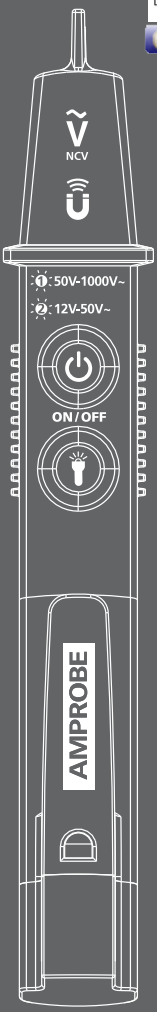
AMPROBE®



NCV-1000 Series

Non-Contact Voltage Probe

User Manual

Manual de usuario
Manuel de l'utilisateur
Manual dos Usuários

AMPROBE®

NCV-1000 Series

Non-Contact Voltage Probe

User Manual

English

6/2017, 6009474 Rev A

Limited Warranty and Limitation of Liability
Your Amprobe product will be free from defects in material and workmanship for one year from the date of purchase unless local laws require otherwise. This warranty does not cover fuses, disposable batteries or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on the behalf of Amprobe. To obtain service during the warranty period, return the product with proof of purchase to an authorized Amprobe Service Center or to an Amprobe dealer or distributor. See Repair Section for details. THIS WARRANTY IS YOUR ONLY REMEDY. ALL OTHER WARRANTIES - WHETHER EXPRESS, IMPLIED OR STATUTORY - INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, ARE HEREBY DISCLAIMED. MANUFACTURER SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY. Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

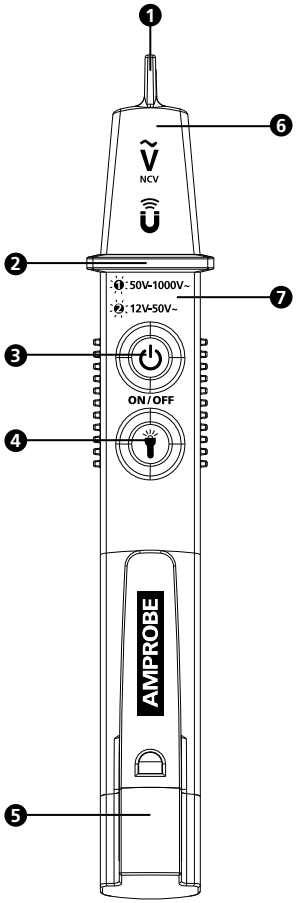
Repair
All Amprobe returned for warranty or non-warranty repair or for calibration should be accompanied by the following: your name, company's name, address, telephone number, and proof of purchase. Additionally, please include a brief description of the problem or the service requested and include the test leads with the meter. Non-warranty repair or replacement charges should be remitted in the form of a check, a money order, credit card with expiration date, or a purchase order made payable to Amprobe.

In-warranty Repairs and Replacement – All Countries
Please read the warranty statement and check your battery before requesting repair. During the warranty period, any defective test tool can be returned to your Amprobe distributor for an exchange for the same or like product. Please check the "Where to Buy" section on amprobe.com for a list of distributors near you. Additionally, in the United States and Canada, in-warranty repair and replacement units can also be sent to an Amprobe Service Center (see address below).

Non-warranty Repairs and Replacement – United States and Canada
Non-warranty repairs in the United States and Canada should be sent to an Amprobe Service Center. Call Amprobe or inquire at your point of purchase for current repair and replacement rates.

Non-warranty Repairs and Replacement – Europe
European non-warranty units can be replaced by your Beha-Amprobe distributor for a nominal charge. Please check the "Where to Buy" section on beha-amprobe.com for a list of distributors near you.

Non-Contact Voltage Probe



1. Probe tip with voltage sensor and magnetic field indication (NCV-1040 only)
2. Finger guard
3. Power ON/OFF / range selection (NCV-1030 and 1040 only)
4. Light button (NCV-1030 and 1040 only)
5. Battery cap
6. Flashlight (NCV-1030 and 1040 only)
7. Voltage range

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SYMBOLS

	Caution! Risk of electric shock
	Caution! Refer to the explanation in this instruction sheet
	Double insulated
CAT IV	Equipment is for measurements performed at the source of a low voltage installation (i.e. electrical meters and measurements on primary over current protection devices and ripple control units)
	Battery
	Solid particle protection: dust tight IP6x
	Liquid ingress protection: water jets IPx5
	Do not dispose of this product as unsorted municipal waste-contact a qualified recycler
	Complies with European Directives
	Canadian Standards Association (NRTL/C)
	Conforms to relevant Australian standards
	Conforms to relevant South Korean EMC Standards

For Use by Competent Persons

Anyone using this instrument should be knowledgeable and trained about the risks involved with measuring voltage, especially in an industrial setting, and the importance of taking safety precautions. The instrument should be tested before and after use to ensure that it is in good working condition.

