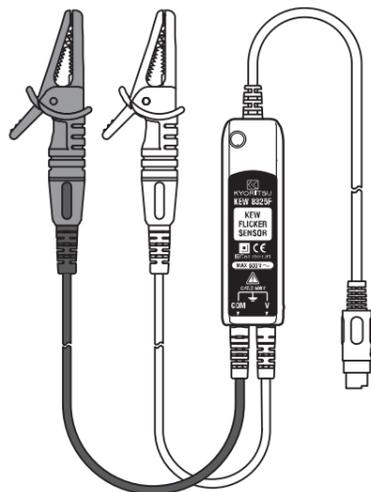


# Instruction Manual



## Flicker Sensor

# Voltage Sensor Series

## KEW 8325F

**KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD.,**  
TOKYO, JAPAN

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**KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD.**

No.5-20,Nakane 2-chome, Meguro-ku,  
Tokyo, 152-0031 Japan  
Phone: +81-3-3723-0131  
Fax: +81-3-3723-0152  
Factory: Ehime

[www.kew-ltd.co.jp](http://www.kew-ltd.co.jp)

## 1. SAFETY WARNINGS

This instrument has been designed and tested according to IEC61010: Safety requirements for Electronic Measuring Apparatus, and delivered in the best condition after passing quality control tests. This instruction manual contains warnings and safety rules which have to be observed by the user to ensure safe operation of the instrument and to maintain it in safe condition. Therefore, read through these operating instructions before using the instrument.

### ⚠ WARNING

- Read through and understand instructions contained in this manual before using the instrument.
- Keep the manual at hand 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.

It is essential that the above instructions are adhered to. Failure to follow the above instructions may cause injury, instrument damage and/or damage to equipment under test.

The symbol ⚠ indicated on the instrument, means that the user must refer to the related parts in the manual for safe operation of the instrument. It is essential to read the instructions wherever the ⚠ symbol appears in the manual.

⚠ **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 instrument damage.

## 3. SPECIFICATIONS

- Max. input voltage AC600Vrms, 848.4V Peak
- Input system Differential input (can measure floating voltages)
- Output voltage AC600mV// AC600V (Output/Input: 1mV/ V)
- Measuring ranges and accuracy

Measuring Range	Frequency range	Accuracy
6 ~ 600V	50/ 60Hz	±0.5%rdg±0.1mV
	40Hz ~ 1kHz	±1.5%rdg±0.2mV

- Temperature and Humidity Ranges(guaranteed accuracy): 23°C±5°C, relative humidity 85%or less (without condensation)
- Operating Temperature and Humidity Ranges: 0~40°C, relative humidity 85%or less (without condensation)
- Storage Temperature and Humidity Ranges -20~60°C, relative humidity 85%or less (without condensation)
- Power supply (supplied via output terminal) DC : ±(5V±10%)
- Current consumption 1mA (Typ.)
- Input impedance Approx.3.2MΩ
- Output impedance Approx.1kΩ
- Location for use Altitude up to 2000m, Indoors
- Safety Standard IEC/EN61010-1:2001 Measurement Category (CAT.) III 600V Pollution Degree 2

IEC/EN61010-031:2002

EN61326:2001 (EMC Standard)

- Withstand Voltage AC5350Vrms (50/60Hz)for 5sec. (between Measuring terminal and enclosure)
- Insulation Resistance 50MΩ or greater at 1000V (between Measuring terminal and enclosure)
- Dimension & weight 87(L) x 26(W) x 17(D)mm (excluding protrusions) Approx. 135g
- V,COM Cable length Approx. 0.9m
- Output Cable length Approx. 1m
- Output Connector MINI DIN 6PIN
- Accessories Instruction manual
- Option 7197(small Alligator clip)

### ⚠ DANGER

- Never make measurement on a circuit in which the electrical potential exceeds AC600V.
- Do not make measurements when a thunder is rumbling. Stop measurements immediately and disconnect the instrument from the devices under test.
- Do not attempt to make measurements in the presence of flammable gasses. Otherwise, the use of the instrument may cause sparking, which can lead to an explosion.
- Be especially careful about the possible shorting where the measured conductor is not insulated.
- Never attempt to use the instrument if its surface or your hand is wet.
- Remove the Measuring terminals from the circuit under test before connecting / inserting the Output connector.
- Do not exceed the maximum allowable input of any measuring range.
- Confirm a proper operation of this sensor on a well-known power source before taking countermeasures against the measured results.

