SPECIFICATION SHEET

MS3510 ONLINE OIL DEBRIS MONITOR

Performance

Sensor Bore	25mm (1 inch)
Minimum Detectable Particle (sphere)	260µm Fe / 670µm NFe
Minimum Detectable Particle (ESD)[1]	170µm Fe / 435µm NFe
Flow Rate	10 L/min - 300 L/min (2.6 USGPM to 79 USGPM)
Flow Direction	Bi-directional
Maximum Particle Detection Rate	Configurable up to 100 particles/sec

[1] The Equivalent Spherical Diameter (ESD) of an irregular shaped object is the diameter of a sphere of equivalent volume.

Electrical Interface

Input Power Supply	18 to 30 VDC
Power Consumption	2.4W

Communication

Ethernet 10/100 Mbit/s	**Modbus TCP**
Serial RS-485 (Optional)	**Modbus RTU**
Particle Type Discrimination	Ferromagnetic (Fe) / Non-Ferromagnetic (NFe)
Particle Size Reporting	Configurable Fe / NFe size bins and Fe / NFe Rate
Particle Mass Reporting	Fe Mass and Fe Mass Rate
Equipment Condition Indication	Configurable Alarm and Warning Limits (Fe, NFe & Temperature)

MS3000 Digital Outputs	**Particle Pulse and Built-in-Test (BIT)**
PULSE	5 ms Square Wave Pulse ± 2 ms
BIT State	Hi-LO Logic
Fault	Low Logic
No Fault	High Logic
Signal Amplitude	Power Supply Voltage +0/-2 VDC
Load Impedance Required	High (≥1 kΩ)

Environment

Oil Pressure	Maximum 20 bar (300 psi)
Oil Temperature	-40°C to 85°C (-40°F to 185°F)
Ambient Temperature	-40°C to 70°C (-40°F to 158°F)
Vibration	10-50 Hz: 3mm (displacement)
	50-300 Hz: 15g (acceleration)
Fluids Compatibility	Hydraulic & lubrication oils; synthetic & mineral based; solvents & cleaning agents

Mechanical Interface

Weight	1.1 kg (2.4 lbs)
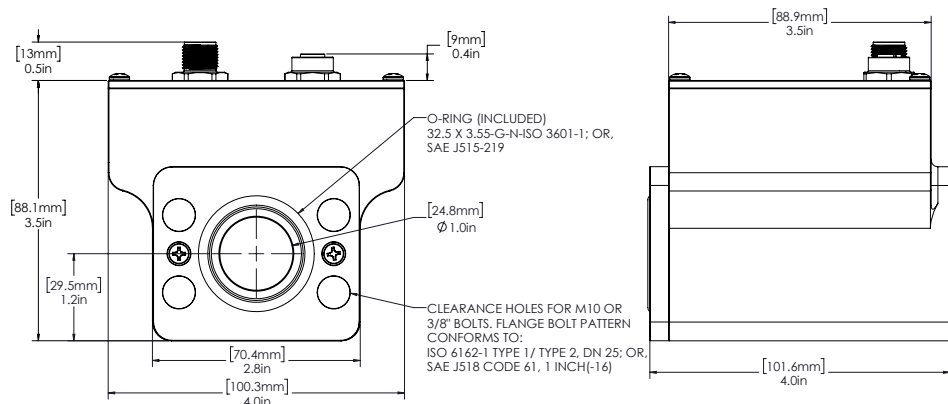
Ordering Information

Sensors

MetalSCAN 3510 Sensor
(Order: MS3510)

MetalSCAN 3510-RTU Sensor
(Order: MS3510-RTU)

Software

MetalSCAN Manager
(included with sensor)

MetalSCAN Monitor
(Order: MetalSCAN-Monitor)

Gastops Connect
(Contact Gastops)

Accessories

M12, A-Coded, 8-PIN, Straight
Backshell Cable, 10m
(Order: Cable-3500-A-10-00)

M12, A-Coded, 8-PIN, 90deg
Backshell Cable, 10m
(Order: Cable-3500-A-10-90)

M12, D-Coded, 4-PIN to Ethernet
RJ45 Straight Connector Cable, 10m
(Order: Cable-3500-D-10-00)

M12, D-Coded, 4-PIN to Ethernet
RJ45 90deg Connector Cable, 10m
(Order: Cable-3500-D-10-90)

Application Installation Kits
(Contact Gastops)