





FS 210 fuel sensor

Ruggedized fuel sensor for industrial cold chain monitoring solutions.

The ORBCOMM® FS 210 fuel sensor accurately monitors fuel volume, providing valuable operational and management data to reefer monitoring applications. The fuel sensor can immediately detect and report rapid loss of fuel to provide a significant deterrent against fuel theft and pilferage. The sensor is installed in the reefer fuel tank and typical installation is completed in less than an hour with an easy-to-use configuration tool.

Compliance

In combination with the reefer monitoring applications, the FS 210 helps ensure regulatory compliance by alerting operations staff to low-fuel situations so they can guide drivers to refuel, ensuring the reefer continues running and keeps cargo at the required temperatures.

Efficiency

By monitoring reefer fleet fuel consumption, operations staff can detect when a specific reefer is consuming too much fuel and call that unit out for maintenance to improve fuel efficiency. The FS 210 can read fuel level even when the reefer is off, so re-fuelling can occur before the reefer is started and the load is ready to move, avoiding delays. Companies can also avoid high call-out charges and delays associated to bleeding fuel lines that have drawn air into the system due to an empty tank.

Security

The fuel sensor allows the reefer monitoring application to track rapid fuel loss and provides alerts when fuel theft is suspected.

Integrated into ORBCOMM cold chain monitoring applications

Ruggedized, versatile, and accurate

Supports both
Carrier and
ThermoKing reefers

Supports multiple tankshapes and capacities

Quick and easy to Install

Specifications

Electrical

- Supply voltage, VCC: 9 16 VDC
- Supply current, ICC: 8 14 mA

Connections

- Terminal connection: Delphi Standard 150 series
- 3-pin connector
- Tank fitting: ½" NPT

Mechanical

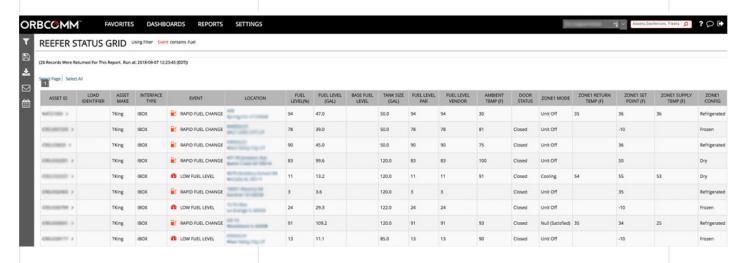
- Compatible with fuel tanks between 25 to 500 gallons in
- various shapes (cylindrical, square, other)
 Construction
 - Single "clam shell" design.
 - Accommodate tanks of up to maximum diameter/depth of 22".
- Dimensions
 - ▶ 5" x 1.75" diameter
 - Flexible tubing: 13" to 22" depending on tank size

Environmental

- Operating temperature: -40 °C to 70 °C
- Storage temperature: -40 °C to 85 °C
- SAE J1455 (temperature cycle, temperature shock, humidity, random vibration, salt spray, immersion/ingress protection)
- IP67
- MIL-STD 810G (random vibration, shock)
- IEC 60529 (immersion/ingress protection)

Compliance

- · Zone 1 (Class I, Division 1)
- · North America
 - CSA 61010-1 Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use
 - CSA 60079-0 Electrical Apparatus for Explosive Gas Atmospheres; General requirements
 - CSA 60079-15 Electrical Apparatus for Explosive Gas Atmospheres; Equipment protection by type of protection "n"
 - ► ISA 12-12-01 Non-Incendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous Locations
 - CSA 22.2 No.213 Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations



Although we strive to ensure accuracy in all of our published specifications, actual field performance can vary depending on a variety of environmental, installation and usage factors, as well as third-party factors such as cellular providers. The specifications listed are approximations, and do not constitute binding statements or modify the terms and conditions of purchase or lease including, but not limited to, product operational limitations and warranties. All specifications are subject to change without notice. Please check www.orbcomm.com to ensure you have the latest version of these specifications.

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