

# LV-5

**Direct Contact Low Voltage Detector and  
LV-5/K01 Kit including LV-PT Tester, Holster  
and Available Accessories  
Operating & Instruction Manual**



CE

**HDE** **HD ELECTRIC COMPANY**  
A Textron Company

1475 Lakeside Drive • Waukegan, Illinois 60085 U.S.A. • 847.473.4980  
fax 847.473.4981 • website: [www.HDElectricCompany.com](http://www.HDElectricCompany.com)



# LV-5

## Direct Contact Low Voltage Detector and LV-5/K01 Kit including LV-PT Tester, Holster and Available Accessories

### Operating & Instruction Manual

|  |   |
|--|---|
| DESCRIPTION .....                          | 4 |
| IMPORTANT SAFETY INFORMATION .....         | 4 |
| HOW TO USE IT .....                        | 5 |
| BATTERY REPLACEMENT .....                  | 5 |
| TECHNICAL SPECIFICATIONS .....             | 7 |
| ACCESSORIES .....                          | 7 |
| LIMITATION OF WARRANTY AND LIABILITY ..... | 8 |

## DESCRIPTION

The LV-5 is a hand held low voltage detector for testing exposed metallic surfaces and conductors for the presence of low voltage 50/60Hz AC. This Detector is designed to be hand held as shown and to detect AC voltage on any metallic surface or conductor that is in direct contact with the metallic tip of the Detector. The presence of AC voltage greater than 5 volts is indicated by a flashing red light. The LV-5 is always on and ready to detect voltage.

## IMPORTANT SAFETY INFORMATION

**CAUTION:** The Detector should be hand held as shown. Keep hands and fingers behind the hand guard at all times. This device can be used to detect voltages up to 600VAC.

Do not exceed 600VAC with direct contact. This Detector is designed for use by trained professionals. Use caution before contacting any equipment or conductor on which AC voltage is detected. The voltages detected by this Detector may be lethal.

**WARNING:** This Detector does not detect DC. Flashing light indicates

AC voltage. Do not use the LV-5 Detector or LV-PT Tester except as directed. Do not use the Tester with equipment other than the LV-5. Contacting voltage above 600V with the Detector or applying the Tester to energized circuits or equipment may lead to electric shock, severe injury or death. Refer all servicing to the factory.



## HOW TO USE IT

**TEST THE LV-5 DETECTOR** with the LV-PT Tester before and after each use. The Tester supplies a non-lethal low voltage AC signal to the metal button in the center of the clear plastic cone. To test the LV-5 Detector, hold the Detector as shown and press the tip of the LV-5 into the metal button of the LV-PT Tester. If the LV-5 will be used with a gloved hand, this testing shall be performed while the hand holding the Detector is wearing the same glove that will be used while performing the actual stray voltage test. A red light on the Tester indicates the battery is OK. A flashing red light on the Detector indicates voltage is detected. Note that for best test results, the holster should be worn as shown. The hand on the Detector and the placement of the holster on the user are part of the test circuit and can affect test results. If the holster is not used as shown, similar body contact must be maintained between the Detector and the Tester. For example, the hand of the user can be placed behind or around the body of the Tester while the other hand holds the Detector, as shown on page 4.



## TEST FOR VOLTAGE

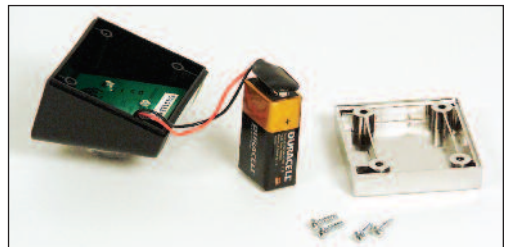
Test for voltage by touching the metal tip of the LV-5 Detector to an exposed metal surface of the equipment or conductor to be tested. Hold the Detector by hand as shown above. The hand of the user is part of the detection circuit. A flashing red light indicates voltage of 5 volts or more.

## OPERATIONAL IMPAIRMENT

If the LV-5 is used in a manner not described in this instruction manual, the protection and effective operation of this equipment may be impaired.

## BATTERY REPLACEMENT INSTRUCTIONS

To replace the LV-5 batteries, unscrew the tip, remove and dispose of the old batteries, replacing them with two fresh, new alkaline or lithium type AA batteries. For the LV-PT, remove the four screws and replace the 9V battery with a fresh, new 9V alkaline or lithium type.



## TECHNICAL SPECIFICATIONS

Model LV-5 includes LV-5 Stray Voltage Detector.

Model LV-5/K01 Kit includes LV-5, LV-PT Tester and LV-HS Holster. Optional accessories include LV-EH Extension Handle and LV-GS Ground Shield. See page 7 for details.