SAFETY INFORMATION

⚠⚠ Warning

To prevent possible electrical shock, fire, or personal injury:

- If the Tester is used in a manner not specified by the manufacturer, protection provided by the Tester may be affected.
- Test on a known live source within the rated AC voltage range of the product both before and after use to ensure the Tester is in good working condition.
- When using the Tester, voltage may be present even if the tip does not glow. The Tester indicates active voltage in the presence of electrostatic fields of sufficient strength generated from the source voltage. If the field strength is low, the Tester may not provide indication of live voltage. Lack of an indication occurs if the Tester is unable to sense the presence of voltage which may be influenced by several factors including, but not limited to:
  - Position of the earth conductors in the environment under test
  - Shielded wire/cables
  - Thickness and type of insulation
  - Distance from the voltage source
  - Fully-isolated users that prevent an effective ground
  - Receptacles in recessed sockets / differences in socket design
  - Condition of the Tester and batteries
- The Tester is not the appropriate tool to check for the absence of voltage. Use a voltage tester therefore.
- Do not use the Tester if it appears damaged or is not operating properly. Closely examine the probe tip for cracks or breakage before use. If in doubt, have the Tester serviced.
- Do not apply more than the rated voltage as marked on the Tester.
- When operating the Tester, keep fingers behind the finger guard.
- Do not use the Tester if it is not flashing upon power on.
- Use caution with voltages above 30 V AC as a shock hazard may exist.
- Comply with local and national safety requirements.
- Use proper protective equipment as required by local or national authorities.

FEATURES

The Amprobe NCV-1000 series Non-Contact Voltage (NCV) tester provides maximum safety and convenience for detecting AC voltage without interrupting electrical systems. Designed to conveniently fit in your shirt pocket, the NCV-1000 series tester performs in indoor and outdoor settings. Safety tested to the highest category measurement, CAT IV 1000 V, as well as IP65 water and dust resistant, the NCV-1000 series is fit for the toughest industrial applications.

- Non-contact voltage detection up to 1000 V AC
- Built-in flashlight (NCV-1030 and NCV-1040)
- Water and dust resistant - IP65 rated
- Audible (buzzer) and visual (LED) voltage indication
- On/off switch
- Auto power off (NCV-1030 and NCV-1040)
- CAT IV 1000 V safety rated
- Magnetic solenoid testing (NCV-1040)
- Low battery indication (NCV-1030 and NCV-1040)

	NCV-1020	NCV-1030	NCV-1040
NCV Default range (AC)	50 to 1000 V	50 to 1000 V	50 to 1000 V
NCV High Sensitivity range (AC)		12 to 50 V *	12 to 50 V *
Magnetic solenoid testing			•

*** Note:** High sensitivity range is optimized for 12 to 50 V range with a maximum indication up to 1000 V. Using the tester above 50 V in high sensitivity range may affect polarity indication.

Your shipping carton includes a Tester, user manual and 2 1.5 V AAA batteries (installed).

APPLICATIONS

- Detects the presence of AC voltage in cables, circuit breakers, wall sockets, junction boxes, fuses, extension cords and more.
- Tests voltage through wire insulation.
- Identifies cable breaks in wires, cords and lighting systems connected in series.
- Identifies polarity (line vs. neutral) of receptacles and cables. (Depending of the internal construction and dimension of receptacles in different countries this application may be influenced.)
- Tests voltage without contact.

- Safety CAT IV 1000 V rated for a wide range of applications including industrial, commerical, and residential.
- Water-resistant IP65 rated for indoor and outdoor use.
- Magnetic solenoid detection to diagnose electromagnets and relays (NCV-1040 only).

OPERATING INSTRUCTIONS

Turning the Tester ON

To turn the Tester on, momentarily press the ON/OFF button. A continual single flash visually indicates the Tester is active in default voltage range (50 to 1000 V). Press the ON/OFF button ⏻ again to switch to high sensitivity range (12 to 50 V for NCV-1030 and NCV-1040 only). A continual double flash indicates the Tester's sensitivity range is at the 12 to 50 V range.

Turning the Tester OFF

Press and hold the ON/OFF button ⏻ for longer than two second to turn the Tester off. The absence of flash at the tip indicates the Tester is inactive.

Auto Power Off

To save battery life, the NCV-1030 and NCV-1040 are enabled with an automatic power off feature. The Tester will automatically power off after approximately 3 minutes of non-use.

Checking for the Presence of AC Voltage

To test for the presence of AC voltage in a receptacle, insert the tip of the Tester. To test a wire, approach the wire with the tip of the Tester. Switch between default (50 V to 1000 V AC) and high sensitivity (12 V to 50 V AC) voltage range detection by short pressing the ON/OFF button (NCV-1030 and 1040 only). The LED at the tip of the Tester will illuminate and flash bright red and a buzzer will sound when AC voltage is detected. **Note:** High sensitivity range is optimized for 12 to 50 V range with a maximum indication up to 1000 V. Using the tester above 50 V in high sensitivity range may affect polarity indication.

