Particle Monitor

OPCom Particle Monitor

Continuous Oil Condition Monitoring

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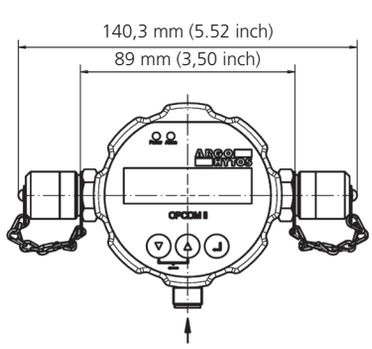

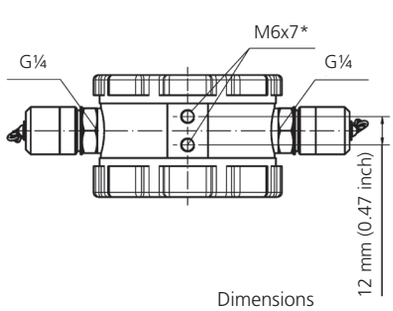

* mm

Dimensions

Description

Application area

The OPCom Particle Monitor is a compact particle measurement device for continuous monitoring of contamination and wear in hydraulic fluids and lubricants.

Performance features

Recognizing changes

Particle monitors precisely display any change in contamination of a system. Thus you can react quickly with an increase in particle concentration and countermeasures can be taken. Subsequent damages are minimized and costs are reduced.

High pressure range

The OPCom Particle Monitor is designed for operating with pressures of up to 420 bar (6090 psi). Thus it can directly be mounted to a pressure line.

Intuitive operating

The OPCom Particle Monitor is equipped with an intensely illuminated graphic display and a keypad by which you may set up all required adjustments. The menu navigation is made up intuitively and logically.

Wide communication possibilities

The OPCom Particle Monitor exports data to a serial interface or optionally to a CAN-Bus (CANopen + SAE J1939). In parallel, the configurable 4 - 20 mA interface can be connected. Over a digital alarm output you will be warned when limits are exceeded or fallen below. Readings can run time-controlled, manually or started and stopped over a digital input. The data can also be stored on the integrated memory unit.

Design characteristics

The fluid side, the OPCom Particle Monitor is equipped with two Minimess connections to connect the sensor generally in the off-line circuit to the system. The electrical connection is installed via an 8-pole M12 x 1 circular plug. The integrated data memory allows data recording over a longer period. Besides all its technical functions, the OPCom Particle Monitor scores by its compact and optical design.

Measuring principle

The OPCom Particle Monitor is an optical particle monitor which works to a so-called light extinction principle. This means that particles are classified within a measuring cell with the help of a laser regarding their size and quantity. The device is calibrated to ISO 11943. It calculates and displays results according to ISO 4406:99, SAE AS 4059, NAS 1638 und GOST 17216. More details and conversion tables: see manual.

Software

A PC-software for data recording and evaluation of the measured values can be downloaded from our website at www.argo-hytos.com > Products > Sensors & Measurements > Software.

Versions

The OPCom Phosphate Ester version has specially been developed for use in phosphate ester fluids. This version is delivered without Minimess couplings.
Another variant is the OPCom without display.

Warnings

› Avoid contact of phosphate ester fluids with the housing of the device.
› Device can contain remains of the calibration fluid.

Technical data

Sensor data	Size	Unit
Max. operating pressure		
dynamic static	420 (6090) 600 (8700)	bar (psi) bar (psi)
Permissible flow rate	50 ... 400	ml/min
Operating conditions		
Temperature Rel. humidity	-20 ... +85 (+4 ... +185 0 ... 100	°C °F) % r.H. (non-condensing)
Display readable up to	+60 (+140	°C °F)
Compatible fluids	mineral oils (H, HL, HLP, HLPD, HVLP), synthetic esters (HETG, HEPG, HEES, HEPR), polyalkylenglycols (PAG), zinc and ash-free oils (ZAF), polyalphaolefins (PAO) phosphate ester*[1]	
Wetted materials	Stainless steel, sapphire, chrome, FFKM*[1], NBR*[2], Minimess coupling*[2]: zinc/nickel	
Protection class[1]	IP67	-
Power supply	9 ... 33	V
Power input	max. 0.3	A
Max. power consumption	2	W

Sensor data	Size	Unit
Output		
Power output[2] Accuracy power output[2] Interfaces Alarm contact	4 ... 20 ± 2 RS 232/CANopen/ SAE J 1939 Open Collector	mA % - -
Digital input for start and stop		
Power supply	9 ... 33	V
Data memory	3000	data records
Connecting dimensions		
Fluid connections Electrical connection Tightening torque M12-connection	G¼ Minimess*[2] M16x2 M12x1, 8-pole 0.1	inch - - Nm
Display particle measurement		
ISO 4406:99	0 ... 28 (calibrated area 10... 22)	ordinal number (OZ)
SAE AS 4059E	000 ... 12	ordinal number (OZ)
NAS 1638 (based)[3]	00 ... 12	ordinal number (OZ)
GOST 17216 (based)[3]	00 ... 17	ordinal number (OZ)
Size channels	4, 6, 14, 21	µm (c)
Measuring accuracy		
Particle measurement (in calibrated area)	±1	ordinal number (OZ)
Weight	~720	g

[1] With screwed-on connector
[2] Output IOut is freely configurable (see interfaces and communication commands)
[3] From software version 2.02.15 upwards

*[1] only applies to phosphate ester version
*[2] only applies to OPCom Particle Monitor & OPCom without display

Order code

OPCom Particle Monitor	SPCO 300-1000
OPCom Particle Monitor for phosphate ester	SPCO 300-2000
OPCom Particle Monitor without display	SPCO 300-1200

Accessories

Complete data cable set, 5 m (16 ft) length	SCSO 100-5030
Data cable with open ends, 5 m (16 ft) length	SCSO 100-5020
Contact box for connection of a data cable	SCSO 100-5010
USB adapter - RS 232 serial	PPCO 100-5420
Power supply	SCSO 100-5080
Ethernet - RS 232 gateway	SCSO 100-5100
Display and storage device LubMon Visu	SCSO 900-1000
Minimess connection with volume flow limiting*2	
Pressure range 1: 2 … 50 bar (29 ... 725 psi)	SPCO 300-5105
Pressure range 2: 50 … 400 bar (725 ... 5800 psi)	SPCO 300-5140
Minimess connection with control loop*2	SPCO 300-5100

*1 only applies to phosphate ester version
*2 only applies to OPCom Particle Monitor & OPCom without display