**DIMENSIONS:** 10.5 in. L x 3.8 in. W x 2.3 in. H (26.7 cm x 9.7 cm x 5.8 cm)

**WEIGHT:** 1.25 lb (570 g)

**BATTERY:** LV-5 Detector: 2 x AA alkaline ANSI-15A, IEC-LR6 or lithium ANSI 15-LF, IEC-FR6  
LV-PT Tester: 9V alkaline ANSI 1604A, IEC 6LR61 or 9V lithium ANSI-1604LC

**THRESHOLD DETECTION VOLTAGE:** 5VAC, 50/60Hz Nominal, capacitively coupled

**MAXIMUM APPLIED VOLTAGE:** 600VAC

**ENVIRONMENTAL CONDITIONS:**  
Indoor and outdoor use

**ALTITUDE:** Up to 6,566 ft. (2000M)

**OPERATING TEMPERATURE:**  
-20°F to +140°F (-29°C to +60°C)

**HUMIDITY:** 95% to +60°C  
(non condensing)

**POLLUTION DEGREE:** PD4

**MEASUREMENT CATEGORY:**

Classification Rating (CAT IV) – Product is intended for use with test and measuring circuits up to 600 VAC connected to the circuits/wiring outside of a building installation, including transmission lines.

**OVERVOLTAGE CATEGORY IV**

**ENCLOSURE MATERIALS:** LV-5: Outer grip ENSOFT SL 300-60A TPE, handle WONDERLITE PC-110 polycarbonate, tip Zytel ST801 AHS nylon. LV-PT: ABS UL 94-HB

**PRINTED CIRCUIT BOARDS:** FR-4 UL 94-V0




**CLEANING INSTRUCTIONS** - To clean the LV-5, LV-PT, LV-EH and LV-GS wipe with a damp cloth with water. Do not use harsh chemicals or solvents.

**DAMAGE** - If you suspect any mechanical or electrical damage, do not use the LV-5 or LV-PT and arrange for repair by returning to the factory.

**CALIBRATION & TESTING** - Regular calibration is not required. There is no calibration adjustment.

**REPAIRS** - All repairs are performed at HD Electric Company. If any damage is found please contact HD Electric Company at 847-473-4980 to arrange for service.

**MANUFACTURING LOCATION** – HD Electric Company • Waukegan, IL. 60085, USA

|   |   |
|---|---|
| <b>Tester for LV-5</b>  |   |
| Model Number: LV-PT   |   |
| Serial Number:  |   |
| Output Voltage: 8VAC  |   |
|    |   |
|    | <b>HD ELECTRIC COMPANY</b><br>www.HDElectricCompany.com |
| <small>LV-5 Direct Contact Low Voltage Detector      Read Instructions before use.<br/>For use by trained personnel only. Detects voltages above <b>5VAC, 50/60Hz</b> with direct contact only.<br/>Test before each use with LV-PT Tester. Do not use if the Tester fails to activate the red light.<br/><b>WARNING:</b> Does not detect DC voltage. Light indicates AC voltage. Contacting voltage above 600V may lead to electric shock, severe injury or death. Refer all servicing to factory.</small> |   |
| <small>HDE www.HDElectricCompany.com</small>  | <small>IEC CAT IV 600VAC</small>                        |
|  2/15  |   |

## ACCESSORIES

### LV-EH EXTENSION HANDLE

The LV-EH Extension Handle extends the reach of the LV-5 Detector.



Insert the LV-5 into the open end of the LV-EH. Test the assembled LV-5 Detector and LV-EH Extension Handle before use with the LV-PT Tester, as shown on the right.

If gloves will be worn while using the LV-EH, use those same gloves while performing this test.

### LV-GS GROUND SHIELD

The LV-GS Ground Shield prevents nearby strong electric fields from affecting the LV-5 Detector. Use the LV-GS while using the LV-5 in or around high voltage substations, under overhead distribution or transmission lines or near other high voltage energized equipment.



The LV-5 Detector is inserted into the open end of the LV-GS. Test the assembly of the LV-GS and LV-5 using the LV-PT Tester before each use.

The alligator clip should be connected to a driven ground or other known good ground (not supplied).



## LIMITED WARRANTY AND LIMITATION OF LIABILITY

This warranty applies to all products sold by HD Electric Company (the "Products"); provided, however, that the term Products does not include any third party products purchased through HD Electric Company, for which no warranties are made (the "Third Party Products"). Third Party Products may be subject to a separate manufacturer's warranty; [should you have any question regarding whether a separate warranty applies, please contact HD Electric Company].

