Complete monitoring system for the automatic, continuous detection of suspended hydrocarbon in water. Suitable for early detection of oil in various applications (water steam cycles, industrial water, industrial and urban wastewater), onshore and offshore.

- Available configurations for specific measuring ranges as in the table below.
- Complete system including measurement and control electronics, measuring unit and flow indicator.
- Reagent-free infrared light scattering beam measurement. Automatic compensation for Iron oxide per IMO MEPC.107(49). (Opal Detector Marine only.)
- Instantaneous response from online analyzer.
- Programmable alarms for high/low thresholds, flow and analyzer failure.
- Automatic and periodic wiper jack cell cleaning.
- Available ex-proof box (ATEX, IECEx, EAC)
- Available for marine applications (IMO MEPC.107 (49))



SUAN

Analyzer	Seres OL Opal Detector Standard (assembled on frame)			SOL-59.211.000	
Analyzer	Seres OL Opal Detector Russia (EAC ATEX)			SOL-59.211.100	
Analyzer	Seres OL Opal Detector in ATEX/IECEx Enclosure			SOL-59.211.200	
Analyzer	Seres OL Opal Detector Marine (IMO MEPC.107 (49)) (assembled on frame)			SOL-59.211.300	
Range Selection*	0-10 ppm	SOL-97.022.510		0-250 ppm	SOL-97.022.550
	0-30 ppm	SOL-97.022.520		0-500 ppm	SOL-97.022.560
	0-50 ppm	SOL-97.022.530		0-1000 ppm	SOL-97.022.570
	0-120 ppm	SOL-97.022.540		*not applicable for Opal Marine – always 0-30	
Power Supply Selection	110 VAC / 50 Hz	SOL-89.820.060		230 VAC / 50 Hz	SOL-89.820.040
	110 VAC / 60 Hz	SOL-89.820.070		230 VAC / 60 Hz	SOL-89.820.050
Configurations	Sampling probe for process pipe (Pipe nominal diameter (DN): 350 mm or 650 mm; BSP or NPT)			SOL-83.710.010 Consult Sales	
	Sample Cooler for Liquid (if sample < 90°C) – for ATEX/IECEX version only			SOL-82.330.010	
	Automatic backflush filter cleaning – Need: Zero water inlet pressure > Sample pressure			SOL-82.810.010	
	HART converter module – for ATEX/IECEX, 4-20 mA version only			SOL-81.430.010	
	RS485 RTU Modbus/JBUS			SOL-84.430.020	
	Self-priming pump – for 230 VAC power supply version only			SOL-82.340.020	
Option	1-Year Spare Part Package			SOL-84.110.030	



Seres OL Detector Opal (Oil Pollution Alarm)

Datasheet No. DenSOL59211x00



Hydrocarbon Detection

Infrared light scattering beam measurement: The quantity of energy thus emitted is proportional to the number of particles and is converted into hydrocarbon ppm.

Instantaneous, T90% < 3 sec. Cycle time

Sensors/Measurement Equipment Detection wavelength 850 nm Photodiode detection

Detector	Measuring range	
Opal Detector	0-1000 ppm	
	(selectable, pre-defined)	
Limit of Detection	1 ppm	
	(For range up to 120 ppm)	
Repeatability	± 2-3 % FS	
Accuracy	± 2-3 % FS	

Zero calibration: On clean, fresh water

Specifications and Functionality

_	
Pump type	Emulsifier pump
Pump quantity	
Fump quantity	1

Power supply

Voltage: 110 or 230 VAC (selection pre-defined) Frequency: 50 or 60 Hz (selection pre-defined) 700 VA (with pump) Power consumption:

Operation

Display:	Color and graphic LCD, 4.3"
	touch-screen

Display of process value, alarm status and graphic.

Smart and intuitive interface based on separate menu sections: "Measurement", "Maintenance" and "Settings".

User menus in English and French. Password protection and storage of data records. Storage and graphical display of measurement history.

Alarm Relays

1 summary alarm for "analyzer failure"

Maximum	load:

Relay Outputs

2 potential-free contacts programmable as limit switches for measuring values (high/low thresholds)

1 sample flow alarm.

1 output for indication of the active sample stream.

Rated load:

Seres OL Opal Line







Opal Russia

0-4 - 20 mA



Opal in ATEX

Enclosure

Opal Marine

Analyzer Data

(The following data refers to the Opal Detector Standard on frame. Other version's dimensions, weight etc. vary depending on the chosen configuration.)

Sample conditions

Flow rate:	min 100 l/h	
	optimum 200 l/h	
Temperature:	5 to 50 °C	
Inlet pressure. (25 °C):	0.5 up to 3.0 bar max.	
Outlet pressure:	pressure-free	
Particle size: 400 µm	filter included (<400µm)	

Ambient conditions	
Temperature:	5 to 45°C
Humidity	10 to 90% rel.

Sample connections

Sample inlet: 1/2"BSP F Sample outlet waste: 1/2"BSP F Clean water inlet: connection for tube Ø10 x 12 (2001/h - 0.5 up to 3.0 bar max - Consumption about approximately 100L/month)

1055 x 800 x 250 mm

Turbidity, bubbles

Analyzer measures
Dimensions:

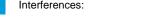
Dimensions:

Matorials

matorialo		
Wall skid:	S	S 304
Vessel:	Delrin 8	& PVC
Hydraulic circuit:	flexible thermoplastic	piping
Total weight (basic	model on frame):	30 kg
Protection degree (cabinet):	IP 65
Installation in safe	and sheltered area,	away
from dust and corro	sive atmospheres	

Seres OL Opal Marine

IMO Resolution MEPC.107 (49)	
Measuring range	0-30 ppm
Bilge alarm	15 ppm





Inputs

1 input for "Standby".

Signal outputs

1A / 24V

1A / 24V

1 programmable signal outputs for measured values (freely scalable, linear).

Current loop:

Communication interface RS485 interface (galvanically separated) with JBUS RTU protocol

1 sealed USB connection for transfer on key

HART converter module for ATEX version (configuration).

Seres OL Opal explosion proof

For installation of equipment in hazardous area zone 1 or 2, group IIC, T4: Pressurized cabinet, air purge unit (ATEX), air control unit, integration work, certification, cabinet cooler. Туре Code ATEX: LCIE 12 ATEX 3078 II 2 G Ex pxb IIC T4 Gb

IECEx LCIE 17.0036 IECEx: II 2 G Ex pxb IIC T4 Gb EAC: RU C-FR.AЖ58.B.02345/22 (2 Ex pz II T4 Gc) for hazardous areas