Operators Manual

DC Voltstik

20 kV DC Voltmeter

SensorLink®

Operators Manual
True RMS Voltstik
Distribution Voltmeter

Available Stock Codes:			
8-017	8-017 EURO		

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Safety Information

The VOLTSTIK is designed solely for use when attached to a suitable universal hot stick. All precautions appropriate for the line voltage should be taken. The hot stick should be considered the sole voltage isolation device between the line and the operator. The high voltage insulator on the right side of the Voltstik case is the sole high voltage isolation device between the two high voltage measurement points. This insulator should be kept clean and in good condition. No support structures or other high voltage lines should be near any part of this insulator during measurements. Particular caution should be used to keep the Voltstik electrodes from compromising the spacing between phases or from high voltage to ground.

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CAUTIONS:

⚠ **THE CHUCK AND THE ENTIRE METER COMPARTMENT OF THE VOLTSTIK IS AT THE SAME POTENTIAL AS THE COMMON OR LEFT ELECTRODE. WHEN THE EXTENSION CABLE IS CONNECTED TO GROUND OR NEUTRAL, KEEP THE CHUCK AND THE ENTIRE METER COMPARTMENT AWAY FROM THE BUSS YOU ARE MEASURING OR ANY OTHER HIGH VOLTAGE SOURCE. THE HIGH VOLTAGE PROBE (THE RIGHT SIDE OF THE INSTRUMENT) IS THE SOLE ISOLATION DEVICE BETWEEN THE TWO MEASUREMENT POINTS.**

⚠ **MAINTAIN ALL PERSONNEL A MINIMUM OF 2 METERS AWAY FROM THE EXTENSION CABLE.**

⚠ **SECURE WITH A WIRE TIE ANY SLACK PORTIONS OF THE EXTENSION CABLE NOT REQUIRED FOR COMPLETING A MEASUREMENT.**

⚠ **THE VOLTSTIK SHOULD ONLY BE USED BY PERSONNEL TRAINED IN SAFE METHODS OF UTILIZING HOT STICKS IN HIGH VOLTAGE ENVIRONMENTS.**

⚠ **THE SAFETY CONSIDERATIONS OF HOW TO USE THE VOLTSTIK SHOULD BE PART OF THE TAIL GATE SAFETY MEETING EVERY TIME THE VOLTSTIK IS USED.**

Specifications

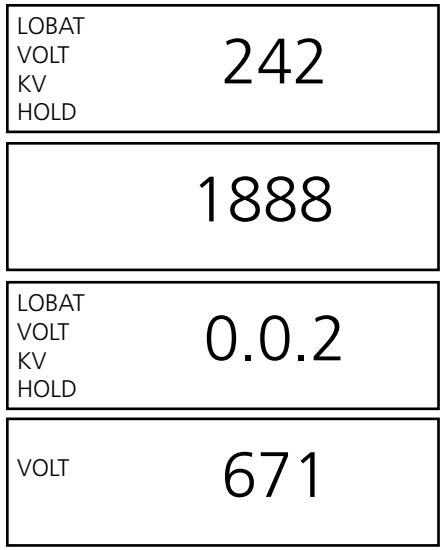
The Voltstik has been developed specifically for measurement of DC voltage. This instrument can be used remotely with any hotstick and universal chuck adaptor. It will measure voltage up to 20KV, on two auto ranging scales. The instrument performs an automatic self test to verify operation. The case is water resistant and will withstand high physical impact. The following specifications apply:

Model Number	8-017
Range of Operation Voltage	 0-20kVDC
Resolution Voltage0-2kVAC Voltage 2-20kVAC	 1V 10V
Voltstik Weight	2.2 lbs 1 kg
Accuracy	±2%
Operation Controls Electrodes Frequency	 One button operation Detachable 60 Hz (57 to 63 Hz) or 50 Hz (47 to 53 Hz) Models Available
Mechanical Display Housing Hotstick mounting Battery Operating Temperature	 3.5 Digit Display Shock & water resistant molded urethane Universal chuck adapter (Hotstick not included) 9 volt alkaline -30 to +60 degrees C -22 to +140 degrees F
Options 10 Ft (3.28m) Extension Cable 20 Ft (6.56m) Extension Cable 30 Ft (9.84m Extension Cable 40 Ft (13.12m Extension Cable Soft Carrying Case Hard Carrying Case	 Model 7-032-10 Model 7-032-20 Model 7-032-30 Model 7-032-40 Model 8-037 Model 7-042

OPERATING INSTRUCTIONS

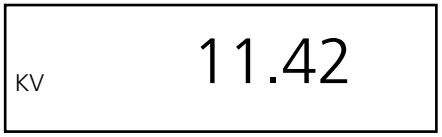
The Voltstik is controlled by the single push button switch located on the front panel, and is operated as follows:

1. **Press the control switch momentarily to turn the VOLTSTIK on.**
   Each time the Voltstik is turned on it conducts a series of tests. First all number segments of the LCD will light up using the following screens.



The above screens indicate approximate numbers that may vary from meter to meter. They should, however be consistent every time you turn on your individual meter.

The unit will measure an internal signal and the display will read about 6 to 12 KV.



This signal voltage is injected into the input of the electronics and in order for the display to read correctly, all electronics and autoranging must be properly functioning. This test is very important if the meter is to be used for presence or absence of voltage.

