
EMS GUARDIAN SMOKE OPACITY DETECTOR



Quality Manufacturing, Integrity, and Dependable Service by Design



Environmental Monitor Service, Inc. Phone: 800-864-2814 ext. 15

<https://emsct.com> Email: sales@emsct.com

EMS GUARDIAN SMOKE OPACITY DETECTOR

The EMS Guardian is purpose-built to detect smoke emissions and energize a relay at a user-selected set point. With selectable options of approximately 10%, 20%, or 30% opacity, you have the flexibility to adapt to the unique demands of your industrial setting.

Typical Applications

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



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System and Measurement Principle

The EMS Guardian comprises two enclosures designed for pipe mounting: one housing a modulated green LED source and the other containing a detector. The LED emits light across the measurement path to the detector. This signal is then relayed to a custom-designed microprocessor board housed within a wall-mountable NEMA4X enclosure. If smoke opacity surpasses the predetermined threshold, a relay triggers, notifying the user of the heightened condition.

KEY FEATURES

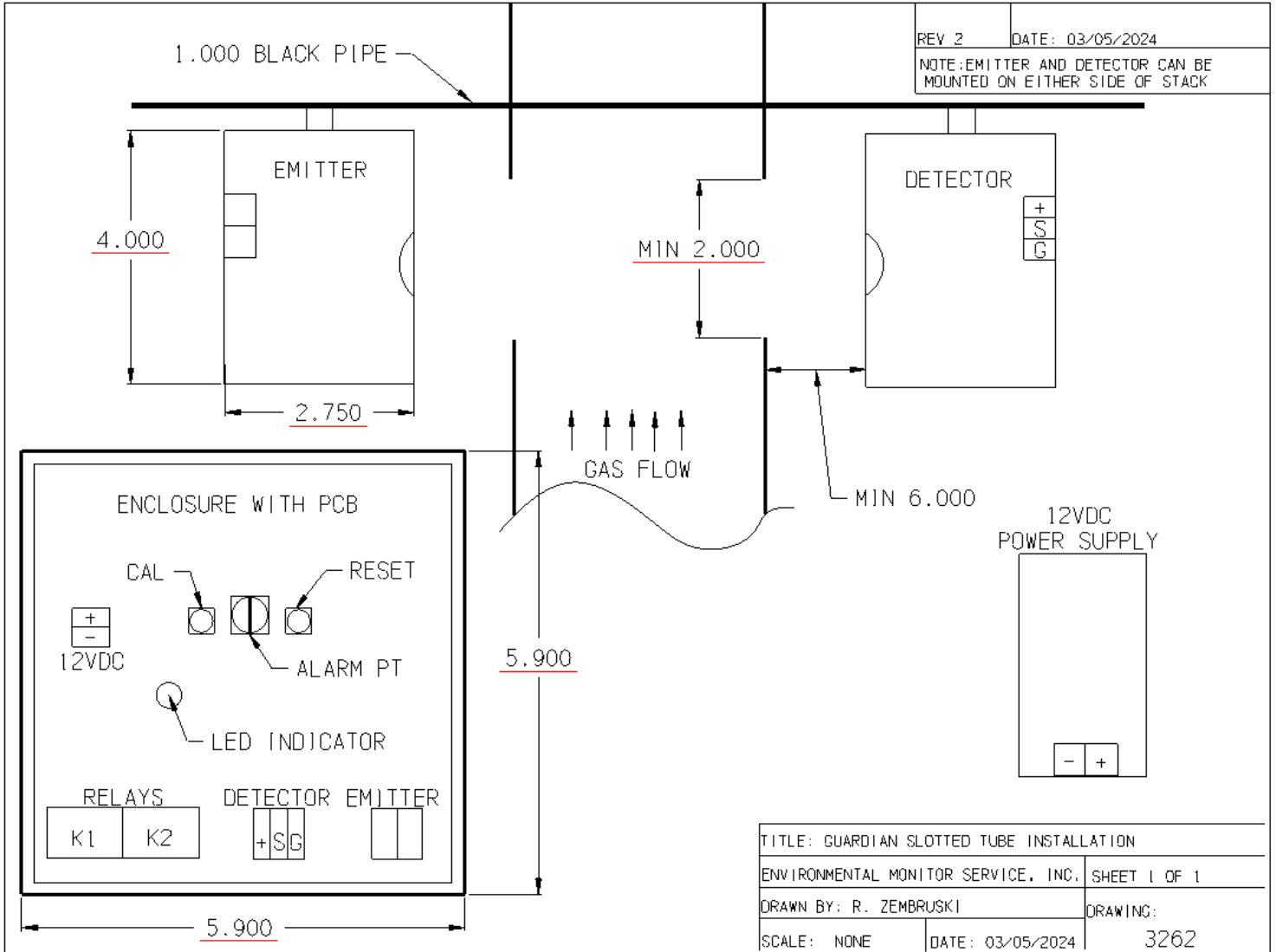
- Custom-designed digital board replaces outdated analog Equipment
- Modulated green LED source
- Adjustable alarm points of approximately 10, 20, and 30% Opacity
- Digital Calibration: No need for a filter
- Two alarm contacts (instantaneous and timed)
- Compensation for window dust
- Mounts to standard 1" pipe
- Universal 12V Power Supply
- Can utilize existing ports



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SYSTEM COMPONENTS WITH TYPICAL MOUNTING



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EMS Guardian Specifications

Emitter & Detector Enclosure	NEMA 12 Aluminum
PC Board Enclosure	NEMA 4X
Path Length	2 to 8 Feet
Optical System	Single Pass, LED
System Calibration	Automatic, Push Button
Dust Compensation	Automatic, Push Button
Modulated LED Source	Green LED (> 7 years life span)
Relay Contacts	Two NO/NC, 2-amp 125Vac
Light Source Aging Compensation	Automatic
Light Source Life	62,000 hours (> 7 years) Field Replaceable
Ambient Temperature Limits	0 to +130° F (-17 to +54° C)
Process Gas	Up to 750° F (400 ° C),
Mounting	Standard 1" Black Pipe (Brackets Included)
Ambient Light Immunity	Solid-State Modulation (Meets ASTM D6216)
12Vdc Supply	Input: 90-240 VAC, 50/60 Hz, 0.55 amp +10%

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