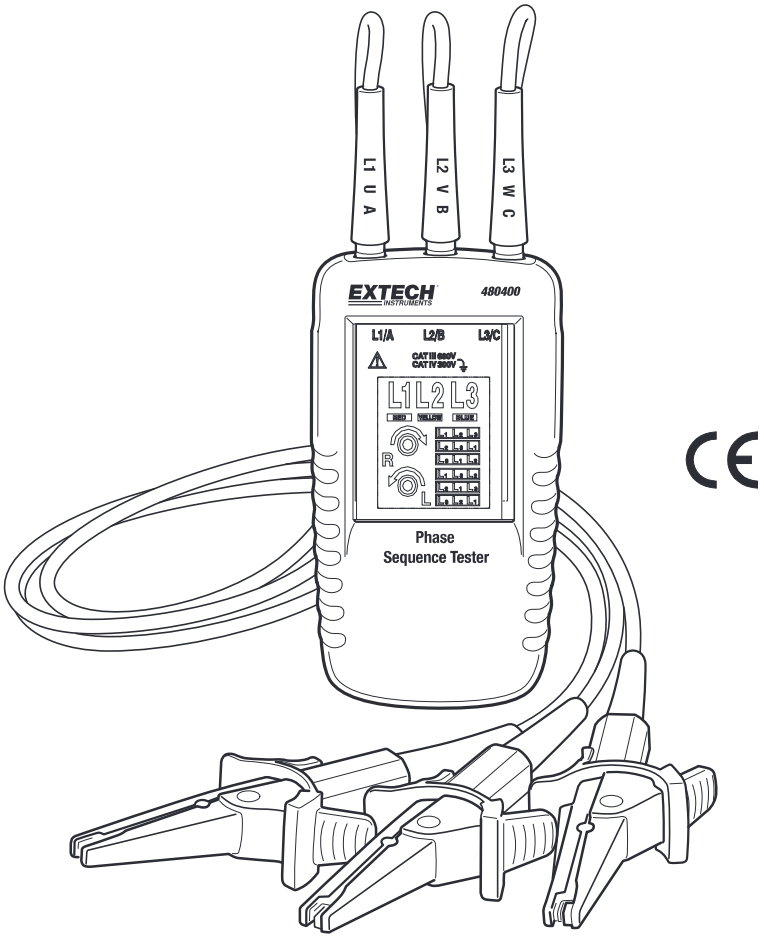
EXTECH INSTRUMENTS

User's Guide

Phase Sequence Tester

Model 480400



Introduction

Congratulations on your purchase of the Extech Model 408400 Phase Sequence Tester. This handheld instrument detects the phase sequence of three-phase systems. Color-coded test leads are provided for connecting to the three mains phases of the system under test. This meter is shipped fully tested and calibrated and, with proper use, will provide years of reliable service.

Safety

International Safety Symbols

 Caution ! Refer to the explanation in this Manual

 Caution ! Risk of electric shock

 Earth (Ground)

 Double Insulation or Reinforced insulation

 AC, Alternating Current or Voltage

 DC, Direct Current or Voltage

Safety Procedures

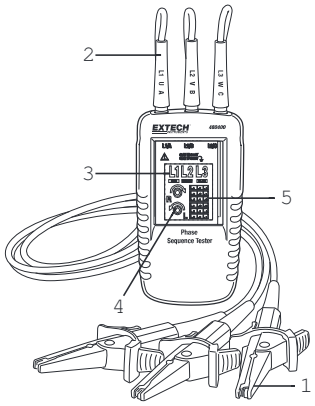
To avoid possible electric shock or fire, observe the following:

- Read the following information carefully before using or servicing the instrument.
- Adhere to local and national safety codes.
- Individual protective equipment must be used to prevent shock and injury.
- Use of instrument in a manner not specified by the manufacturer may impair safety features/protection provided by the equipment.
- Avoid working alone.
- Inspect the test leads for damaged insulation or exposed metal. Check test lead continuity. Damaged leads must be replaced. Do not use the phase Rotation indicator if it appears damaged.
- Use care when working above 30V ac rms, 42V ac peak and 60V dc. Such voltages pose a shock hazard.
- When using the probes, keep fingers away from probe contacts. Keep fingers behind the finger guards on the probes.
- Measurements can be adversely affected by impedances of additional operating circuits connected in parallel or by transient currents.
- Verify operation prior to measuring hazardous voltages (voltages above 30V ac rms, 42V ac peak and 60V dc).
- Do not use the phase Rotation indicator with any of the parts removed.
- Do not use the phase Rotation indicator around explosive gas, vapor, or dust.
- Do not use the meter in a wet environment.

Description

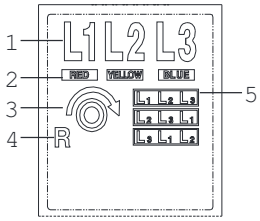
Meter Description

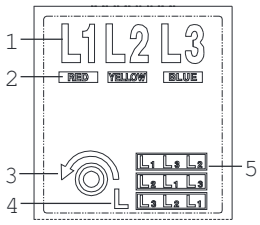
1. Test Lead alligator clips
2. Test lead input jacks
3. L1, L2, L3 display icons
4. Clockwise Rotation LCD Indicator R (right) and L (left) icons
5. Sequence grid



Display Description

1. Line designators (L1, L2, and L3)
2. Color codes for test leads
3. Clockwise / Counter-Clockwise indicator
4. LEFT (L) or RIGHT (R) rotation direction
5. Phase Sequence grid





Operation

Determine Phase Rotation Direction

1. Connect the supplied color-coded test leads to the meter's test lead input jacks at the top of the meter.
2. Connect the test probes to the three mains phases for the system under test.
3. L1, L2, and L3 indicators will illuminate one at a time on the meter's LCD display as each phase is connected.
4. The clockwise and counter-clockwise arrows with the left/right 'L' or 'R' icons display the phase rotation direction of the device under test.
5. The sequence grid simply shows the three line sequences for Clockwise 'R' and the three line sequences for Counter-Clockwise 'L'.

Note: The rotational arrow indicators illuminate even if one of the test probes is connected to a neutral or ground conductor instead of one of the mains phases.

Specifications

Nominal Voltage	40 to 600 VAC
Frequency Range (fn)	15 to 400HZ
Current pickup	1 mA
Nominal Test current (in per phase)	1 mA
Maximum Operating Voltage (Ume)	600 V
Operating Temperature	0 to 40°C (32 to 104°F)
Type of protection	IP 40
Dimensions	(H x W x D): 130 x 69 x 32mm (5.1 x 2.7 x 1.3")
Weight	130g (4.6 oz.)
Approvals	CE (EU directives)
Safety	For indoor use and in accordance with the requirements for double insulation to IEC1010-1 (1995): EN61010-1 (1995) Overvoltage Category III 600V, Pollution Degree 2.