Radio Ohmstik Radio Linked Live-Line Micro Ohmmeter

Measure micro-ohm resistance on a live, high voltage conductor

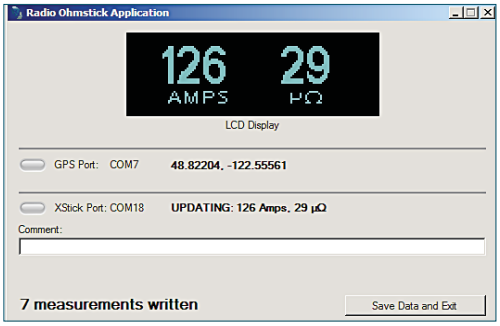
Measures resistance using AC current in the line

Measures and displays both amps and micro-ohms

Shows measurements on Remote Display and on a PC

Writes Ohmstik data and GPS location to a file

Screenshot: Software Dashboard



The Radio Ohmstik Live-Line Micro Ohmmeter directly measures the micro-ohm resistance of conductors, connectors, splices and switching devices positioned directly on energized, high voltage lines.

The Ohmstik calculates resistance by measuring the AC amperage in the line and the voltage drop due to the resistance of the line segment under test. Using the AC current in the line ensures that realistic current distributions through the connection are being measured. The instrument is pressed against the splice or connector in such a manner that the connection under test is between the two electrodes.

High Resistance is the primary indicator of a failing connector. As the resistance in a connector increases, its ampacity goes down.

When the connector has a lower ampacity than the conductor, and the load stays the same, the connector heats up. This heat is the effect of high resistance.

The micro-ohm measurement is more directly related to connector failior than infrared thermography because it is not subject to emissivity, weather, current loading, background, and other influences that cause infrared errors.

The Radio Ohmstik sends its status and measurements to both the Display unit and the Radio Ohmstik Software running on a nearby computer. At the same time, a GPS device is sending location data to the Ohmtik Software. When a valid measurement is received, the Software writes the data to a comma separated (CSV) file. The combined data from the Radio Ohmstik and the GPS allows the user to map the location of the connector as well as its condition.

The Radio Ohmstik can be used on almost any connection in a utility. Line splices can be checked after installation, or after many years of service. Bolted terminals, taps, jumpers, and substation bus bars can also be evaluated. Switches, fused disconnect, and normally open switches that have been open for long periods can be measured just after closing. Each of these connections can be measured quickly after installation, or surveyed after long service, to insure proper resistance.

Using the Radio Ohmstik provides the utility with the knowledge to create a connector maintenance program, through directly surveying their system for deteriorated connectors, effectively reducing failure rates.

Applications

- Measure & Evaluate Splices on Transmission and Distribution conductors
- Verify closing resistance of normally open switches
- Check taps and jumpers for connection reliability
- Indicate the aging of connections
- Direct measurement of connection reliability
- Predict failure to prevent future damage

Radio Ohmstik Radio Linked Micro Ohmmeter

Model Number	6-182
Measurements	
Amps	1-1400 A
Microohms	5-2500 μΩ
Accuracy	
Amps	±1% ±1 A
Microhms Absolute	±2% ±2 μΩ
Microhms Repeatability	±1% ±2 μΩ
Accuracy is diminished if the current is less than 15 amps 0-35kV and when current is less than 50 A while on 36-500kV	
Range of Operation	
Voltage Phase to Phase	Rated 500kV
Resolution	
Amps 0.9-99	0.1 A
Amps 100-1400	1.0 A
Microhms 0-999	1 μΩ
Microhms 1000-2500	1.0 mΩ
Radio	
Frequency	ISM 2.4 GHz
Power	63 mW, 18dBm , 10 mW in Europe & Japan
Range	150', (46 meters) Line of Sight, 120' (36.5 meters) in Europe & Japan Line of Sight
Mechanical	
Display	LCD Graphics Display
Sensor Opening	2.5", 6.4 cm
Weight	2.3 lbs, 1.05 kg
Battery	9 Volt Alkaline, 1 each per unit
Battery Life	6-8 Hours at 68°F or 20°C, 3-4 Hours at 32°F or 0°C
Operation	
Detachable Probes	Fused Probe (Model: 7-081 XT)
	Adjustable Ohmstik Probe (Model: 7-081 ADJ)
Ambient Temperature	-4 to +140° F, -20 to +60° C
Display	Graphics LCD

Complete Radio Ohmstik Kit

SensorLink® Corporation