
EMS WATCHDOG 800 LED OPACITY/DUST MONITOR



ENVIRONMENTAL MONITOR SERVICE

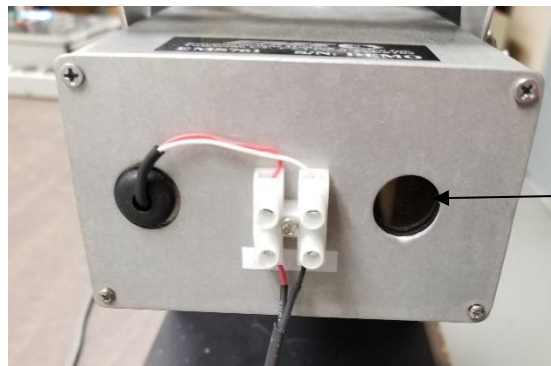
Quality Manufacturing, Integrity and Dependable Service by Design



Environmental Monitor Service, Inc. PO Box 4340, Yalesville, CT 06492
Ph. 203.935.0102, Fax 203.634.6663 Email: sales@emsct.com

EMS WATCHDOG 800 LED OPACITY/DUST MONITOR

The EMS Watchdog 800 is an economical system with electronic modulated single-pass transmitter technology. This microprocessor controlled opacity/dust monitor provides accurate, affordable and reliable process control information.



Alignment Viewing Window

Standard Features

- ✓ Microprocessor controlled
- ✓ Push button for automatic gain, LED, zero, span and linearity calibration
- ✓ 24VDC power supply for worldwide use
- ✓ Modulated Green LED technology
 - ✓ Immune to ambient light
 - ✓ Alignment viewing window
 - ✓ NEMA 4X enclosure
- ✓ 4-20 mA output, MODBUS RS-485
 - ✓ (1) NO/NC Relay
- ✓ Intuitive bright LED user interface
- ✓ LED source guarantee of 70,000 hours

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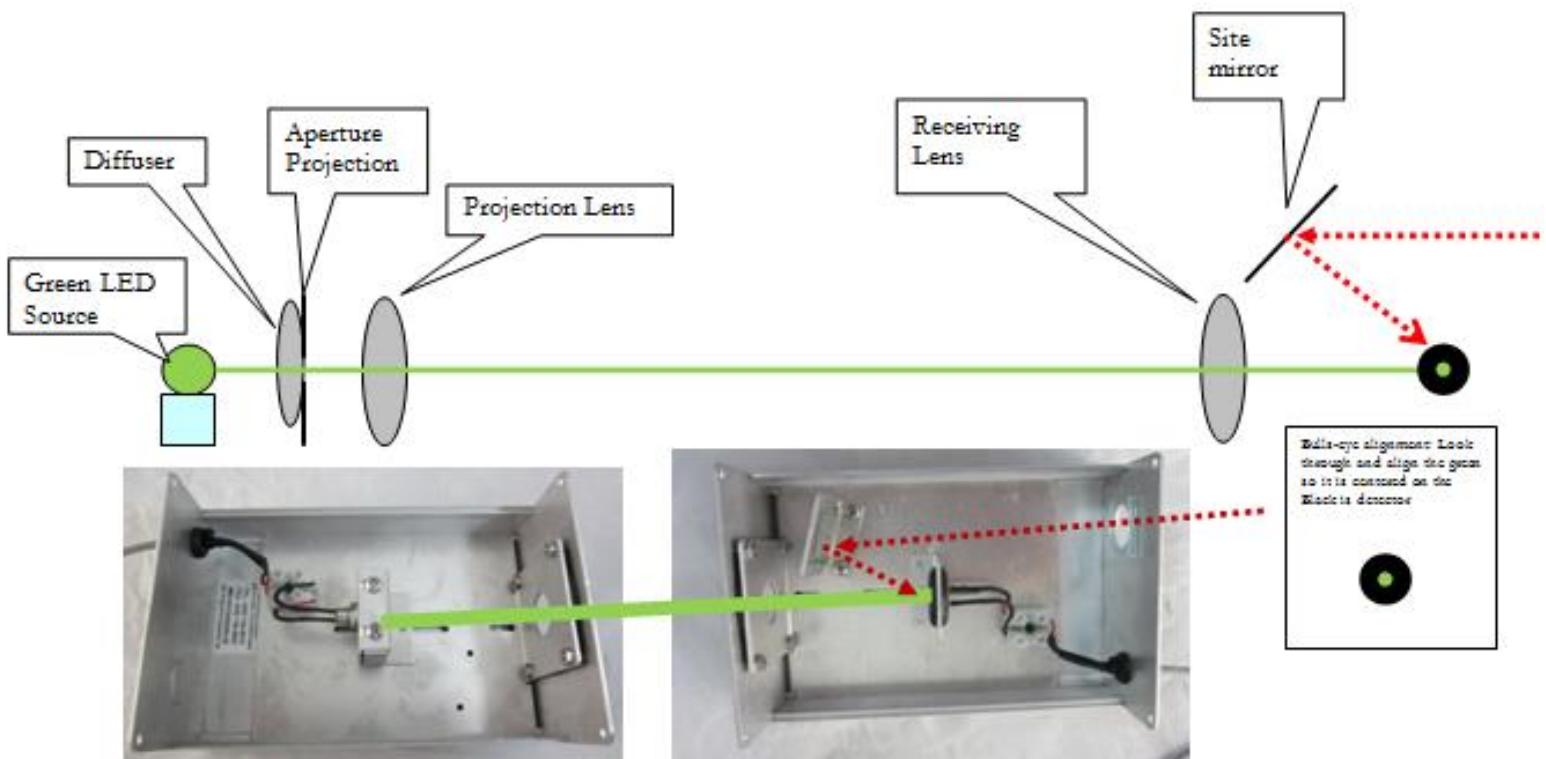
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System and Measurement Principle