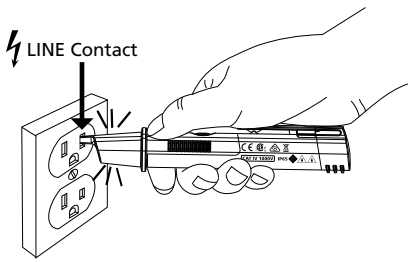
⚠When operating the Tester, keep fingers behind the finger guard.

Checking for the Magnetic Field (NCV-1040)

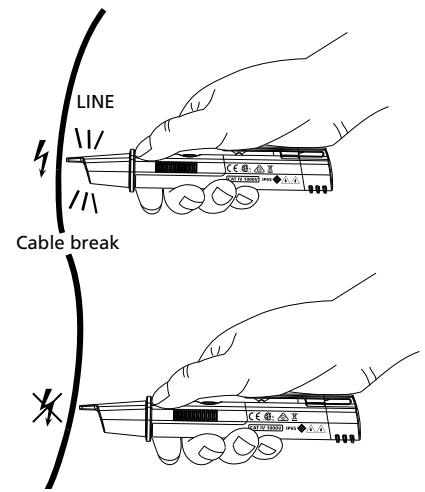
The NCV-1040 can test for a magnetic field in addition to AC voltage detection. A solid yellow LED will illuminate when a magnetic field is detected.

Note: If AC voltage and a magnetic field are detected simultaneously, the Tester will flash both red and yellow.

Testing receptacle:



Testing wire and cable breaks:



Using the Flashlight

A flashlight is installed in the NCV-1030 and NCV-1040. Activate the flashlight by pressing the button  . To switch OFF the flashlight press the button  again.

SPECIFICATIONS

Operating Voltage Range	**NCV-1020:** 50-1000 Vac, 50-400 Hz **NCV-1030:** 12-50 Vac, 50-1000 Vac, 50-400 Hz **NCV-1040:** 12-50 Vac, 50-1000 Vac, 50-400 Hz
Voltage Detection default range	LED and buzzer indications at approximately 5 mm (0.20 in) distance from a wire carrying 230 Vac
Detection of Magnetic Field	**NCV-1040:** approximately >2.5 mT
Measuring category	CAT IV 1000V
Ingress protection	IP65
Temperature Range	32 °F to 104 °F (0 °C to 40 °C), ≤ 80% RH
Storage Conditions	14 °F to 104 °F (-10 °C to 40 °C), ≤ 85% RH
Operating Altitude	≤ 6561 ft (2000 m)
Duty Cycle	Continuous
Power Supply	2 x 1.5 V LR03 AAA batteries
Current Consumption	Approximately 80 mA
Dimensions (L x W x H)	6.14 x 0.92 x 1.08 in (156.2 x 23.5 x 27.5 mm)
Weight (with batteries installed)	**NCV-1020:** Approx. 0.12 lb (58 g) **NCV-1030:** Approx. 0.13 lb (60 g) **NCV-1040:** Approx. 0.136 lb (62 g)
Safety Compliance	IEC 61010-1 3rd Ed., UL 61010-1 3rd Ed., UL 61010-2-030, CAN/CSA-C22.2 No.61010-1-12, CAN/CSA-C22.2 No. 61010-2-030-12 to CAT IV 1000 V, Pollution degree 2, IP65

EMC Compliance	**IEC 61326-1** **Korea (KCC):** Class A Equipment (Industrial Broadcasting & Communication Equipment) [1] [1] This product meets requirements for industrial (Class A) electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and is not to be used in homes.
Certifications	

BATTERY REPLACEMENT & CARE

Low Battery Indication

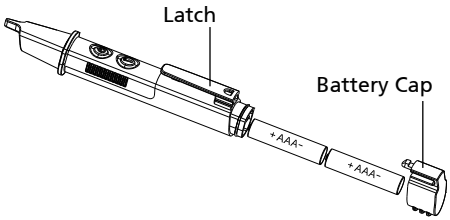
The NCV-1030 and NCV-1040 Testers provide a low battery indication in the form of a slowly blinking red LED upon power on when battery level is low and the batteries should be replaced. At that point no voltage indication is possible.

The NCV-1020 does not provide the same indication; instead, batteries will need to be replaced when no LED appears upon power on.

Battery Replacement

To remove the battery cap, use the thumb grip to pull it upwards and outwards. Remove batteries and replace with (2) AAA 1.5 V alkaline batteries, noting the battery orientation as shown on the side of the tester. Replace the cap.

⚠If the Tester will not be used for a long period of time, remove the batteries.



Cleaning

The Tester can be cleaned with a mild solution of soapy water. Apply sparingly with a soft cloth and allow to dry completely before using. Do not use aromatic hydrocarbons, gasoline, or chlorinated solvents for cleaning.