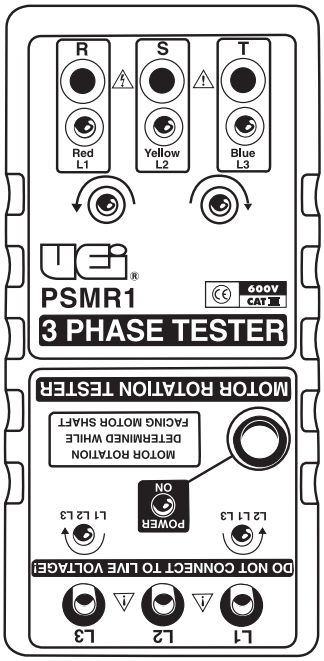
INSTRUCTIONAL MANUAL

PSMR1

Phase Sequence & Motor Rotation



Introduction

All the information you need in one device. Verify correct wiring to avoid damage.

Use the PSMR1 to check supply line phase orientation for devices such as scroll compressors or motors. Works on 45-70 Hz and on voltages between 100 and 600 VAC. Five indicators give you information about open phases, and indicate the sequence of the three lines. Use the motor rotation tester side of the meter to verify the rotation direction of the motor shaft.

Note: *Follow all warnings to ensure safe operations.*

Safety Notes

- Read the following safety information carefully before attempting to operate or service the meter.
- Use the meter only as specified in this manual; otherwise the protection provided by the meter may be impaired.
- Rated environmental conditions:
  1. Indoor use.
  2. Installation Category III.
  4. Altitude up to 6560 feet (2000 meters).
  5. Relative humidity 80% Max.
  6. Ambient temperature 32 - 104˚F (0 - 40˚C).
- Observe the international electrical symbols listed below:

  Meter is protected throughout by double insulation or reinforced insulation.

  WARNING! Risk of electric shock.

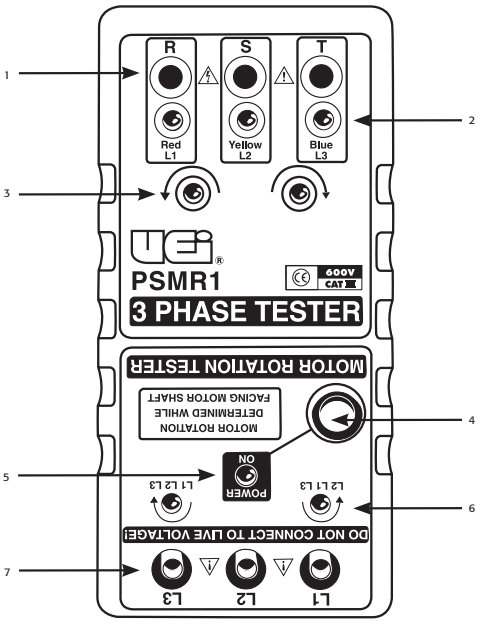
  CAUTION! Refer to this manual before using the meter.

  Alternating current.

Features

- Three functions in one unit including open phase, phase sequence and motor rotation indication.
- This model is ideal for installing conveyor lines, pump systems and interconnected drivers.
- Identifies 3-phase sequence and open phase check.
- Battery operated.
- Meets EN61010-1 safety requirements.
- Complete with three large alligator clips.

Descriptions



1. Phase rotation input terminal
2. Open phase indicator
3. Phase rotation indicator
4. Motor tester power switch
5. Motor tester power indicator
6. Motor rotation indicator
7. Motor rotation input terminal

Measuring Methods

Operations 3 phase rotation tester:

1. Connect the test lead to 3-phase input terminals by R-S-T.
2. Connect color alligator clips to the terminals of a 3-phase power source. Connecting order may be optional.
3. Make sure that all of the three lamps for open phase check are on. If so, there is no open phase. When any of the three lamps is not on, there is open phase.

