



IDEAL 61-637 Single Range Non Contact Voltage Testers Instruction Manual

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IDEAL 61-637 Single Range Non Contact Voltage Testers



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Introduction

The IDEAL 61-637 and 61-627 Single Range Non-Contact Voltage Testers automatically detect and indicate the presence of voltage within specified ranges.

The 61-637 detects voltage within a range of 24-600V AC and the 61-627 detects voltage within a range of 50-600V AC. Both testers provide non-contact detection of voltage through an antenna enclosed in plastic at the tip of

the tester which senses the presence of the electromagnetic field present around live conductors. The 61-637 has a flash light that works independently of the testing function and is activated by an independent On/Off button.



Arc Flash and Shock Hazard, Proper PPE Required. Follow all safety procedures, wear proper PPE in accordance to NFPA 70E. Read and fully understand the instruction manual prior to using this product. Failure to comply can result in serious injury or death.

Contacting IDEAL INDUSTRIES, INC.

To contact IDEAL INDUSTRIES, INC., call one of the following telephone numbers:

IDEAL Industries USA Customer Service

- **Phone Number:** [800-435-0705](tel:800-435-0705)
- **Email:** contactus@idealindustries.com

IDEAL Industries Canada Customer Service

- **Phone Number:** [905-683-3400](tel:905-683-3400)
- **Email:** ideal_Canada@idealindustries.com

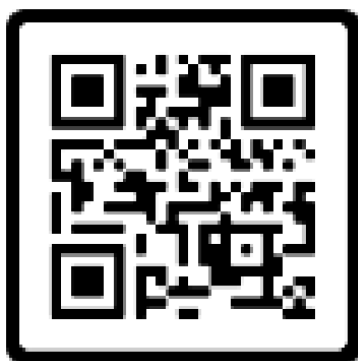
IDEAL Industries EMEA

- **Phone Number:** +44 (0)1925 444 446
- **Email:** eur.sales@idealindustries.com

IDEAL Industries Australia

- **Phone Number:** +61 3 9562 0175
- **Email:** InfoAUS@idealindustries.com

Or visit the IDEAL Electrical Website at www.idealind.com To register your product, find manuals, watch videos, simply scan this QR code.



Safety Information



Warning – Identifies conditions and actions that could result in possible death or serious injury if the hazard is realized.



Caution – Identifies conditions and actions that could result in tester damage, equipment under test damage or data loss if the hazard is realized.



WARNING

Arc Flash and Shock Hazard, Proper PPE Required. Follow all safety procedures, wear proper PPE in accordance to NFPA 70E and follow the guidelines below and the instructions in this manual when operating the tester. Failure to comply can result in serious injury or death.



- Choking Hazard, Small Parts. Keep Away from Children Sharp Objects Hazard, This is not a toy. It is not for use or play by children. Keep Away from Children. Failure to do so can result in serious injury. Only experienced or technically competent consumers should use this equipment. When in doubt, call an experienced electrician to make any and all necessary repairs or installations. At all times, perform any necessary work on a de-energized circuit that has had its circuit breaker turned off and has been locked out.
- Use the Tester only as specified in this manual or protection provided by the Tester can be compromised.
- Before using the Tester, visually inspect it to ensure the case or tip are not cracked and the battery cap is securely in place. Do not use if the Tester appears damaged.
- When using the tester, keep fingers behind the tactile barrier at the base of the tester. (see #4 on page 9)
- This Tester is intended for use by qualified electricians and competent consumers. Follow NFPA 70E Standards for Electrical Safety when using this Tester.
- Do not use without the batteries correctly in place and the slide on battery cover secured.
- Do not use Tester if it operates incorrectly as protection may be compromised. When in doubt, have the Tester serviced.



WARNING

Arc Flash and Shock Hazard, Proper PPE Required. Follow all safety procedures, wear proper PPE in accordance to NFPA 70E and follow the guidelines below and the instructions in this manual when operating the tester. Failure to comply can result in serious injury or death.

- Have the Tester serviced only by qualified service personnel.
- Do not use the Tester around explosive gas, dust, or vapor, or during electrical storms, or in wet environments.
- Do not apply more than the rated voltage, as marked on the Tester. Observe CAT Rating of Tester when in use.
- To avoid false readings that can lead to electrical shock and injury, replace the batteries as soon as the low battery indication appears.
- Voltages exceeding 30VAC or 60VDC pose a shock hazard so use caution.
- Do not work alone so that assistance can be rendered in an emergency.
- Use extreme caution when working around bare conductors or bus bars. Contact with the conductor could result in electric shock.
- Adhere to local and national safety codes. Individual protective equipment must be used to prevent shock and

arc blast injury where hazardous live conductors are exposed.







