

MONROE 281

Portable, affordable, battery-operated static locator for avoiding static build-up that causes costly product damage.

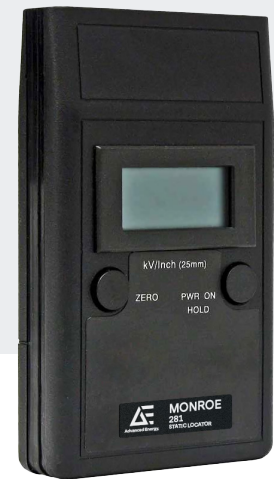
The Monroe 281 Static Locator is a high quality, portable non-contacting static meter which produces consistently accurate readings with ease and offers years of trouble-free operation. It will indicate surface voltage and polarity on objects up to $\pm 20\text{kV}$ at a spacing of one inch with an accuracy of 10% of reading. The Monroe 281 also features a push button to hold readings and automatic power down to conserve its battery.

PRODUCT HIGHLIGHTS

- Perfect for checking effectiveness of work station grounding systems
- Precise, easy-to-read digital display
- Hold button freezes display to capture transients or for hard-to-read locations
- Battery SavR™ turns instrument off when not in use
- Pocket-sized convenience
- RoHS compliant

TYPICAL APPLICATIONS

- “Static-free” workstations: for frequent checks of grounding straps, mats and similar
- Converting, printing, laminating, or coating operations: to spot static buildup before it spots your product or jams your line



HIGHLIGHTS

Normal Range

$\pm 20\text{kV}$ at 1 inch with correct range and polarity automatically selected

Accuracy

Better than $\pm 10\%$ of reading \pm LSD + zero offset

Zero Tolerance

± 5 counts, ± 3 counts typical

Response

Display updates three times per second

TECHNICAL DATA

Performance Specifications			
Readout	3½-digit LCD automatically displays measured voltages and polarity plus HOLD and LOW BATTERY indicators		
Normal Range	±20kV at 1 inch with correct range and polarity automatically selected		
Extended Range	Voltages of 20kV and higher may be measured by increasing the distance to the target:		
	kV	Distance	Multiply Reading By
	0 to 20	4.0 in	2
	0 to 40	8.5 in	4
Accuracy	Better than ±10% of reading ± LSD + zero offset		
Zero Tolerance	±5 counts, ±3 counts typical		
Response	Display updates three times per second		

Mechanical Specifications	
Dimensions	10.7 x 6.1 x 2.3 cm (4.2 x 2.4 x 0.9 in)
Weight	142 g (5 oz)

Electrical Specifications	
Battery SavR™ Timeout	90 seconds, typical
Battery	9 V, Eveready #216 or equivalent NEDA #1604
Battery Life	200 hours of normal use
Grounding Path	Through conductive case

INSTRUMENT ACCURACY

The Monroe 281 instrument's accuracy is dependent on three factors:

- The instrument must be properly zeroed.
- The distance from the front edge of the case to the target or surface under examination must be accurately defined.
- The target must be large relative to the measurement distance. It should be at least 5 x 5 in for true accuracy.

OPERATION¹

1. Press the POWER ON/HOLD button and release.
2. Discharge your body by touching a grounded conductive object, e.g. water pipe, metal electrical conduit, grounded machinery or workbench. Alternatively, the operator may wear a grounded wrist strap or place a wrist strap around the instrument. The case of the instrument is conductive and is the reference for the measurement.
3. Face the static locator away from charged objects and depress and release the ZERO button twice. The instrument may also be zeroed by pointing it toward a known grounded surface (such as the palm of the opposite hand) and depressing the ZERO button twice. Display should read $0.00\text{kV} \pm 5$ counts maximum. Although you must be careful not to contact the recessed electrode, the amount of spacing between the electrode and the target is not critical when zeroing the instrument.
4. Point the sensor plate toward the target and move to a spacing of one inch between the edge of the case and the target. Note the meter reading. To hold the reading, press and hold the PWR ON/HOLD button. A source with a negative polarity will show a minus (-) sign in the display. A positive source will display no sign.

Cleaning

If excessive drift is noted, the surface of the electrode may require cleaning. Wipe the surface with a soft cloth saturated with clean alcohol and allow to dry thoroughly. Dust off any lint.

Battery Replacement

The unit should be off while replacing the battery. Normal battery life is about 200 hours of use. The battery should be replaced when the “BAT” indicator appears in the display above the “HOLD” indicator for more than an instant or at least once a year. Dead battery voltage is approximately 7.2 volts. Replacement type is Eveready #216 or equivalent NEMA 1604. Remove the battery when storing the instrument for an extended period of time.

¹ NOTE — If, as you approach the target, the indicated field strength begins to exceed 20kV at a distance greater than 1”, STOP! This implies that the target voltage may be high enough to create an arc. Proceed with caution.



ABOUT ADVANCED ENERGY

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.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

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For international contact information, visit advancedenergy.com.

sales.support@aei.com
+1.970.221.0108

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