

User Manual



Model ET350

Non-Contact Voltage and Magnetic Field Detector



Introduction

Congratulations on your purchase of the Triplett ET350 Non-Contact Voltage and Magnetic Field Detector. In order to use this product safely and correctly, please read this manual thoroughly, especially the warning part.

After reading this manual, it is recommended to keep the manual at an easily accessible place, preferably close to the device, for future reference. The ET350 is a non-contact voltage and magnetic field detector with built-in flashlight and acousto-optic synchronous alarm function. The CAT IV 1000V safety class ensures users' safety, making them essential tools for industry and home.

Features

Low voltage mode (24V AC ~ 1000V AC)

Suitable for testing low-voltage motor (< 90V), audio systems, arc welding machines, underground mine lighting, cables with thick insulation layer, and other weak electromagnetic AC signals.

High voltage mode (90V AC ~ 1000V AC):

For detecting urban electric supply and three-phase systems. For example, power distribution units, electrical panels, and electrical appliances.

Safety



Warning

1. Please carefully read and fully understand the warnings and operating instructions before use.
2. Please test the detector on a known live source within the rated AC voltage range before use.
3. If the detector appears damaged or is not working properly, stop using it immediately.
4. Do not detect voltage higher than 1000V.
5. Use caution when measuring AC voltage higher than 30V.
6. There may still be voltage even when no acousto-optic alarm is on.
7. The insulation type, wire thickness, distance from voltage source, shielded wire, other wires, socket design, and other factors may adversely affect test result. If there are uncertainties, use other methods to verify the voltage.

8. Do not assume neutral or ground wire is safe to touch. Incorrect or poorly connected circuits may cause wires to be charged.

9. The magnetic field generated by magnetized components may interfere with detection

10. When low battery indication appears, please replace the batteries.

11. When using the detector, please only hold up to the line before the translucent sensing part and not over.

12. Comply with local and national safety regulations and requirements.






13. The detector will not detect any voltage if:

- The wire is shielded
- The operator is not connected with the ground or isolated from an effective ground
- The voltage is DC

14. The detector may not detect any voltage if:

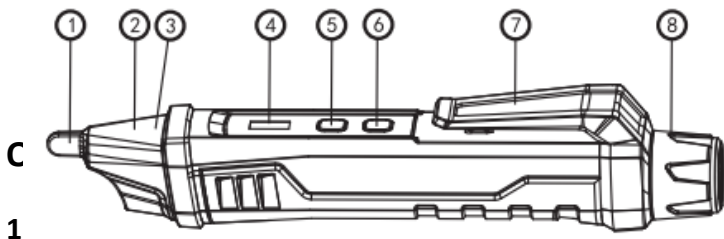
- The operator does not hold the detector
- The operator is wearing gloves
- The wire under test is partially buried or in a grounded metal conduit
- The magnetic field generated by the voltage source is blocked, suppressed or interfered with
- The frequency of the voltage being detected is not a perfect sine wave and may be distorted by harmonics
- The detector is used outside of the operating specifications (see *Technical Specifications* for details)

Electrical Symbols

| | |
|---|--|
|  | Protected throughout by Double insulation or Reinforced insulation |
|  | Alternating current |
|  | Caution, possibility of electric shock |
|  | Warning! Refer to the manual |
|  | In compliance with the directive of European Union |

Panel Description

| | | | |
|---|--------------------|---|-----------------------------|
| 1 | NCV sensor head | 2 | Flashlight lighting |
| 3 | sensing signal LED | 4 | Mode status indicator light |
| 5 | Power button | 6 | Flashlight button |
| 7 | Pocket clip | 8 | Battery cap |



Short press the power button. The buzzer will beep twice and the red indicator light on the panel will light up, indicating that the detector is on and ready for use. The default AC voltage detection range is 90-1000V.

2. Turning on/off the flashlight

Flashlight on/off: Short press the flashlight button to turn on/off the flashlight.

The flashlight will automatically turn off when the detector is not used for 5 minutes.

3. AC voltage detection

Place the sensor head near the test object or the power socket with AC voltage. When AC voltage is detected, the red LED in the tip and audible buzzer will be on. LED frequencies increase when detector gets closer to the test object.

Note: Please unplug other electrical devices on the socket before detection.

4. Detection range selection

a) When the detector is on, the default mode is high voltage mode, with detection range of 90-1000V. The red indicator light on the panel will light up.

b) Short press the power button once. The red indicator light will switch to green, and the device will switch to low voltage mode, with range of 24-1000V. In low voltage mode, the detector is more sensitive to electrical interference/noise. Please only use low voltage mode during weak electrical field environment.

c) Short press the power button once again. The green indicator light will switch to yellow, and the device will switch to magnetic field detection mode.

Note: In the magnetic field detection mode, voltage cannot be detected at the same time.

5. Magnetic field detection

The magnetic field detection function of the detector can be used to easily determine whether there is a magnetic field, so as to quickly determine if components (solenoid valves, relays, contactors, permanent magnets and electromagnets, etc.) are working properly. The figure below shows how to use this function to check if the solenoid valve is working properly.



In the magnetic field detection mode, place the detector tip near the solenoid valve in operation. When the magnetic flux is detected to be greater than 5mT, the yellow LED in the tip will be on, and the buzzer will beep slowly, indicating that the solenoid valve is working properly. Note: If the magnetic flux is less than 5mT, please use the front of the detector tip to detect.

6. Auto power off

The detector will auto power off when it is not used for 5 minutes.

7. Turning off the detector manually

Long press the power button for 2 seconds to turn off the detector

8. Low battery indication

When the battery voltage is lower than 2.4V, the detector will automatically shut down.

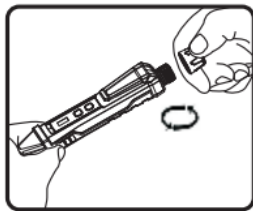
Technical Specifications

| | ET350 (US) |
|-------------------------------|--|
| AC voltage range | 90~1000V AC (red indicator) 24~1000V AC (green indicator) |
| Frequency range | 50Hz/60Hz |
| Alarm mode | Audio/visual |
| Flashlight | White spotlight |
| Auto power off | About 5 minutes |
| Low battery indication | √ |
| Vibration function | N/A |
| Magnetic field detection mode | √ (Yellow indicator light on) |
| IP rating | IP67 |
| Safety class | CAT IV 1000V |
| Operating temperature | 0~40°C |

| | |
|---------------------|-----------------------------------|
| Storage temperature | -20~50°C |
| Humidity | ≤80% (non-condensing) |
| Altitude | <2000m |
| Battery | 2x1.5V AAA |
| Product size | 6.3"x0.8"x1.0" (160.5x21.5x25 mm) |
| Weight | About 72g |
| Drop test | 2m |

Battery Replacement

1. Unscrew the battery cap counterclockwise as shown below, and then replace the batteries according to the polarity indication.
2. Tighten the battery cap clockwise and the buzzer will beep twice to indicate the completion of the replacement.



Warranty Information

Triplett / Jewell Instruments extends the following warranty to the original purchaser of these goods for use. Triplett warrants to the original purchaser for use that the products sold by it will be free from defects in workmanship and material for a period of (1) one year from the date of purchase. This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons in any way or purchased from unauthorized distributors so as, in our sole judgment, to injure their stability or reliability, or which have been subject to misuse, abuse, misapplication, negligence, accident or which have had the serial numbers altered, defaced, or removed. Accessories, including batteries are not covered by this warranty

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