
EMS761 LED OPACITY/DUST MONITOR



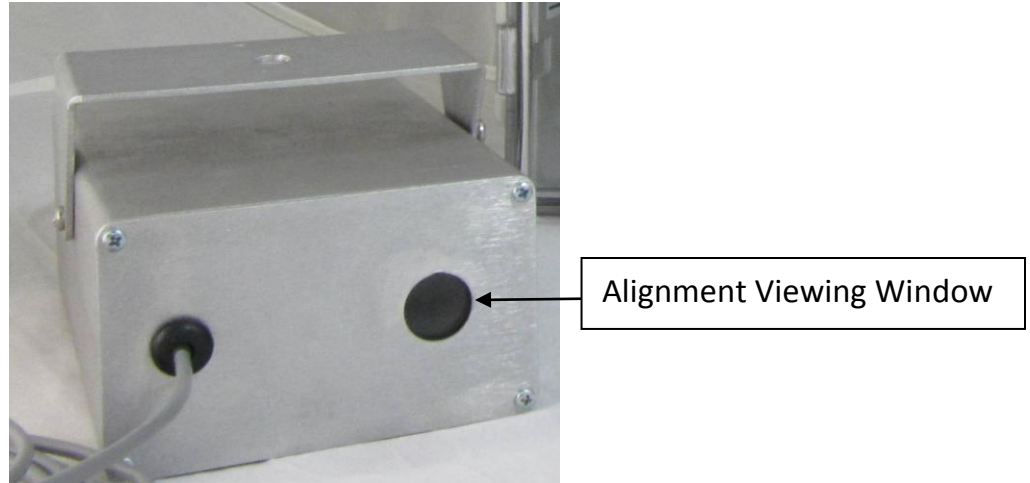
ENVIRONMENTAL MONITOR SERVICE

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**

EMS761 LED OPACITY/DUST MONITOR

The EMS761 is an economical system with electronic modulated single-pass transmitter technology which provides accurate, affordable and reliable process control information.



Standard Features

- ✓ Modulated Green LED technology
 - ✓ Immune to ambient light
 - ✓ Alignment viewing window
 - ✓ NEMA 4X enclosure
 - ✓ 4-20 mA output
- ✓ Bright red DPM with adjustable alarm
- ✓ LED source guarantee of 70,000 hours

The standard front mounted controls for Zero and Span, as well as bright lit LED DPM makes the EMS761 the choice for affordable, quality smoke and dust monitoring.

