

PETRO INDUSTRIAL



Industrial Fluid Cleanliness Services

Measure | Monitor | Manage

CONTENTS

- What is iPETRO Link?.....3
- iPETRO Cloud.....3
- Input Sensors.....4
- Connecting you to.....5
- BDS3000 Electronic Dual Differential Switch.....12
- Oil Quality Sensor (OQSX).....23
- ICM 2.0 Automatic Particle Counter.....25

What is iPETRO Link?

- It is a Cloud Based Monitoring Service operated and maintained by iPETRO.
- The Cloud is updated and maintained by our own staff who are highly qualified in hydraulic and lubrication systems.
- The specified hardware is used for industrial applications.
- No Raspberry Pi hardware is used in our equipment.

iPETRO Link

- Stainless steel enclosure 300mm x 300mm x 300mm, IP67 rated.
- 5" Colour HMI screen.
- 8 Input sensors can be monitored from The Link – 4-20ma, Modbus, CAN complete with sensor gland plate.
- 230V 50hz power supply.
- W/LAN and 3G connection to iPETRO Cloud.
- HMI mimics the control panel in the iPETRO Cloud.
- HMI stores 2 years local results from each sensor – data tagging every second.
- HMI screen fully customizable to display company logo.
- Streaming camera card to view system via iPETRO Cloud.
- The Link can also be connected to local PLC.



The iPETRO Cloud

- The iPETRO Cloud is fully customizable to include company logos and contact information.
- The iPETRO Cloud control panel mimics the local HMI screens.
- Hourly / monthly / weekly reports.
- Alarm warnings via email or SMS.
- Recorded data for each sensor stored on the Cloud.
- Live data screens for viewing data.
- The Cloud platform is hosted on a Google server with full security protocols.
- Self generating reports and alarms.
- We can order filters, oil etc.

Input sensors



Pressure
Electronic Differential Switch



Oil Life
Oil Quality Sensor (OQSX)



Tank Level

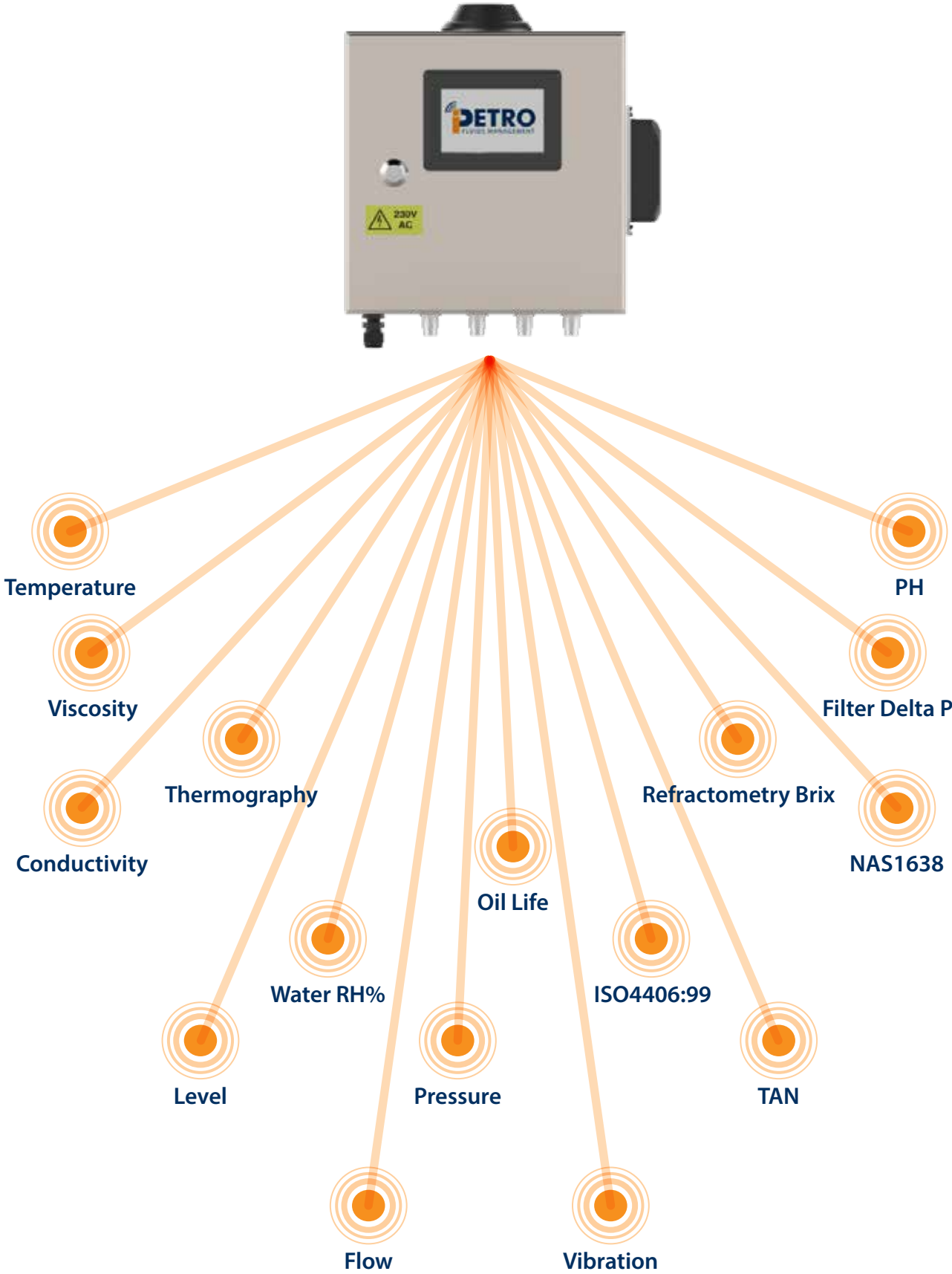


Particle Counter



Filter Indicators

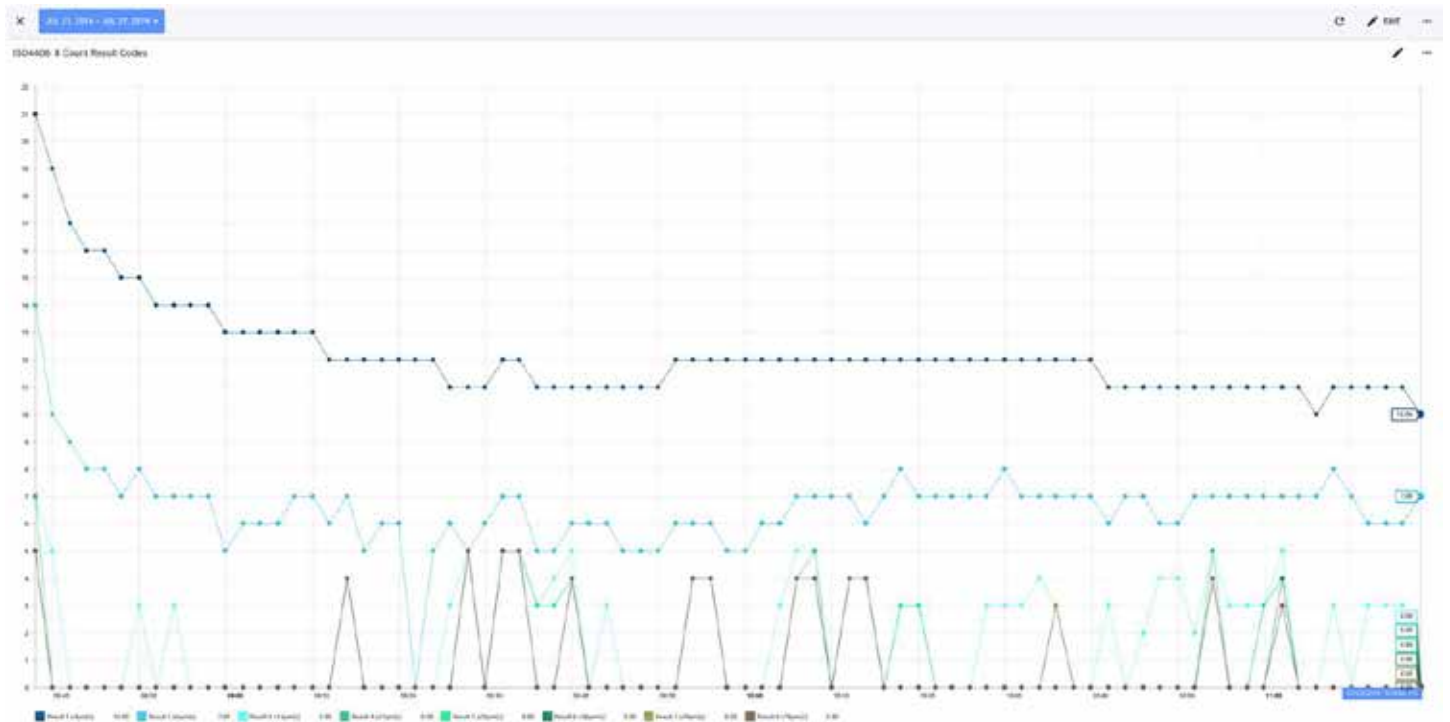
Connecting you to:



