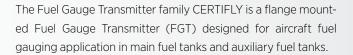


## **FUEL GAUGE TRANSMITTER**

# **CERTIFLY**



The sensor length is adaptable according to customer requirements. The sensor fuel height measurement output signal options comprise: PWM, Frequency, CAN, Current and Voltage.

#### **Fuel Gauge Transmitter Functionality**

The flange mounted sensor is a linear active capacitance type sensor. The capacitor's conductive surfaces are provided by straight concentric tubes. The measured capacitance is dependent on the fuel height at the sensor. The sensor's electronics transforms the measured capacitance which represents the actual fuel height into an output signal (see options above).

#### Customising

AUTOFLUG provides a wide range of Fuel Gauge Transmitters. AUTOFLUG Fuel Gauge Transmitters are based on company standardised components such as tubes, flanges, level sensors, electronics, cables and connectors.

In short time AUTOFLUG can configure, build, test and qualify sensor prototypes. Series production can start immediately thereafter. AUTOFLUG performs fuel tank studies based on customer supplied CAD data in order to define the optimum quantity and position of Fuel Gauge Transmitters and the associated height vs. volume tables for fuel volume and fuel mass calculation.

A Fuel Compensator can be integrated into the Fuel Quantity Measurement System to improve accuracy by compensation for different fuel types and fuel temperatures.







## **FUEL GAUGE TRANSMITTER**

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**Mechanical Interface** 

Mounting flange mounted from top or bottom (no directional limitations)

Flange Diameter 6-hole mounting flange with a hole circle of 60 mm

Sensing length 100 mm to 1,000 mm (measured from flange mounting plate to

the end of the sensing element)

**Electrical Interface** 

Connector Series 800 "Mighty Mouse" part number

800-012-07 M6-7PN

Input Power 15.0 VDC  $\pm$  2.0 VDC, maximum voltage ripple

60 mVpp, max. 25 mA

**Electrical Output Signal Options** 

"CAN" The FGT provides the measured fuel height as a CAN output

signal (DAL C) with following output parameters:

CAN 2.0B (Extended Frame Format)

Bit rate 125 kbps

"Current" The FGT provides the measured fuel height as a current

output signal with following output parameters:

4 to 20 mA

"Voltage" The FGT provides the measured fuel height as a voltage

output signal

"PWM" The FGT provides the measured fuel height as a PWM Pulse

Width Modulated output signal with following parameters:

Frequency: 488 ± 2 Hz

Amplitude: < 1 V equals "LOW" and

> 4 V equals "HIGH" Max. signal current 1 mA

"Frequency" The FGT provides the measured fuel height as a CTS

(frequency) output signal with following parameters:

 $T = 100 \text{ s} \pm 0.25 \%$  "dry" Amplitude: 5 VDC  $\pm 1$  VDC (o.c.)

**Accuracy** ±0.8% of the measurement range at empty condition (dry)

and shall be within the linear increasing tolerance up to  $\pm 2.5\%$  of the fuel-specific measurement range at full condition

(fully immersed)

**Weight** 180 g + 200 g/m

**Temperature Range** 

Temperature & Altitude SAE AS405D
Temperature Variation SAE AS405D

**Applicable Fluids** 

FAME contamination The FGT shall be applicable for following fuel types

with a potential FAME contamination limit of up

to 100 ppm

Fuel Types JET A-1, JP-8, F-34/F-35

JET A, JET B, JP-5, F-44

JP-4, F-40

EN 590, F-54, DF-2

JP-8+100

**Environmental Qualification** 

SAE AS405D

Environmental Conditions and Test Procedures for RTCA/DO-160G

EUROCAE ED-14G Airborne Equipment

RTCA/DO-178C Software Considerations in Airborne Systems and

EUROCAE ED-12C Equipment Certification

RTCA/DO-254

Design Assurance Guidance for Airborne Electronic

(Issued 4-19-00)

FAA AC 25.981-1C Fuel Tank Ignition Source Prevention Guidelines

**Certification Specification** 

 ${\tt ETSO} \ for \ {\tt Fuel} \ and \ {\tt Oil} \ {\tt Quantity} \ {\tt Instruments} \ {\tt ETSO/TSO-C55a}$ 

(approval process ongoing)

www.autoflug.de