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

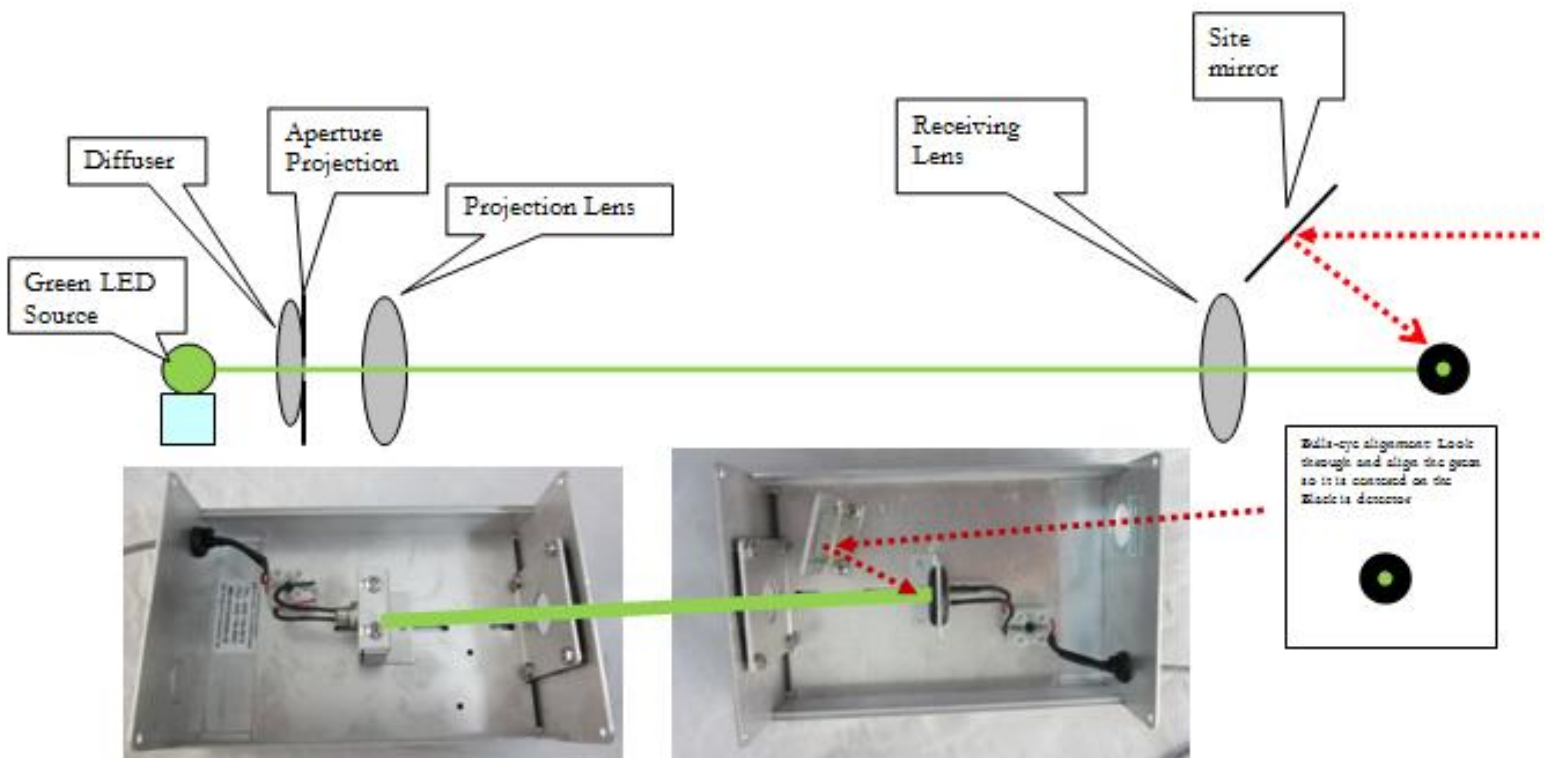
EMS761 LED OPACITY/DUST MONITOR

System and Measurement Principle

The EM761 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 red lit DPM.



Green LED Transceiver



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

EMS761 LED OPACITY/DUST MONITOR



Applications

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

Options

- ✓ Micro Processor Controller with Communications via 4-20 mA and RS485 MODBUS
- ✓ Opacity or Dust Program
- ✓ 24VDC Din Rail Mount Power Supply
- ✓ NEMA 4X Enclosure for Controller and Power Supply



EMS761 Basics system:	
Sensor Electronic Processor Enclosure	NEMA 4X, Size, 10.6 x 14.5 x 6 inch (26.9 x 36.8 x 15.24 cm) Temp Rating:-40 to 70C
Power Requirements	115/120 VAC, 50/60 Hz, 1 amp +10%;
Graphic Display	1.5x2.25" Viewing area, LED Backlight
Approvals	CE, UL, cUL
Measurement Ranges	0 to 100% Opacity
Display Resolution	1% Opacity
4-20mA Outputs	One (1), 500 ohms max, Fixed F.S. 0-100%
Relay Contacts	One 3amp 115/220VAC relay for alarms, Field programmable.
Alarm Reset	Automatic
Clear Path Calibration	Manual Zero/Span
OPLR (Exit Correlation $L_x / 2 * L_t$)	None
Environment	Operational temperature 0 to 50°C (32 to 122°F), Storage temperature -20 to 60°C (-4 to 140°F), Relative Humidity (RH) 5% to 95% (non-condensing)

Sensors:	
Enclosure	NEMA 12 Aluminum
Source over all dimensions	2.5" x 4.1" x 6.0" (63.5x104x152.4)
Source over all dimensions	2.5" x 4.1" x 6.0" (63.5x104x152.4)
Lens clean air inlet	1/8 inch N.P.T. <0.5 lpm
Path Length	2 to 12 Ft (61 to 366cm)
Optical System	Single Pass
Transmitter/Receiver weight	Transmitter, Receiver: 1.25 Lbs (0.41kg)
Light Source LED	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
Ambient Light Immunity	Solid-state electronic LED modulation
Wiring	2 pair twisted shielded cable, 22 AWG

Design and performance:	
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	+/- 2.0 opacity
Response time	< 5 second
Calibration check	Internal span switch and clear condition zero adjustments.

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

EMS761 Enhanced Control Unit:	
Enclosure	IP65/NEMA4X (when panel mounted), 96x96x64mm (3.8" x 3.8" x2.58"). Power 24Vdc +/- 10%.
Power Requirements	24VDC ($\pm 4\%$), 40mA max. per unit.
Graphic Display	1.5x2.25" Viewing area, LED Backlight
Approvals	CE, UL, cUL
Measurement Ranges	-5 to 100% Opacity (additional with dust option: 0-2000/Actual mg ³ , 0-2 Optical Density)
Display Resolution	0.1 for Opacity and Actual mg ³ , 0.001 O.D.
Process Display screens	Selectable pages, LCD backlight Instant, average, split screen.
Battery back up	7 years typical at 25°C
S.D. Card	Optional - Back up by 2GB SD memory card.
4-20mA Outputs	Two (2), 800 ohms max individually customer selected F.S. ranges and modes.
Relay Contacts	6 relays for alarms, Field programmable.
Alarm Reset	Automatic and manual.
Clear Path Calibration	Manual Zero/Span
Environment	Panel mounted IP65 / NEMA4X, Operational temperature 0 to 50°C (32 to 122°F), Storage temperature -20 to 60°C (-4 to 140°F), Relative Humidity (RH) 5% to 95% (non-condensing)
Network	Protocol: MODBUS (ASCII or RTU mode), type RS-485, optically isolated, RS-232.

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

EMS761 Order Sheet			
	Part # instructions: Choose one number from the left from each category to create the part number. Example EMS761-1-4-6-8, MSRP \$2,410.00		
EMS761 Basic System			
1	EMS761 Opacity Basic Single-pass Monitor system.	2951	\$2,410.00
2	EMS761 With Enhanced Panel Mount Remote Control unit. Opacity program.	3015	\$3,480.00
3	EMS761 With Enhanced Panel Mount Remote Control unit. Dust program.	3126	\$3,480.00
Enclosure Option			
4	None or N/A	3090	\$0.00
5	NEMA 4X enclosure for EMS controllers.	2846	\$250.00
Measurement Path			
6	7xx Measurement path 2-8Ft.	3120	\$0.00
7	7xx Measurement path >8-12Ft.	3121	\$45.00
Power Supply			
8	None or N/A	3090	\$0.00
9	24VDC, 25W, 1A Output Din-Rail Mount Power Supply.	2684	\$ 60.00

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