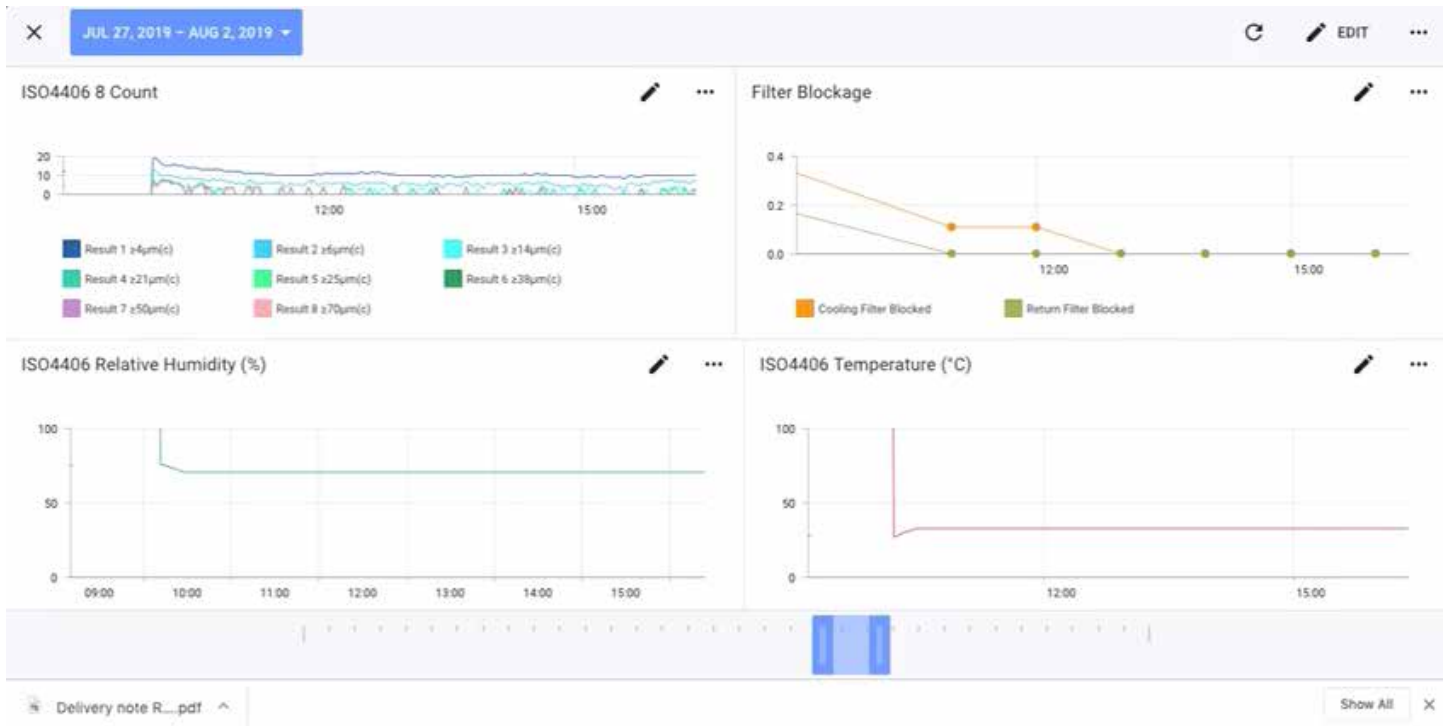
ISO4406:99 8 count high 21/14/17 cold start. 4.5hrs later at 10/7/0



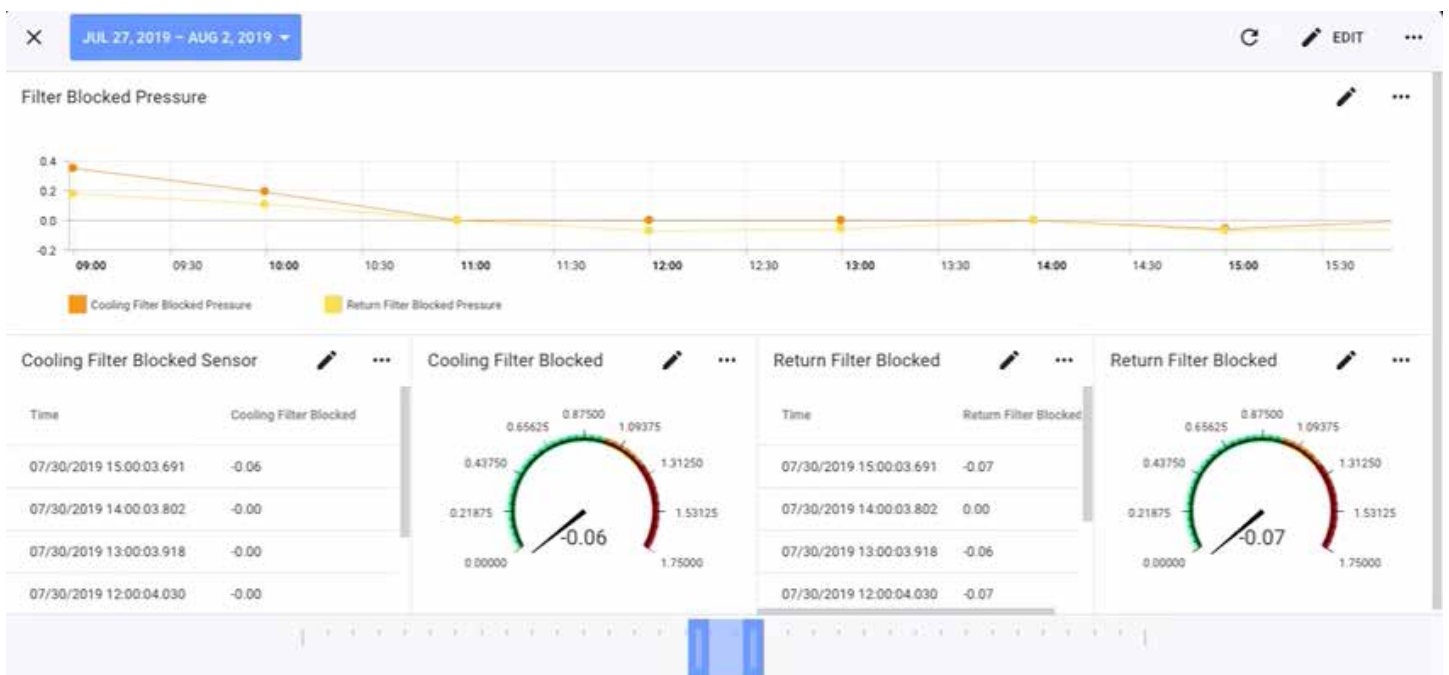
ISO4406:99 10/7/0 and Zeros Across 5 Channels



