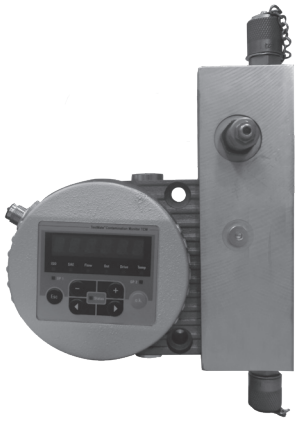
CS 1000 Contamination Sensor

Formerly Known as "TCM - TestMate Series"

FluMoS MOBILE

- Usable with FluMoS Mobile App when connected to the CSI-C-11

CSI-C-11 Compatible Product



Includes: Unit, FluMoS Software, Operation Manual and Calibration Certificate

Features and Benefits

- Measures Particles in Four Sizes: >4, >6, >14 and >21 microns
- In-line or Manifold Mounting
- ISO or SAE codes can be output in 4-20 mA analog signal
- Compatible with Standard Mineral Fluids & Phosphate Esters
- Display and Keypad can be rotated (up to 270°)
- Inlet and Outlet Ports are Interchangeable (bidirectional) (without manifold only)
- Recommended recalibration: Only every 2 years

Description

The Contamination Sensor 1000 (CS 1000) continuously measures solid contamination in hydraulic fluid. Enclosed in a 4-inch diameter case, the CS 1000 utilizes an optical sensor and measures particles in four sizes: >4, >6, >14 and >21 microns. Measurement results can be output as a contamination code according to ISO 4406:1999 or SAE AS 4059(D).

The CS 1000 is designed for connection to hydraulic and lubrication lines with pressures up to 5075 psi (350 bar) and viscosities up to 4635 SUS (1000 cSt). The unit requires that a small flow of oil (between 30 mL/min and 500 mL/min) is diverted for measurement purposes.

The CS 1000 provides the user with a smaller, tougher, and more versatile stationary sensor. It provides instantaneous readings and is able to self-diagnose continuously with error indication via the status LED. The attractive cost-to-performance ratio makes it especially applicable for OEM applications. Online, real-time condition monitoring allows you to have total predictive maintenance.

Specifications

Measuring Range:	Display ISO ranges between 9/8/7 and 25/24/23 Calibration within the range ISO 13/11/10 to 23/21/18
Contamination Output Code:	**Standard:** ISO 4406:1999 or SAE AS 4059(D) **Optional:** ISO 4406:1987; NAS 1638 and ISO 4406:1999; SAE AS 4059(D)
Self-Diagnosis:	Continuously with error indication via status LED
Inlet/Outlet:	5075 psi (350 bar) max
Connections:	Inlet: ISO 228 G1/4 Threaded Outlet: ISO 228 G1/4 Threaded
Sensor Flow Rate:	30 to 500 mL/min
Permissible Viscosity Range:	32 to 4635 SUS (1 to 1,000 cSt)
Fluid Temperature Range:	32°F to 185°F (0°C to +85°C)
Power Supply Voltage:	9 to 36 VDC residual ripple <10%
Accuracy:	+/- ½ ISO class in the calibrated range
Power Consumption:	3 Watt max
Electrical Outputs:	4 to 20mA Analog; 2 to 10 V Analog (option) RS485
Electrical Specifications:	4 to 20 mA Analog output (max burden 330Ω); 2 to 10 V output (min. load resistor 820Ω) Limit switching output (Power MOSFET): max current 1.5A
Ambient Temperature Range:	-22°F to 176°F (-30°C to +80°C)
Storage Temperature Range:	-40°F to 176°F (-40°C to +80°C)
Relative Humidity:	95%, non-condensing max
Seal Material:	Mineral Oil: Viton® Phosphate Ester: EPR
Electrical Safety Class:	III (low voltage protection)
IP Class:	IP67
Weight:	2.9 lbs (1.3 kg)
Mounting Position:	Recommended vertical installation with direction of flow south to north through CS 1000 or manifold block

NOTES:

All Models feature an analog electrical output. Additionally, an electrical switching output can be configured to alert the operator about rising falling contamination level.

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Features

- Enables the user to transfer data from CS 1000 to PC
- Enables user to change CS 1000 settings
- Enables user to have real time monitoring & data storage

Communication Kit Description: CSI-D-5 7632013

What's Included

Converter box, 115 VAC to 24 VDC adapter, USB driver, FluMoS software, communication & power cables, case

Features

- For WLAN or LAN transmission of data.
- Addition of data stage capabilities.

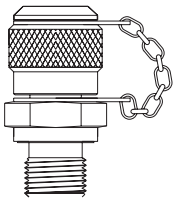
CSI-C-11 Sensor Interface Module P/N 4066011

Communication cable and power adapter can be ordered individually.

