Secondary Powerline Identifier
Operating Instructions

Features:

- UL listed to both US and Canadian Standards
- One Year Limited Warranty
- Locates AC Secondaries and in some cases primaries
- No need to interrupt power or "blink"
- Distinctive Signal
- Audible and visual indication
- Does not interfere with sensitive electronic equipment
- Designed to meet international safety standards. IEC61010-1.IEC61010-031:2002 Measurement Category CAT III 500V Pollution Degree 2 in accordance with IEC-664.
- Self-calibrating receiver with audible and visual indicators
- HV Transmitter (100-500V) with audible - visual indicators and Digital AC Voltmeter
- LV Transmitter (100-135V) with audible and visual indicators

SPERRY INSTRUMENTS
The Professional's Choice®

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Description:

Say goodbye to "blinking" the next time you need to identify a secondary conductor. The innovative SPI from Sperry not only eliminates having to "blink" power but now makes locating and identifying secondary, neutral and in some cases primary conductors a simple one-man job.

The easy-to-use transmitter and receiver combo is a fraction of the cost of current multi-function test equipment alternatives. Now every linesman can be equipped with his own SPI system.

Locating a Secondary Using the HV Transmitter (100-500V):

1. Hooking up the HV Transmitter to a meter base or conductors measuring up to 500VAC.

1.1. Meter base hookup:

Hook up HV Transmitter (SPI-HV) to the load side of conductors at the meter base to be identified.

Turn on transmitter and verify the unit is on and transmitting a signal. This is indicated by the flashing LED and audible beeping. If voltage is present across the terminals the transmitter will display this voltage on the LCD. After this is set up and operating properly you can now move on to tracing the conductors.

1.2. High voltage conductor hookup:

The HV transmitter is rated for 500 Volts maximum use so you may attach the transmitter between any two conductors. Line to Line (480V or less) or line to neutral. When attaching the transmitter between line and neutral, the receiver can be used to identify line and neutral. It will identify both the line conductor and the Neutral conductor. When attaching the transmitter from line to line the receiver will identify both of the legs that it is connected to. Turn on transmitter and verify unit is operating properly as stated above.

Note: The HV Transmitter may be used on AC Circuits from 100-500VAC. It may be used as a standard AC voltmeter to take measurements or it may be used as the transmitter and AC voltmeter or detecting and measuring circuits. To extend battery life, you should use the HV Transmitter in the AC Volts position when just looking for Voltage measurements.

2. Tracing the conductors:

2.1. You may now use the receiver at the Distribution Transformer, Secondary Junction box or pedestal.

2.2. Turn on receiver and verify it is operating properly. The illuminated LED will indicate this.

2.3. To calibrate the unit place tip firmly against the first secondary wire in the enclosure and hold the calibration trigger while moving the receiver across the other wires. When the receiver responds to a wire, stop movement until the receiver stops responding, then continue moving the receiver to the next wire.
Note: during the calibration process the receiver may respond to more than one of the secondary wires each time this occurs wait for the receiver to stop responding before moving to the next secondary wire.

2.4. After scanning all of the secondary wires release the calibration switch and rescan them.

2.5. Only one wire will now produce a response in the receiver.

2.6. Now that you have identified the conductor you may now mark or work on the correct conductor without blinking power to other circuits or customers. Remember to turn off the HV Transmitter and Receiver. **Note:** turning off the receiver resets the calibration circuit if another scan is desired.

3. Locating a secondary powerline using a 110 volt outlet:

3.1. Plug the LV Transmitter (SPI-LV) into an AC Outlet and verify the unit is on and sending out an audible and visual signal.

3.2. Go to the commercial or residential transformer and open the enclosure.

3.3. Using standard safety precautions trace the conductors per the method discussed in Section 2 “Tracing the Conductors.”

3.4. Remember to unplug the LV Transmitter and to turn off the receiver when done. **Note:** turning off the receiver resets the calibration circuit if another scan is desired.

Safety Warnings

This instrument has been designed, manufactured and tested according to IEC61010: Safety requirements for Electronic Measuring apparatus, and delivered in the best condition after passing inspection. This instruction manual contains warnings and safety rules which must be observed by the user to ensure safe operation of the instrument and retain it in safe condition. Therefore, read through these operating instructions before using the instrument.