RH% & Temperature



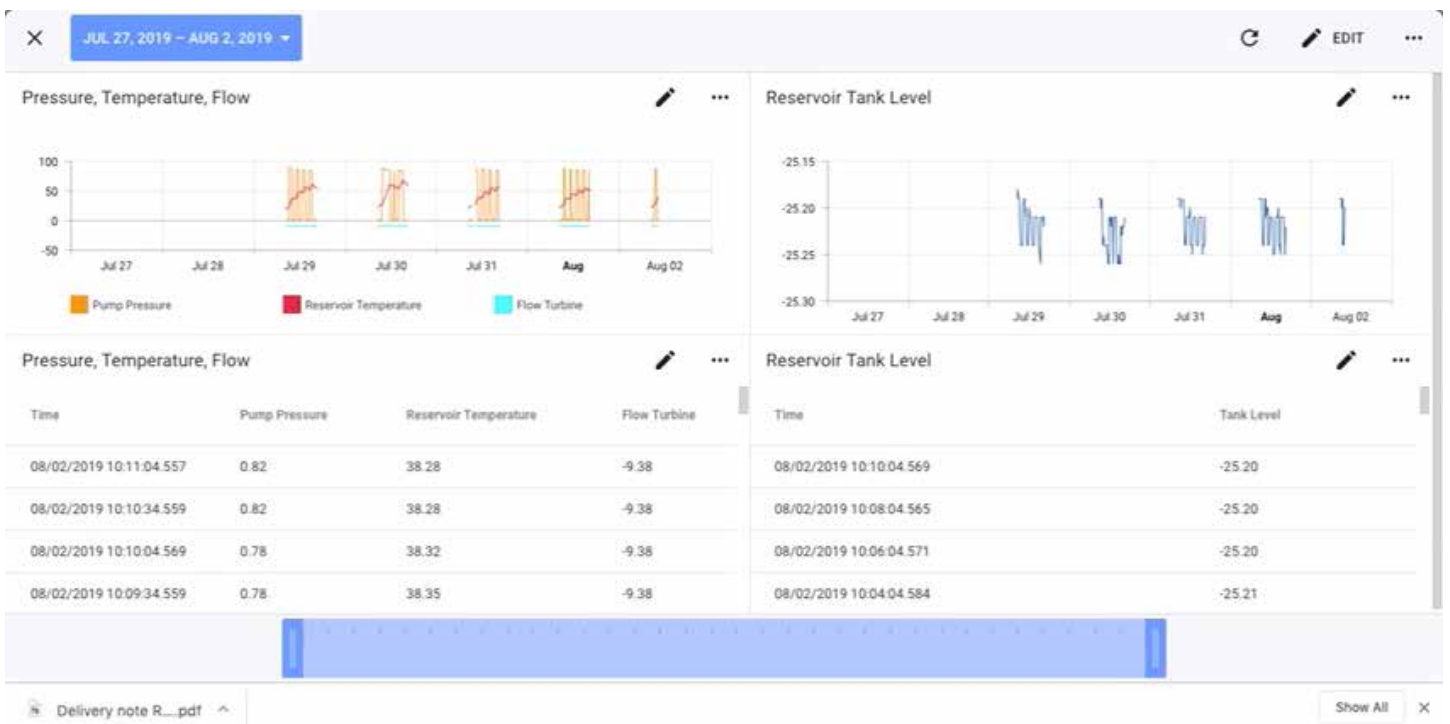
TF4 0-1.75bar Filter Indicators



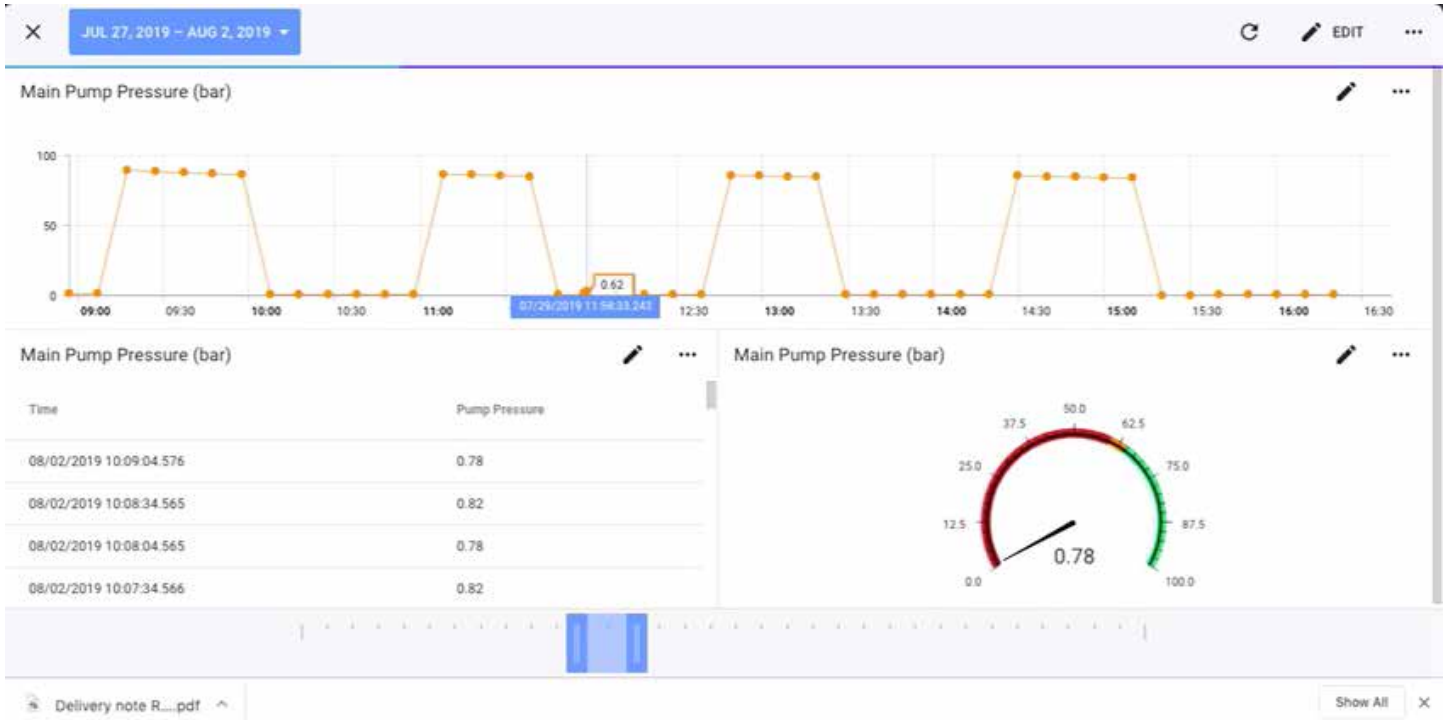
Reservoir Temperature



Pressure, Temperature & Flow



Pressure



Cleanliness Push Alarm

ISO4006: $\geq 4\mu\text{m(c)}$ Exceeded of Load Cell Test Machine Hydraulic Power Unit was triggered at 7/18/19, 8:59 AM UTC

Instructions: Particle Count: $\geq 4\mu\text{m(c)}$ cleanliness on Load Cell Test Machine Hydraulic Power Unit (Asset 100719) has exceeded its ISO cleanliness class. Please contact maintenance personnel to investigate.

Device ID	s9twBQg2mXBW
Device name	Load Cell Test Machine Hydraulic Power Unit
ICM Result 1	18




Flow push alarm

Turbine Flow Low of Load Cell Test Machine Hydraulic Power Unit was triggered at 7/18/19, 9:13 AM UTC

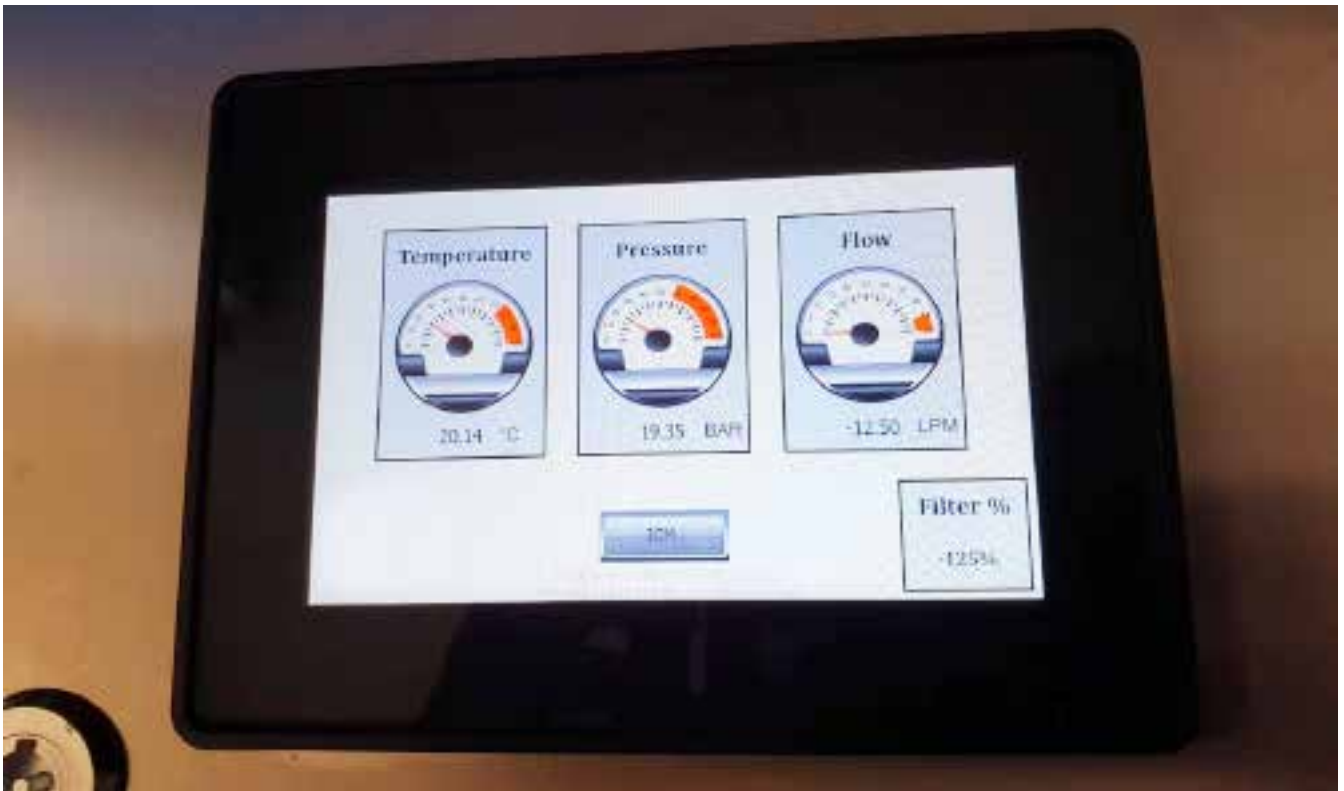
Instructions: Pump flow below 8 litres per minute. Please contact maintenance personnel to investigate.