-  Cancer and Reproductive Harm – www.P65Warnings.ca.gov






CAUTION

Tester damage can occur if the following guidelines are not adhered to.

- Use the proper settings and voltage ratings for the measurement application.
- Clean the case and accessories with a damp cloth and mild detergents only. Do not use abrasives or solvents. Make sure the tester is completely dry before use.
- Not intended for insertion into electrical outlet slots.
- Do not apply excessive side or torsional loading to the sensing tip as damage may occur

Symbols & Descriptions

SYMBOL	DESCRIPTION
	Arc Flash and Shock Hazard
	Shock Hazard
	Warning or Caution
	Choking Hazard
	AC (Alternating Current)
	Earth Ground
CAT III	IEC Measurement Category III CAT III has protection against transients in equipment in fixed- equipment installations such as distribution panels feeders, and short branch circuits. Also included are lighting systems in larger buildings.
CAT IV	IEC Measurement Category IV CAT IV has protection against transients from the primary supply level such as a Meter or overhead or underground utility service.

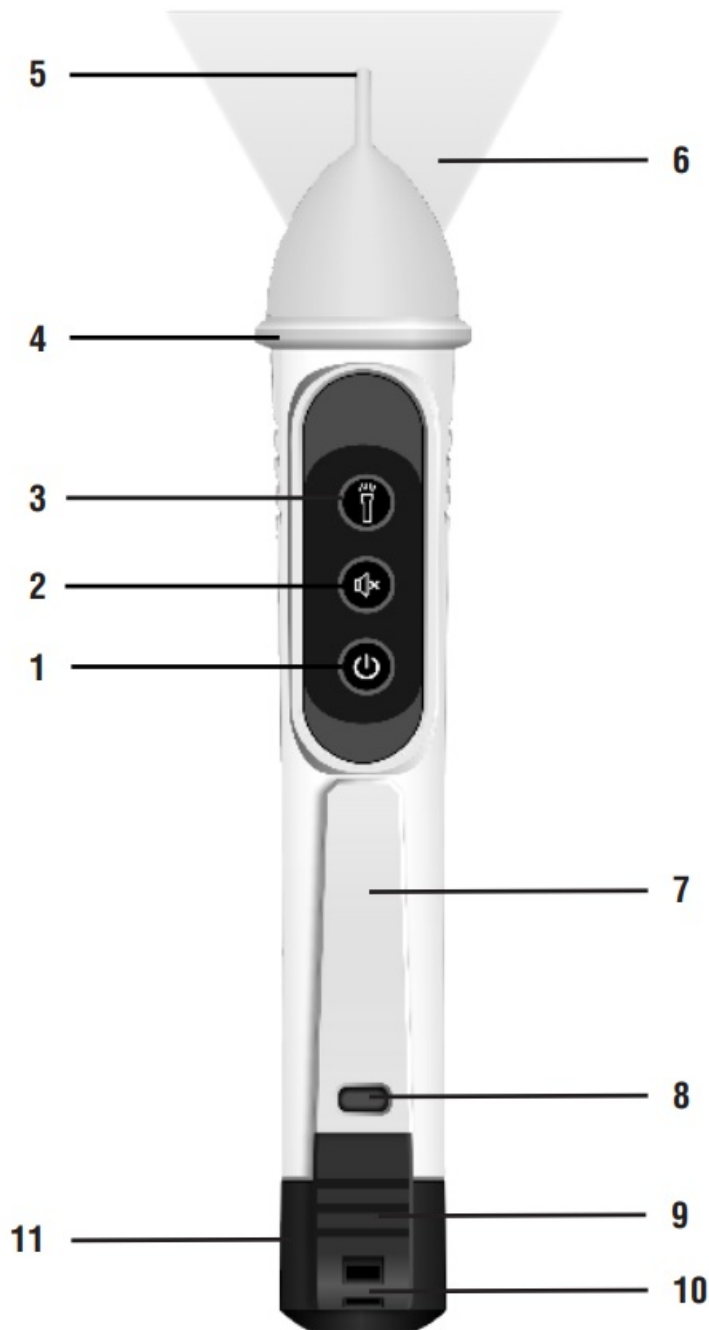
V	Voltage AC
	Double Insulation
	Do not dispose of this product as unsorted municipal waste. It must be properly disposed of in accordance with local regulations. Please see www.epa.gov or www.erecycle.org for additional information.
	Conforms to applicable North American Safety Standards
	Conforms to applicable Australian Safety Standards
	Conforms to European Directives

NOTE: Tester must be used within the designated CAT Rating.

