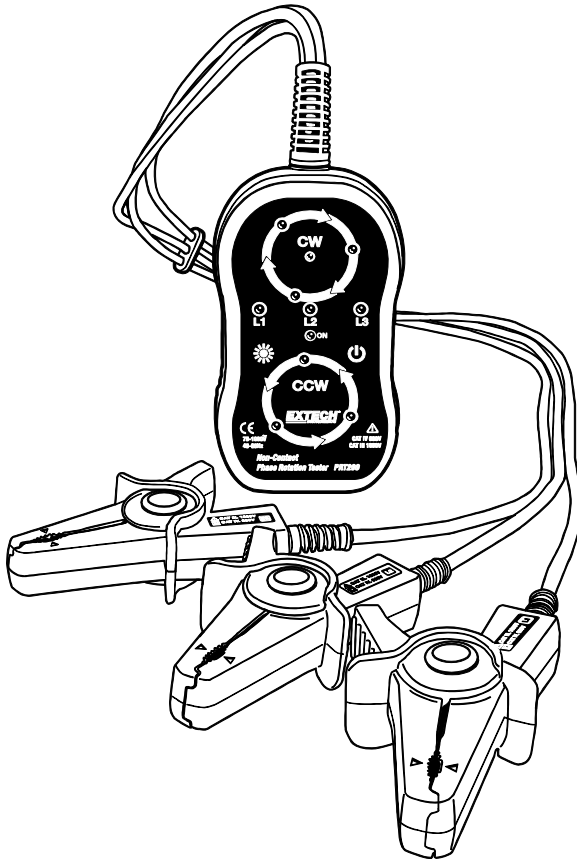


# EXTECH<sup>®</sup>

## USER MANUAL

### Non-Contact Phase Rotation Tester

Model PRT200



Additional User Manual Translations available at [www.extech.com](http://www.extech.com)

# Introduction

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Congratulations on your purchase of this Extech Meter. The PRT200 is used to quickly and accurately determine three phase sequence for motor installation and repair. The non-contact voltage detecting technique permits easy connection to insulated conductors, avoiding uncertain and difficult connections to bare high voltage wires. This meter is shipped fully tested and calibrated and, with proper use, will provide years of reliable service.

## Safety

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### International Safety Symbols



This symbol, adjacent to another symbol or terminal, indicates the user must refer to the manual for further information.



This symbol, adjacent to a terminal, indicates that, under normal use, hazardous voltages may be present.



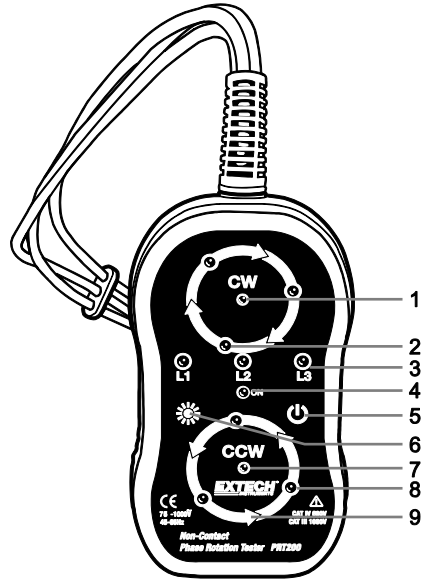
Double insulation

### Safety Notes

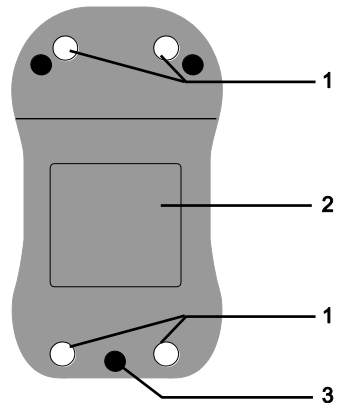
1. Read the following safety information carefully before attempting to operate the tester.
2. Use the tester only as specified in this manual or the protection provided by the tester may be impaired.
3. This instrument cannot identify a missing earth line.
4. To assure accurate results, do not touch the clips during measurements.
5. Do not pull the cable when removing the measurement clips from the measured conductors. It may damage the test lead.
6. Do not expose the instrument to direct sunlight, high temperature, high humidity or dew.
7. Keep the tester dry! Do not use the instrument when it is wet.
8. Do not mix old batteries with new ones.
9. Never open the battery compartment cover while connected to live conductors.
10. Avoid large shocks or vibrations, they may damage the tester.

