1. Safety warnings

1.1 This instrument has been designed, manufactured and tested according to IEC 61010. Safety requirements for Electronic Measuring Instruments to be related to safe operation and the best use of the instrument are specified after passing quality control tests. This instruction manual contains warnings and safety notices which have to be read 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.

1.2 Read through and understand the instructions contained in this manual before using the instrument.

1.3 Keep the manual at hand to enable quick reference. The user should be familiar with all the safety instructions contained in the manual.

1.4 It is essential that the above instructions are adhered to. Failure to do so may result in personal injury, damage to the instrument, or disturbance to other users. KYORITSU reserves the rights to change specifications or designs described in this manual without notice and without obligations.

1.5 Never use the instrument near explosive gases or flammable gases. Never expose the instrument to water or dampness. Never attempt to use the instrument if its surface or your hand is wet.

1.6 Never make measurements in a circuit in which earth potential of 420V or higher.

1.7 Do not attempt to make measurements in the presence of flammable gases. Otherwise, the use of the instrument may cause sparking, and lead to an explosion.

1.8 Never attempt to use the instrument if the surface or your hand is wet.

1.9 Never attempt to make the minimum allowable input of any measuring range.

1.10 Never open the Battery compartment cover during a measurement.

1.11 Never attempt to make measurements if the clamp sensor and/or the instrument has any structural abnormality, such as a crack, close prohibited to the insulating internal electrical circuitry of the instrument.

1.12 Do not measure AC currents.

1.13 The instrument is not intended for use only in its intended applications. Otherwise, safety functions equipped with the instrument may not work, and instrument damage or serious personal injury may be caused.

2. Feature

2.1 Instrumentation signal (DC40~20mA) measurement: DC current (0~50mA) measurement without breaking the electrical circuit.

2.2 Auto-light/Brightness adjustment according to the measurement.

2.3 Auto-power-off function

2.4 Analog output function

3. Specification

3.1 Measuring range and accuracy (23°C±1°C, RH 75% or less)

<table>
<thead>
<tr>
<th>Range</th>
<th>Display range</th>
<th>Guaranteed accuracy</th>
<th>Measured accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC1mA</td>
<td>0.00mA to ±2.10mA</td>
<td>±0.02</td>
<td>±0.05</td>
</tr>
<tr>
<td>DC10mA</td>
<td>0.00mA to ±21.0mA</td>
<td>±0.2</td>
<td>±0.5</td>
</tr>
<tr>
<td>DC100mA</td>
<td>0.00mA to ±210mA</td>
<td>±2.0</td>
<td>±5.0</td>
</tr>
<tr>
<td>DC1A</td>
<td>0.00mA to ±210mA</td>
<td>±20</td>
<td>±50</td>
</tr>
</tbody>
</table>

3.2 Analog output function

3.2.1 DC voltage (10mV/1mA) corresponding to the reading.

3.3 Backlight & LED light

3.4 Battery replacement

5. Getting started

5.1 Power on the instrument, and then check smooth opening and closing action of the clamp sensor.

5.2 Check the remaining battery level before making a measurement. If the battery power is insufficient, replace the batteries with new ones according to 8. Battery replacement in this manual.

5.3 Ensure that the Data hold function is not in active status.

6. Operating instructions

6.1 Do not clamp on the un-insulated conductor.

6.2 Keep your fingers and hands behind the barrier during a measurement.

6.3 Do not attempt to make measurements if the clamp sensor is closed before starting to use the instrument.

6.4 Bring the clamp sensor close to the conductor under test and zero adjust the display in order to minimize the influence of electromagnetic waves.

6.5 Take sufficient care to not apply shock, vibration or excessive force when opening and closing the clamp sensor. Otherwise, accurate measurements may not be obtained. Please open and close the sensor lightly.

6.6 Perform zero adjustment prior to starting a measurement. With the transformer jaw closed and without clamping them onto the conductor, press the Zero-ADJ button.

6.7 The default zero adjustment mark “0” is shown on the LCD for about one second.

6.8 Press the Jig trigger to open the transformer jaw and clamp the conductor under test and take the reading on the display. (See the figure below.)

6.9 When the current flows in the same direction as indicated by the arrow mark on the jaws, the direction of the current is considered positive and vice versa.

7. Data Hold Function

7.1 This function to freeze the measured value on the display. Press the Data hold button once to freeze the reading. The reading will be held regardless of subsequent variation in input. The Data hold mark “ HOLD” is indicated on the display while the instrument is in the Data hold mode. To exit Data hold mode, press the Data hold button again.

7.2 Auto-power-off function

7.2.1 The instrument automatically powers off about 10 min after the last operation regardless of Data hold function or Analog output function connected to the analog output terminal. To disable this function at your option, press the Analog output button while the battery compartment cover is closed on the instrument. The LCD shows “OFF” for about 1 sec immediately after pressing the instrument. To restore this function, power off once and power on again.

7.3 Backlight & LED light

7.3.1 Press the Light button to turn on or off the LED light and LCD backlight. These lights automatically turn off after two minutes.

7.4 Analog output function

7.4.1 DC voltage signal corresponding to the measured result is output from the Analog output terminal. (10mV/1mA) can be checked on a recorder or a digital multi-meter connected to the instrument by using MODE7250 output command.

8. Battery replacement

8.1 Do not mix old or new batteries or mix different types of batteries.

8.2 Install batteries in correct polarity as marked inside.

8.3 When replacing the battery, remove the battery compartment cover and tighten the screw.

8.4 To replace the battery [1] Power off the instrument.

8.5 To remove the screw at the backside of the instrument and remove the Battery compartment cover.

8.6 Replace the old batteries with new ones. Four size AA, batteries, in correct polarity. Use the alkaline batteries (LR6) recommended.

8.7 Reattach the Battery compartment cover and tighten the screw.