

APPLICATION NOTE

Fuel flow sensor

AN-03 for TL-2524, TL-3724

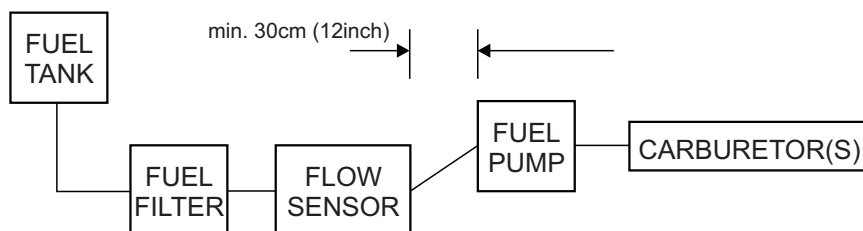
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General Information

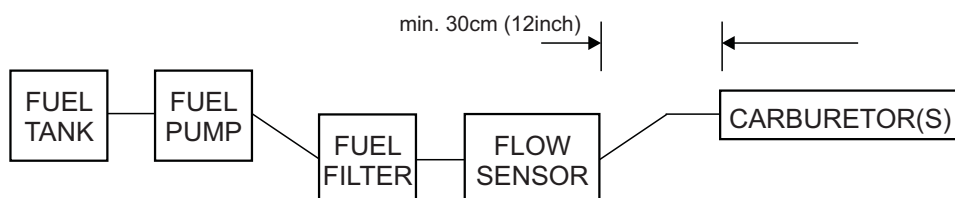
The Turbine Flow Sensor measures the flows of hydrocarbon fuels such as gasoline, kerosene, and diesel fuel and other light transmitting, non-corrosive liquids of similar viscosity.

The flow sensor gives repeatable signals on gasoline across a 100% to 1% flow range down to 1.1 L/h (0.3 GPH). The higher viscosity of diesel fuel reduces signal repeatability at flow rates below 7,5L/h (2 GPH). Pressure drops are very low compared to other turbine flow transducers. The transducer bearing system is rated for continuous operation at the upper end of the flow range.

Carbureted Engines

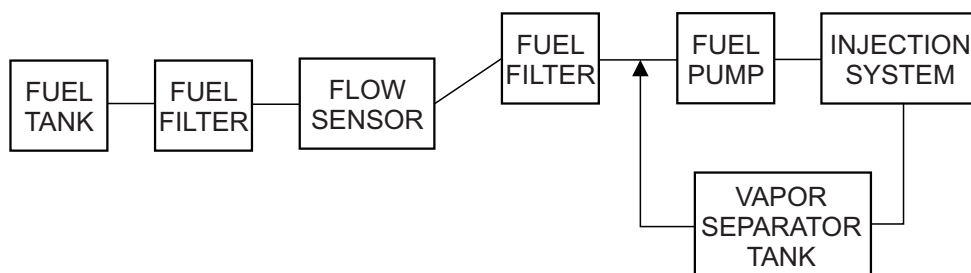


Carbureted Engines



⚠ NOTE: If you have a return line in your engine, perform the sensor connection according to the Application Note AN-05 Flow Return Line System.

EFI Engines



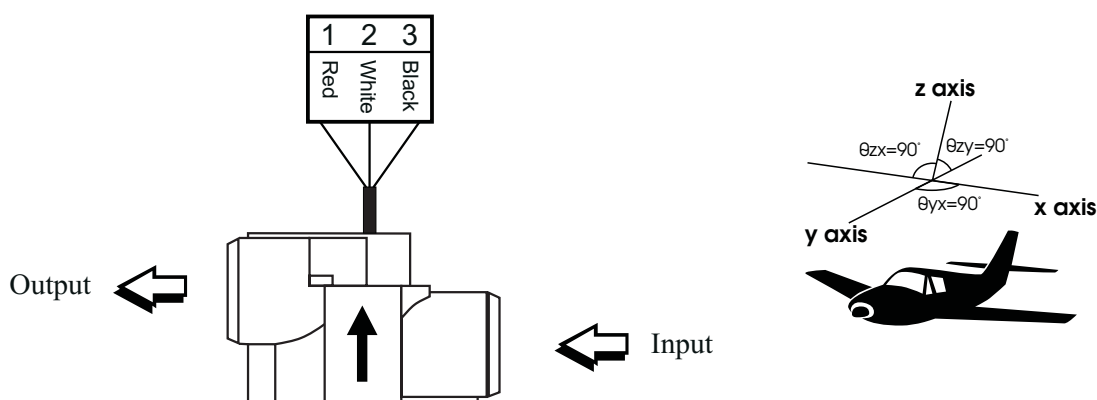
Flow Sensor Installation

Liquid enters the flow chamber tangentially, follows a helical flow path, and exits vertically, thereby venting any entrained vapor bubbles. The rotational velocity of the liquid is directly proportional to flow rate. A neutrally buoyant rotor spins with the liquid between V-jewel bearings.

The vapor venting design requires that the transducer is positioned with the electrical connectors pointing up. Turbulence caused by valves or sharp elbows mounted close to the transducer inlet can affect transducer K-Factor and should be minimized.

⚠ NOTE: The sensor must be placed according to the black arrow parallel to the Z axis of the aircraft, i.e. so that the cables are directed upwards.

⚠ NOTE: DO NOT OVER- TIGHTEN FITTINGS. Torque pipe thread fittings to the maximum of 4,5m·kg, (180 inch-LB) or two full turns beyond hand tight (whichever comes first). TL elektronik recommends that a fuel proof pipe thread sealant is used when installing fittings into the flow sensors, (LockTite PST, Rector Seal, Leaklok, Permatex, Jomar, etc). NEVER USE TEFLON TAPE.



TL-2524 FUEL COMPUTER				
Input	Input Name	Sensor w/colour	Connector pin	I/O
13	Power +12 Volts for sensor	Red	1	Out
17	Output from sensor	White	2	In
18	Ground for sensor	Black	3	--

TL-3724 COMBINED INSTRUMENT				
Input	Input Name	Sensor w/colour	Connector pin	I/O
2	Power +12 Volts for sensor	Red	1	Out
1	Output from sensor	White	2	In
4	Ground for sensor	Black	3	--

Technical information:

Type of Sensor: 201A-6 (Floscan, USA)

Flow Range: 1,1 to 113 L/h (0.3 to 30 GPH)

Working pressure: 14 BAR (200PSI)

Operation Temperature: -65°C to +100°C (-85°F to 212°F)

Rev. A

Information furnished by TL elektronik is believed to be accurate and reliable.



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