Device ID	s9twBQg2mXBW
Device name	Load Cell Test Machine Hydraulic Power Unit
Flow Turbine	-9.37901878357

Push alarms

-  Turbine Flow Low of Demonstration was triggered at July 11, 2019 1:22 PM
5 minutes ago
-  Tank Level Low of Demonstration was triggered at July 11, 2019 1:22 PM
5 minutes ago
-  Main Pump Pressure Low of Demonstration was triggered at July 11, 2019 1:22 PM
5 minutes ago

Example HMI screen – Sensors



iPETRO Cloud Subscription

- Package 1 - 4 off Input sensors per month streaming data to the Cloud every 2minutes – 30 x per hour, 720 data tags per day per sensor.
- First 12 month subscription paid in advance with quarterly payments there after.
- 4G Sim is not included and will be handled locally at source.

Delivery

- All iPETRO Link units built and shipped within 4weeks of order.

Electronic Dual Differential Pressure Switch BDS3000

FEATURES:

- ▶ Measuring range: differential: 0 - 500 psid
- ▶ Enclosure Rating: Type 4X (IP65) / Type 6 (IP67)
- ▶ Two switch points
- ▶ 0.50% accuracy
- ▶ Analog output 4 - 20 mA or 0 - 10 V
- ▶ Superior EMI protection
- ▶ Display & electronic connection: rotatable by 320°
- ▶ Simple navigation menu
- ▶ IO-Link digital communication interface
- ▶ Hydraulic and pneumatic compatible



APPLICATIONS:

- Filtration
- Machine tool industry
- Factory Automation
- Lubrication monitoring
- Pumps and compressors

GENERAL SPECIFICATIONS:

Sensor element:	Piezoresistive sensor
Materials:	
Wetted parts:	Stainless steel fittings 316L Stainless steel sensors
Enclosure:	304 Stainless steel, PBT
Seals:	FKM fluoroelastomer
Operating elements:	3 easy-response pushbuttons
Enclosure rating:	Type 4X (IP65) / Type 6 (IP67)
Protection class:	III
Electrical connection:	Plug M12 x 1, 5-pin
Process connection:	1/4" NPT female (low and high sides)
Dimensions:	3.00 x 1.60 x 4.81 inches
Weight:	Approx. 1.5 lb
A/D converter:	
Resolution:	12 bit (4,096 steps per measure span)
Scanning rate:	1000/s
Linearity error:	< ±0.5 % f. s. at +25 °C
Temperature influence:	TC zero < ±0.2 % FSO / 10K TC span < ±0.3 % FSO / 10K
Compensation range:	32°F to 122°F (0°C to +50°C)
Repeatability:	±0.1% f. s.
Temperature range:	
Medium:	-13°F to 212°F (-25°C to +100°C)
Electronics:	14°F to 158°F (-10°C to +70°C)
Storage:	-22°F to 176°F (-30°C to +80°C)
Power supply:	15 to 32 V DC, reversed polarity protected (SELV, PELV), Class 2
Digital display:	4-digit 14-segment LED red display, digit height .35 inches (9 mm)
Display rate:	20/s
Error display:	LED RED and alphanumeric display
Power consumption:	Approx. 50 mA (without load)

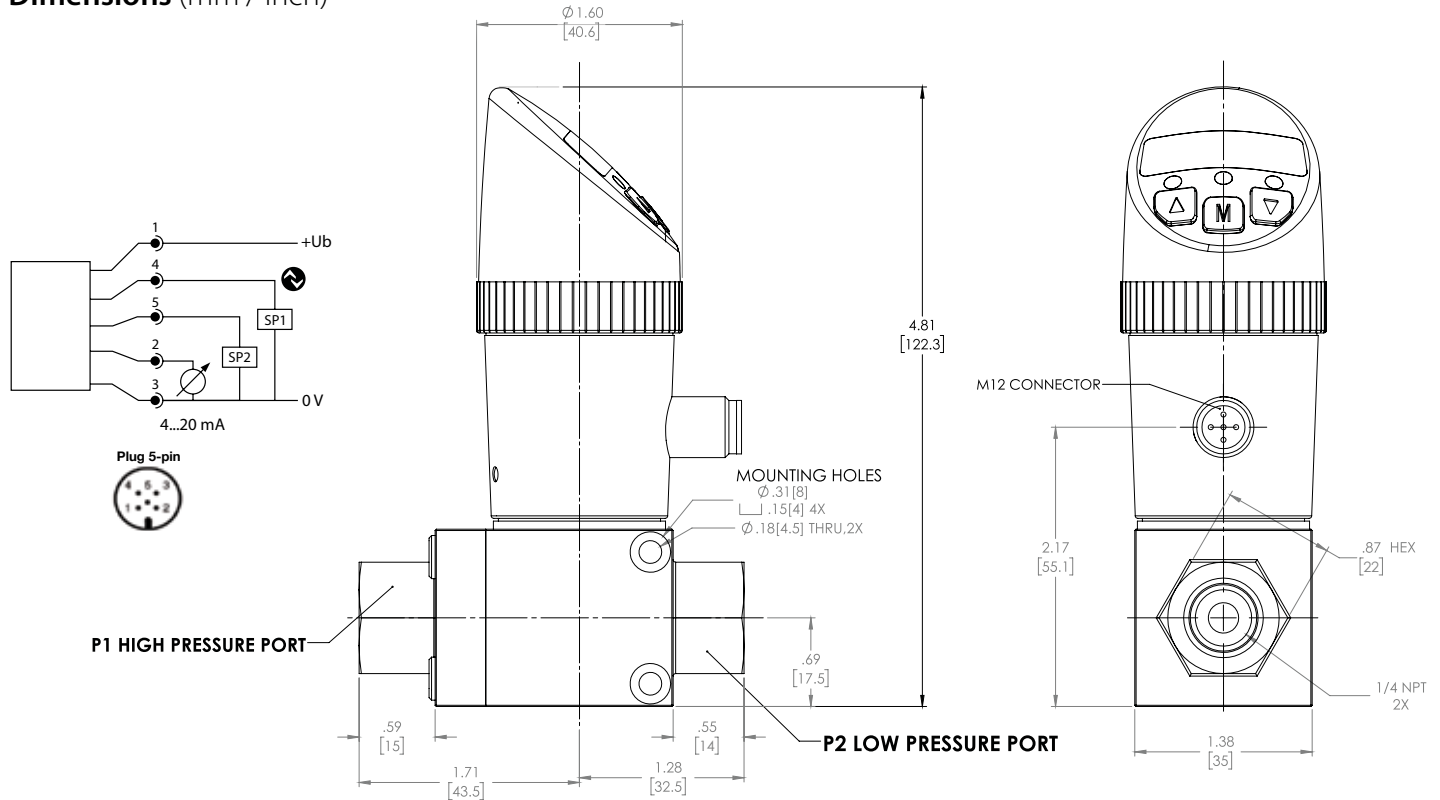
Analog output:	
Current output:	4-20 mA
Scanning rate:	2 ms
Voltage output:	0 to 10 V DC
Rating:	max. 10 mA
Adjustment range:	25% to 100% f. s.
Transistor switching outputs:	
Switching function:	Normally open / normally closed, standard / window mode and diagnosis function adjustable
Switching output:	PNP / NPN (field selectable on IO-Link units)
Adjustment range for switching point and hysteresis:	0 %... 125 % f. s.
Switching frequency:	max. 100 Hz
Load	Max. 500 mA (250 mA IO-Link units), shortcircuit-proof
Delay	0.0 s ... 50 s adjustable
Status display(s):	LED(s) red
IO-Link Communication Interface	
Transmission type:	COM2 (38.4 kBaud)
IO-Link revision:	1.1
SDCI standard:	IEC 61131-9
Profiles:	Smart Sensor, Process Data Variable, Device Identification, Device Diagnosis
SIO modules:	Yes
Required master port type:	A
SIO output:	1 analog / 2 binary (switch points) [see product configurator]
Min. process cycle time [ms]:	2.5
Device ID:	0x071...

PRESSURE RANGES:

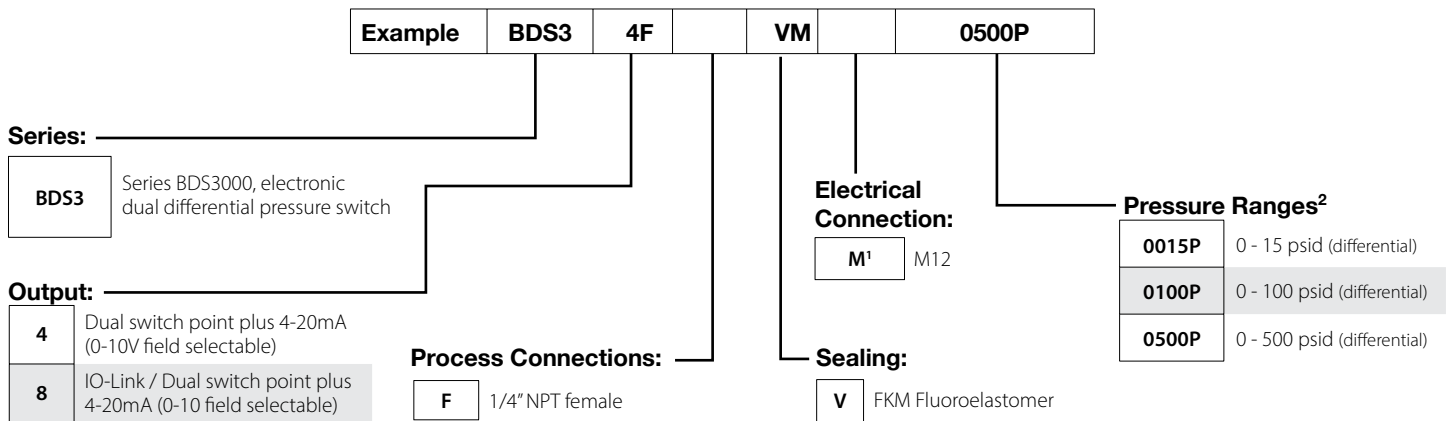
Pressure Range Code	Differential Pressure	Proof Pressure	Proof Pressure	Common Pressure
	P1>P2 (PSID)	P1>P2 (PSID)	P2>P1 (PSID)	P1=P2 (PSI)
0015P	0-15	30	15	2500
0100P	0-100	200	100	2500
0500P	0-500	1000	150	2500

