

Volt LiteWire Fiber Optic Coupled Voltmeter

Shielded against influence from stray fields

Auto-ranging digital readout

Fiber Optic Isolation brings the signal down to ground

Analog output for waveform analysis



The Volt LiteWire is a medium voltage voltmeter designed for lines and substations. These units are designed for use with a hotstick and universal chuck adapter. The Volt LiteWire measures voltage phase to phase or phase to ground. It is a two-piece, True RMS voltmeter with a fiber optic link between the high voltage sensor and the readout at ground potential. The sensor is mounted on a hotstick and slipped onto a medium voltage line.

A fiber optic cable connects the sensor to a receiver unit at ground potential, which contains the digital readout and an analog output. The instrument has no moving parts and does not require clamping onto the wire. The cases are water resistant and will withstand high physical impact.

The fiber optic cable is physically rugged, while providing the high speed data path required for digital waveform transmission from the sensor to the display unit. It also is the high voltage insulator between the two units and is tested to provide 100 kV-isolation per foot, which is well above the rating of the meter.

The analog output is the unique feature of this instrument. It is a reproduction of the high voltage current waveform, accurate to approximately the 41st harmonic, but available as a 0-2 volt AC signal at ground. This allows the use of many sophisticated low voltage instruments, such as scopes, waveform acquisition recorders, analyzers, and other analysis instruments which would previously not be usable at high voltage.

Troubleshooting Voltage Problems

This high impedance instrument is an excellent choice for solving multiple problems associated with operating a medium voltage system. It gives the electrician the ability to measure and analyze the waveform the potential of any two points within the medium distribution system. Voltage drop along a line can be measured or a check of phase to ground voltage on the primary side of a voltage complaint can determine if the cause belongs to the utility or the customer.

The Volt LiteWire is available in three sizes 0-20kV, 0-30kV, and 0-40kV. The housing is made of urethane and built to operate in severe utility environments. They are resistant to shock, water repellent, and unsusceptible to flame. It also operates in a wide temperature environment.

Applications

View Voltage from the primary

Analyze Voltage Waveform from the primary



Volt LiteWires Fiber Optic Coupled Voltmeter

Model Number	8-012	8-013	8-014
Range of Operation			
Voltage	1-20kVAC	1-30kVAC	1-40kVAC
Resolution			
Voltage 0-20kVAC	10V	10V	10V
Voltage 20+kVAC		100V	100V
Voltstik Weight	5.1 lbs 2.32 kg	5.3 lbs 2.40 kg	5.5 lbs 2.50 kg
Accuracy	±2%		
Analog Output	100 mv per kV (2 volts=20kV)	50 mv per kV (1.5 volt=30kV)	50 mv per kV (2 volt=40kV)
Output impedance	6000 ohms minimum		
Frequency response	2500 Hz which is above the 40th harmonic at 50 or 60 Hz		
Operation			
Controls	One button operation		
Electrodes	Detachable		
Frequency	60 Hz (57 to 63 Hz) or 50 Hz (47 to 53 Hz) Models Available		
Mechanical			
Display	3.5 Digit Display		
Housing	Shock & water resistant molded urethane		
Hotstick mounting	Universal chuck adapter (Hotstick not included)		
Battery	Two each of 9 volt alkaline or lithium		
Operating Temperature	-30 to +60 degrees ° C * -22 to +140 degrees ° F *		
Options			
10 Ft (3.28m) Extension Cable	Model 7-03210		
20 Ft (6.56m) Extension Cable	Model 7-03220		
30 Ft (9.84m) Extension Cable	Model 7-03230		
40 Ft (13.12m) Extension Cable	Model 7-03240		
Hard Carrying Case	Model 7045		

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