WARNING

- Read through and understand the instructions contained in this manual before using the instrument.
- Keep the manual at hand to enable quick reference whenever necessary.
- The instrument is to be used only in its intended applications.
- Understand and follow all the safety instructions contained in the manual.
- It is essential that the above instructions are adhered to.
- Failure to follow the above instructions may cause injury, instrument damage and/or damage to equipment under test.

DANGER is reserved for conditions and actions that are likely to cause serious or fatal injury.

WARNING is reserved for conditions and actions that can cause serious or fatal injury.

CAUTION is reserved for conditions and actions that can cause injury or instrument damage.

DANGER

- Never make measurement on a circuit in which voltage over AC 500V exists.
- Do not attempt to make measurement in the presence of flammable gasses. Otherwise, the use of the instrument may cause sparking, which can lead to an explosion.
- Never attempt to use the instrument if its surface or your hand is wet.
- Do not exceed the maximum allowable input of any measuring range.
- Never open the battery cover during a measurement.
- The instrument is to be used only in its intended applications or conditions. Otherwise, safety functions equipped with the instrument doesn't work, and instrument damage or serious personal injury may be caused.

WARNING

- Never attempt to make measurement if any abnormal conditions, such as broken case and exposed metal parts are found on the instrument.
- Do not install substitute parts or make any modification to the instrument. For repair or re-calibration, return the instrument to your local distributor from where it was purchased.
- Disconnect all the cords and cables from the object under test and power off the instrument before opening the battery cover for battery replacement.
- Verify proper operation on a known source before use or taking action as a result of the indication of the instrument.
- Use appropriate personal protective equipment such as insulating gloves, insulating boots, and safety glasses.

CAUTION

- Set the function switch to an appropriate position before starting measurement.
- Firmly insert the test leads.
- Do not expose the instrument to the direct sun, high temperature and humidity or dewfall.
- Altitude 2000m or less. Appropriate operating temperature is within 0°C and 40°C.
- This instrument isn't dust and water proofed. Keep away from dust and water.
- Be sure to power off the instrument after use. When the instrument will not be in use for a long period, place it in storage after removing the batteries.
- Cleaning: Use a cloth dipped in water or neutral detergent for cleaning the instrument. Do not use abrasives or solvents otherwise instrument may get damaged, deformed or discolored.

The Symbol  indicated on the instrument means that the user must refer to the related parts in the manual for safe operation of the instrument. It is essential to read the instructions wherever the  symbol appears in the manual.

Marks listed in the table below are used on this instrument.

	User must refer to the manual.
	Instrument with double or reinforced insulation.
	Indicates that this instrument can touch bare conductors when measuring a voltage corresponding to the applicable measurement, which is marked next to this symbol.

Measurement categories (Over-voltage categories)

To ensure safe operation of measuring instruments, IEC61010 establishes safety standards for various electrical environments, categorized as CAT. I to CAT. IV, and called measurement categories.

CAT. I : Secondary electrical circuits connected to an AC electrical outlet through a transformer or similar device.

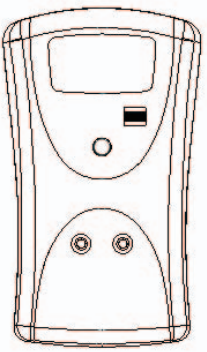
CAT. II : Primary electrical circuits of equipment connected to an AC electrical outlet by a power cord.

CAT. III: Primary electrical circuits of the equipment connected directly to the distribution panel, and feeders from the distribution panel to outlets.

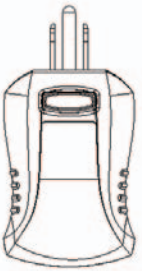
CAT. IV: The circuit from the service drop to the service entrance, and to the power meter and primary over current protection device (distribution panel).