BDS3000 Electronic Dual Differential Switch

Dimensions (mm / inch)



PRODUCT CONFIGURATOR:



Accessories

Order Number	Description
239546-1M-R-S3	5 Pin M12 Female Right Angle Plug Molded Cable, 3.28 Feet (1 Meter), Shielded
239546-1M-S3	5 Pin M12, Female Straight Plug Molded Cable, 3.28 Feet (1 Meter), Shielded
239548-S	5 Pin M12 Female Straight Connector
239548-R	5 Pin M12 Female Right Angle Connector

Note:

1. Mating connector not included with unit; mating connectors are available and can be ordered as an accessory.
2. Contact factory for ranges not listed including BAR.
3. See Cable Connectors & Accessories for more options.

1 Intended Applications

The dual pressure switch monitors system pressures and has up to two switching outputs and one analog output.



DANGER

The switch may only be used in the specified fields of application.

The temperature ranges must be within the permissible limits. Do not exceed rated pressure and electrical load values.

Observe also the applicable national and local safety instructions for assembly, commissioning and operation of the switch.

The switch is not designed to be used as the only safety device in pressurized systems according to "Pressure Equipment Directive 97/23/EC (PED)".

2 Safety Instructions

The safety instructions are intended to protect the user from dangerous situations and/or prevent material damage.

In the operating instructions the seriousness of the potential risk is designated by the following signal words:



DANGER

Refers to imminent danger to users.

Nonobservance may result in fatal injuries.



WARNING

Refers to a recognizable danger.

Nonobservance may result in fatal injuries, and destroy the equipment or plant parts.



CAUTION

Refers to a danger.

Nonobservance may result in light injuries and material damage to the switch and/or to the plant.



IMPORTANT

Refers to important information essential to the user.



Disposal

The switch must be disposed of correctly in accordance with the national or local regulations for electric/electronic equipment.

The switch must not be disposed of with the household trash!

3 Standards

The standards applied during development, manufacture and configuration are listed in the CE conformity and manufacturer's declaration.

4 Warranty/Guarantee

Our scope of delivery and services is governed by the legal warranties and warranty periods.

Terms of guarantee

We guaranty for function and material of the dual pressure switch under normal operating and maintenance conditions in accordance with the statutory provisions.

Loss of guarantee

The agreed guarantee period will expire in case of:

- incorrect use,
- incorrect installation or
- incorrect handling or operation contrary to the provisions of these operating instructions.

No liability is assumed for any damage resulting therefrom, or any consequential damage.

See also Barksdale "Standard Terms and Conditions"

5 Installation



CAUTION

Jolts and heavy vibrations must be avoided during transport. Even if the switch casing remains undamaged, inside parts may be damaged and cause malfunctions.

The pressure switch may only be installed and electrically connected by instructed staff.



DANGER

The switch may only be installed in systems where the maximum pressure P_{max} is not exceeded (see type label).
Only install the switch when deenergized (electrically and hydraulically/pneumatically).

Mount the pressure switch from the bottom to the fitting using a wrench SW 27 and tighten it to a torque of 45 Nm.



IMPORTANT

In the pressure inlet a damping screw made of brass is mounted. This screw can be removed if required, e.g. in case of soiled medium or material incompatibility, using a slotted screw driver (max. width 3 mm).

The pressure switch is less resistant to pressure peaks when the damping screw has been removed.

6 Commissioning/Operation

The pressure switch may only be commissioned and operated by authorized staff.



CAUTION



Do not put the switch into operation when the switch itself or the connection cable is damaged.



WARNING

Be aware of the fact that in case of operation with higher temperatures the casing surface may become very hot!

After having been switched on the switch runs through a self-test. If the software recognizes an error during the self-test or during operation, this is signalled in the display by "Err" and the corresponding message, refer to Error list on page 7. The red LEDs S1 and S2 signal the activity of the two switching points.

Operation is menu-driven via three keys: ,  and **M**









CAUTION

Do not use any pointed, hard objects for making entries. The keys may be damaged by pointed, hard objects.

For information about the factory settings for the parameters and how to change them please refer to the next chapter 7 "Programming".

7 Programming

Navigation function	Symbol (keys)
Menu descending	
Menu ascending	
Horizontal movement in menu, select menu item	M
Parameter change ascending	
Parameter change descending	
Accept parameter change and return to current menu item	M
Return to measured value display	Press  +  simultaneously

BOS3000 Electronic Differential Switch

7.1 Parameters

Parameter	14-segment display	Description
SP1/SP2*		Hysteresis function: Switching point of solid state contact
FH1/FH2*		Window function: Window High solid state contact
rP1/rP2*		Hysteresis function: Hysteresis of solid state contact
FL1/FL2*		Window function: Window Low solid state contact
EF		Extended programming functions
rES		Reset parameters to factory settings
dS1/dS2*		Switching time delay – the set contact rating must be permanently exceeded to trigger a switching function
dr1/dr2*		Switching time delay – the contact rating must be permanently lower than the set contact rating to trigger a switching function
Ou1/Ou2*		Switching function of solid state contact HNO = Hysteresis function, NO contact HNC = Hysteresis function, NC contact FNO = Window function, NO contact FNC = Window function, NC contact DIA = Diagnostic function, NO contact (only Ou2)
uni		Select unit: bar, PSI, MPa If the measuring range is outside the display range, unit selection is impossible. The parameter "uni" is not displayed.
OuA**		Analog output I = 4... 20 mA U = 0... 10 V I.INV = 20... 4 mA U.INV = 10... V
ASP**		Analog start value

BOS3000 Electronic Differential Switch

Parameter	14-segment display	Description
AEP**		Analog end value
dPA**		Damping of analog output
ErS.A**		Error signal of analog output Values: < 3.6 or > 22 or Off
Hi		Saved value of highest pressure measured
Lo		Saved value of lowest pressure measured
COF		Offset correction (max. 10 % of measuring range)
ddis		Damping display
Fdis		Rotate display through 180°
udiS		Unit indication
Firm		Firmware version
Lock		Locking feature

