

Thank you for purchasing our AC/DC Clamp Sensor model ACS101. Before use, please read this manual thoroughly to ensure correct and safe use. After reading it, keep it together with the product for reference to it when necessary. Using the product in a manner not specified in this manual may cause damage to the protection function of the product. The instructions given under the headings of “⚠ WARNING” and “⚠ CAUTION” must be followed to prevent accidental burn and electric shock.

- The warning messages are intended to prevent accidents to operating personnel such as burn and electric shock.
- The caution messages are intended to prevent incorrect handling which may damage the product.

⚠ WARNING

To avoid physical injury such as burns or electric shock, be sure to observe the following instructions when using this instrument.

1. This instrument is a clamp sensor for low voltage applications. Do not use it with an electric circuit exceeding 600 V.
2. Never input signals exceeding the maximum rated input value (see 1-3).
3. Never use this instrument if it is damaged or if the output cable is damaged.
4. Do not use this instrument while the case or battery compartment cover is removed.
5. Never use the instrument when it is wet or when your hands are wet.
6. Do not attempt to repair or modify this instrument, except for battery replacement.
7. Perform start-up inspection and inspect the instrument at least once a year.
8. This instrument is for indoor use only.
9. When measuring equipment containing a hazardous charged part, it is required to wear protective gear for prevention of accidents. For details, please follow your local and national safety standards.
10. Do not use the instrument in a method other than specified. Otherwise, the protection function may be spoiled.

Input	Maximum rated input	Maximum overload protection input
Clamp sensor	600 A AC/DC	600 A AC/DC

1 Clamp type current sensor (CT)
 2 Centering marks for current measurement / Polarity marks for DC (DCA) measurement
 3 Barrier
 4 Trigger
 5 Power switch / Range selector switch
 6 Output terminals
 7 Auto power off (APO) button
 8 Zero adjustment (--- A ZERO) button
 9 POWER lamp (red)
 10 Auto power off (APO) lamp (green)

⚠ WARNING

1. Do not apply an input signal exceeding the maximum rated input value.
2. Do not connect this instrument to a circuit with a voltage to ground exceeding 600 V.
3. During measurement, do not hold the instrument at any point on the other side of the barrier.
4. Be sure to check the selected range before each measurement.

1. To improve measuring accuracy, position the conductor at the center of the clamp type current sensor (CT).
2. Always clamp only one wire at a time. Accurate measurement is impossible if two or more wires, a cable with multiple conductors, or parallel cord is clamped.
3. Accurate measurement is impossible if the CT is not closed completely.
4. Accurate measurement is sometimes impossible near a source of strong magnetic field such as a transformer or high-current line, near a source of electromagnetic waves such as radio equipment, or near a charged object.

- Check the external appearance. Check that the instrument is free of abnormality or damage due to dropping, etc.
- Make sure the output cable and output terminals are not disconnected, cracked, or otherwise damaged.
- Make sure the batteries are inserted correctly before using this instrument for the first time. After turning on the instrument, confirm that the POWER lamp (red) does not blink and that battery power is not low. If the lamp blinks, replace the batteries with new ones. If the lamp does not light, the batteries may be completely exhausted (see 6-4).
- Make sure that the instrument is dry and that your hands are not wet.

- ① Once you have completed your measurement preparation press the zero adjustment button to perform zero adjustment (see 4-5). Check that the display on the multimeter shows a value less than 1.0 mV. Since the zero point is likely to vary in DCA measurement, perform zero adjustment again when a major change has been made in the direction of this instrument.
- ② Push the trigger on this instrument to open the clamp type current sensor (CT). Clamp one wire of the conductor you are measuring and close the CT completely. Now align the direction of the measured current with the direction of the arrow on the CT. If the direction is wrong, the multimeter displays a negative (-) polarity.
- ③ Multiply the value displayed on the multimeter by one of the factors in the table above and read it in the "A".

ACS101 \ Multimeter range	100 to 600 mV range	1 to 6 V range
60 A range	0.1x	100x
600 A range	1x	1000x

⚠ WARNING

1. This section is very important for safety. Read and understand the following instructions fully and maintain your instrument properly.
2. For securing safety and accuracy, inspect and calibrate the instrument at least every year.

 CAUTION

1. The panel and case are not resistant to volatile solvent and must not be cleaned with thinner or alcohol. If the instrument gets dirty, wipe with a soft cloth moistened with a small amount of water.
2. The panel and case are not resistant to heat. Do not place the instrument near heat-generating devices.
3. Do not store the instrument anywhere it may be subject to vibrations or could fall.
4. When storing the instrument, avoid hot, cold, or humid locations, locations exposed to direct sunlight, or locations where condensation is anticipated.
5. When the instrument is not going to be used for an extend period of time, be sure to remove the batteries.

⚠ WARNING

1. To avoid electric shock, do not remove the battery compartment cover when input is applied to the CT or when measurement is being performed.
2. Confirm that the power switch is at the "OFF" position before replacing the batteries.

Remove screw from battery compartment cover

Do not remove

- 1 Use a Phillips screwdriver, remove the fixing screw (x1) from the battery compartment cover.
 - 2 Remove the battery compartment cover.
 - 3 Replace both of the two batteries in the battery compartment with new ones by taking care of the polarity.
 - 4 Place the battery compartment cover and tighten the fixing screw.
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- Battery compartment cover
- Do not remove

3. Description of product configuration

