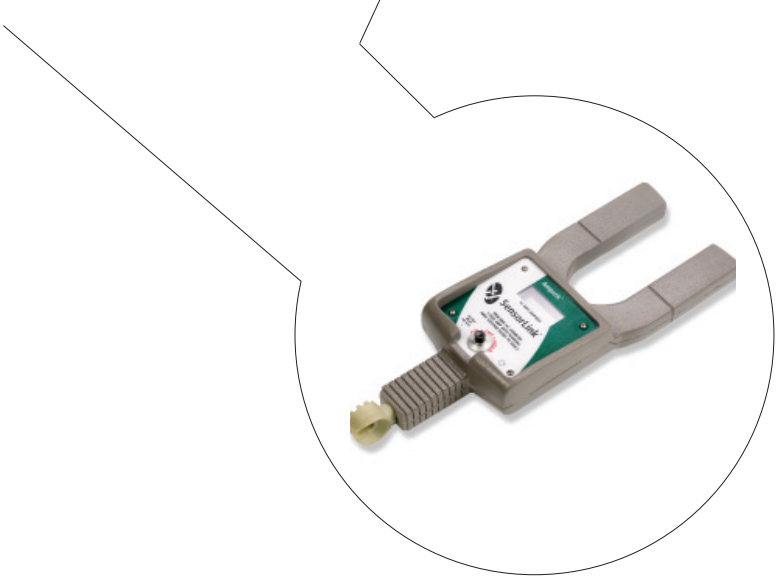

Operators Manual

# True RMS Ampstik®

## Slip-on Ammeters

SensorLink®

# Operators Manual
# True RMS Ampstik®
## Slip-on Ammeters

| Available Stock Codes: | | | |
|---|---|---|---|
| 8-020 XT 50HZ | 8-020 XT 60HZ | 8-020 XT EURO | 8-020 XT FRG |
| 8-022-50HZ | 8-022-60HZ | 8-022-EURO | |
| 8-024-50HZ | 8-024-60HZ | 8-024-EURO | |

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## Overview

The True RMS Ampstik has been developed specifically for measurement of AC current in the electrical utility industry. The True RMS feature allows accurate measurement of current even when the nominal waveform is distorted or when harmonics are present. This instrument can be used remotely with any hot stick and universal chuck adapter or can be hand held. The instrument has no moving parts and does not require clamping onto the wire. The molded housing is water resistant and will withstand high physical impact. The following specifications apply:

## SPECIFICATIONS

| Model Number | 8-020 XT | 8-022 | 8-024 |
|---|---|---|---|
| Range of Operation | | | |
| Voltage Phase to Phase | 0-500kV | 0-69kV | 0-400kV |
| Current | 1-5000A | 1-2000A | 1-2000A |
| Sensor Opening | Standard | Wide Jaw | Wide Jaw |
| Opening Width | 2.5 in<br>6.35 cm | 3.86 in<br>9.8 cm | 3.86 in<br>9.8 cm |
| Type of Reading | Single | Single | Single |
| Resolution | | | |
| Amps 1-99.9A | 0.1A | 0.1A | 0.1A |
| Amps 100-1999A | 1A | 1A | 1A |
| Amps 2000-5000 | 0.01kA | N/A | N/A |
| Weight | 2.15 lbs,<br>0.97 kg | 3.8 lbs,<br>1.76 kg | 3.8 lbs,<br>1.76 kg |
| Accuracy | ± 1%, ± 2 Counts | | |
| Frequency | Actual frequency indicated on unit | | |
| 50 Hz Calibrated | 47 to 53 Hz | | |
| 60 Hz Calibrated | 57 to 63 Hz | | |
| Mechanical | | | |
| Operating Temperature | -22° to +140° F, -30° to +60° C<br>Lithium battery required for temperatures below -4° F (-20° C) | | |
| Display | 3.5 Digit display | | |
| Backlight | Automatic ambient light sensor | | |
| Housing | Shock & water resistant molded urethane | | |
| Hotstick Mounting | Universal chuck adapter (hotstick not included) | | |
| Battery | 9V Alkaline or Lithium | | |
| EEC Standards | Successfully passed international tests indicated by CE | | |

# Safety Information

- The True RMS Ampstik is designed for use with 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.
- For safety purposes the face plate, battery cover, chuck, and entire Ampstik should be considered to be at the same potential.
- Putting the face plate, battery cover, chuck, or other parts of the Ampstik within the air gap of adjacent phases or ground could cause a phase to phase or phase to ground fault.

**WARNING!** Do not force the arms of the Ampstik Plus

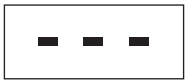
## Operating Instructions

The True RMS Ampstik Plus is controlled by a single push button switch located on the front panel. Operation is as follows:

POWER ON - Press and release the control switch to turn on the instrument.

**Startup Test**

The Ampstik conducts a startup test to verify the sensors and circuitry is functioning correctly. The following screens will display during the test:




If the test detects a failure, the display will show FAIL and a corresponding code. See page eight for the failure code chart.