The SPI Kit comes packed with:

- One (1) SPI-HV Transmitter (100-500V)
- One (1) SPI-LV Transmitter (100-135V)
- One (1) SPI–R Receiver
- Two (2) Lead Sets
- Two (2) Alligator Clips
- One (1) Hard Carrying Case
- Two (2) 9 Volt Batteries
- Operating Instructions and Warranty Card

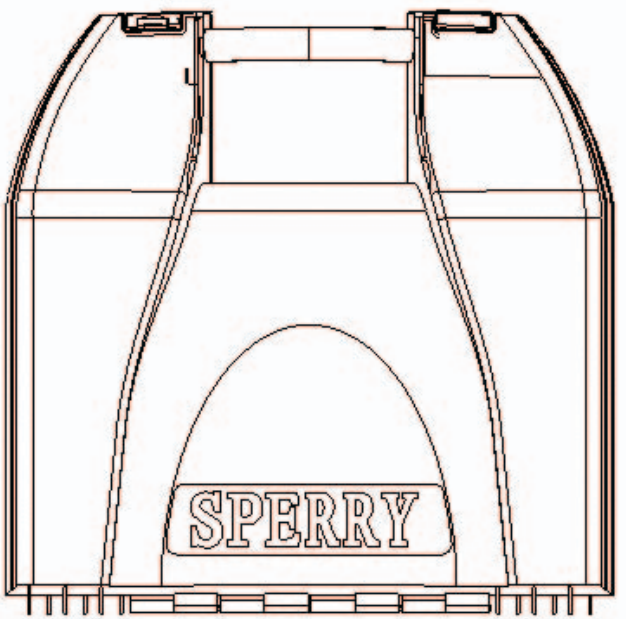


SPI-HV



SPI-LV

SPI-R



General Specifications:

The SPI Component parts are for measurements on lines carrying the following levels of voltage as listed below.

SPI-R Receiver:	100 – 500VAC 50-60Hz
SPI-HV Transmitter:	100 – 500VAC 50-60Hz
SPI-LV Transmitter:	100 – 135VAC, 1W, 50-60Hz
Power Supply:	SPI-R, SPI-HV: One (1) 9V Transistor type alkaline battery (NEDA 1604).
Operating Environment:	32° to 104°F (0° to 40°C), 80% RH max. 50% RH above 31°C.

Preparation For Use:

Before using install both 9-volt alkaline batteries (included) in the receiver (SPI-R) and HV transmitter (SPI-HV) and test for proper operation. Test the batteries in both the receiver and transmitter by turning the units on and noting if the L.E.D.s illuminate. If the L.E.D.s illuminate the batteries are good but if the L.E.D.s do not light then replace the battery(s) and test again.

Battery Life:

Receiver: Replace the batteries when the L.E.D fails to light or becomes noticeably dim. To conserve battery life, turn off receiver when not in use.

HV Transmitter: Replace the battery when **"LOBAT"** appears in the display or the LCD fails to turn on. To conserve battery life, turn off transmitter when not in use. **Note:** The high voltage transmitter will consume more current from the battery in transmitter/AC Voltage mode then in just AC voltage mode.

ONE YEAR LIMITED WARRANTY

Sperry Instruments warrants that this Sperry instrument has been carefully tested, inspected, and warranted for one (1) year from the date of purchase by the original end user purchaser, and the instrument has not been misused, damaged due to negligence, neglect or unauthorized repair, abused or used contrary to the operating instructions. Instruments and proof of purchase in the form of a legible copy or original of the sales receipt clearly identifying the distributor, model number and date of purchase must be returned to Sperry Instruments Attention: Customer Service Center, 2150 Joshua's Path, Suite 302, Hauppauge, NY 11788, P.O. Box 9300, Smithtown, NY 11787-7929, Postage prepaid for examination of verification of manufacturing defect under warranty. Sperry Instruments shall be the sole judge of such defect. Liability of Sperry Instruments shall be limited to the repair or replacement at its sole option of any defective product.

WARRANTY RETURN

Refer to Section "Return for Repairs" for complete instructions. All warranty returns must include a legible copy or original of the sales receipt clearly identifying the model number, serial number and date of purchase.

RETURN FOR REPAIRS

Before returning your digital multimeter for repair be sure to check that the failure to operate properly is not due to the following:

1. Weak battery
2. Open, loose or intermittent test leads.

If these conditions do not exist and the instrument fails to operate properly, return the instrument and accessories prepaid to: Sperry Instruments, Customer Service Department, 2150 Joshua's Path, Suite 302, Hauppauge, N.Y. 11788, P.O. Box 9300, Smithtown, N.Y. 11787-7929. State in writing what is wrong with the instrument. All warranty repairs must include proof of purchase in the form of a legible original copy of the sales receipt clearly identifying the distributor, model number and date of purchase.Repair estimate will be furnished if requested for out of warranty instruments. Be sure to include all accessories, which may be related to the problem and a note describing the malfunction you observed.

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