



FUEL GAUGE TRANSMITTER

Tank-Internal Mounted



The AUTOFLUG tank-internal mounted active capacitance type Fuel Gauge Transmitter (FGT) is a fuel height gauge for installation inside fuel tanks. Typical applications are fuselage, wing, external and auxiliary fuel tanks.

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

Fuel Gauge Transmitter Functionality

The tank-internal mounted sensor is an active capacitance type sensor. Concentric conductive tubes form the sensing element. The measured capacitance is dependent on the fuel height at the sensor.

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

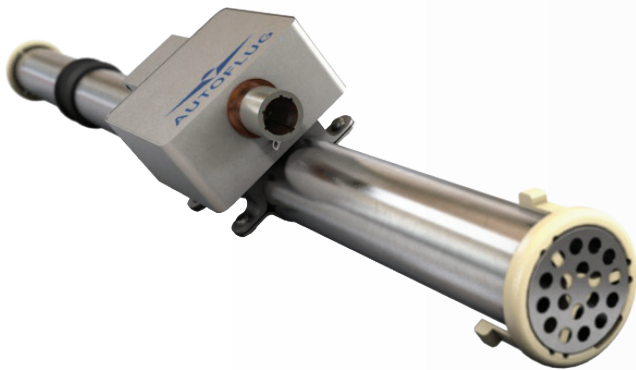
A Fuel Compensator which is a short variant of this sensor type can be integrated into the Fuel Quantity Measurement System to improve accuracy by compensation for different fuel types and fuel temperatures.

Customising

AUTOFLUG provides a wide range of Fuel Gauge Transmitters which are based on company standardised components such as tubes, flanges, electronics, cables and connectors. Level sensors can be integrated adding further functionality to the Fuel Gauge Transmitter.

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 3D data in order to determine the necessary quantity and position of Fuel Gauge Transmitters to ensure optimal balance between system accuracy and required hardware.



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Mechanical Interface

Mounting options	clamp - clamp, clamp-socket or single clamp - no directional limitations
Housing	hermetically sealed housing
Sensing length	100 to 1,200 mm

Electrical Interface

Input Power	9 VDC, max. 8 mA
Output Signal	Cycle Time Signal (Frequency)

Temperature Range

Operational	-55 °C to +120 °C
Storage	-55 °C to +85 °C

Fuel Types

F-40 MIL-DTL-5624, Grade JP-4
F-34 MIL-DTL-83133E, Grade JP-8
F-44 MIL-DTL-5624, Grade JP-5
JET-A/ JET-A1 ATSM D-1655
and others

Accuracy

± 0.5 % duty cycle at empty condition (dry), linearly increasing to
± 1.5 % duty cycle at full condition (fully immersed)

Weight

150 g + 320 g/m

Environmental Qualification

in accordance with MIL-STD-810

EMC/ EMI Qualification

in accordance with MIL-STD-461