Operation

Identification and Description of Operating Functions for the 61-637 Single Range 24 to 600V AC NCVT w/ Flashlight and 61-627 Single Range 50 to 600V AC NCVT:

1. Power On/Off button
2. Audible Notification On/Off button (61-637 Only)
3. Flashlight On/Off button (61-637 Only)
4. Tactile Barrier
5. Non-Contact Voltage Sensing Tip
6. Flashlight (61-637 Only)
7. Pocket Clip
8. Battery Cover Locking Point
9. Battery Cover Release Point
10. Lanyard Tie Off Point
11. Battery Cover



Operating Features

Audible Notification Disable (61-637 Only)

The tester can be operated with a visual only indication of voltage when working in noise sensitive/noise restricted areas. With the tester On, press the Speaker button for less than 1s. The tester will beep once to indicate the audible warning is muted and only a visual indication will be provided. To restore the audible warning, press the speaker button for less than 1s. The tester will beep twice to indicate the audible warning is active and both a visual and audible indication will be provided. The tester is set to Audible Notification On as the default setting.

Flashlight (61-637 Only)

An LED Flashlight in the tip operates independently of the tester functions and can be used to illuminate the work area. Press the Flashlight Button to turn it On/Off. The tester is set to Flashlight Off. The Flashlight will Auto Power Off after 5 minutes of no voltage detection. Further voltage detection will reset the APO function to 5 minutes again.

Note: Use of the flashlight will decrease battery life.

Auto Power Off

After 10 minutes of inactivity (no button pressed and no signals detected), the tester will emit one long beep (~0.5s) and then shut off. Note: if the flashlight is on, it will be also shut off.

Low Battery Indication

If battery voltage is less than around 2.4V, the green led in the tip will flash 3 times and the buzzer will send out one long beep, then turn off the device.

Tester Operation

Turning The Tester On

Press the Power On/Off button for less than 1s to turn the tester On. The tester will beep twice, and will light a steady Green LED in the tip of the tester to indicate Power On.



