



Fuel Gauge Transmitter

with Fuel Indicator

The AUTOFLUG flange mounted active capacitance type Fuel Gauge Transmitter (FGT) is a fuel height gauge for installation inside fuel tanks.

The AUTOFLUG Fuel Indicator (FI) provides the intrinsic safe power supply and signal conditioning for the FGT. The FI calculates and displays the fuel tank quantity based on the fuel height, the fuel tank geometry and known fuel density information.

Typical applications are auxiliary fuel tanks for civil and military helicopters.

The fuel gauging length can be adapted in accordance with customer requirements.

Fuel Gauge Transmitter Functionality

The flange mounted sensor is an active capacitance type sensor. The capacitor's conductive surfaces are provided by concentric tubes. The measured capacitance is dependent on the fuel height at the sensor.

Within the hermetically sealed sensor's electronics the measured capacitance which represents the actual fuel height is transformed into an EMI immune output signal.

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

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 required quantity and position of Fuel Gauge Transmitters and the associated height vs. volume tables for fuel volume and fuel mass calculation.

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Mechanical Interface

Fuel Indicator approx. L: 174 mm, H: 81 mm, W: 81 mm

Fuel Gauge Transmitter

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

Flange Diameter 72 mm

Flange Height 21 mm

Sensing length 100 mm to 1,000 mm

Electrical Interface

Fuel Indicator Input Power: 28 VDC, max. 70 mA
Output Power: 13 VDC, 30 mA (to FGT, current limit protected)

Fuel Gauge Transmitter

Input Power 13 VDC, max. 30 mA
Output Signal Frequency modulated square wave signal
amplitude: 0 to 5 VDC
frequency: 13 kHz at empty,
approx. 7.8 kHz at full (dependent on fuel)

Temperature Range

Operational -45°C to +54°C
Storage -55°C to +85°C

Applicable Fluids

NATO Code MIL Type
F-40 MIL-DTL-5624, Grade JP-4
F-34 MIL-DTL-83133E, Grade JP-8
F-44 MIL-DTL-5624, Grade JP-5
F-35 MIL-DTL-83133E
F-37 MIL-DTL-83133E, Grade JP8+100
F-54
F-63
JET-A/ JET-A1 ATSM D-1655
Jet B AVTAG DERD 2486

Accuracy

Fuel Indicator ± 3 kg
Fuel Gauge Transmitter $\pm 0.75\%$

Weight

Fuel Indicator max. 980 g

Fuel Gauge Transmitter 270 g + 200 g/m

Qualification

in accordance with RTCA/DO-160