

In-line Contamination Monitor



ICM

The ICM automatically measures and displays particulate contamination, moisture and temperature levels in various hydraulic fluids.

It is designed specifically to be mounted directly to systems, where ongoing measurement or analysis is required, and where space and costs are limited.

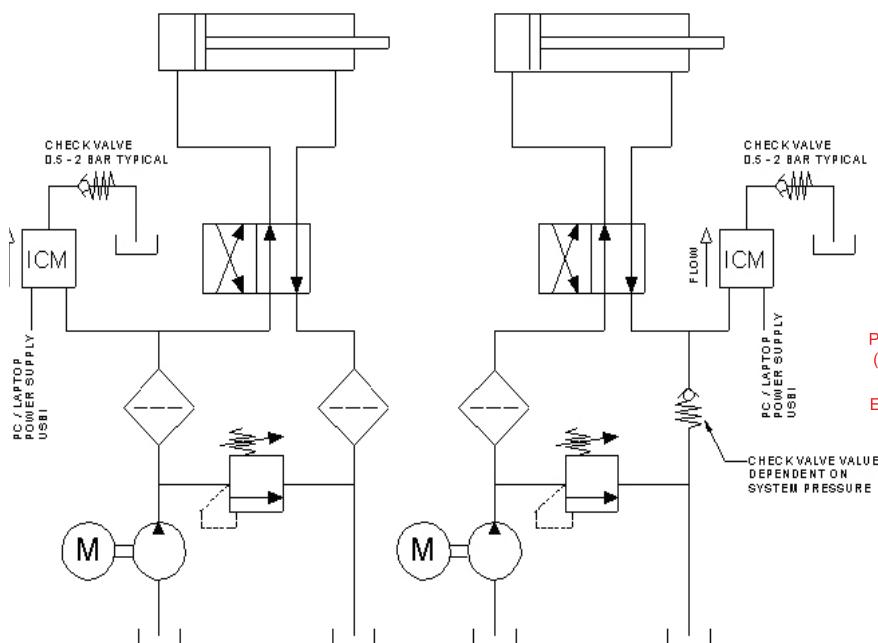
Features & Benefits

- ◆ 8 channel contamination measurement & display
- ◆ Measures and displays the following international standard formats; ISO 4406:1999, NAS 1638, AS 4059E
- ◆ Moisture and temperature sensing fluid dependant
- ◆ Data logging and 4000 test result memory
- ◆ Manual, automatic and remote control flexibility
- ◆ **Multicolour indicators via LCD (K versions) and LED with output alarm signals as standard**
- ◆ Robust die cast aluminium construction
- ◆ LPA View software (included)
- ◆ **Pressure max. 420 bar**
- ◆ Environmental protection IP65/67 versatile
- ◆ **Secondary connector to allow the simultaneous control/ download of results during operation**
- ◆ **Option available to download all results onto a USB stick, direct from the ICM**
- ◆ **4-20mA analogue output as standard**



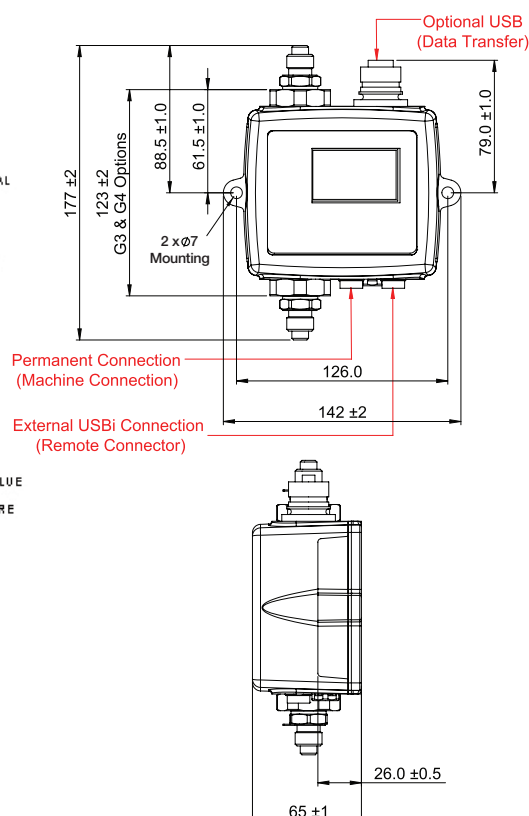
Screen and multicolour indicators

Typical Installation Guidelines



It is important to ensure a 0.5 to 2.0 barg differential across the ICM

ICM Dimensions



Technical data

Technology	LED Based Light Extinction Automatic Optical Contamination Monitor
Particle Sizing	>4,6,14,21,25,38,50,70 µm(c) to ISO 4406 1999 Standard
Analysis range	ISO 4406: 1999 Code 0 to 25, NAS 1638 Class 00 to 12, AS4059 Rev.E. Table 1&2 Sizes A-F: 000 (Lower Limits are Test Time dependent)
Accuracy	± ½ code for 4,6,14µm(c) ± 1 code for larger sizes
Calibration	Each unit individually calibrated with ISO Medium Test Dust (MTD) based on ISO 11171, on equipment certified by I.F.T.S. ISO 11943
Operating Flow Rate	20 - 400 ml/minute
Viscosity range	≤ 1000 cSt
Fluid temperature	From -25 °C to +80 °C
Pressure Max	420Bar
Test Time	Adjustable 10 - 3600 seconds. Factory set to 120 seconds. Start delay & programmable test intervals available as standard.
Moisture Sensing	% RH (Relative Humidity) ±3%
Temperature Measurement	±3 °C
Flow rate measurement	Indicator only
Data Storage	4000 test
Communication options	RS485, RS232, MODBUS, CANBUS, 4-20mA time multiplex as standard
Ambient Temperature min/max	From -25 °C to 80 °C non K version - From -25 °C to 55 °C K version
Environmental Protection	IP 65/67 versatile IK04 Impact Protection
Weight	1.6 kg
Electrical Supply	Voltage 9-36V DC
Power consumption	<2.2 W
Outer Casing Finish	Polyurethane BS X34B. Colour BS381-638 (Dark Sea Grey)Approval: BS2X34A & BS2X34B, MM0114 & SP-J-513-083 T. II Cl. A Per formance: MIL-PRF-85285

The ICM can be used as a standalone product or can be controlled by external PC, PLC or the ICM - RDU (Remote Display Unit. 3m control cable supplied as standard).

Ordering information

Example: **1** **2** **3** **4** **5** **6** **7**
ICM **W** **M** **K** **R** **G1** **2.0**

1 - Product

ICM

2 - Moisture Sensor (RH%)

0 Without moisture and temperature sensor
W With moisture and temperature sensor

3 - Fluid compatibility

M Mineral oil
N Subsea fluids and water based fluids⁽¹⁾
S Phosphate ester and aggressive fluids⁽¹⁾

⁽¹⁾ **N** and **S** version, moisture sensor (W) not available

4 - Keypad/Display

0 Without keypad/display
K With keypad/display

5 - Device output

R With relays/external alarm outputs
U Test record transfer (direct to USB stick) plus relays/external alarm outputs

6 - Connections

G1 ICM complete with M16 x 2 pressure test point connections fitted
G3 1/4" BSP - Female port
G4 7/16" UNF - Female port

7 - New Series

2.0