

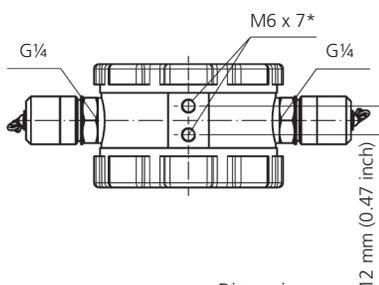
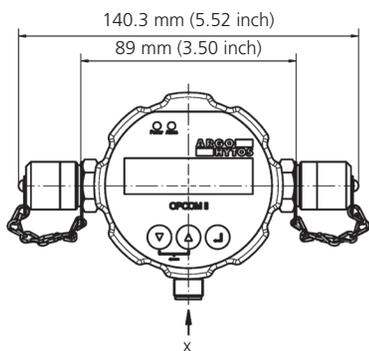
Particle Monitor

# OPCom Particle Monitor

Continuous Oil Condition Monitoring



OPCom Particle Monitor



\* 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 high pressure. 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 Minimes 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](http://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 Minimesse 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
<i>Max. operating pressure</i>		
dynamic	420 (6090)	bar (psi)
static	600 (8700)	bar (psi)
Permissible flow rate	50 ... 400	ml/min
<i>Operating conditions</i>		
Temperature	-20 ... +85 (+4 ... +185	°C °F)
Rel. humidity	0 ... 100	% 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* <sup>1</sup>	
Wetted materials	Stainless steel, sapphire, chrome, FFKM* <sup>1</sup> , NBR* <sup>2</sup> , Minimesse coupling* <sup>2</sup> : zinc/nickel	
Protection class <sup>1</sup>	IP67	-
Power supply	9 ... 33	V
Power input	max. 0.3	A
Max. power consumption	2	W

Sensor data	Size	Unit
<i>Output</i>		
Power output <sup>2</sup>	4 ... 20	mA
Accuracy power output <sup>2</sup>	± 2	%
Interfaces	RS 232/CANopen/ SAE J1939	-
Alarm contact	Open Collector	-
<i>Digital input for start and stop</i>		
Power supply	9 ... 33	V
Data memory	3000	data records
<i>Connecting dimensions</i>		
Fluid connections	G¼ Minimesse* <sup>2</sup> M16x2	inch -
Electrical connection	M12 x 1, 8-pole	-
Tightening torque M12-connection	0.1	Nm
<i>Display particle measurement</i>		
ISO 4406:99	0 ... 28 (calibrated area 10... 22)	ordinal number (OZ)
SAE AS 4059E	000 ... 12	ordinal number (OZ)
NAS 1638 (based) <sup>3</sup>	00 ... 12	ordinal number (OZ)
GOST 17216 (based) <sup>3</sup>	00 ... 17	ordinal number (OZ)
Size channels	4, 6, 14, 21	µm (c)
<i>Measuring accuracy</i>		
Particle measurement (in calibrated area)	±1	ordinal number (OZ)
Weight	~720	g

<sup>1</sup> With screwed-on connector

<sup>2</sup> Output I/O is freely configurable (see interfaces and communication commands)

<sup>3</sup> From software version 2.02.15 upwards

\*<sup>1</sup> only applies to phosphate ester version

\*<sup>2</sup> 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* <sup>2</sup>	
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* <sup>2</sup>	SPCO 300-5100

\*<sup>1</sup> only applies to phosphate ester version

\*<sup>2</sup> only applies to OPCom Particle Monitor & OPCom without display

