








Operating Instruction for Phase Rotation Indicator

1.Introduction

The phase rotation indicator is a handheld instrument designed to detect the rotary field of three-phase systems.

2.Symbols

The following symbols appear on the phase Rotation indicator or in this manual.

	Risk of electric shock
	Risk of Danger, Important information see manual.
	Hazardous Voltage.
	Equipment protected by double or reinforced insulation
	Earth
	AC or DC
	Conforms to EU directives
CAT III	Overvoltage (Installation) Category III, Pollution Degree 2 per ICE 1010-1 refers to the level of Impulse withstand voltage protection provided. Equipment of Overvoltage Category III is equipment in fixed installations (e.g., electricity meter and primary over-current protection equipment).

3.Safety Information

 **CAUTION** identifies conditions and actions that may damage the phase rotation indicator.

  **WARNING** identifies conditions and actions that pose hazard to the user.

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

- Read the following safety 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.

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- Avoid working alone.
- Inspect the test leads for damaged insulation or exposed metal. Check test lead continuity, damage leads must be replaced, do not use the phase Rotation indicator if it looks damaged.
- Be careful 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 phase Rotation indicator in a wet environment.

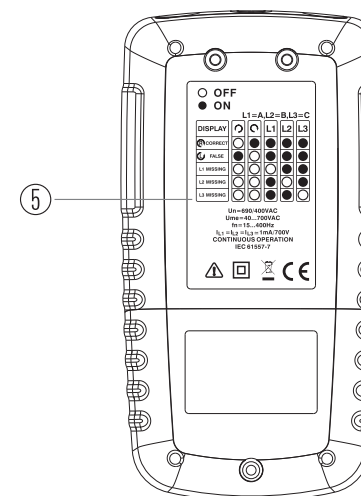
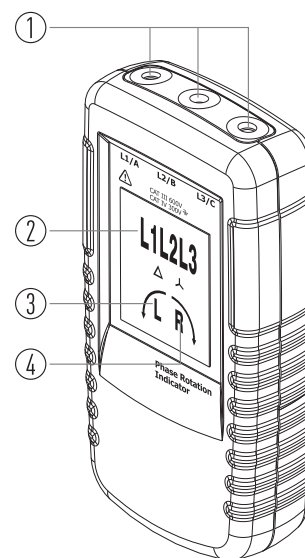
4.The Phase Rotation Indicator Ships with the Following Items

- 3 pieces self-retaining test probes
- Alligator Clip
- Users Manual

Note: If an item is damaged or missing, contact the place of purchase immediately.

5.Elements of the Phase Rotation Indicator

- 1-Test lead Input Jack
- 2-L1,L2,L3 Indicators
- 3-Clockwise Rotation LCD Indicator
- 4-Counter-Clockwise Rotation LCD Indicator
- 5-Brief Instructions on Instrument Rear



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6.To Determine The Rotary Field Direction

- 1.Connect the test probes to the end of the test leads.
- 2.Connect the test probes to the three mains phases.
- 3.The green ON indicator shows that the instrument is ready for testing.
- 4.Either the clockwise or counter-clockwise rotary indicator illuminates showing the type of rotary field direction present.
- 5.The rotary indicator lights even if the neutral conductor, N, is connected instead of the Test lead input jacks.

7.Specifications

Nominal Voltage	40 to 690 VAC
Frequency Range (fn)	15 to 400Hz
Current Pickup	1mA
Nominal Test Current (In per phase)	1mA
Maximum Operating Voltage (Ume)	690V
Operating Temperature	0 to 40°C
Type of Protection	IP 40
Dimensions (H x W x D)	130 x 69 x 32mm
Weight	130g
Approvals	CE (EU directives)
Safety	For indoor use and in accordance with the requirements for double insulation to IEC61010-1/EN61010-1 IEC 61557-7/EN 61557-7 Over voltage Category III 600V and Category IV 300V, Pollution Degree 2.