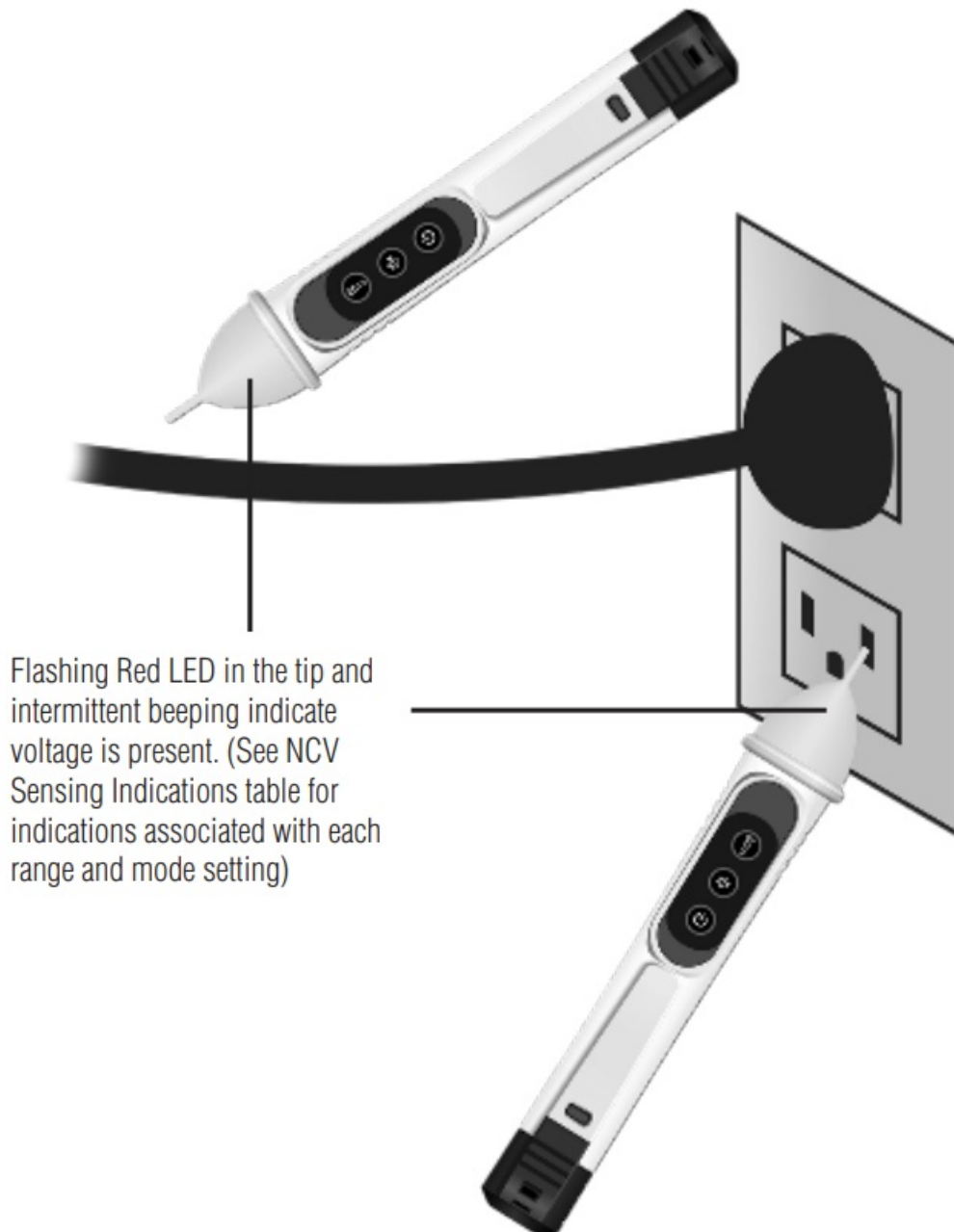
Turning The Tester Off

Press the Power On/Off button for more than 1s to turn the tester Off. Listen for a long steady beep (~.5s) and

watch for LED in the tip to turn off. The tester is now deactivated and is not operational.

Checking for The Presence of AC Voltage

Prior to use, test on known live circuit to verify tester functionality. Place tip of the tester near an AC voltage source and refer to the NCV Sensing Indications Table for tester indication during operation.



While the NCV is a helpful function, it is ALWAYS RECOMMENDED that the operator verify that any electrical conductor is completely deenergized and that no voltage is present by measuring for voltage AND CONFIRMING THAT NO VOLTAGE IS PRESENT and that all applicable PPE and lock out tag out procedures be followed before attempting any work on ANY electrical distribution system.

Voltages with frequencies higher than 60Hz or electrostatic charges may also be detected by the NCV sensing antenna. Due to the variability of designs across device manufactures the 61-627 and 61-637 may not detect the presence of voltage in Tamper Resistant Outlets.

61-637 NCV Sensing Indications Table

NCV Indications	Ranges (V AC)				
Mode	18-25V	26-34V	35-45V	46-54V	55-600V
Normal Mode (24-600V AC)	Red Flashing Light in Tip and beeps @ 2Hz	Red Flashing Light in Tip and beeps from 2 Hz to 4Hz	Red Flashing Light in Tip and beeps @ 4Hz	Red Flashing Light in Tip and beeps from 4 Hz to 12 Hz	Red Flashing Light in Tip and beeps @ 12Hz
Audible Notification Disabled (24-600V AC)	Red Flashing Light in Tip @ 2 Hz, No beeps	Red Flashing Light in Tip from 2Hz to 4Hz, No beeps	Red Flashing Light in Tip @ 4Hz, No beeps	Red Flashing Light in Tip from 4Hz to 12Hz, No beeps	Red Flashing Light in Tip @ 12Hz, No beeps

Note: Indications above may be subject to variability caused by humidity, insulation thickness, distance, and other factors.

61-627 NCV Sensing Indications Table

NCV Indications	Ranges (V AC)
Mode	50-600V AC
Normal Mode (50-600V AC)	Red Flashing Light in Tip and beeps @ 12Hz

Note: Indications above may be subject to variability caused by humidity, insulation thickness, distance, and other factors.