NOTICE: READ THIS LIMITATION OF WARRANTY AND LIABILITY BEFORE BUYING OR USING THE PRODUCTS CONTAINED HEREIN.

It is impossible to eliminate all risks associated with the use of the Products. Risks of serious injury or death, including risks associated with electrocution, arcing and thermal burns, are inherent in work in and around energized electrical systems. Such risks arise from the wide variety of electrical systems and equipment to which Products may be applied, the manner of use or application, weather and environmental conditions or other unknown factors, all of which are beyond the control of HD Electric Company.

HD Electric Company does not agree to be an insurer of these risks, and shall have no liability for any claims arising from such risks.

WHEN YOU BUY OR USE THESE PRODUCTS, YOU AGREE TO ACCEPT THESE RISKS.

HD Electric Company warrants to the original purchaser that the Products (excluding any third party products purchased through HD Electric Company, for which no warranties are made) will be free from defects in material and workmanship, under normal use and regular service, and preventative maintenance for a period of one (1) year (ten (10) years for HDE Capacitor Controls) from the date of shipment (the "Warranty Period"). Should any failure to conform with this warranty be found during the Warranty Period, you must notify HD Electric Company of your claim within thirty (30) days of discovery, and within the Warranty Period. Your failure to give notice of claims of breach of warranty within the Warranty Period shall be deemed an absolute and unconditional waiver of claims for such defects. HD Electric Company will have no responsibility to honor claims received after the date the applicable Warranty Period expires.

Upon notice of your claim, HD Electric Company will provide a return authorization number, and further instructions on how to return the product for service. You must follow HD Electric Company's instruction. You are responsible for all Product removal, handling, re-installation, and shipping (both to and from HD Electric Company). Products returned for repair, as well as repaired or replacement Products shall be sent postage / freight prepaid. After receipt of a product which HD Electric Company determines is defective, HD Electric will, at its option, either (1) repair (or authorize the repair of) the Product or (2) replace the Product, subject to the following: The Products are made using parts sourced from a variety of manufacturers. Due to the rapidly changing technology environment, parts may become obsolete / unavailable over time (end of life). In the event that a Product cannot be repaired or replaced due to unavailability of parts, HD Electric Company will use commercially reasonable efforts to obtain substitute parts or conduct work around design, but cannot guarantee its ability to do so.

Items not found defective will be returned at your expense, or failing receipt of instruction from you on return of such items within five (5) business days of our notice to you that the product is not defective, HD Electric may dispose of the product at its discretion and with no liability to you. HD Electric Company's determination of defects is final. Products repaired or replaced during the Warranty Period shall be covered by the foregoing warranties for the remainder of the original Warranty Period or ninety (90) days from the date of delivery of the repaired or replaced Products, whichever is longer.

### LIMITATIONS:

This warranty is void in the event of misuse, alteration, faulty installation, or misapplication of the product.

This warranty does not cover failure of product or components due to any ACT OF NATURE; lightning, floods, hurricanes, tornadoes or any other such catastrophic events.

HD Electric Company does not warrant any third party products or associated hardware or their performance or suitability for use and application. Such items are provided "as-is".

All repairs must be authorized by HD Electric Company. Unauthorized repairs will not be reimbursed under any circumstances.

HD Electric Company is not required to make replacement or loaner equipment available while Products are being repaired or replaced, or to compensate you for any in/out labor charges or expenses associated with removal, handling or re-installation of the Products.

TO THE MAXIMUM EXTENT PERMITTED BY LAW, THIS WARRANTY AND THE REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED. HD ELECTRIC EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY AND NON-INFRINGEMENT.

IN NO EVENT SHALL HD ELECTRIC COMPANY BE LIABLE FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THESE PRODUCTS. THIS SHALL INCLUDE BUT, NOT LIMITED TO, LOST PROFITS OR REVENUE, LOSS OF USE OF THE PRODUCTS, COST OF SUBSTITUTE PRODUCTS, FACILITIES OR SERVICES, OR DOWNTIME.

IN NO EVENT SHALL HD ELECTRIC COMPANY HAVE ANY LIABILITY FOR ANY THIRD PARTY PRODUCTS OR ASSOCIATED HARDWARE, OR CUSTOMER-OWNED SYSTEMS, EQUIPMENT OR SOFTWARE.

HD Electric Company must have prompt notice of any claim so that an immediate product inspection and investigation can be made. Buyer and all users shall promptly notify HD Electric Company of any claims, whether based on contract, negligence, strict liability, or other tort or otherwise be barred from any remedy.

HD Electric Company is committed to ongoing review and improvement of its product lines, and thus reserves the right to modify product design and specifications without notice.

HD Electric Company® products are available through HDE® sales representatives worldwide.