

GS condition-4212

Standard Oil Condition Monitoring Sensor

GILL

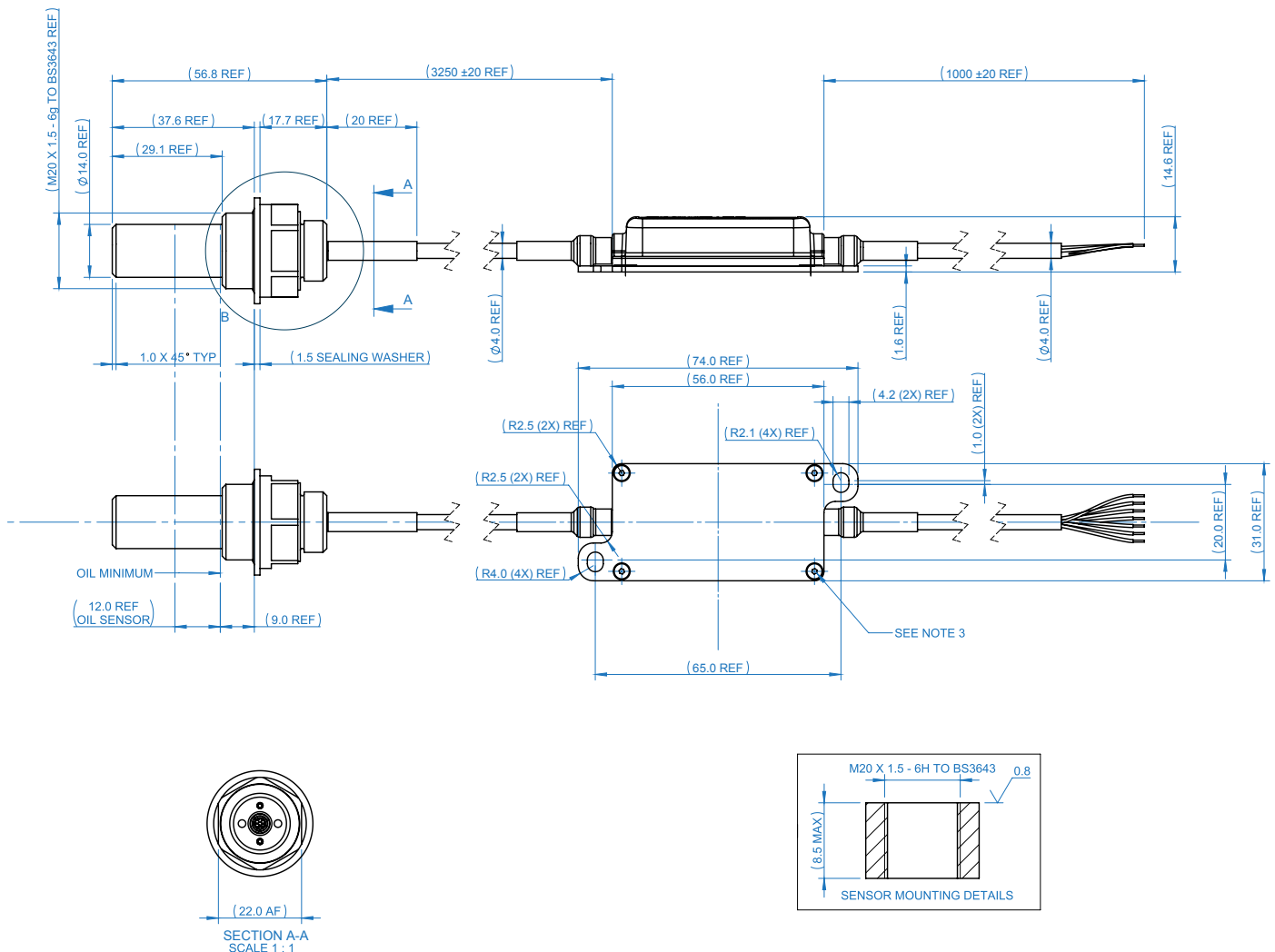
Key Features

- Reduce unplanned downtime
- 4 measurement options
- 4-20mA, 0-10v & CAN outputs
- Captures and retains ferrous debris
- Continuous real-time monitoring
- Easy installation
- Low cost of ownership



The Oil Condition Monitoring Sensor provides continuous real-time monitoring of ferrous wear and failure particles with a water in oil contamination, oil presence or temperature indication as a third channel. Providing an early indication of potential breakdowns in gearboxes and transmissions is key to allowing planned preventative maintenance.

RoHS
Compliant



All dimensions in mm.
Due to ongoing product development specifications are subject to change.

