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YSI IQ SensorNet FDO H®

Optical Dissolved Oxygen Sensor, certified for *Hazardous locations* (Class 1, Div. 2) according to NFPA 820

The FDO H is an optical, luminescent based DO sensor for the IQ SensorNet system that has been certified for use in Class 1, Division 2 hazardous locations according to NFPA 820.

The FDO's optical-based sensor provides continuous and precise dissolved oxygen measurements without regular maintenance requirements allowing for effective aeration control. This helps improve plant efficiency while lowering energy costs.



Parameters:
Dissolved Oxygen (optical)
Temperature



The FDO's lower energy green light excitation technology extends the sensor cap lifetime.

- **Intelligent Sensor Cap**

The sensor cap is individually factory calibrated. Calibration data is stored on a chip that is embedded in the sensor cap. No need to enter calibration coefficients. When a new cap is installed, the coefficients are recognized and sent directly to the controller terminal eliminating the need to manually enter information.

- **Equal Path Reference System**

The optical measurement and reference paths are identically designed. This allows for identical aging of the components which enables accurate compensation and eliminates calibrations. That's correct, there is no calibration required.

- **Green Light Technology**

Softer, low-intensity excitation light increases the lifetime of the cap. This translates into a two year warranty on the standard cap.

- **2-year Warranty**



IQ SensorNet FDO H Optical Dissolved Oxygen General Specifications

Sensor Cap Replacement	Yes; the cap, can be replaced. Automatic recognition by the sensor of the cap including the factory calibration	
Calibration Capability	Yes; not required, factory calibrated	
Interferences	None; Non-sensitive to against hydrogen sulfide, chlorine, ionogenic substances	
Minimum Flow Rate	None; no flow requirement	
Response Time at 25 °C	700 IQ H - T90 = <150 seconds; T95 = <200 seconds 701 IQ H - T90 = <60 seconds; T95=<80 seconds	
Signal Output	Digital	
Lightning Protection	Yes	
Power Consumption	0.7 watts	
Maximum Pressure	10 bars (145 psi); with sensor connection cable	
Electrical Connections	2-wire shield cable with quick sensor connection	
Conformance/Certifications	UL 61010-1, CAN/CSA C22.2 #61010.1	
Electrical		
Hazardous Location Ratings	Conforms to: ANSI/ISA-12.12.01, CAN/CSA C22.2 #213 for the following location rating: Class 1 Division 2, Groups A, B, C, DT6, Class 1 Zone 2, Group IIC T6 (must be used with the IQ SensorNet cable and MIQ/BB2 barrier box)	
Temperature Conditions	700 IQ H: Operating Temperature: 23 to 122 °F (-5 to 50 °C) Storage Temperature: 14 to 122 °F (-10 to 50 °C)	701 IQ H: 23 to 104 °F (-5 to 40 °C) 14 to 104 °F (-10 to 40 °C)
Sensor	Material: Housing - VA steel 1.4571; Sensor Cap and Locking Cap - POM (Polyoxmethylen), PVS, silicone, PMMA	
	Rating: IP-68; waterproof	
	Dimensions: 400 L x 40 D mm (15.75 L x 1.57 D in) (length x diameter)	
	Weight: 900 g (1.98 lbs)	
	Warranty: 2 years	

IQ SensorNet FDO H Optical Dissolved Oxygen Technical Specifications

Dissolved Oxygen Range	Concentration	0 to 20.00 mg/L
	Saturation	0 to 200.0%
Dissolved Oxygen Resolution	Concentration	0.01 mg/L
	Saturation	0.1%
Temperature	Measurement	23 to 122 °F (-5 to 50 °C)
	Compensation	23 to 122 °F (-5 to 50 °C)

IQ SensorNet FDO H Ordering Information (order 2020 XT terminal, modules, cables, sensors separately)

FDO 700 IQ H (#207 065Y)	Optical DO sensor for monitoring and control in Class 1 Div. 2 locations; includes 1 factory calibrated sensor cap
FDO 701 IQ H (#207 066Y)	Optical DO sensor for monitoring and control in Class 1 Div 2 locations; faster response time; includes 1 factory calibrated cap
SC-FDO 700 (#201 654Y)	Replacement; universal factory calibrated sensor cap for FDO 700 IQ H, FDO 700 IQ and FDO 700 IQ SW
SC-FDO 701 (#201 655Y)	Replacement; fast response factory calibrated sensor cap for FDO 701 IQ H FDO 701 IQ and FDO 701 IQ SW
MIQ/BB1 (#207 001Y)	Barrier box for connecting FDO H 700/1 to an IQ SensorNet - Class 1 Div 2, Groups A,B,C,D, Zone 2 Group IIC

The Barrier Box (MIQ/BB1) must be used for connection of the FDO H. Refer to the following documents for proper installation:

- Control drawing, YSI document no. 28123 (see MIQ/BB1 operating manual)
- MIQ/BB1 operating manual
- All applicable electrical code regulations

YSI

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