Functions Operation Table

Indication	Response	Default Function	Operation
On Off	Meter On	GREEN LED	Push Button
Audible (61-637 Only)	Beeps	On	Push Button
Flashlight (61-637 Only)	Flashlight On	Off	Push Button

Functions Indication Table

Function	Description
Power On	Steady Greenlight in Tip, 2 Short Beeps
Power Off	No Light, Long Beep
Tester Auto Power Off	Green Light Flashes, 1 Beep
Audible OFF (61-637 Only)	One Beep
Audible ON (61-637 Only)	Two Beeps
Flashlight Button (61-637 Only)	Flashlight On or Off

Electrical Specifications

Function	Range
AC Voltage Sensing 61-637	24V AC to 600V AC
AC Voltage Sensing 61-627	50V AC to 600V AC
Frequency	50Hz or 60Hz AC

Environmental Specifications

Operating Temperature:	32°F to 104°F (0°C to 40°C) (<80%RH)
Operating Altitude:	6500 ft (2000 m)
Storage Temperature:	14°F to 122°F (-10°C to 50°C) (<80%RH)

Intended for indoor use.

Mechanical Specifications

Dimensions: (L x W x H)	6.0 in. x 1.0 in. x 1.1 in. (154 mm x 26 mm x 29 mm)
Weight:	0.13 LBS (0.06 KG)
Power Source:	(2) 1.5V AAA Batteries
Flashlight: (61-637)	>500LUX @ 4 in

EMC/EMI

CISPR 22 3rd Edition. Class B Limits.

EN 55032

CISPR 32

CISPR 11

FCC 15. 107 with reference to Section 15.109 (g).

ICES-003

EN 61326-2-2 Sec 6.4.2.101

USA (FCC)

47 CFR 15 subpart B. This product is considered an exempt device per clause 15.103.

Safety

Complies with the following:

IEC 61010-1, Edition 3 (2010-06) +AMD1 (2016-12)

ANSI/UL/IEC EN 61010-1, Edition 3 (2016-04-29)

CSA-C22.2 No. 61010-1-12 Edition 3 (2019-07-19)

IEC 60529

Overvoltage CAT IV 600V.

Any voltages exceeding the defined maximum voltage measurement categories described above are outside the normal use of the equipment and protection cannot be guaranteed.

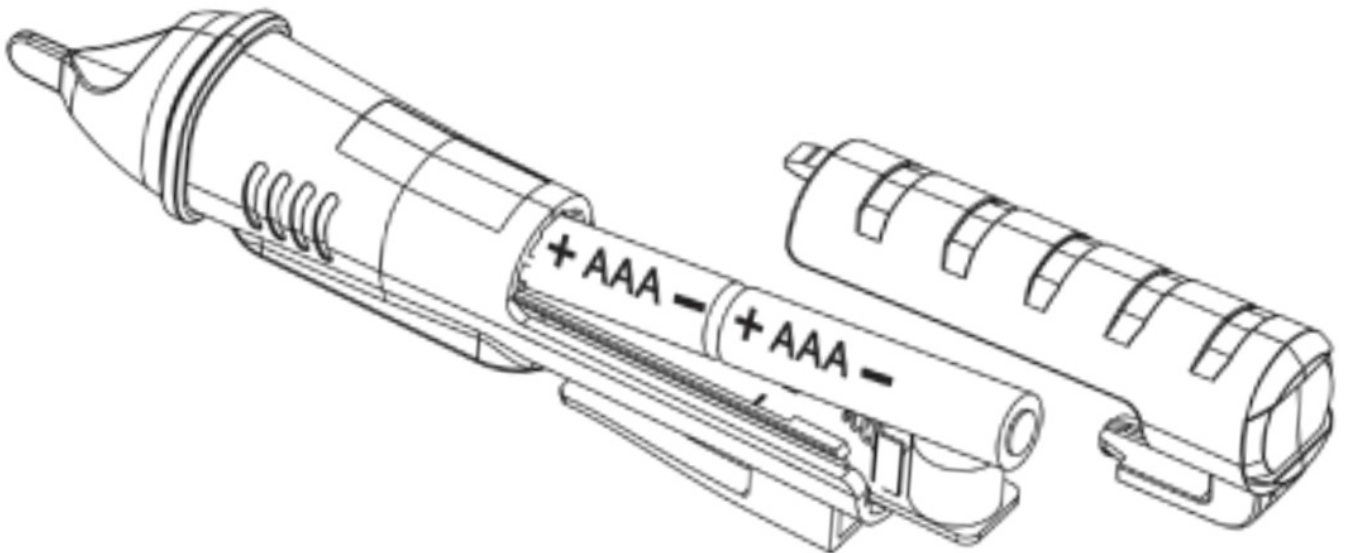
Pollution Degree Class 2

Maintenance and Service

Tester Inspection

Before using the Tester, visually inspect it to ensure the case or tip are not cracked and the battery cover is securely locked in place. Do not use if the Tester appears damaged.

