



## Fuel Gauge Transmitter

CAN Bus Compatible



The AUTOFLUG CAN Bus compatible capacitance type Fuel Gauge Transmitter (FGT) provides temperature compensated fuel quantity measurement. The sensor provides highly accurate fuel contents information in litre, kg, lbs, etc. over the complete temperature range of a specific fuel type. The fuel gauging length can be adapted in accordance with customer requirements.

The CAN Bus Compatible FGT is designed to measure and calculate fuel quantity in a specific fuel tank and to provide this information via digital bus to the cockpit for indication or further data processing in autonomous applications.

### 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.

Since the capacitance does not solely depend on the fuel height but also on the temperature of the fuel, a temperature sensor is integrated into the CAN bus compatible FGT.

Within the sensor's electronics the measured capacitance which represents the fuel height is corrected for effects dependent on fuel temperature. Using the corrected fuel height and pre-determined height vs. volume relationships the fuel volume and fuel mass can be determined. The data is provided on a digital data bus (CAN).

### 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

|                 |                                   |
|-----------------|-----------------------------------|
| Mounting        | flange mounted from top or bottom |
| Flange Diameter | approx. 130 mm                    |
| Flange Height   | approx. 25 mm                     |
| Sensing length  | 150 mm to 1,000 mm                |

### Electrical Interface

|               |                     |
|---------------|---------------------|
| Input Power   | 28 VDC, max. 250 mA |
| Output Signal | CAN Bus             |

### Temperature Range

|             |                  |
|-------------|------------------|
| Operational | -40 °C to +71 °C |
| Storage     | -55 °C to +85 °C |

### Applicable Fluids

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

|                 |                       |
|-----------------|-----------------------|
| <b>Accuracy</b> | MIL-G-26988C Class II |
|-----------------|-----------------------|

|               |                                                      |
|---------------|------------------------------------------------------|
| <b>Weight</b> | 1,000 g at 300 mm length, land vehicle configuration |
|---------------|------------------------------------------------------|

|                                    |                                |
|------------------------------------|--------------------------------|
| <b>Environmental Qualification</b> | in accordance with MIL-STD-810 |
|------------------------------------|--------------------------------|

|                                |                                |
|--------------------------------|--------------------------------|
| <b>EMC / EMI Qualification</b> | in accordance with MIL-STD-461 |
|--------------------------------|--------------------------------|

[www.autoflug.de](http://www.autoflug.de)

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