

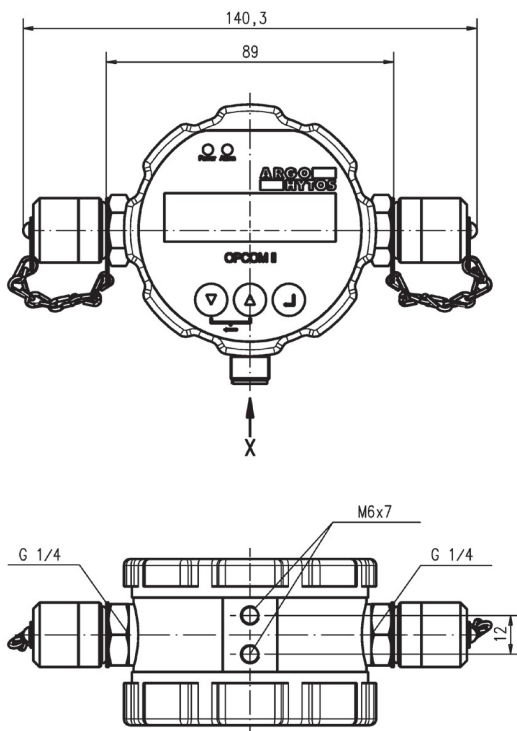
## Particle Monitor

# OPCom Particle Monitor

Continuous Oil Condition Monitoring



OPCom Particle Monitor



Dimension drawing

## Description

### Application area

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

### Performance features

#### *Recognizing changes in your hydraulic fluid*

Particle monitors precisely display any change of contamination in your system. In that way you can react quickly when an increase in particle concentration occurs and the appropriate 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. In that way it can be mounted directly 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). 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*

On 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 the particles are classified within a measuring cell with the help of a laser regarding their size and quantity.

## Software

A free 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) within our download area.

| Technical data                          |  |                            |
|---|--|----------------------------|
| Sensor data                             | Size   | Unit                       |
| <i>Max. operating pressure:</i>         |  |                            |
| dynamic                                 | 420  | bar                        |
| static                                  | 600  | bar                        |
| Permissible flow rate                   | 50 ... 400   | ml/min                     |
| <i>Operating conditions:</i>            |  |                            |
| Temperature                             | -20 ... +85  | °C                         |
| Rel. humidity                           | 0 ... 100  | % r.H.<br>(non-condensing) |
| Display readable up to                  | 60   | °C                         |
| 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) |                            |
| Wetted materials                        | Stainless steel, sapphire, chrome, NBR, minimess coupling: Zinc/nickel   |                            |
| Protection class <sup>1)</sup>          | IP67   |                            |
| Power supply                            | 9 ... 33   | V                          |
| Power input                             | max. 0,3   | A                          |
| Max. power consumption                  | 2  | W                          |
| <i>Output</i>                           |  |                            |
| Power output <sup>2)</sup>              | 4 ... 20   | mA                         |
| Accuracy power output <sup>2)</sup>     | ± 2  | %                          |
| Interfaces                              | RS232/CAN  | -                          |
| Alarm contact                           | Open   | -                          |
|   | Collector  | -                          |
| <i>Digital input for start and stop</i> |  |                            |
| Power supply                            | 9 ... 33   | V                          |
| Data memory                             | 3000   | data records               |

| Connecting dimensions               |                         |           |
|-------------------------------------|-------------------------|-----------|
| Fluid connections                   | G¼<br>minimess<br>M16x2 | inch<br>- |
| Electrical connection               | M12x1,<br>8-pole        | -         |
| Tightening torque<br>M12-connection | 0,1                     | Nm        |

| Measuring range according to ISO 4406:99 |           |                     |
|--|-----------|---------------------|
| Cleanliness level (measuring range)      | 0 ... 24  | Ordinal number (OZ) |
| Cleanliness level (calibrated range)     | 10 ... 22 | Ordinal number (OZ) |
| Measuring accuracy (calibrated range)    | ±1        | Ordinal number (OZ) |
| Weight                                   | ~720      | g                   |

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

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

<sup>3)</sup> In relation to the analogue current signal (4 ... 20 mA)

| 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 length           | SCSO 100-5030 |
| Data cable with open ends, 5 m length         | SCSO 100-5020 |
| Contact box for connection of a data cable    | SCSO 100-5010 |
| USB adapter - RS232 serial                    | PPCO 100-5420 |
| Power supply                                  | SCSO 100-5080 |
| Ethernet - RS232 gateway                      | SCSO 100-5100 |
| Display and storage device<br>LubMon Visu     | SCSO 900-1000 |
| Minimess connection with volume flow limiting |               |
| Pressure range 1: 2 ... 50 bar                | SPCO 300-5105 |
| Pressure range 2: 50 ... 400 bar              | SPCO 300-5140 |
| Minimess connection with control loop         | SPCO 300-5100 |