GS condition -1599

Oil Debris Sensor Kit - Engine & Transmission Wear Debris Detection

Key Features

- **Real-time oil cleanliness "health check"**
- **Recognises bearing and gear damage**
- **High temperature operation**
- **Prevents debris from travelling through the system**

Debris Sensor

The Gill Oil Debris Sensor attracts ferrous particles to the exposed sensor face and is able to determine the amount and type of electrically-conductive contaminant particle build-up to a high degree of accuracy.

The fine output channel displays the build-up of typical-use wear debris, a reliable indicator of oil cleanliness. The coarse channel is used for the detection of larger debris within the oil system, indicating possible bearing or gear damage.

The Oil Debris Sensor is particularly suited to aviation (gas turbine engines; helicopter gearboxes), automotive, renewable energy (wind turbine gear systems) and industrial applications. The sensor is suitable for high temperature operation and works independently of oil flow rate, temperature, viscosity, oil colour or air and water content.

Remote Electronics Unit

ELECTRICAL

Supply Voltage*	+4.5VDC to +32VDC
Over Voltage Protection	>31VDC
Supply Current	<10mA
Reverse Polarity Protection	to -30VDC
Resolution	10 bit
Sample Rate	10Hz
Zero Tare Function	Accessible via RS232
Onboard Integrity Test Function	Yes

*Not suitable for operation from unprotected automotive supplies 12, 24V

ANALOGUE OUTPUTS

Channel 1	2.25V - 4.25V Fine Measurement (Plug F)
Channel 2	0.5V - 4.25V Coarse Measurement (Plug I)
Error Indication	4.5V (Channel 1 & 2)

CONNECTIONS

Wiring	Raychem Type 55 / Screened 26 AWG or customer specified
Connector	Deutsch ASC 1 05-06-SN or customer specified

MECHANICAL

Sensor	
Size (inc. connector)	Option 1: 67.20mm x ø22.25mm Option 2: 56.20mm x ø22.25mm Custom variants available.
Mounting	M14 x 1.0 Thread (Option1) M14 x 1.5 Thread (Option2)
Weight	from 25g
Materials	Titanium, PEEK, H30
Remote Electronics Unit	
Size	113mm x 35mm x 22mm
Mounting	2 x M5
Weight	105g
Materials	Diecast Zinc Enclosure

ENVIRONMENTAL

Protection Class**	Sensor: IP68 Remote Electronics: IP65
Operational Temperature	Sensor: -40°C to +150°C Remote Electronics: -40°C to +100°C
EMC Immunity Level**	SAE J1113/2 1996 design guideline
Vibration**	15g RMS (24-2000Hz) & SAE J1455 design guidelines used
Compatible Medium	Hydraulic Oil, Engine & Transmission Oil, Fuel, General Automotive Fluids

**Designed to; Untested

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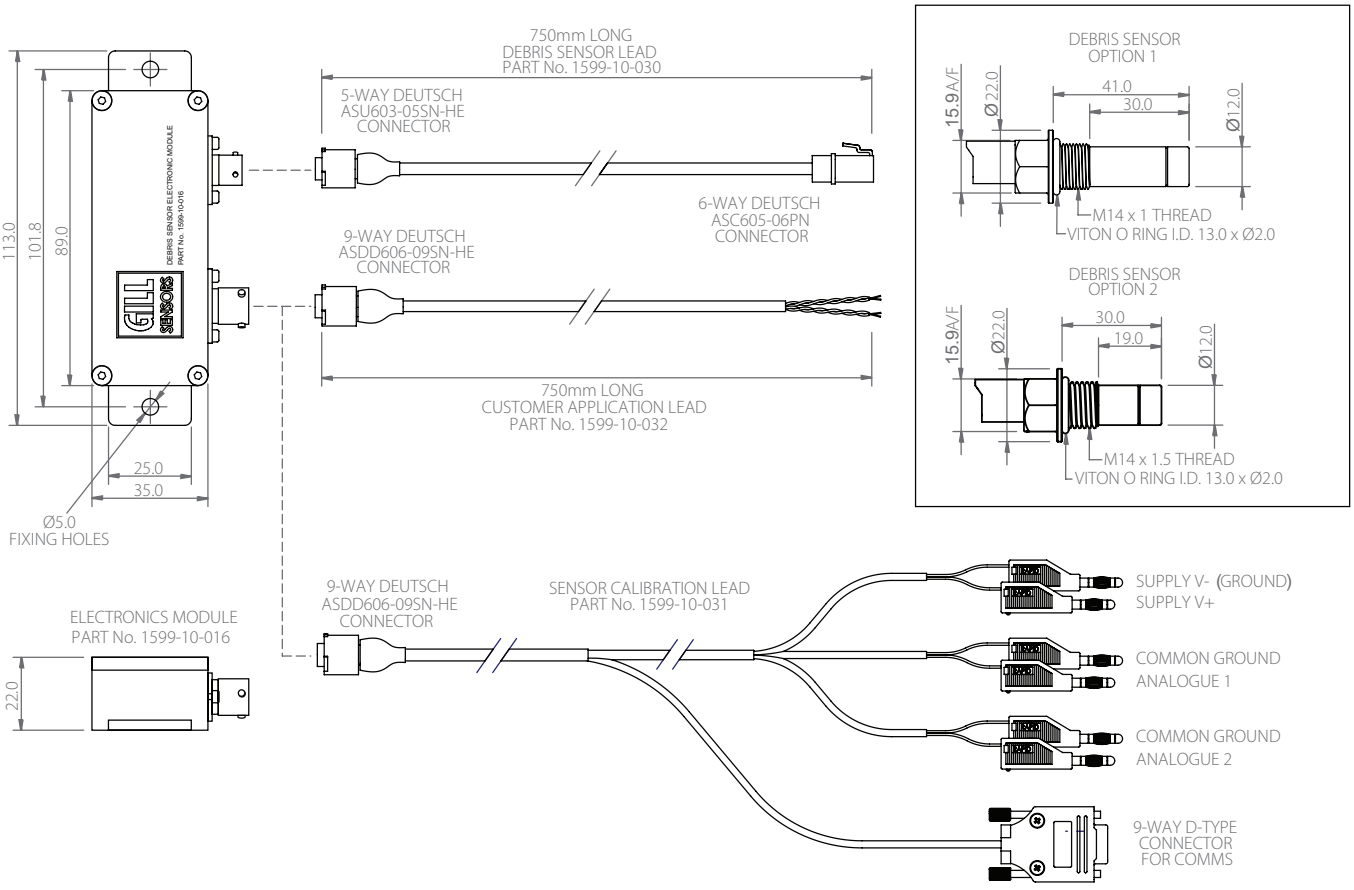
Twin Channel Debris Detection

The sensor measures the amount and type of debris build-up via two independent analogue output channels.

The fine channel displays the build-up of typical-use wear debris, a reliable indicator of oil cleanliness. The coarse channel is used for the detection of larger debris within the oil system, indicating possible bearing or gear damage.

Channel 1: Fine
Fine metal particle build-up

Channel 2: Coarse
Large metal debris detection



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