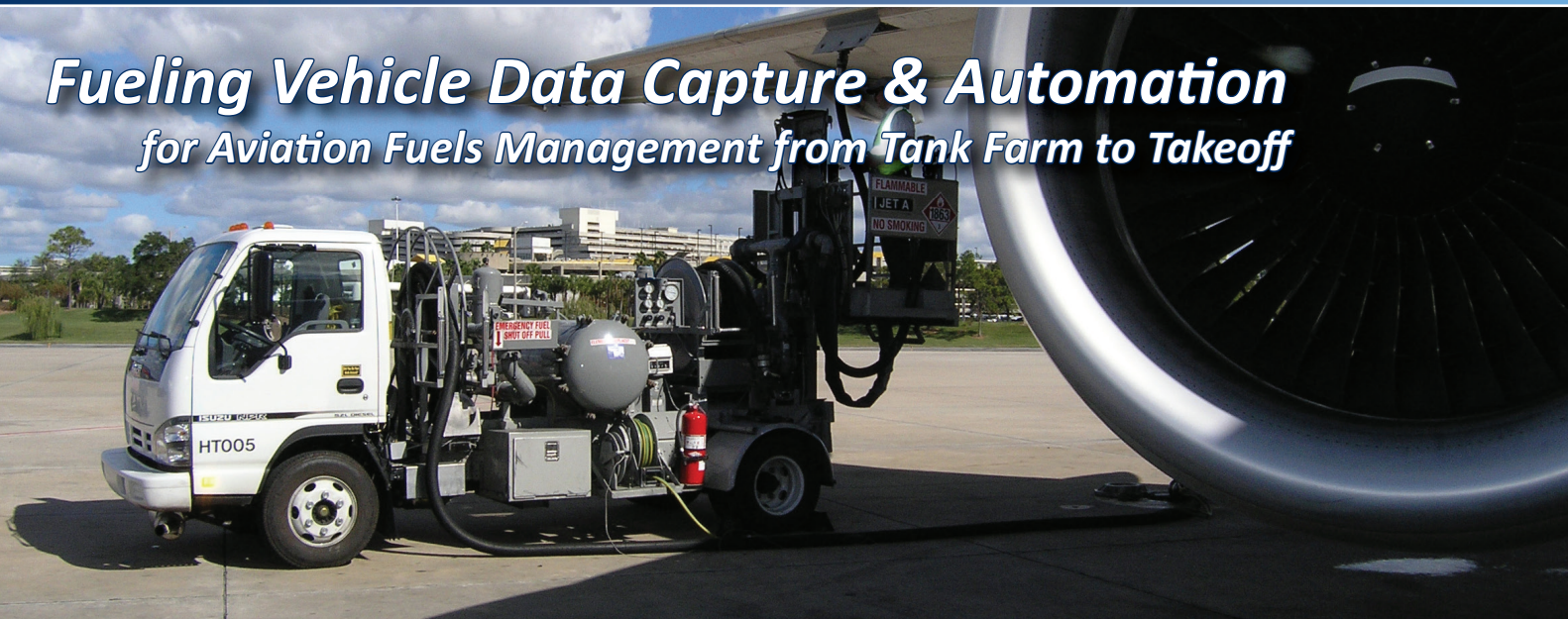# Fueling Vehicle Data Capture & Automation
for Aviation Fuels Management from Tank Farm to Takeoff

8232 Data Capture Unit

During a manual aircraft fueling process, the fuel agent is required to manually record the start values of a fuel meter register, perform calculations based on the desired fuel loads, accurately fuel the aircraft, record the final meter register values, validate their own manual calculations and then complete a paper fuel ticket - a simple, yet complex process.