OPERATING INSTRUCTIONS (Continued)

The final screen of the test sequence will display the voltage field that is ambient around the meter. They are typically less than 5 volts.

The Voltstik is now in the normal measurement mode. It can be used to make voltage measurements by connecting the VOLTSTIK between different potentials, using the connection points located at the end of the high voltage probe and on the left side of the case.

2. **Press the control switch a second time to go to the sample and hold mode.**
   The Voltstik is now in the sample and hold mode and this is indicated by the word HOLD showing on the display.

   The word "HOLD" will flash when the instrument has obtained a valid reading. The Voltstik must be held steady across the voltage for 3-4 seconds to obtain a valid Hold. To clear the reading, press the button again and note that the word HOLD disappears from the display. To enter hold mode again, press button and note the word HOLD again appears in the display.
3. **The Voltstik will automatically change ranges.** The Voltstik will automatically change to the correct range, either up or down.

4. **The Voltstik will turn itself off automatically after several minutes of inactivity.**

   If it is desired to turn the unit off manually, press and hold the button down until all the words disappear from the left side of the LCD display and then let go.

OPERATING SUGGESTIONS AND FEATURES

When using the "hold" mode, the instrument looks for a stable connection to the line before capturing the reading. Many lines are oxidized and getting a stable connection can be difficult. If a poor connection is made, the Voltstik will not hold the reading. This is not a malfunction but a feature to prevent erroneous readings due to poor connections. Use the rough electrodes of the Voltstik accessory probes as a file to clean a spot for good connection. Also, hold the meter steady with some pressure against the wires to insure a good connection to the line.

The autoranging feature of the instrument is designed to provide accurate measurement of low voltage measurements across regulators, or good resolution of zero voltage measurements. However, if the instrument is accidentally connected across high voltage phases, slips into the next phase, or one electrode touches ground while the other is connected to high voltage, the instrument will safely move to the higher range and provide a reading. This is an important safety feature.

When making high voltage measurements the "Hold" mode should be used whenever possible. This allows the user to concentrate completely on getting the instrument safely into position, making a good connection, and safely removing the instrument from the high voltage structure. No attention need be devoted to reading the display while at high voltage. If readings are attempted while connected to the high voltage, care must be taken not to be distracted from physically controlling the instrument or allowing the meter to slip. Extra care must be taken to prevent the chuck or hotstick connection from getting too near ground structures. This will result in a flash from the left side electrode to ground.

Battery Replacement

When the "LOBAT" indication shows on the display, the battery should be replaced.

The unit will continue to operate for at least the rest of the day. The VOLTSTIK is powered by a single 9V battery. To replace the battery, remove the four screws on the battery cover at the rear of the unit. Carefully insert a screwdriver blade in the notch and pry the cover out, being careful not to damage the cover seal. Pull the battery out of the compartment and separate the battery from the battery connector. Do not pull on the battery wires. Install a fresh battery and reinsert the battery in its compartment. *Do not the pinch wires* between the battery and compartment; put wires in slot above the battery. Reinstall the cover by gently pressing it into place while pulling out on the edges of the compartment, and reinstall the four cover screws. Take care to avoid over tightening the screws. Always reuse the screws provided and do not damage or lose the o-ring seal on each screw.

SensorLink Corporation Warranty

SensorLink warrants each instrument it manufactures to be free from defects in materials and workmanship under normal use and service for the period of one year after date of shipment. Within this period, SensorLink agrees to repair or replace, at SensorLink's option, any instrument that fails to perform as specified. This Warranty shall not apply to any instrument that has been:

1) Repaired, worked on, or altered, including removal of the front panel, by persons unauthorized by SensorLink in such a manner as to injure, in SensorLink's sole judgment, the performance, stability, or reliability of the instrument;

2) Subjected to misuse, negligence, or accident; or

3) Connected, installed, adjusted, or used otherwise than in accordance with the instructions furnished by SensorLink.

This Warranty is in lieu of any other warranty, expressed or implied. SensorLink reserves the right to make any changes in the design or construction of its instruments at any time, without incurring any obligation to make any change whatever in units previously delivered.

If a failure occurs, contact the manufacturer for a Return Authorization and instructions for return shipment. This warranty constitutes the full understanding of the manufacturer and buyer, and no terms, conditions, understanding, or agreement purporting to modify or vary the terms hereof shall be binding unless hereafter made in writing and signed by an authorized official of SensorLink Corporation.

Quality Assurance Certification
Model 8-017 20KVDC VoltStik Meter

SensorLink certifies that its calibration measurements are traceable to the National Institute of Standards and Technology (NIST), to the extent allowed by the Institute's calibration facility, and to the calibration facilities of other International Standards Organization members.

This document certifies the following Model 8-017 20KVDC VoltStik(s) was tested at the SensorLink Corporation High Voltage Laboratory, Ferndale, WA, USA to the appropriate standard and comply with the requirements of that standard.

Serial Numbers _____

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I hereby certify that the 20KVDC VoltStik listed above has passed all tests defined in the SensorLink Corporation standard. I also certify that I have reviewed the standard and test procedure and that y are sufficient in determining compliance with the standard.

Signed_____

Date_____

Form No: SALE-Manual Template VOLTSTIK-012 REV: V01
Date: 11/19/2013
Manual Stock Code No: DOPM-801-700

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