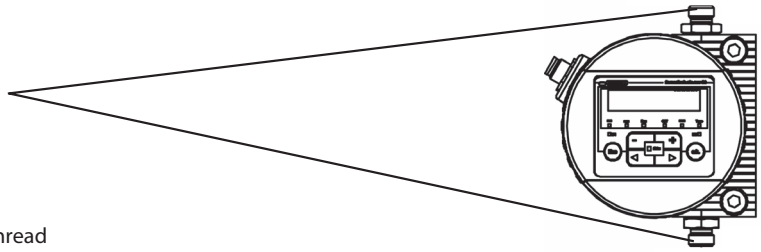
Description: Power Adaptor (PS5) P/N 7600801

G Thread	Sealing System	Description	Part Number
1/4" BSPP	WD Seal Viton	SP1620G14WDM	7622704

1620 Thread



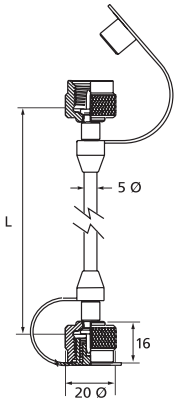
ISO 228 G 1/4 Thread



Schroeder Check

TestPoint Options for CS 1000

NOTES:
In-line version of CS.
In-line version cannot be mounted on manifolds



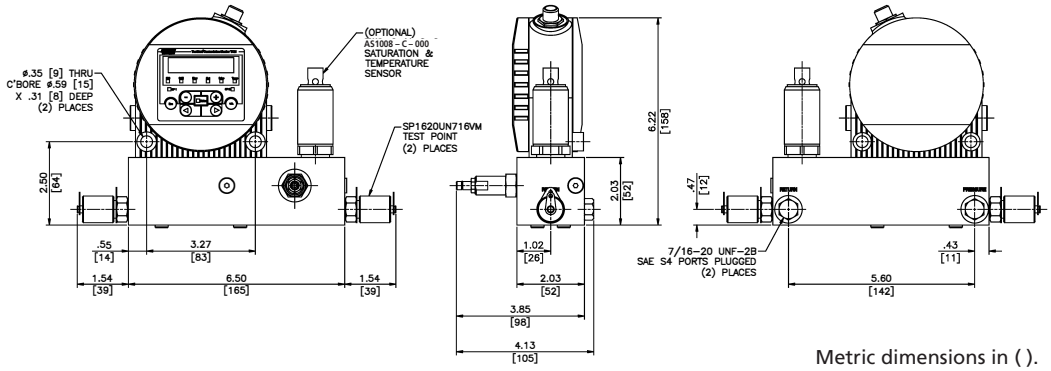
Length inches (mm)	ΔP (max) psi (bar)	Description	Part Number
6 (152)	6,500 (450)	SM4-1620-006	7612174
35 (889)	6,500 (450)	SM4-1620-035	7612175

Microflex Hose

Options for CS 1000

CS 1000 Contamination Sensor

CS with Optional CS Block Kit



Metric dimensions in ( ).

Model Number Selection

How to Build a Valid Model Number for a Schroeder CS 1000:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10	BOX 11
CS										

Example: *NOTE: One option per box*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10	BOX 11	
CS	1	2	2	0	A	0	0	0	0	000	= CS1220-A-0-0-0-0 /-000

BOX 1

Indicator Code
CS = Contamination Sensor

BOX 2

Resolution
1 = 4 Particle Size Channels

BOX 3

Indicator Code
2 = ISO 4406:1990 or SAE AS 4059(D) > 4 µm(c) > 6 µm(c) > 14 µm(c) > 21µm(c)
3 = ISO 4406:1987 NAS 1638 > 2 µm > 5 µm > 15 µm > 25 µm ISO 4406:1999 SAE AS 4059(D) > 4 µm(c) > 6 µm(c) > 14 µm(c) > 21 µm(c)

BOX 4

Options
1 = without Display
2 = with Display

BOX 5

Fluids
0 = Hydraulic/Mineral
1 = Phosphate Esters

BOX 6

Analog Interfaces
A = 4 to 20 mA
B = 2 to 10 V

BOX 7

Switching Output
0 = Limit Switching Output

BOX 8

Digital Interfaces
0 = RS485

BOX 9

Electrical Connection
0 = Plug M12x1, 8 Pole (Connection Cable Not Included)

BOX 10

Mounting
0 = Inline Version
1 = Flanged Version

BOX 11

Modification Number
000 = Standard
K = CS Block Kit without AS Sensor
KAS = CS Block Kit with A1000 Sensor
KASD = CS Block Kit with AS3008 Sensor

NOTE:

CS 1000 Block Kit

Includes: CS and AS Sensor Connection Cables, 2 Test Points, 2 Microflex hoses, FluMoS Light Software
The Contamination Sensor Block KIT *(CS 1000 Block KIT)* combines two condition monitoring products, the CS 1000 series *(Contamination Sensor)* into one plug and play unit. It serves as an on-line measurement of solid contamination and water in hydraulic and lube systems.
Note: Flow control is necessary when utilizing the CS 1000 sensor. Flow must be maintained through the sensor module to ensure accurate readings. Utilization of the CS Block KIT is required to maintain Sensor flow rate range as described int he Technical Specifications *(at the left)*.