A Critical Component for Aircraft Fueling

The Varec 8232 Data Capture Unit (DCU) is a ruggedized, electronic fueling data acquisition, monitoring and automation device for use on aircraft fueling equipment, such as fuel trucks or hydrant carts. They are an integral part of an automated aviation fuels management system and perform the following critical tasks:

- Automatically collects metered fuel volumes and fuel temperatures delivered to an aircraft for real-time fuel transaction management

- Supplies fuel meter register data for accurate fuel inventory reconciliation on a daily basis

- Connects to other fuel vehicle devices, such as pressure, flow or fueling interlocks, to assist with transaction validation, overfuel prevention and protection or identify maintenance requirements

Wireless Data Collection

As part of the Varec FuelsManager® Aviation fuels management system, the 8232 DCU automatically collects and sends metered fuel volume data to an IntoPlane Handheld Computer (IHC) via Bluetooth wireless technology or an IntoPlane Truck Computer (ITC) via a hard-wired connection. There is no need to replace current equipment as the 8232 DCU can connect up to two 3rd-party mechanical pulse transmitters or a single electronic meter register, such as Liquid Controls® LectroCount™ LCR-II® or Veeder-Root® EMR3™, that are already installed on the majority of fueling vehicles.

Net Fuel Volumes at the Wing

If the fueling equipment is fitted with a fuel temperature sensor (3-wire RTD), the 8232 DCU is able to calculate temperature corrected fuel volumes. This feature allows FuelsManager Aviation to accurately compare net fuel volumes issued against physical inventories when accounting for gain/loss, which may result in a reduction of your monthly gain/loss totals.

Easily Installed or Retrofitted

A small footprint allows easy installation on all fueling vehicles and hydrant carts. To optimize the 8232 DCU's wireless communications signal, the unit should be installed in an elevated position that is protected from accidental damage or abuse.

Measurement | Control | Automation | Enterprise | Integration | Support

FuelsManager®
AVIATION

Fueling Vehicle Data Capture & Automation

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▶ *In order to supply constant power for the Varec Data Collection Units, a major airline installed a solar panel and gel battery cell to all stationary fueling carts as part of a fueling equipment improvement program.*

Quick Specs

- Dual pulse count channels - Connect up to two mechanical pulse transmitters

- Serial channel for digital communications - Connect an electronic meter register

- Resistive Temperature Device (RTD) interface - Connect a 3-wire (Pt/Cu) fuel temperature sensor

- 4-20 mA Analog input channel - Connect to an analog flow or pressure transmitter

- Solid state relay output channel and dual high side output drivers - Control a digital output or voltage specific outputs, such as an interlock or shutdown valve

- Power output terminals - Provide constant or on-demand power for up to two pulse transmitter(s) or other external devices

- Input voltage 6 VDC or 12 VDC - Low power requirements

Low Power Requirements

The 8232 DCU's power saving features and the low power requirements of Bluetooth communications make the 8232 DCU ideally suited for use on stationary hydrant carts. Varec recommends a low cost, low power solar solution that can be easily retrofitted to any hydrant cart that is unpowered. The 8232 DCU's own power output terminals provide constant or on-demand power for up to two pulse transmitters or other external devices.
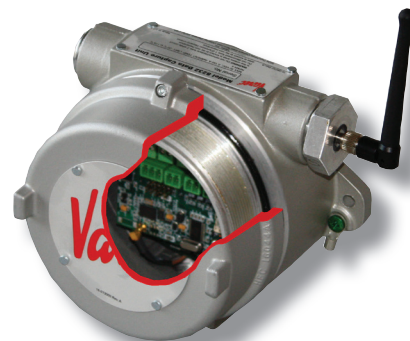
Cross section of an 8232 DCU showing the wireless electronics module

Suitable for use in Harsh Environments

The die-cast aluminum housing carries a NEMA 4 classification, while the electronics are rated for use in extreme temperatures of -4 °F to +167 °C (-20 °C to +75 °C) - a combination that makes the unit suitable for use in harsh environments. The entire unit is also currently undergoing testing and evaluation for approved use in class 1, division 1 hazardous environments to Factory Mutual® standards.

Secure and Simple Configuration

Configuration is performed in the field by setting a combination of on-board dip switches and by using the IntoPlane administration software running on a handheld or truck mounted computer (clients). Both the housing and the software can be locked to prevent unauthorized access and tampering. Through the secure interface, users are able to configure all settings, such as the meter factor or communications.

Self Diagnostics and Monitoring

The client computer can be used to monitor, test and view the self diagnostic features, such as operating temperature, micro-controller status and low voltage (battery) status. When the unit is opened, LEDs can also be observed on the electronics that provide an indication of operational, communication and pulse input status.