

CS 1000

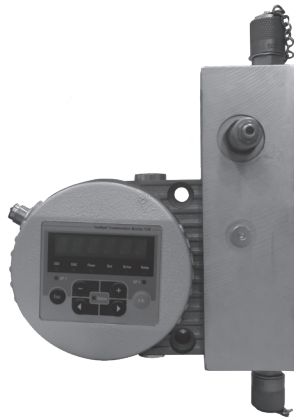
Contamination Sensor

Formerly Known as "TCM - TestMate Series"



- 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: +/- 1/2 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.

Viton® is registered trademark of DuPont Dow Elastomers.

Contamination Sensor

CS 1000

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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

CS 1939

CSI-C-11

HY-TRAX

RBSA

CSM

TFL

TFH

FCU

MCS

AS

SMU

CTU

EPK

Trouble
Check Plus

HMG2500

HMG4000

ET-100-6

HTB

RFSA

HFS-BC

HFS-15

MFD-BC

MFS, MFD

HY-TRAX
Retrofit System

MFD-MV

MFS-HV

AMS, AMD

FS

AMFS

KLS, KLD

MCO

AKS, AKD

LSN, LSA, LSW

X Series

OLF Compact

OLF

OLF-P

NxTM

VEU

IXU

Triton-A

Triton-E

NAV

SVD01

SVD

OXS

Appendix

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

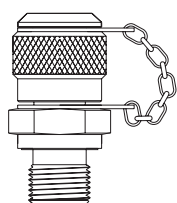
Communication cable and power adapter can be ordered individually.



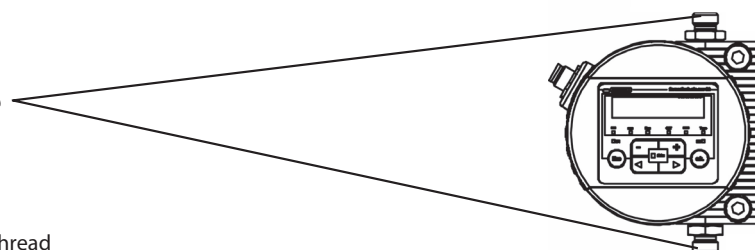
Description:
Power Adaptor
(PS5)
P/N 7600801

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

1620 Thread

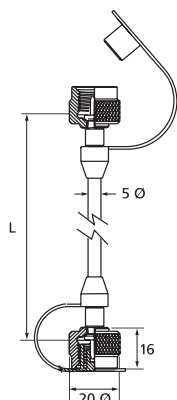


ISO 228 G 1/4 Thread



Schroeder
Check
TestPoint Options
for CS 1000

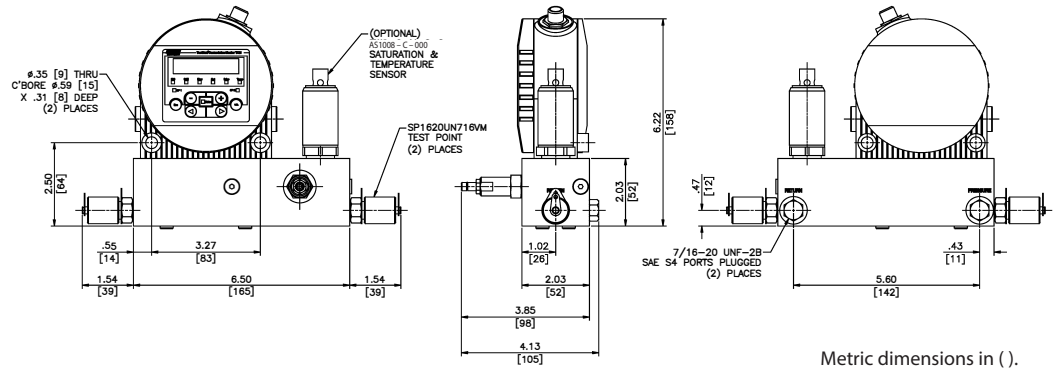
NOTES:
In-line version of CS.
In-line version cannot
be mounted
on manifolds



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 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		BOX 2		BOX 3	
Indicator Code		Resolution		Indicator Code	
CS = Contamination Sensor		1 = 4 Particle Size Channels		2 = ISO 4406:1990 or SAE AS 4059(D) > 4 µm(c) > 6 µm(c) > 14 µm(c) > 21 µm(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		BOX 5		BOX 6		BOX 7		BOX 8	
Options		Fluids		Analog Interfaces		Switching Output		Digital Interfaces	
1 = without Display 2 = with Display		0 = Hydraulic/Mineral 1 = Phosphate Esters		A = 4 to 20 mA B = 2 to 10 V		0 = Limit Switching Output		0 = RS485	

BOX 9		BOX 10		BOX 11	
Electrical Connection		Mounting		Modification Number	
0 = Plug M12x1, 8 Pole (Connection Cable Not Included)		0 = Inline Version 1 = Flanged Version		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 in the Technical Specifications (at the left).