* only models with 2nd switching contact

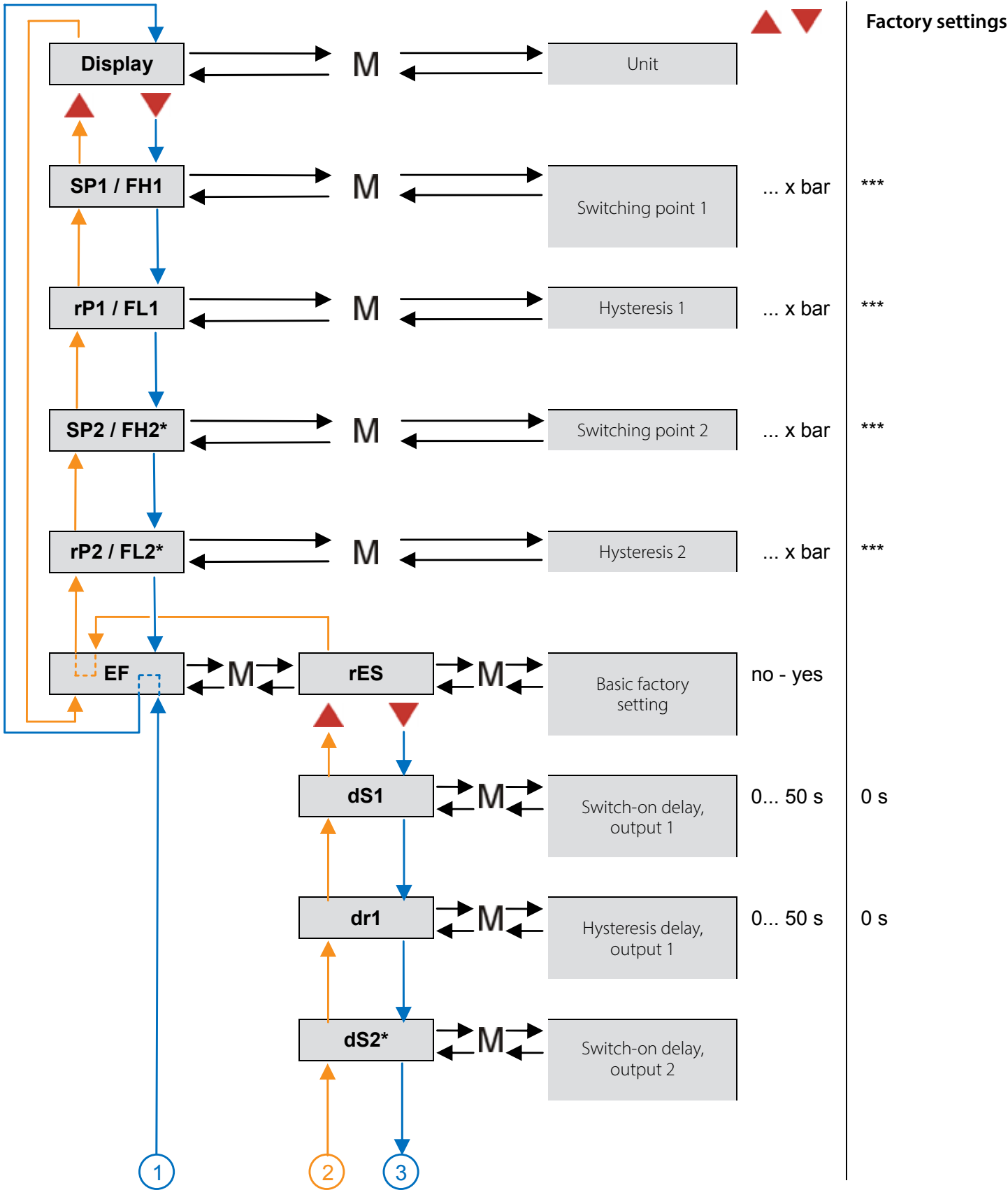
** only models with analog output

Error list

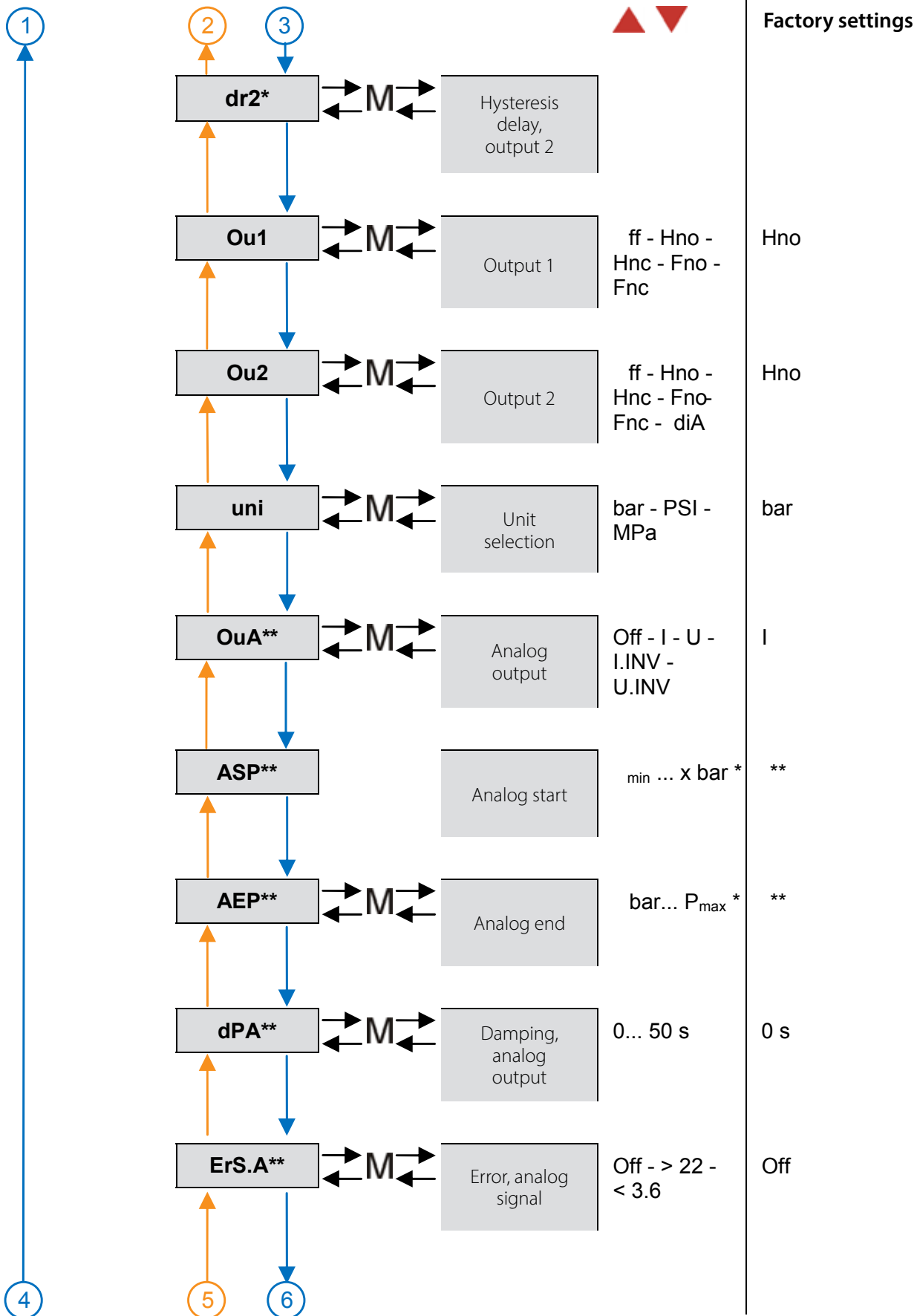
Parameter	14-segment display	Description
sens		Sensor defect
SC1		Short circuit, solid state contact 1
SC2		Short circuit, solid state contact 2
AOut		Open output, short circuit
OL		Sensor limit positive
UL		Sensor limit negative
KEY		Internal defect