If the test determines the unit is functioning properly, it will move to normal mode and is ready to take the first measurement. The display will show:


RUN Option - The reading continuously changes as the current changes.

The unit is immediately in the RUN mode after powering on. To place the instrument into the RUN mode from a different mode, press and hold the control switch and scroll to the option RUN, then release the control switch to engage the option.

To take measurements with the True RMS Ampstik Plus in the RUN mode, place the conductor between the two arms and observe the display. For maximum accuracy, be sure that the conductor is below the notches on the arms. If the conductor cannot be placed below the notches, readings can be taken but the accuracy may be lessened.

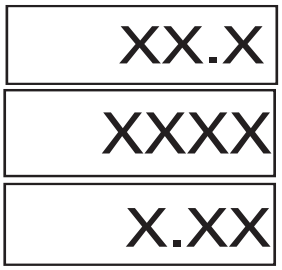
HOLD Option - Stores a Single Reading

Press and hold the control switch to scroll to the HLD option, and release the control switch to engage the option.

The True RMS Ampstik Plus is now in the sample and hold mode, indicated by the word "HOLD" appearing on the display. As shown below, nothing else will display until a measurement is held:

## Operating Instructions, continued

**Note:** The display resolution changes on the following ranges:




0-99.9Amps
0.1Amp resolution

100 to 1999 Amps
1Amp resolution

2000 to 5000 Amps
2.00 kAmps
10 Amp resolution (2 decimal places indicates kAmp range)

CLEARING THE DISPLAY - Clearing the stored measurements

The True RMS Ampstik is now returned to the RUN Mode. Push and release the switch to switch between RUN and HOLD Modes.

POWER OFF - Turning the instrument OFF

Press and hold the control switch to scroll to the OFF option. Release the control switch. The True RMS Ampstik will turn itself off automatically after several minutes of inactivity.

## Automatic Backlight

The Backlight on the Ampstik is designed to automatically power on when the ambient light is low. This helps users view the display in low-light situations. The light sensor is located on the front of the unit. It's location is indicated with the light icon on the front panel next to the switch. The backlight will continue to power on automatically until the user manually changes the settings.

POWER OFF BACKLIGHT - Manually power off the backlight

Press the control switch until the following screen appears:


After releasing the switch, the display will momentarily show:


The backlight will stay off until the user manually powers it back on.

POWER ON BACKLIGHT - Manually power on the backlight

Press the control switch until the following screen appears:


After releasing the switch, the display will momentarily show:


The backlight will now automatically power on when light is diminished or until the user manually powers it back off.

The user may see some flicker with the backlight if the backlight is on when under artificial lighting. This is normal.

## Battery Replacement

When the "LO BAT" indication shows on the display, the battery should be replaced. The unit will continue to operate for a few hours. The Ampstik 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. To avoid breaking the battery leads do not pull on the battery only. Install a fresh battery and reinsert the battery in its compartment. 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 overtightening the screws. Always reuse the screws provided and do not damage or lose the o-ring seal on each screw.

## Cleaning

The Ampstik can be cleaned by wiping with a small amount of alcohol on a rag.

## High Voltage Operation

This instrument is designed to operate in high voltage fields. However, difficulty may be experienced when excessive corona to the instrument occurs. The unit may experience over range and require power to be cycled or may lose a reading when in the sample and hold mode.

# Troubleshooting the Ampstik

## Unit will not power on

Verify there is a fresh 9V battery in the unit.

Verifty the battery connectors have not been disconnected from the molded housing.

## Backlight Flicker

Due to the refresh rate of the light, some users may see flicker if the backlight is on when under artificial lighting. This is normal.

## Fail Codes

FAIL CODE "1": Break to the main current sensor

FAIL CODE "2": Break to a current sensor component

FAIL CODE "3": Circuit failure

FAIL CODE "4": Circuit failure

The above fail codes may also trigger due to dirty pin connections causing errors in readings between the main board and molded housing assembly.

The unit will not enter into measurement mode if the self-test has any of the above failures.  The unit will need to be returned to SensorLink for repair evaluation.

# Repair

## SensorLink Service Department

Please contact SensorLink directly for the return process of product for evaluation, repair, calibration, and verification.  Contact details:

SensorLink Corporation

Tel: (360)595-1000

Fax: (360)595-1001

E-mail: info@sensorlink.com

# 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.

# Quality Assurance Certification
# True RMS Ammeter Models
# 8-020 XT, 8-022, 8-023, 8-024

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 True RMS Ammeter was tested at the SensorLink High Voltage Laboratory, Ferndale, WA, USA to the appropriate standard and comply with the requirements of that standard.

Serial Numbers_____

Model Numbers_____

I hereby certify that the True RMS Ammeter listed above has passed all tests defined in the SensorLink standard. I also certify that I have reviewed the standard and test procedure and that they are sufficient in determining compliance with the standard.

Signed_____

Date_____

Form No: SALE-Manual Template AMPSTIK-006 REV: V01
Date: 11/19/2013
Manual Stock Code No: M050-010-001

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