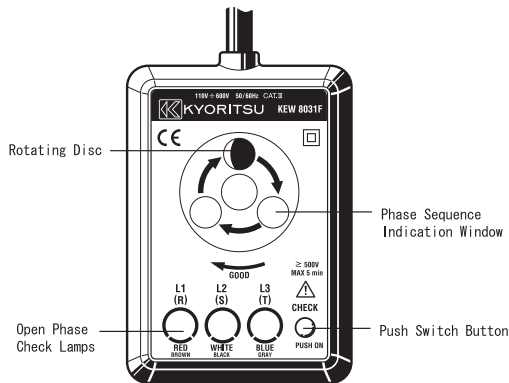


**PHASE ROTATION TESTER**

**MODEL 8031**

**DESIGNATIONS**



**WARNING**

- Read through and understand instructions contained in this manual before starting using the instrument.
  - Save and keep the manual handy to enable quick reference whenever necessary.
  - The instrument is to be used only in its intended applications.
  - Understand and follow all the safety instructions contained in the manual.
- Failure to follow the instructions may cause injury, instrument damage and/or damage to equipment under test. Kyoritsu is by no means liable for any damage resulting from the instrument in contradiction to this cautionary note.

The symbol Indicated on the instrument means that the user must refer to related parts in the manual for safe operation of the instrument. Be sure to carefully read instructions following each Symbol in this manual.

**DANGER**

**WARNING**

**CAUTION**

- DANGER** is reserved for conditions and actions that are likely to cause serious or fatal injury.
- WARNING** is reserved for conditions and actions that can cause serious or fatal injury.
- CAUTION** is reserved for conditions and actions that can cause injury or property damage.

Following symbols are used on the instrument and in the instruction manual. Attention should be paid to each symbol to ensure your safety.

- Refer to this instructions in the manual.
- This symbol is marked where the user must refer to the instruction manual so as not to cause personal injury or instrument damage.
- Indicates an instrument with double or reinforced insulation.
- This instrument satisfies the marking requirement defined in the WEEE Directive (2002/96/EC). This symbol indicates separate collection for electrical and electronic equipment.

**SAFETY WARNINGS**

This instrument has been designed and tested according to IEC Publication 61010; Safety Requirements for Electronic Measuring Apparatus. This Instruction manual contains warnings and safety rules which must be observed by the user to ensure safe operation of the instrument and retain it in safe condition. Therefore, read through these operating instruction before using the instrument. The voltage values used in this manual or on the meter are given in line voltage, unless otherwise specified.

**DANGER**

- Never make measurement on a circuit in which earth potential of 600V or higher exist.
- Do not attempt to make measurement in the presence of flammable gasses, fumes, vapor or dust. Otherwise, the use of the instrument may cause sparking, which can lead to an explosion.
- Never attempt to use the instrument if its surface or your hand is wet.
- The instrument should be used only in its intended applications or conditions. Otherwise, safety functions equipped with the instrument do not work, and instrument damage or serious personal injury may be caused.
- Verify proper operation on a known source before use or taking action as a result indication of the instrument.
- Keep your fingers and hands behind the protective fingerguard during measurement.

**WARNINGS**

- Never attempt to make any measurement, if the instrument has any structural abnormality such as cracked case and exposed metal part.
- Stop using the test lead if the outer jacket is damaged and the inner metal or color jacket is exposed.
- Do not install substitute parts or make any modification to the instrument. Return the instrument to Kyoritsu or your distributor for repair or re-calibration.
- Do not measure for more than five minutes when measuring on 500V AC or more, although the instrument is designed for the use 110V through 600V AC. The maximum time indicated above is measured from the time when more than 2 test leads of the unit are connected to the power supply cords.
- Exceeding the limited continuous testing duration or leaving the instrument connected to the circuit under test may heat the internal circuit and cause burn injuries or fire.

**CAUTIONS**

- Do not expose the instrument to the direct sun, extreme temperatures or dew fall.
- Use a damp cloth and detergent for cleaning the instrument. Do not use abrasives or solvents.
- This instrument isn't dust & water proofed. Keep away from dust and water.