ELECTRICAL

	Voltage	4-20mA	CAN
Supply Voltage	+6 to +32VDC*	+9 to +32VDC	+5 to +32VDC
Over Voltage Protection	>32 VDC		
Power Consumption	<0.7 W	<2.6 W	<0.7 W
Reverse Polarity Protection	to -32 V DC		
Analogue Resolution	10 bit		
Report Rate	10 Hz	1 Hz	
Sensor Configuration	Accessible via USB		

* Supply voltage to be minimum 0.5 V above output voltage

ANALOGUE OUTPUTS

	Voltage	4-20mA
Channel 1 (fine)	0 – 10 V DC (configurable)	1 mA – 20 mA (configurable)
Channel 2 (Coarse)	0 – 10 V DC (configurable)	1 mA – 20 mA (configurable)
Channel 3 (Oil/Temp)	0 – 10 V DC (configurable)	1 mA – 20 mA (configurable)
Error Indication	0 – 10 V DC (configurable)	1 mA – 20 mA (configurable)
Optional Output Inhibit (during zero/span)	0 – 10 V DC (configurable)	1 mA – 20 mA (configurable)

CONNECTIONS

Sensor Wiring	26 AWG PTFE 3G210 Screened with DR-25 Jacket
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CHEMICAL COMPATIBILITY

Fuels	Diesel, Gasolene
Oils	Hydraulic, Gear, Mineral, Vegetable, Synthetic Ester, Semi-synthetic, Polyalphaolefin (PAO), Polyalkyleneglycol (PAG)
Coolants	Ethylene Glycol, water
Fluids	Salt water
Differential Pressure	10 Bar
Cable Pull	3 axis, 50 N
General Handling	1m Within Packaging on all 3 sides

MECHANICAL

Sensor Size	57mm x ø24.5mm
Enclosure	55mm x 30mm x 12mm
Sensor Mounting	2 off M4 Socket Cap Screws (not supplied)
Weight	0.21kg
Materials (sensor)	Aluminium Alloy, FEP, PEI
Materials (Enclosure)	Aluminium Alloy, st/steel, polyester

DIGITAL OUTPUTS

J1939 Data length	8 bytes
PGN	130816
Byte 0	Coarse measurement percentage, no scaling Value 255 – optional output inhibited during calibration
Byte 1	Fine measurement percentage, no scaling Value 255 – optional output inhibited during calibration
Byte 2	8 Status bits Bit 0 - High/Low temperature exceeded Bit 1 - Oil Upper threshold exceeded Bit 2 - Oil Lower threshold exceeded Bit 3 - Fine measurement error Bit 4 - Coarse measurement error Bit 5 - Oil measurement error Bit 6 - Internal temperature sensor error Bit 7 - External temperature sensor error
Byte 3-7	Manufacturer use

ENVIRONMENTAL

Protection class	Sensor	IP66 / IP68 / IP69k to EN60529
	Enclosure	IP66 / IP68 / IP69k to EN60529
Operating temp	Sensor	-40°C to +150°C to EN60945, EN60068-2-1, ISO16750-4
	Enclosure	-40°C to +125°C to EN60945, EN60068-2-1, ISO16750-4
	Humidity	95% RH +55°C EN60945, EN60068-2-30 Test Db, ISO16750-4
	Thermal Shock	EN60945, EN60068-2-14 Test Nb, ISO16750-4

EMC

Marine	EN60945
Vehicle Components	EN 50498 & Automotive E-marking to UN ECE Reg10
Light Industrial	EN61000-6-3, EN61000-6-1
Heavy Industrial	EN61000-6-4, EN61000-6-2
Measurement Control	EN61326-2-1
Construction Machinery	EN13309
Earth Moving Machinery	ISO 13766
Agricultural & Forest Machinery	ISO 14982

VIBRATION

Marine EN60945	3 axis 2 to 13Hz, +/-1mm 13.2Hz to 100Hz constant acceleration of 0.7g
Industrial EN60068-2-6	3 Axis 10 to 55 Hz 0.75mm or 10g
Motorsport / Automotive	3 Axis Random 5 - 2000 Hz Up to 36g
Shock EN60068-2-27	3 Axis 25g, 6ms, 1000 cycles