The EMS WatchDog 800 system consists of a green LED light source mounted on one side of the stack or duct and a detector mounted on the other. The LSEM (Light Source Electronic Modulation) measurement beam is projected across the stack to the detector. The output of the detector is analyzed and displayed on the bright lit user interface.

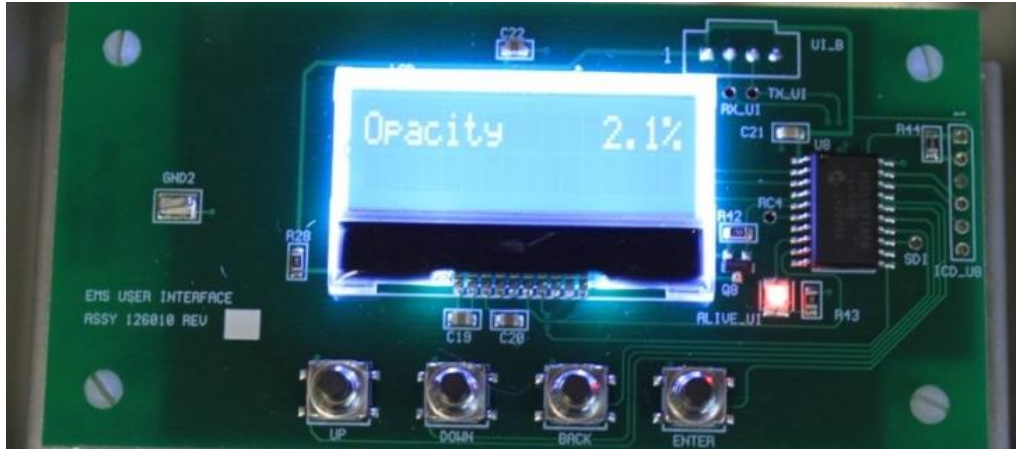


Green LED Transceiver



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User Interface

Applications

- ✓ Boilers
- ✓ Crematoriums
- ✓ Commercial Exhaust Systems
- ✓ Combustion Furnaces
- ✓ Bag Houses
- ✓ Duct Fire Alarm
- ✓ Fan Control
- ✓ Ship Board Boilers

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EMS WatchDog 800 system Specifications:		Environmental Monitor Service, Inc.
Sensor Electronic Processor Clear cover Enclosure	NEMA 4X, Size, 10H x 6W x 5D inch (25.4 x 15.3 x 12.7 cm)	
EMS provided 24Vdc Supply	Input: 90-240 VAC, 50/60 Hz, 0.55 amp +10%;	
LED Display	1x1.75" Viewing area, Blue Backlight	
Optical System	Single Beam LED	
Measurement Ranges	0 to 100% Opacity	
Display resolution	0.1% Opacity	
4-20mA Output	One (1), 500 ohms max, Fixed F.S. 0-100%	
Isolated Relay Contact	One 2amp 125Vac relay for alarm, Field selectable NO/NC	
Alarm Reset, Range	Automatic upon clearing, 1-70%	
Clear Path Calibration	Push button Digital Auto Linearity, Z/S, Gain and LED current.	
Environment	Operational temperature 0 to 50°C (32 to 122°F)	
Communications	1 port, RS485 Modbus	

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EMS WatchDog 800 Sensor Specifications:**Environmental Monitor Service, Inc.**

Sensors	NEMA 4 Anodized Aluminum
Sensors over all dimensions	2.5" x 4.1"x 6.0" (63.5x104x152.4)
Path Length	18" to 12 Ft (45.7 to 366cm)
Optical System	Single Beam LED
Transmitter/Receiver weight	Transmitter, Receiver: 1.25 Lbs. (0.41kg)
Modulated LED Source	Green LED > 6 years)
Ambient Temperature Limits	From +4 to +52° C (+40 to + 125° F)
Process Gas	Up to 750° F (400° C), standard (higher available-contact factory)
Mounting Flanges	See manual for options
Ambient Light Immunity	Solid-state electronic LED modulation
Connections	Terminal block on back plate.

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EMS WatchDog 800 Design and performance:	Environmental Monitor Service, Inc.
Peak and Mean Spectral Response	Photopic; 520 nm, less than 50% of peak response +/- 20nm
Angle of View	< 5.0 ° from optical axis
Angle of Projection	< 5.0 ° from optical axis
Accuracy	+/- 3.0 opacity
Response time	< 10 second
Calibration	Manual or Push button for automatic gain, LED, Zero,Span and linearity calibration

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