

Tan Delta Oil Quality Sensor



Feature Highlights

- Predictive oil condition monitoring reduces maintenance costs and extends service intervals
- Early detection of wear and contamination minimizes unplanned downtime
- Supports ESG goals through reduced oil consumption and parts replacement
- Continuous real-time oil analysis with 0.01% sensitivity (100ppm detection)
- Molecular-level sensing enables accurate tracking of oil degradation and equipment health
- Compatible with mineral and synthetic oils across diverse equipment and environments

Extend Oil Use | Reduce Maintenance
Reduce Breakdowns | Detect Contaminations

The Tan Delta sensor delivers high-quality real-time oil condition analysis. This enables multiple operating benefits including reduced maintenance costs, improved reliability, reduced oil wastage, and extended equipment life. Our unique FSH™ core technology analyzes oil condition holistically, detecting, measuring, and tracking contamination or wear with 0.01% sensitivity (100ppm). Other sensor systems typically monitor specific parameters while ignoring others. This real-time oil analysis capability is achieved through continuous analysis of the electrochemical properties of the oil at a molecular level.

Tan Delta sensor data provides high-confidence insight into real-time equipment health and maintenance status. Reliable maintenance forecasting based on actual equipment need enables optimized maintenance intervals and reduced cost, supported by continuous monitoring that detects unexpected anomalies or contamination. The Tan Delta sensor works with any oil type and integrates easily into critical equipment, providing continuous oil condition monitoring across diverse operating environments.

Specifications

Product Information

Name	Gen 2 - Oil Quality Sensor
Product No.	OQSxG2-I-XX-XX-5

Physical

Material	Stainless Steel AISI304
Dimensions	102 x 36mm (L x W)
Weight	180g
Connection	32mm AF Hex Collar
Torque	25N m

Available Threads *(Alternative threads available upon request.)*

Thread Type	Seal	Order Code
½" BSPP	½" Dowty	OQSxG2-I-DD-02-5
½" NPT	N/A	OQSxG2-I-EE-06-5
7/8-14 UNF	O Ring Viton 18.6 x 2.4mm	OQSxG2-I-CC-10-5
M18	M18 Dowty	OQSxG2-I-DD-12-5

Connectors

Connector	6-Pin Bulgin PXP4013/06P/PC
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Electrical

Supply	+9-30V DC
Consumption	0.4w Average

Data Output/Input

Digital output	RS485, CANbus
Protocols supported	Modbus, CanOpen and J1939
Analog output	4-20mA

Oil Quality Detection Parameters

Output	Tan Delta Number (TDN) Oil Temperature (C or F)
Sensitivity	0.01%
Elements	All wear and contamination

Oil Type

Configuration	Any mineral, semi-synthetic or synthetic oil, including fuels (diesel & bio-diesel)
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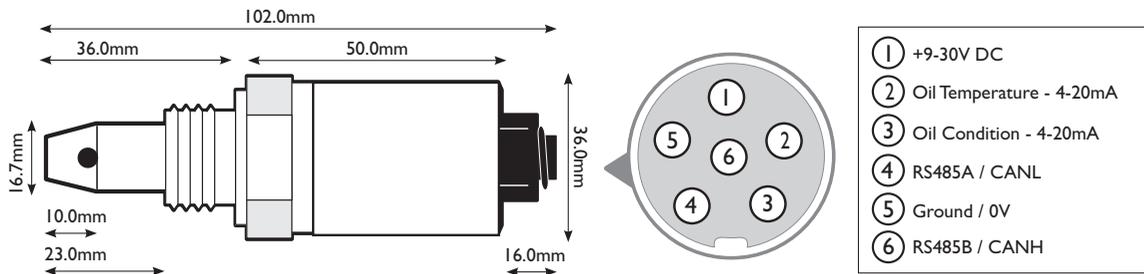
Environmental

Operating temperature	-40°C (-40°F) to +120°C (+248°F)
Calibrated temperature	-20°C (-4°F) to +120°C (+248°F)
Fluid temperature	-40°C (-40°F) to +120°C (+248°F)
Fluid pressure	Up to 70 bar (1015 psi)
Storage temperature	-55°C (-67°F) to +150°C (+302°F)

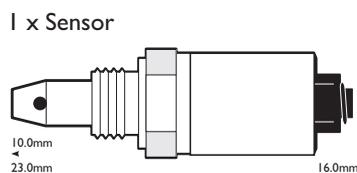
Standards & Certification

Water and dust	IP68 when connected
Shock and vibration	BS EN 60068-2-30 (Test Db - Cyc.Hum.) BS EN 60068-2-6 (Test Fc - Sine Vib.) BS EN 60068-2-27 (Test Ea - Mech. Shock)
EMC	EN 61000-6-4:2007 (Generic Emissions Standard for Industrial Environments) EN 61000-6-2:2005 (Generic Immunity Standard for Industrial Environments)
Conformity	CE Marked RoHS Compliant

Dimensions & Connection



Inside the Box



Product buying alert notice

Cables are not supplied with this product. They are supplied separately – see the cable section on our website.

For configuration you will require 1 x Cable-J.

Why Tan Delta

Tan Delta advanced oil condition analysis technologies and products enable enhanced and highly accurate real-time monitoring and management of oil and rotating equipment. Superior accuracy combines with fully holistic analysis to deliver the ultimate equipment monitoring capability and insight. Used and trusted around the world by equipment operators to reduce costs and improve efficiency. Tan Delta provide ready-to-go equipment to end users, as well as embedded and customised product solutions to original equipment manufacturers.