BOS3000 Electronic Differential Switch

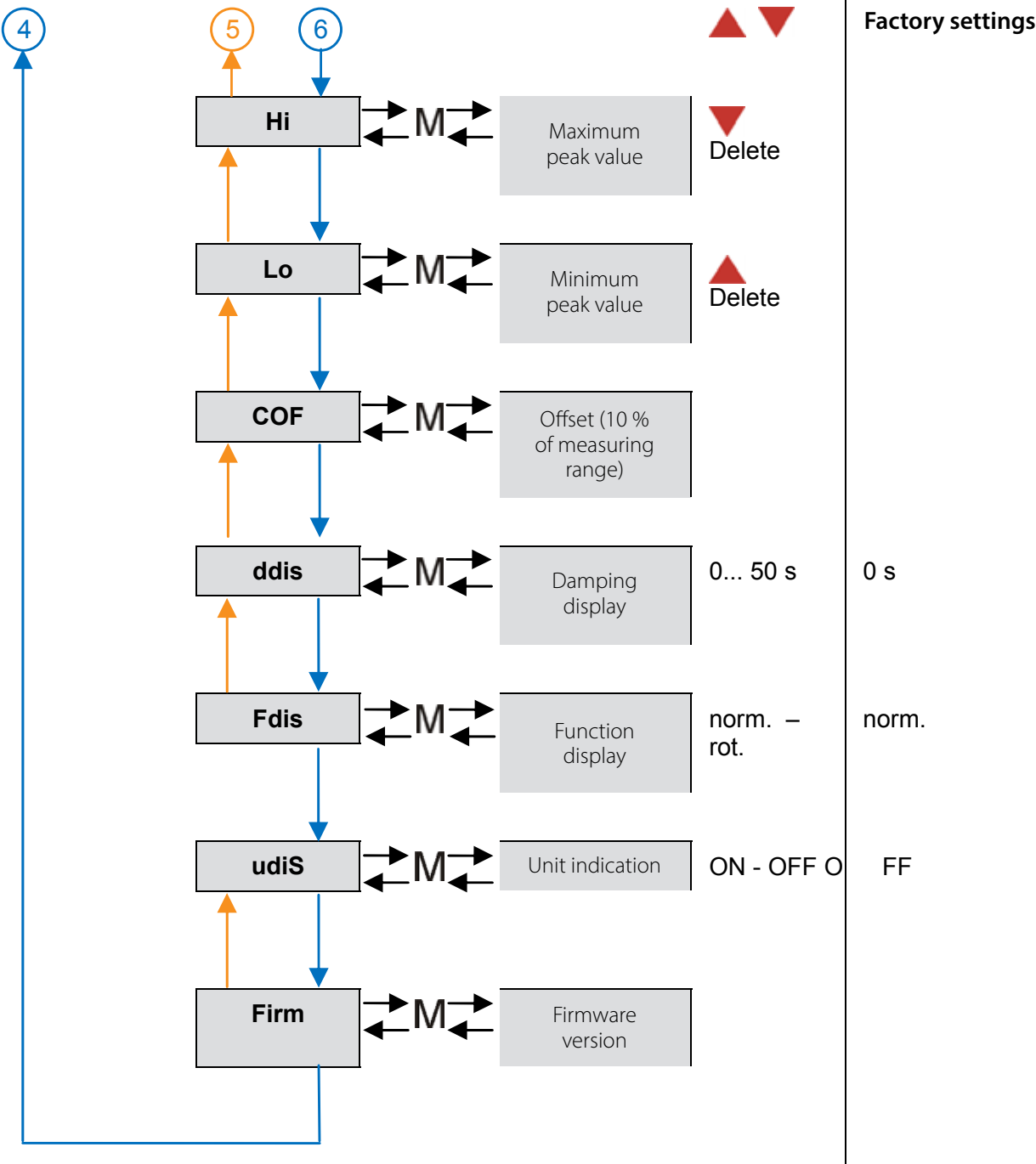
7.2 Menu Structure



BOS3000 Electronic Differential Switch

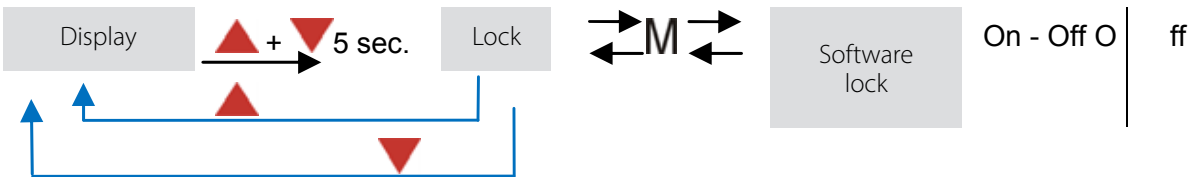


BOS3000 Electronic Differential Switch



* only models with 2nd switching contact
 ** only models with analog output
 (ASP = 0,0% - 80,0% Span, AEP = 20,0% - 100% Span; ASP = AEP - 20% Span)
 *** setting according to measuring range

Lock



8 Maintenance/Cleaning

Maintenance

The pressure switch requires no maintenance.



WARNING

Check the switch for functioning at regular intervals.
If the switch does not work properly, stop operation immediately.

Cleaning



CAUTION

The switch may be damaged by the use of unsuitable cleaning agents.
The following cleaning agents may be used to clean polycarbonates:
- Mild soap or detergents
- Isopropyl alcohol
After cleaning, immediately rinse with water. Do not leave cleaners on surfaces of products.
Do not clean products at elevated temperatures or under direct sunlight.
The following cleaning agents are known to affect the integrity of polycarbonate components and should not be used:
- ZEP Fast 505, Pinesol, Formula 409
- Brake Cleaner
- Halogenated solvents (benzene, gasoline, acetone or carbon tetrachloride)
- Strong alkaline
- MEK (methyl ethyl ketone)
- Abrasive substances

9 Maintenance/Cleaning



DANGER

Only remove the switch when deenergized (electrically and hydraulically/pneumatically).
Disconnection of the switch from pressure and power supply must be carried out by trained or instructed personnel according to state-of-the-art standards.



WARNING

Be aware of the fact that in case of operation with higher temperatures the casing surface may become very hot!

Oil Quality Sensor (OQSx)

Accurate Real Time Oil Condition Monitoring.

The Oil Quality Sensor (OQSx) is your ideal solution for accurate real time oil condition monitoring. Easily and quickly installed the OQSx detects all wear and contamination elements to an exceptional high sensitivity level and provides an accurate statement of oil condition second by second - in any oil type and application.



FEATURES:

- **Accurate**
The OQSx accurately reports the precise condition of any oil in real time and is certified better than 15ppm sensitivity.
- **Advanced Technology**
Patented core technology delivers exceptional sensitivity to oil condition changes caused by wear and contamination.
- **Proven Performance**
Independently certified for accuracy, sensitivity and reliability. Accurate data you can trust.
- **Robust and Reliable**
Engineered for installation and long term maintenance free operation in the harshest industrial and commercial applications.
- **Easy to Install**
The OQSx is small and easy to install on any equipment and application.
- **Configurable**
OQSx is configurable for any synthetic and or mineral oil type operating in any application.

BENEFITS:



Optimise Service Intervals

Optimise service intervals without risking equipment performance and reliability.



Improved Safety

Ensures your equipment is in optimal condition making a safer working environment.



Lower Operating Costs

Less downtime and less maintenance significantly reduces ongoing operating costs.



Help the Environment

Increase equipment efficiency. Reduce oil consumption, maintenance activity and costs and conserve the environment.

Oil Quality Sensor (OQSx)

SPECIFICATIONS:

Order Information

Product Name: Oil Quality Sensor (OQSx)

Product Code: OQSx-1-AA-02-5

Physical

Material: Stainless Steel AISI304

Dimensions: 90mm x 37mm (L x W)

Weight: 160g

Thread: 1/2" BSPP Thread / M32 Hex thread

Seal: DIN 3869 Viton Seal

(Alternative seals and threads available upon request)

Connections

6 Pin Lumberg Male (IEC 61076-2-106)

(Alternative connections are available upon request)

Electrical

Power Supply: 9-30 V DC

Power Consumption: Average 0.4w continuous 30mA

Data Output/Input

Analogue Output: 2x4-20mA (current syncing, passive input)

Digital Output: 1xRS485: 9600 baud half duplex, Modbus protocol supported on RS485, CANbus: CANopen protocol supported on RS485

Oil Quality Detection Parameters

Frequency: 15 per second

Sensitivity: Certified better than 15ppm sensitivity

Accuracy: +/-1%

Elements: All wear and contamination elements

Oil Type

Configuration: Any synthetic or mineral oil - including fuel oils such as diesel and bio-diesel

Environmental

Sensor Temperature: -20°C (-4°F) to +120°C (+248°F)

Fluid Temperature: -20°C (-4°F) to +120°C (+248°F)

External Pressure: 0 bar (0 psi) to 20 bar (290 psi)

Fluid Pressure: up to 20 bar (290 psi)

Standards and Certification

Water & Dust:

IP67 when connected

Shock & Vibration:

BS EN 60068-2-30

(Test Db - Cyclic Humidity)

BS EN 60068-2-6

(Test Fc - Sine Vibration)

BS EN 60068-2-27

(Test Ea - Mechanical Shock)

EMC:

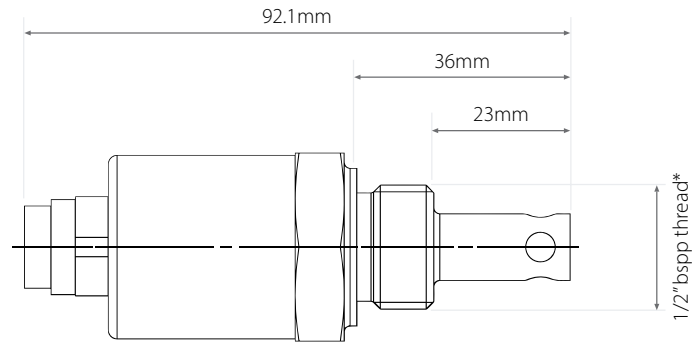
EN 61000-6-4:2007

(Generic Emissions Standard for Industrial Environments)

EN 61000-6-2:2005

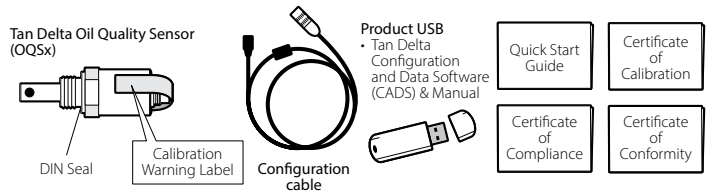
(Generic Immunity Standard for Industrial Environments)

DIMENSIONS:



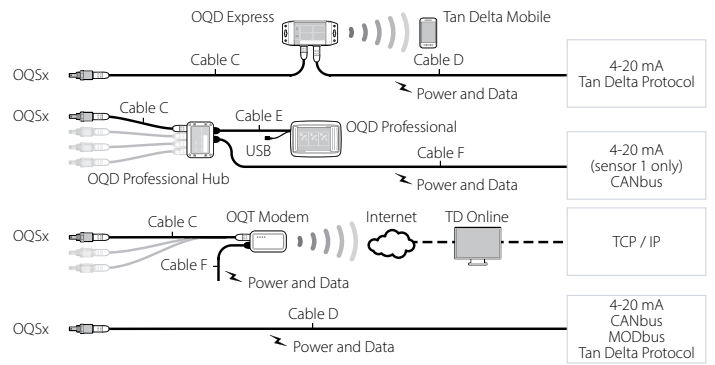
* Standard sensor thread is BSPP thread. Other threads available upon request.

IN THE BOX:



⚠ You may require additional cables to complete your installation. Please refer to the Tan Delta Systems Architecture diagram below.

TAN DELTA SYSTEM ARCHITECTURE:



About Tan Delta

Tan Delta Systems Limited is a global leader in the development and supply of advanced oil condition monitoring technologies, products and systems.

Its products are trusted by the world's leading industrial and commercial companies to monitor oil condition, helping to optimise equipment productivity, reduce operating costs, thereby remaining competitive in a global economy.