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PSMR1
Phase & Motor Rotation Tester

Open phase check lamp **"R"** is not on	Open phase on terminal where **RED** alligator clip is connected
Open phase check lamp **"S"** is not on	Open phase on terminal where **YELLOW** alligator is connected
Open phase check lamp **"T"** is not on	Open phase on terminal where **BLUE** alligator clip is connected

4. Check the rotating direction of the rotation indicator if:

Lamp of counter clockwise is lit	Alternate the connection of two of the three alligator clips
Lamp of clockwise is lit	Phase sequence is R, S, and T in order of the power source terminals where the RED, YELLOW and BLUE alligator clips are connected

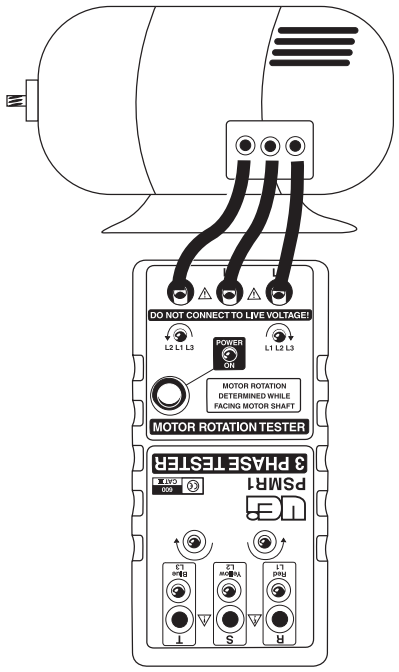
Operating motor rotation tester:

1. Make sure there is no voltage present.

2. Connect the test lead to motor input terminal by L1 - L2 - L3, and press the power button (Fig 1). The power indicator green lamp is lit. (If red lamp of clockwise or counter clockwise is lit before rotating the motor shaft, it means there is voltage present. Please stop measuring, take off the test leads and turn off the external power). If red lamp is lit while rotating the motor shaft clockwise, it means 3-phase motor connection to the power supply by L1 - L2 - L3, the 3-phase motor will rotate clockwise.

3. Connect the lead to 3-phase motor by L1 - L2 - L3, and press the power button on. The power indicator green lamp is lit.

   Rotating the motor shaft counter clockwise. If red lamp of counter clockwise is lit. it means 3-phase motor connection to the power supply by L1 - L2 - L3, the 3-phase motor will rotate clockwise.



(Fig 1)

4. If you require the motor to rotate counter clockwise, you should change connection to L2 - L1 - L3, the motor should now rotate counter clockwise.

Specifications

Input Voltage:	100V AC up to 600V AC max
Frequency Range:	45 to 70 Hz
Circuit Structure:	All electronic (not mechanical)
Power Requirement:	DC 9V alkaline battery
Power Consumption:	Consumption current approx. 14mA of motor rotation field of tester. AC power consumption approx. 7mA per phase rotation field of indicator.
Installation Category:	EN61010-1 600V CAT III
Dimension:	6.02" (L) x 2.83" (W) x 1.37" (H) 153mm x 72mm x 35mm
Weight:	Approx. 182g including battery
Accessories:	Test leads (red, yellow and blue), soft carrying case, instruction manual

Maintenance

Battery Replacement:

1. It is necessary to replace battery, when green lamp is dull.

2. Use a screwdriver to unscrew the screws on the back. Open the case (Fig. 2), take out the battery and replace with new battery type (DC 9V alkaline battery).

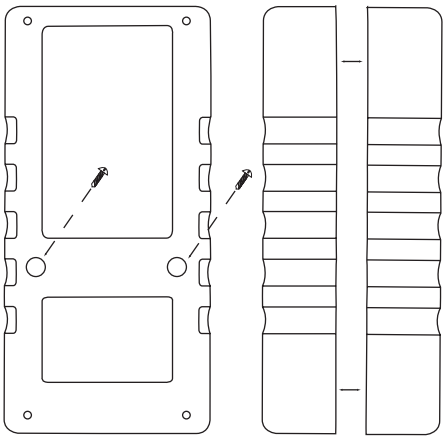
3. Reinstall the case.

Fuse Replacement:

1. It is necessary to replace the fuse when the lamp indicator R or T show no connection and change R-S-T is the same.

2. Use a screwdriver to unscrew the screws on the back. Open the case (Fig. 2), take out the damaged fuse and replace with a new fuse (200mA, 250V).

3. Reinstall the case.



(Fig 2)

Cleaning and Storage:

WARNING!

To avoid electrical shock or damage to the meter, do not get water inside the case.

Periodically wipe the case with a damp cloth and detergent; do not use abrasives or solvents.

If the meter is not to be used for periods of longer than 60 days, remove the battery and store them separately.