



CLAMP LEAKER MODEL-140

Do not attempt to use this instrument until you read and thoroughly understand the warning and precautions appearing in this manual. In this manual, the symbol  is used to mark items which must be read and followed to ensure safe operation of the instrument. Be sure to keep this instruction manual handy in case you need to refer to it in the future.

SPECIFICATIONS

- Measurement function : AC leak current, AC load current.
Data hold, Automatic power off.
- Clamp opening capability : 40 mm dia.
- Display : Liquid Crystal Display.
Reading of 3200 counts, Bar graph of 16 segments and annunciation.
Over-range indication, OL mark.
Data hold indication, DH mark.
Low battery indication,  mark.
- Sampling : 2 time / sec.
- Measurement ranges and accuracy : $23 \pm 5^\circ\text{C}$, <80% RH.
Average responding, calibrated to read the RMS value of sinewave.

Range	Resolution	Input	Accuracy ※
30/300mA	0.01/0.1mA	0.00~300.0mA	$\pm 1.2\% \text{rdg} \pm 5 \text{dgt}$
30/300A	0.01/0.1A	0.00~200.0A	$\pm 1.2\% \text{rdg} \pm 5 \text{dgt}$
		200.0~300.0A	$\pm 5.0\% \text{rdg} \pm 5 \text{dgt}$

※Except above accuracy for 0.00 to 0.10 mA(A) .

Frequency respons 50/60Hz

Limitation of circuit voltage 250V

Temperature coefficient, Specified accuracy
($23 \pm 5^\circ\text{C}$) $\times 0.1/^\circ\text{C}$

Dielectric strength : 2kV AC / 1 minute, between the case and the core of CT.

Operating temperature : $0^\circ\text{C} \sim +50^\circ\text{C}$, 80% RH max.

Power supply : 2 batteries, LR-44 or SR-44

Batteries life : LR-44, 50 hours
SR-44, 100 hours

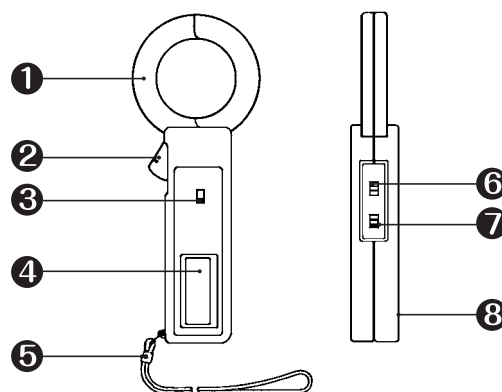
Automatic power off : The meter is powered off 10 minutes after the last operation was function.

Size : 64 (W) \times 162 (H) \times 23 (D) mm

Weight : Approx. 125g

Accessories : Batteries 2 pcs
Soft case 1 pcs
Instruction manual 1 pcs

NAME OF PARTS



WARNING

Never use the M-140 to measure any circuit having voltages which exceed 250 V, as doing so is dangerous. Before using the M-140, verify the voltages that will be encountered in circuit under measurement.

WARNING

To avoid the danger of electrical shock:

- Never allow the M-140 to become wet with water droplets or operate it with wet hands.
- Never use the M-140 if the main case or the current clamp case has been damaged.
- Never operate the M-140 with the battery cover removed.

- ① CT (Current transducer) . . . This clamp is used to pick up the current from the circuit under measurement.
- ② CT opening lever CT is opened by pressing this lever.
- ③ Data hold switch Press the switch one time to hold the value, and press it again to cancel the hold function.
- ④ Display Measured value is displayed.
- ⑤ Hand strap Wrap this strap around the wrist to prevent dropping M-140 during measurements.
- ⑥ Range switch Set the measuring range according to the current to be measured.
- ⑦ Power switch Switch the power on and off.
- ⑧ Battery cover Open this when batteries are replaced.

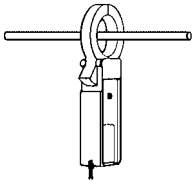
OPERATION PRECAUTIONS

- Before using, Please insert the batteries supplied as a standard accessory referring to "BATTERIES REPLACEMENT" in this manual.
- When the battery becomes exhausted or drops below operating voltage, the "⎓+—" mark is displayed.
- Avoid using the M-140 in areas subject to sudden changes in temperature.

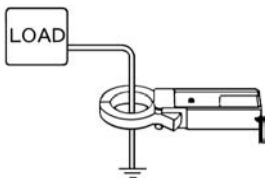
OPERATION

1. Set the power switch on.
2. Set the Range switch to a range appropriate to the current to be measured as follows:
Load Current, 30/300A (30/300mA in case of small current)
Leakage Current, 30/300mA
3. Open CT by pressing CT opening lever and clamp the conductor. Close CT completely by releasing the lever. Follow the procedures mentioned below:

- (1) Measurement of load current single phase and three phases:
Clamp only one conductive line.

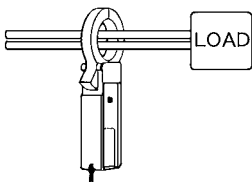


- (2) Measurement of leakage current.
Earth Line: Clamp earth line.

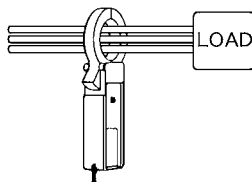


Zero phase Detection: Clamp all lines.

Single phase



Three phases



Note : Clamp all three lines in case of single phase three wires and clamp all four lines in case of three phase four wires.

4. Read the displayed value.
If you make measurements in a dark place or in a place where it is difficult to see the readings, use the data hold switch.
5. If you wish to use M-140 further after the automatic power-off function has operated, either press the DATA H. switch, or set Power switch off and then return it to on.
6. After using, set the power switch to "OFF"

CAUTION

When measuring the leakage current close to large current line or large magnetic field, the measurement may be influenced. Display may become unstable and measurement error may be caused.

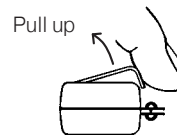


CAUTION

M-140 cannot be used to measure the circuit which exceeds 300A. CT may become too hot and may cause the damage.

BATTERIES REPLACEMENT

- After observing the power switch is set to OFF, remove the battery cover located on the unit back.
- Insert the LR-44 or SR-44 into the battery case making sure that proper polarity is observed.
- Always replace both batteries at the same time.



Place batteries with positive side up.