### ⚠ WARNING

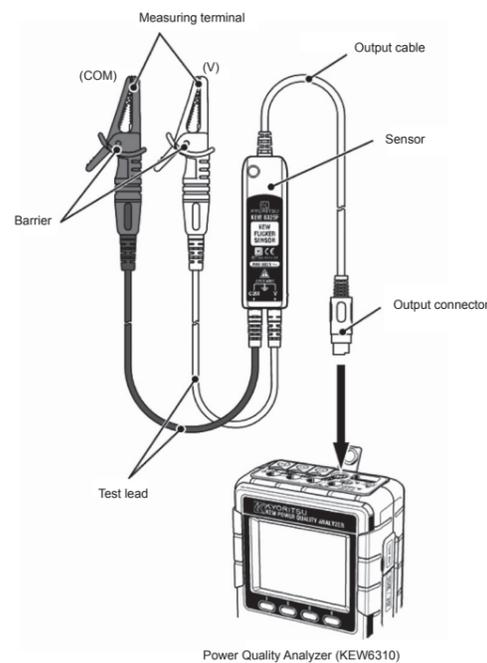
- Never attempt to make any measurement if any abnormal conditions, such as a broken cover or exposed metal parts are present on the instrument.
- Do not install substitute parts or make any modification to the instrument. Return the instrument to your local KYORITSU distributor for repair or re-calibration in case of suspected faulty operation.
- Keep your fingers and hands behind the safety barrier during measurements.

### ⚠ CAUTION

- Do not step on or pinch the cord, or it may damage the jacket of cord.
- Grasp the connector to remove the output terminal from the instrument.
- Put the instrument on a stable place where is free from vibrations or shocks.
- Firmly fix the Sensor unit and Measuring terminal so that they don't fall off due to the weight of sensor or test leads.
- Keep away Floppy Disks, Magnetic Cards, PCs and Displays from the magnet, which is attached to the backside of the sensor.
- Do not expose the instrument to direct sunlight, high temperatures, humidity or dew.
- Not to give shocks, such as vibration or drop, which may damage the instrument.
- Use a damp cloth with neutral detergent for cleaning the instrument. Do not use abrasives or solvents.

## 4. HOW TO USE/ SENSOR LAYOUT

- 1 Connect the Output connector to the Input terminal (A1) of the Power Quality Analyzer (KEW6310). This sensor operates only at A1 terminal. Do not use 2pcs or more of KEW8325F at the same time.
- 2 Clip the V and COM measuring terminals onto the conductor under test.
- 3 Start KEW6310 and select Flicker measurement at "QUALITY" menu. Detailed operating instructions are given in the Instruction manual for KEW6310.



### Safety symbols

⚠	Must refer to the instructions in the manual for safety
☐	Indicates a Instrument with double or reinforced insulation
~	Indicates AC

### ◇ Measurement categories(Over-voltage categories)

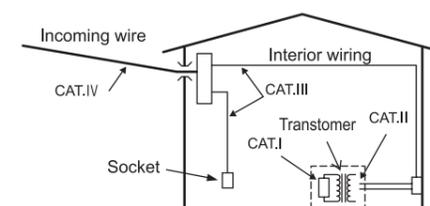
To ensure safe operation of measuring instruments, IEC 61010 establishes safety standards for various electrical environments, categorized as CAT.I to CAT.IV, and called measurement categories. Higher-numbered categories correspond to electrical environments with greater momentary energy, so a measuring instrument designed for CAT.III environments can endure greater momentary energy than one designed for CAT.II.

CAT.I : Secondary electrical circuits connected to an AC electrical outlet through a transformer or similar device.

CAT.II : Primary electrical circuits of equipment connected to an AC electrical outlet by a power cord.

CAT.III : Primary electrical circuits of the equipment connected directly to the distribution panel, and feeders from the distribution panel to outlets.

CAT.IV : The circuit from the service drop to the service entrance, and to the power meter and primary overcurrent protection device (distribution panel).

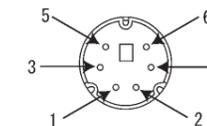


## 2. FEATURES

- This is a Voltage Sensor designed for KEW6310 to measure AC voltage up to 600V.
- Use with Power Quality Analyzer (KEW6310) enables flicker measurement according to IEC61000-4-15 (Flickermeter – Functional and design specifications).
- Designed to following international safety standards: IEC61010-1 Measurement Category (CAT.) III 600V IEC61010-031 Requirements for hand-held probes
- Internal differential amplifier is equipped, enabling floating voltage measurement.

## 5. DIN Plug pin assignment

- 1: +DC power supply Pin (+5V)
- 2: -DC power supply Pin (-5V)
- 3: GND Pin
- 4: No use
- 5: Output signal Pin
- 6: Sensor recognition pin (Resistance between Pin 3 and Pin 6: 20kΩ)



\*Above figure shows the pin assignment seeing the Clamp sensor from output connector part. The figure of the pin assignment of connection terminal is symmetrical to above figure.

