

MONROE 177A

Accurate and dependable continuous monitoring of the critical points in a facility to detect and warn of electrostatic charge build-up before it becomes a problem.



The Monroe 177A serves as a full-time, plant-wide automatic static build-up monitor. As static levels in your application surpass a preset value, beyond which there may be danger to personnel or possible disruption or destruction to the process or product, an initial warning is triggered and the process is allowed to continue. If the problem is rectified, the warning returns to a normal state. If the condition persists and the static level exceeds a second more crucial value, an alarm is activated and terminates the process until corrective action is taken and the system is reset.

PRODUCT HIGHLIGHTS

- Intrinsically safe sensor operation (with optional barriers) in explosive atmospheres
- Four channel static monitor detects static levels in as many as four locations up to 1000 feet away
- Accurate and drift-free measurement including ionized environments
- Provides analog outputs and control via RS232/485 and front panel
- Built-in, fully configurable dual level alarms programmable via front panel, PC, or PLC
- Cascade up to 32 units via RS485 providing 128 sensor locations
- PLC compatible using Modbus protocol
- Password security

TYPICAL APPLICATIONS

- Converting, coating, and printing processes
- Dry particle transport systems
- “Static-free” environments
- Explosive atmospheres - safely monitors potentially hazardous sites to detect charge build-up. Monroe 1036 sensors are factory mutual research approved: Class I, Division 1, Groups C and D

AT A GLANCE

Analog Outputs (Selectable)

±10 V, 0 to 5 V (2.5 V, ±2.5 V full scale); < 10 Ω impedance; or simultaneous 4 to 20 mA (optional)

Accuracy

**±3% of full scale at analog output
±3% of full scale, ±2 counts
+0.3 counts/°C at front panel meters**

Displays

Four 3½ digit LEDs, 0.6 in (one per input channel)

MONROE STATIC MONITOR 177A

TECHNICAL DATA

Performance Specifications		
Monitor Console Temperature Range	15 to 45°C (59 to 113°F)	
Analog Outputs (User Selectable)	±10 V, 0 to 5 V (2.5 V, ±2.5 V full scale); < 10 Ω impedance; or simultaneous 4 to 20 mA (optional)	
RS232/485 Control	Channel status, channel disable/enable, group control	
Accuracy	±3% of full scale at analog outputs	
	±3% of full scale, ±2 counts	
	+0.3 counts/°C	
Displays	Four 3 ½ digit LEDs, 0.6 in (one per input channel)	
Alarm Relays	Per channel fail safe, NC (Form B); System OK, Channel OK, Warning, Alarm	
	Contact Ratings	DC: 1A, 30 B; AC: 0.5A, 125 V
Connector Styles	RS485	DB9
	Probe	DB9
	Analog Out	BNC
	Test Connector	Screw terminals
	4 to 20 mA Option	Screw terminals

Mechanical Specifications		
Dimensions	4.45 x 48.26 x 27.9 cm (1.75 x 19 x 11 in) Mounts in a standard 19" rack	
Weight	~4.08 kg (9 lb)	
Optional Enclosure	Capacity	Two monitor consoles
	Dimensions	11.4 x 50.8 x 35.6 cm (4.5 x 20 x 14 in)

Electrical Specifications	
Power Requirements	90 to 260 VAC, 47 to 60 Hz; 13 Watts max
4 to 20 mA Option Power Requirements	Internal power supply 11 V min
	External power supply 24 V max

Monroe 1036 E (H) and F (H) Sensor Specifications ¹		
Standard Range	±10 kV/in	
Optional Ranges	±1 kV/cm (100 kV/m)	
	±10 kV/cm (1 MV/m)	
	±20 kV/cm (2 MV/m)	
	±1 kV/in	
Drift	1% of full scale (typical), non-cumulative, long-term when purged according to manufacturer's instructions	
Noise	<0.05% of full scale, peak-to-peak	
Speed of Response	1 sec max, 10 to 90% of full scale (typical)	
Dimensions	Monroe 1036E	15.24 x 7.62 x 5.24 cm (6.0 x 3.0 x 2.063 in)
	Monroe 1036F	4.45 diameter x 3.11 cm (1.75 x 1.22 in)
Maximum Cable Length	305 m (1000 ft)	
Temperature Range	Monroe 1036E/F	-30 to 80°C
	Monroe 1036EH/FH	-30 to 100°C

¹ Sensors sold separately

EASY-TO-USE OPERATION

The Monroe 177A is as easy to install and use as it is effective. In a short time you can:

1. Mount sensors at all static-critical locations.
2. Mount the Monroe 177A console in a rack enclosure. (Monitoring more than four locations requires additional consoles).
3. Connect leads between sensors and console and RS485/232 and alarm contact.
4. Install software and configure your system.
5. Turn console power on and zero each channel to be used.
6. Begin reliable, continuous, drift-free, multi-point, static measurements.

REFERENCE NUMBERS

Included Accessories	
-	Operator's Manual
-	110 V Line Cord
-	220 V Line Cord
-	DB9 M/F Straight-Thru Cable
-	USB A-Male/B-Male Cable
-	Mounting Hardware
-	2-2 Position & 4-6 Position Plugs

Optional Accessories	
1036E-6	Standard Industrial Sensor
1036F-6	Standard General Purpose Sensor
433	Extension Cable for Monroe 1036 Sensor (Optional lengths available, contact factory)
177ENC	Rack Enclosure for Monroe 177



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Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

AE's power solutions enable customer innovation in complex semiconductor and industrial thin film plasma manufacturing processes, demanding high and low voltage applications, and temperature-critical thermal processes.

With deep applications know-how and responsive service and support across the globe, AE builds collaborative partnerships to meet rapid technological developments, propel growth for its customers and power the future of technology.

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