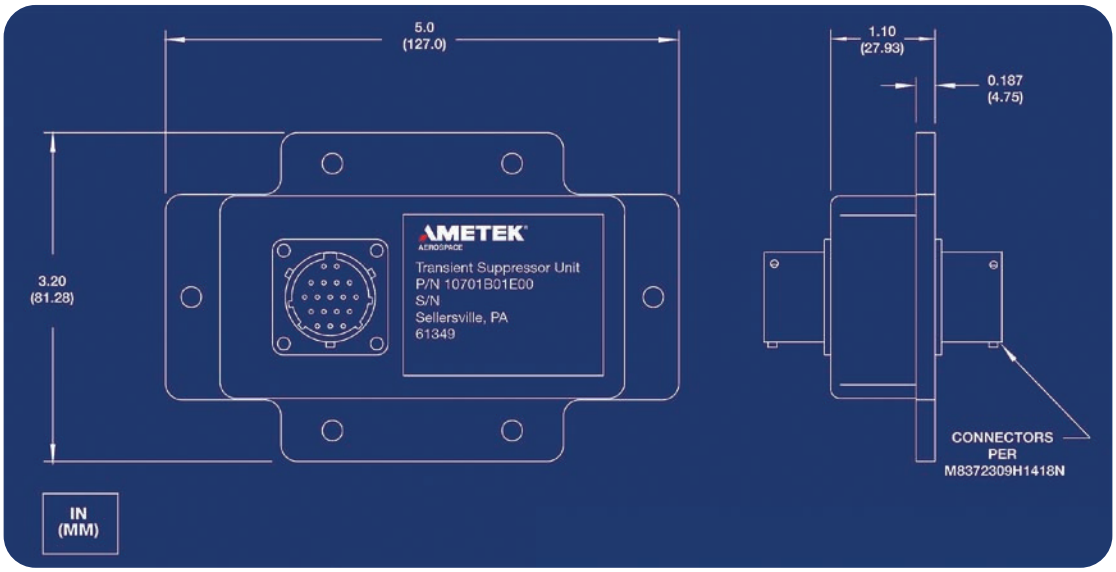
- *Protects against hot shorts to 28 V or 115 V*
- *Protects against lightning induced transients*
- *Limits current, voltage, and stored energy*
- *Built-in-test assures continued protection*
- *Facilitates compliance with SFAR 88*

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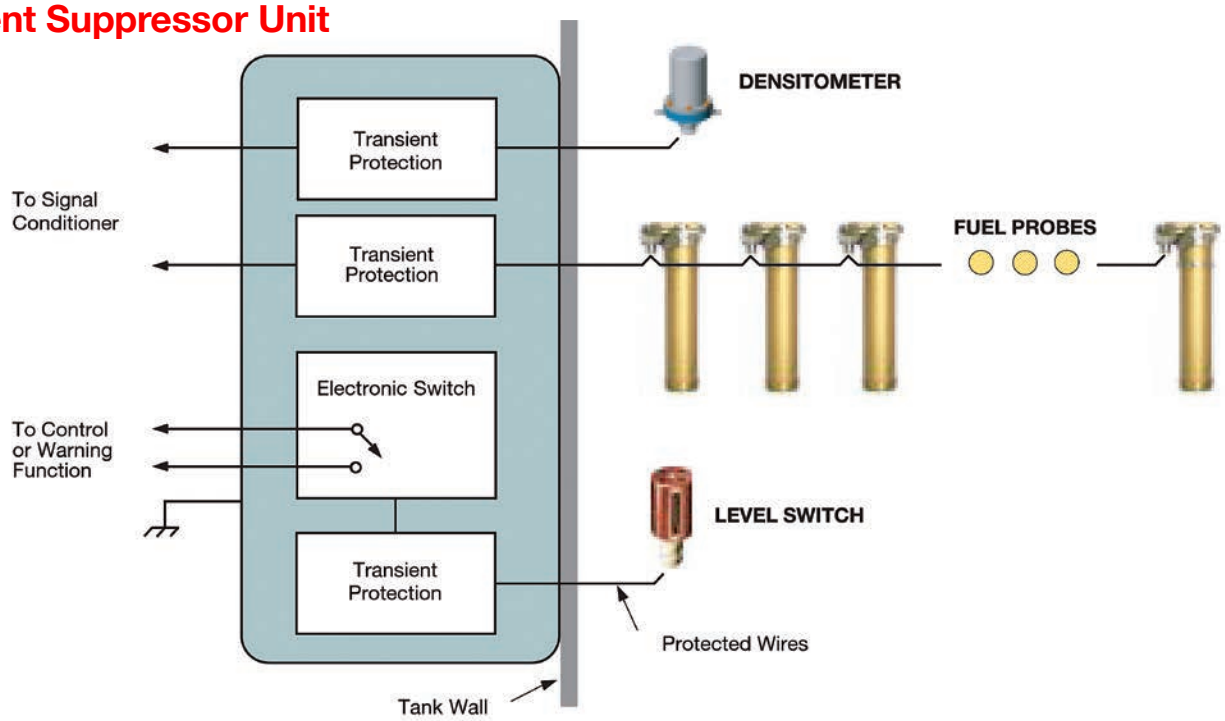
Specifications

Clamp Voltage:	+20 V
Operating Temp. Range:	-67° to 158°F (-55° to 70°C)
MTBF:	>375,000 hours
Weight:	0.7 lbs
Stored Energy:	<0.3 µJ per wire
Response Time:	<10 nanosecond

Dimensions



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SFMS
SENSORS AND FLUID MANAGEMENT SYSTEMS

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