Battery Inspection/Replacement



Maintenance and Storage

When not in use, turn the meter off. If the tester will not be used for more than a month remove the batteries for storage. Clean the case with a damp cloth and mild detergent. Do not use abrasives or solvents. If the meter is exposed to water ensure the tester is completely dry before use. Do not expose to chemicals or solvents.

Service and Replacement Parts

This unit has no user-serviceable parts.



Disposal of Waste, Electrical & Electronic Equipment

In order to preserve, protect and improve the quality of the environment, protect human health and utilize natural resources prudently and rationally, the user should return unserviceable product to relevant facilities in accordance with statutory regulations. The crossed-out wheeled bin indicates the product needs to be disposed separately and not as municipal waste.

Do not dispose of this product as unsorted municipal waste. It must be properly disposed of in accordance with local regulations. Please see www.epa.gov or www.ecycle.org for additional information.

Disposal of Used Batteries/Accumulators

The user is legally obliged to return used batteries and accumulators. Disposing used batteries in household waste is prohibited! Batteries/accumulators containing hazardous substances are marked with the crossed-out wheeled bin. The symbol indicates that the product is forbidden to be disposed via domestic refuse. The chemical symbols for the respective hazardous substances are Cd = Cadmium, Hg = Mercury, Pb = Lead.

You can return used batteries/accumulators free of charge to any collecting point of your local authority, our stores, or where batteries/accumulators are sold. Consequently, you must comply with your legal obligations and contribute to environmental protection.

TWO YEAR LIMITED WARRANTY

This tester is warranted to the original purchaser against defects in material and workmanship for a period of two (2) years from date of purchase. With proof of purchase from an authorized IDEAL distributor, a defective tester will be repaired or replaced with the same product or a functionally equivalent product, at the option of IDEAL INDUSTRIES, INC. during the warranty period, subject to verification of the defect or malfunction. Warranty does not cover consumables such as fuses, batteries, and excludes defects caused by leakage from batteries, abuse, mishandling, dropping, ordinary wear and tear, misuse, neglect, unauthorized repair, improper use, alterations, accidents or any causes beyond IDEAL's reasonable control. Consequential or incidental damages are not recoverable under this warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This LIMITED WARRANTY gives you specific legal rights, which vary from state to state. This warranty constitutes the sole and exclusive remedy of the purchaser and the exclusive liability of IDEAL, and is in lieu of any and all other warranties, and expressly disclaims all other warranties, implied, or statutory as to merchantability, fitness for purpose sold, description, quality productiveness, or any other matter.

No agent, distributor or other supplier has the authority to modify or amend this warranty or make other representations or warranties other than those contained in this warranty without express written authorization from IDEAL. For warranty service, call IDEAL customer service at 1-[800-435-0705](tel:800-435-0705).

Other Models


Scan the barcode on the right to see the new IDEAL T&M Product Line



IDEAL INDUSTRIES, INC. Sycamore, IL 60178, U.S.A. [800-435-0705](tel:800-435-0705) www.idealind.com ND 9111-1



Documents / Resources

 <p>IDEAL® Test and Measurement 61-637 Single Range 24 to 600V AC NCVT with Flashlight 61-627 Single Range 50 to 600V AC NCVT Operation and Safety Manual</p>	<p>IDEAL 61-637 Single Range Non Contact Voltage Testers [pdf] Instruction Manual 61-637, 61-627, 61-637 Single Range Non Contact Voltage Testers, 61-637, Single Range Non Contact Voltage Testers, Non Contact Voltage Testers, Contact Voltage Testers, Voltage Testers , Testers</p>
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References

- [Electronic Waste Management - CalRecycle Home Page](#)
- [U.S. Environmental Protection Agency | US EPA](#)
- [Electronic Waste Management - CalRecycle Home Page](#)

- [🌐 P65Warnings.ca.gov](https://www.p65warnings.ca.gov)
- [User Manual](#)

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