All Tan Delta products are engineered and quality manufactured for long term continuous operation in the harshest commercial and industrial environments. Each product is carefully engineered and tested to withstand the long term effects of extreme shock, vibration, heat, cold, thermal shock, electrical interference and many more factors.

ICM 2.0 Automatic Particle Counter

In-Line Contamination Monitor

The ICM 2.0 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 4406:2017, NAS 1638, AS 4059E
- Moisture and temperature sensing fluid dependent.
- 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.

All ICM 2.0 versions have a multicolour indicator on the front panel, which is used to indicate the status or alarm state. ICM-K versions also have a screen that changes colour. The alarm thresholds can be set from LPA-View via the serial interface.

Screen and multicolor indicators

- Green indicates that the test result passed, i.e. none of the alarm thresholds were exceeded.
- Yellow indicates that the lower cleanliness limit was exceeded, but not the upper one.
- Red indicates that the upper cleanliness limit was exceeded.
- Blue indicates that the upper water content limit was exceeded.
- Red/Blue Alternating indicates both cleanliness and water content upper limits exceeded.
- Violet indicates that the upper temperature limit was exceeded.



Scope of Supply

- 1 x ICM 2.0 (Specific model will be as per ordered item)
- 1 x 3m Twisted Pair Cable Assembly
- 1 x Hard copy Quick start/wiring installation guide
- 1 x Hard copy Fluid Condition Handbook
- 1 x Digital copy of user guides/software/drivers
- 1 x Hard copy of calibration certificate



Left facing view



Right facing view



Top view with USB port



Bottom view

ICM 2.0 Automatic Particle Counter

TECHNICAL DATA:

Technology

LED Based Light Extinction Automatic Optical Contamination Monitor

Particle Sizing

>4, 6, 14, 21, 25, 38, 50, 70 $\mu\text{m(c)}$ to ISO 4406:2017 Standard

Analysis range

ISO 4406:2017 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

$\pm \frac{1}{2}$ code for 4,6,14 $\mu\text{m(c)}$ ± 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 $^{\circ}\text{C}$ to $+80$ $^{\circ}\text{C}$

Ambient Temperature

From -25 $^{\circ}\text{C}$ to $+80$ $^{\circ}\text{C}$ (non K version)
From -25 $^{\circ}\text{C}$ to $+55$ $^{\circ}\text{C}$ (K version)

Temperature Measurement

± 3 $^{\circ}\text{C}$

Pressure

Maximum: 420 bar

Test time

Adjustable 10 - 3600 seconds. Factory set to 120 seconds.
Start delay & programmable test intervals available as standard

Flow rate measurement

Indicator only

Data Storage

4000 tests

Communication options

RS485, MODBUS, CANBUS, 4-20mA time multiplex as standard

Relays

Two solid state relays fitted to "R" version for output to alarm circuits

Environmental Protection

IP 65/67 versatile IK04 Impact Protection

Moisture Sensing

% RH (Relative Humidity) $\pm 3\%$

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)
Industry 4.0 ready with appropriate accessory product

Wetted parts

M - C46400 Cu alloy, 316 stainless steel, FPM, FR4, sapphire.
N - 316 stainless steel, FPM, sapphire.
S - 316 stainless steel, perfluoro elastomer, sapphire, EPDM.

Software

LPA View software (included)

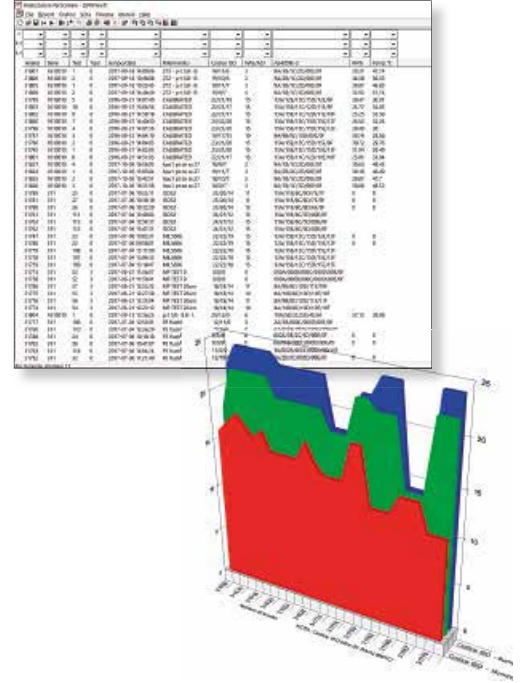
ICM 2.0 Automatic Particle Counter

LPA VIEW SOFTWARE:

The LPA View software is used with the LPA2, CML2 and ICM particle counters.

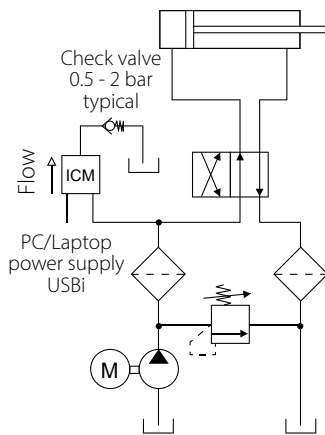
When connected to LPA View, MP Filtri CMP's can transfer results in realtime, or alternatively historical results can be downloaded from the CMP's inbuilt memory.

- Runs on Windows 2000, XP, Vista and Windows 10.
- Full adjustment & control of product settings, test times and alarms.
- Easy test report generation.
- Trend analysis.
- Graphical display options.
- Universal format across our contamination monitoring product range.

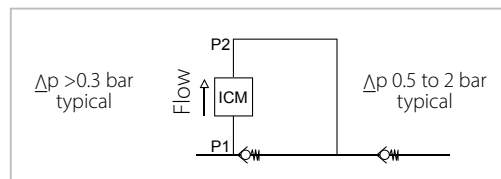
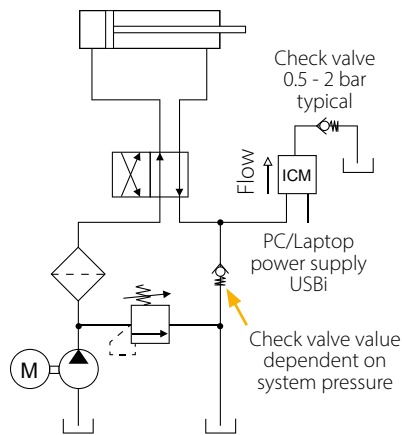


HYDRAULIC CIRCUIT:

TYPICAL PRESSURE LINE



TYPICAL RETURN LINE

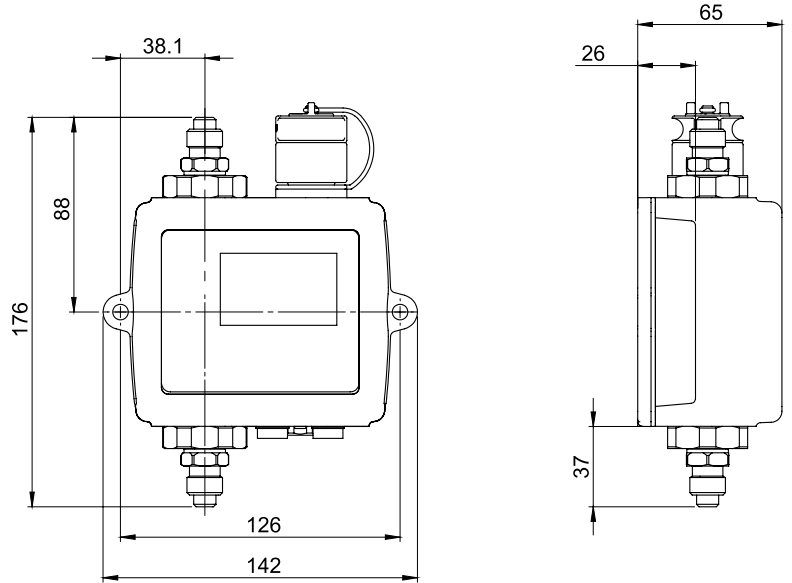


ICM 2.0 Automatic Particle Counter

DIMENSIONS:

It is important to ensure a 0.5 - 2 bar differential across the ICM 2.0

The ICM 2.0 can be used as a standalone product or can be controlled by external PC, PLC or the ICMRDU2.0 (Remote Display Unit. 10m control cable supplied as standard).



DESIGNATION & ORDERING CODE:

AUTOMATIC PARTICLE COUNTER ICM 2.0

Series	Configuration example: ICM W M K R G1 2.0						
ICM In-Line Contamination Monitor							
Moisture Sensor (RH%)							
0 Without moisture and temperature sensor							
W With moisture and temperature sensor							
Fluid compatibility							
M Mineral/synthetic oils							
N Subsea fluids and water based fluids (*)							
S Phosphate ester and aggressive fluids (*)							
Keypad / Display							
0 Without keypad / display							
K With keypad / display							
Device output							
R With relays / external alarm outputs							
U Test record transfer (direct to USB stick) plus relays/external alarm outputs							
Connections							
G1 ICM complete with M16 x 2 pressure test point connections fitted							
G4 1/4" BSP - Female port							
G3 7/16" UNF - Female port							
Series							
2.0							

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

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