Measurement categories (Over-voltage categories)

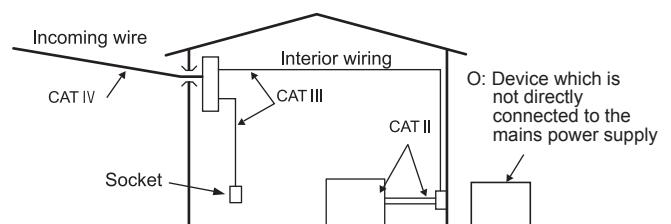
To ensure safe operation of measuring instruments, IEC61010 establishes safety standards for various electrical environments, categorized as 0 to CAT IV, and called measurement categories. Higher-numbered categories correspond to electrical environments with greater energy. So a measuring instrument designed for CAT III environments gives greater protection than one designed for CAT II.

**O(Non, Other):** Circuits which are not directly connected to the mains power supply.

**CAT II:** Fault category level at a mains socket

**CAT III:** Fault category at distribution board level

**CAT IV:** The circuit from the service drop to the power meter and primary over-current protection device (distribution panel).



## FEATURES

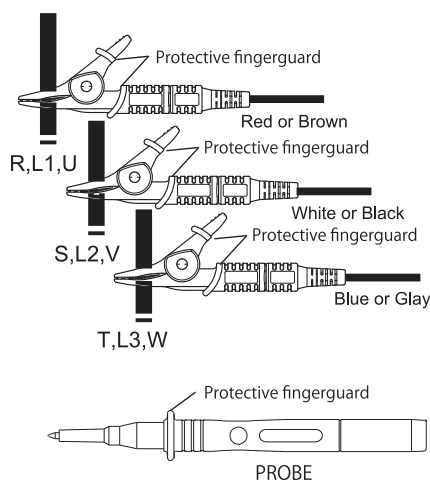
- **Two Functions in One Unit**  
KEW8031F is designed to check phase sequence. Lamps provided on the unit will also tell you if a phase is open.
- **Highly Reliable**  
Can check a wide range of 3-phase power source from 110V to 500V. Sealed against dust, the unit ensures trouble-free performance.
- **Functional Design**  
Small, Lightweight and portable. Designed for maximum ease of operation and ruggedness.
- **Safety Design**  
No exposed metal parts. Safety features are incorporated including the instant push button switch operation.

## SPECIFICATIONS

Location for use	: Altitude 2000m or less, Indoor use
Standard	: IEC 61010-1 CAT III 300V Pollution degree 2 IEC 61557-1,7 IEC 61010-031 EN 50581(RoHS)
Voltage	: 110V to 600V
Frequency	: 50Hz / 60Hz
Withstand Voltage	: 4240V AC for 5 seconds
Time Limit for Continuous Use	: Within 5 minutes in case voltage is above 500V.
Dimensions	: 106 (L) x 75 (W) x 40 (D) mm
Weight	: Approx. 350g
Accessories	: Instruction Manual, Carrying Case
IP cord	: IP30 (IEC60529)

**Please Note** : New European harmonized phase colours are as follows.

Red = Brown      Protective Earth = Green yellow  
Whight = Black      Neutral = Blue  
Blue = Grey



Protective figerguard : It is a part providing protection against electrical shock and ensuring the minimum required air and creepage distances.

When the instrument and the test lead are combined and used together, whichever lower category either of them belongs to will be applied.

## OPERATING INSTRUCTIONS

- (1) Connect colour coded alligator clips or prods to the terminals of a 3-phase power source where a rotating electrical machine such as a motor will be connected or input to a building.
- (2) Press the push switch button located on top of the unit. Keep this button pressed during phase sequence or open phase check. When the push switch button is released it immediately goes off.
- (3) Make sure that all of the three lamps for phase check are on. If so, there is no open phase. When any of the three lamps is Not on there is open phase.

Open phase check → Open phase on terminal  
Lamp "L1" is not on → where Red alligator clip is connected.

Open phase check → Open phase on terminal  
Lamp "L2" is not on → where Whight alligator clip is connected.

Open phase check → Open phase on terminal  
Lamp "L3" is not on → where Blue alligator clip is connected.

\*When the open phase check lamps are not on the rotating disc does not turn.

- (4) Check the rotating direction of the inside disc through the phase sequence indication window.

\*When the rotating disc turns counter-clockwise alternate the connection of the two of the three alligator clips. Then, the rotating disc will turn clockwise.

\*When the rotating disc turns clockwise phase sequence is L1,L2 and L3 in order of the power source terminals where the Red, Whight and Blue alligator clips are connected.



**KYORITSU ELECTRICAL  
INSTRUMENTS  
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