Connections

4-20 mA & 0-10V

	WHITE	FINE
	GREEN	COARSE
	ORANGE	OIL/TEMP
	BLACK	PWR GROUND
	RED	POWER
	BLUE	(NOT CONNECTED)
	SPARE (CLEAR)	SCREEN

CAN

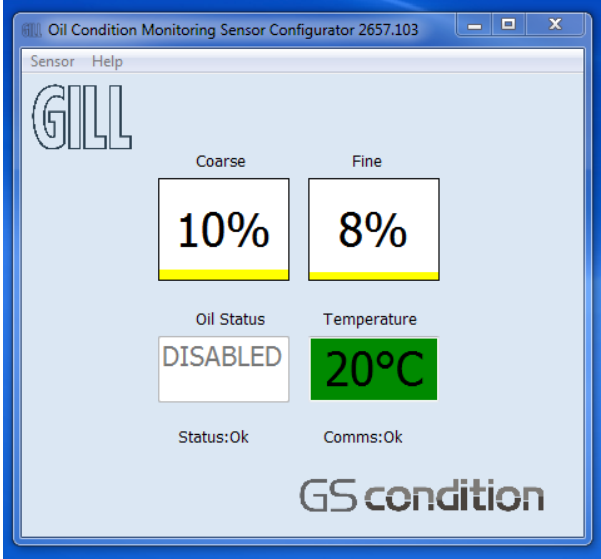
	WHITE	CAN H
	BLUE	CAN L
	ORANGE	(NOT CONNECTED)
	GREEN	(NOT CONNECTED)
	RED	POWER
	BLACK	GROUND
	SPARE (CLEAR)	SCREEN

Part Numbers

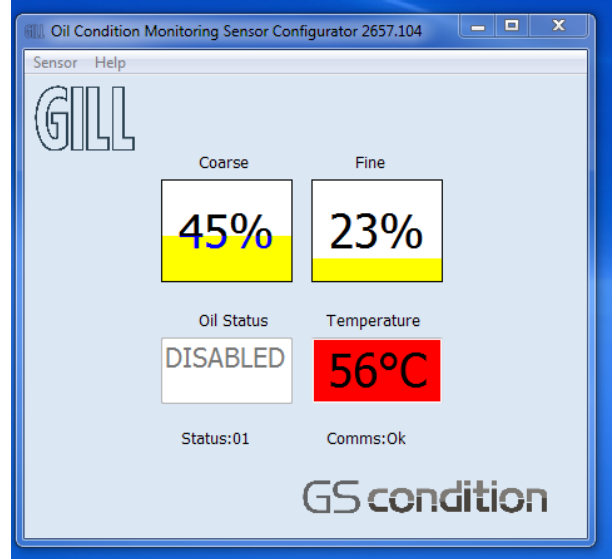
OIL DEBRIS SENSOR ASSY 4-20 mA	4212-PK-048
OIL DEBRIS SENSOR ASSY VOLTAGE	4212-PK-049
OIL DEBRIS SENSOR ASSY CAN	4212-PK-050
USB CONFIGURATION CABLE	1000-CO-116
USB WITH CONFIGURATION SOFTWARE	1000-SW-001

SENSOR CONFIGURATOR SOFTWARE

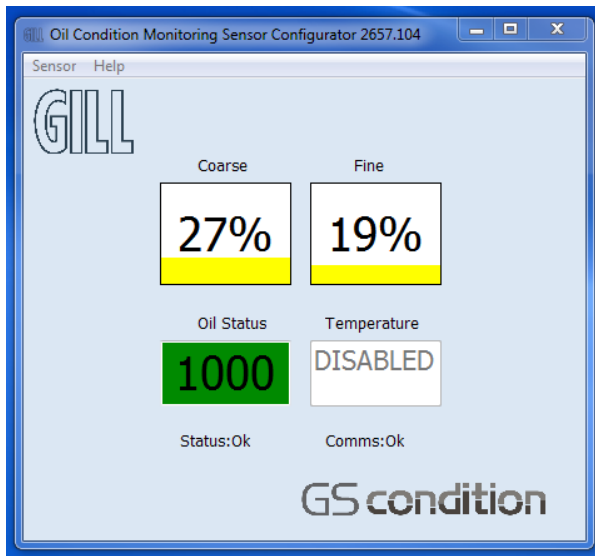
FINE / COARSE / TEMPERATURE



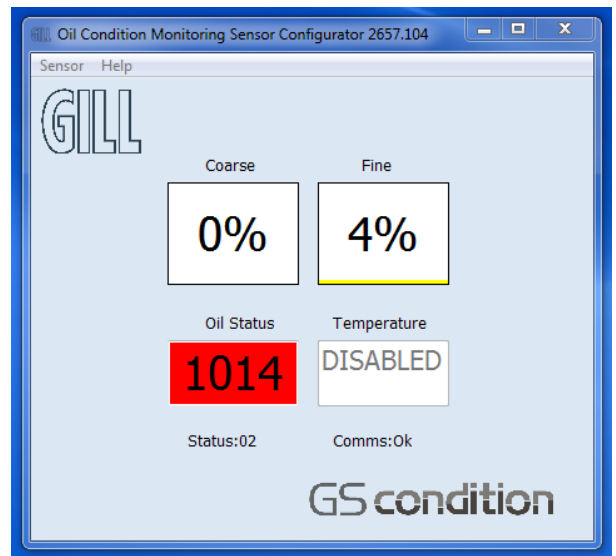
FINE / COARSE / TEMPERATURE



FINE / COARSE / DIELECTRIC



FINE / DIELECTRIC



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CD4212 - S - Iss 3

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