## Meter Description

1. Clockwise phase sequence LED
2. Rotation LEDs
3. Live indication LEDs
4. Power on and low battery LED
5. Power switch
6. Brightness switch
7. Counter-Clockwise phase sequence LED
8. Rotation LEDs
9. Buzzer



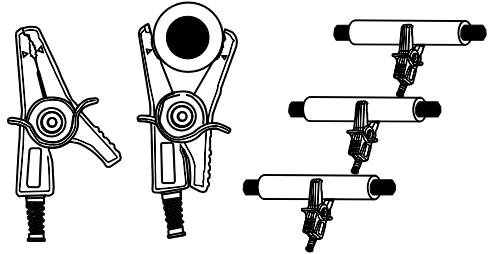
1. Magnets
2. Battery compartment cover
3. Battery compartment screw



# Operation

Note: Before proceeding, read all safety notes.

1. Press the power switch to turn on the instrument. All of the LEDs will flash for a 2 second test. Only the power LED will remain on after the test. Do not use the instrument if any of the LEDs do not work.
2. Connect the three non-contact alligator clips to the three phase power conductors.  
Red to L1 (R, U)  
White to L2 (S, V)  
Blue to L3 (T, W)
3. The "▼" symbol on each clip should be placed at the center of each conductor.
4. The CW or CCW LED and rotation LEDs will indicate the phase sequence.
5. The buzzer will sound intermittently for a clockwise sequence and continuously for a counter-clockwise sequence.



## Status Indications

State	Indication
Three live conductors	L1,L2,L3 LEDs are ON
Open phases	L1, L2 or L3 LED is OFF for open phases
Missing Earth line	LED does not light up for missing earth line
Earth line (Delta connection)	Phase with flashing LED is an earth phase
Positive CW phasing	The CW Rotation LEDs flash in clockwise direction as indicated with "arrow" marks. The buzzer sounds intermittently.
Negative CCW phasing	The CCW Rotation LEDs flash in counter-clockwise direction as indicated with "arrow" marks. The buzzer sounds continuously.

## Brightness

Press the Brightness button to increase the light intensity of the LEDs. This can be helpful in observing the LEDs in brightly illuminated areas.

## Auto Power Off

In order to extend battery life, the unit will automatically shut off after 5 minutes of inactivity.

## Magnet Mounting

Four magnets are located on the rear panel to enable convenient hands free mounting during use.

# Maintenance

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## Battery Replacement

When the ON LED begins to flash, the batteries need to be replaced.

1. Remove the clips from any conductors.
2. Remove the screw holding the battery compartment cover and remove the cover.
3. Replace the four AA batteries.
4. Replace the battery cover.



Never dispose of used batteries or rechargeable batteries in household waste.

As consumers, users are legally required to take used batteries to appropriate collection sites, the retail store where the batteries were purchased, or wherever batteries are sold.

Disposal: Do not dispose of this instrument in household waste. The user is obligated to take end-of-life devices to a designated collection point for the disposal of electrical and electronic equipment.

## Cleaning and storage

Periodically wipe the case with a damp cloth. Do not use abrasives or solvents.

A small standby current flows when the meter is off. If the meter is not to be used for a period longer than 60 days, remove the batteries and store them separately.

## Specifications

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Measurement Principle	Static induction
Input Voltage	75 to 1000VAC
Frequency Range	45 to 65Hz
Max conductor diameter	33mm (1.3")
Probe length	1.5m (59")
Auto-Off	5 min. without sequence detection
Low Battery Warning	Power LED flashes
Batteries	4 x 1.5V AA
Current consumption	15mA
Operating Temperature & Humidity	-10°C to 50°C (14°F to 122°F) Max. 80% R.H.
Storage temperature & Humidity	-20°C to 60° (-4°F to 140°F) Max. 80% R.H.
Safety	This meter is intended for origin of installation use and protected, against the users, by double insulation per EN61010-1 to Category IV 600V and Category III 1000V; Pollution Degree 2.
Approvals	CE

## Two-year Warranty

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**Teledyne FLIR warrants this Extech brand instrument to be free of defects in parts and workmanship for two years from date of shipment (a six-month limited warranty applies to sensors and cables). To view the full warranty text please visit:**

<http://www.extech.com/support/warranties>.

### **Calibration and Repair Services**

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**Teledyne FLIR offers calibration and repair services** for the Extech brand products we sell. We offer NIST traceable calibration for most of our products. Contact us for information on calibration and repair availability, refer to the contact information below. Annual calibrations should be performed to verify meter performance and accuracy. Product specifications are subject to change without notice. Please visit our website for the most up-to-date product information:

[www.extech.com](http://www.extech.com).

### **Contact Customer Support**

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**Customer Support Telephone List:** <https://support.flir.com/contact>

**Calibration, Repair, and Returns:** [repair@extech.com](mailto:repair@extech.com)

**Technical Support:** <https://support.flir.com>

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