1. Safety warnings

- This instrument has been designed, manufactured and tested according to IEC 61010: Safety requirements for Electrical Measurement 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.
- 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. The operating instructions described in the manual must be observed.
- 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 and/or instrument damage.
- The symbol △ in the instructions is reserved for conditions and actions that are likely to cause serious or fatal injury.
- The symbol • is reserved for conditions and actions that can cause serious or fatal injury.
- The symbol Ö is reserved for conditions and actions that can cause minor injury or instrument damage.

2. DANGER

- Never make measurement on a circuit in which the electrical potential exceeds AC300V.
- Do not make measurement when thunder raging. If the instrument is in use, stop the measurement immediately and remove the instrument from the measured object.
- Do not attempt to make measurement in the presence of flammable gases. Otherwise, the use of the instrument may cause sparking, which can lead to an explosion.
- The transformer jaws are made of metal and their tips are not completely insulated. Be especially careful about the possible shorting where the measured object has exposed metal parts.
- Never attempt to use the instrument if it’s surface or your hand are wet.
- Do not exceed the maximum allowable input of any measuring range.

3. WARNING

- Never attempt to make any measurement, if any abnormal conditions are noted, such as broken case, and exposed metal parts.
- Do not install substitute parts or make any modification to the instrument. Return the instrument to the distributor from who you purchased this instrument for repair or re-calibration in case of suspected faulty operation.
- Always keep your fingers and hands behind the barrier on the instrument to avoid the possible shock hazard.
- Do not step on or pinch the cord to prevent the jack or cable from being damaged.
- The output connector shall be removed or connected without clamping a conductor. Otherwise, it may cause a failure.
- Do not expose the instrument to direct sunlight, high temperatures, humidity or dew.
- Never give shocks, such as vibration or drop, which may damage the instrument.
- Do not use a damp cloth and detergent for cleaning the instrument. Do not use abrasives or solvents.

5. Specifications

- Model: 8128
- Range voltage: 35V
- Output voltage: 10mA
- Measuring range: 0.001μA to 35V
- Error: ±5% of full scale + 1μA
- Current range: 0.001μA to 35V
- Accuracy: ±5% of full scale + 1μA
- Phase characteristics: 5mA below 0.5μA / 45~0μV
- Temperature range: -20°C to 20°C
- Voltage range: 0 to 35V
- Current range: 0 to 35V
- Resolution: 0.001μA
- Input impedance: Approx. 19Ω
- Location for use: Altitude of up to 2000m, Indoor
- Environment: Temperature: 0°C to 40°C
- Humidity: 20% to 80% non-condensating
- Operating temperature range: 0°C to 40°C
- Storage temperature range: -20°C to 80°C
- Magnetic flux density: 10mT or less
- Conducting voltage: 35V
- Dimensions: 62 x 40 x 19.5mm
- Weight: Approx. 280g
- Current range: 0.001μA to 35V
- Conductor size: Approx. 4mm diameter (×1)
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6. Operating instructions

- Never make measurement on a circuit in which the electrical potential exceeds AC300V in order to avoid possible shock hazard.
- The transformer jaws are made of metal and their tips are not completely insulated. Be especially careful about the possible shorting where the measured object has exposed metal parts.
- Take sufficient care to avoid shock, vibration or excessive force when handling the instrument. Otherwise, precisely adjusted transformer jaws will be damaged.
- When making measurements, keep the transformer jaws fully closed.
- If a foreign substance is stuck in the jaw tips, remove it.
- When making measurements, keep the transformer jaws fully closed.
- Otherwise, accurate measurements cannot be taken.
- Maximum conductor size: 2mm
- Hold the inserting part (except for the cable) and disconnect the Output connector from the measuring instrument so as not to cause a break in the cable.

6-1 Measurement procedures

1. Connect the Output connector to the Input terminal of the measuring instrument.
2. Press the Trigger to open the transformer jaws and clamp onto one conductor. In this case, the measured conductor shall be at the center of the jaws. When connecting a sensor with a Power meter (our Power meter, MODEL6300, etc.) match the arrow mark (Power source to lead), which is indicated on the transformer jaws, with the current flowing direction in order to synchronize the phases of measured current and output voltage.
3. Ensure that the tips of transformer jaws are firmly closed.

6-2 Setting for MODEL6300 Power meter Refer to the table below when using these clamp sensors with MODEL6300. It shows the settings for clamp sensor and available current ranges on MODEL6300. For further details on the settings, see the instruction manual for MODEL6300.

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Type of Clamp sensor</th>
<th>Current range</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODEL8128</td>
<td>50A</td>
<td>5/10/20/50A</td>
</tr>
</tbody>
</table>

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