sanwa®

CL40I0R/CL68I0R/CL110I0R

CURRENT CLAMP SENSOR

INSTRUCTION MANUAL

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[1] SAFETY PRECAUTIONS
– Before use, read the following safety precautions.–

This instruction manual explains the current sensor CL40I0R / CL68I0R / CL110I0R for I0R700V / I0R700.

Before using, read through this manual to reduce the risk of fire , electric shock, and/or injury. And save it together with the product so that you can refer to the manual as necessary.

The instructions given under the headings of "⚠WARNING" must be followed to prevent accidental burn and electric shock and "⚠CAUTION" as well.

1.1. Explanation of Warning Symbols

The meanings of the symbols used in this manual and attached to the product are as follows.

⚠: Extremely-important instructions for safe use

WARNING identifies conditions and actions that could result in accidental burn and electric shock.

CAUTION identifies conditions and actions that could cause damage the instrument.

1.2. Warning Instructions for Safe Use

⚠ WARNING

The following instructions are intended to prevent injury such as burn and electric shock.

These instructions must be followed.

1. This instrument is for low voltage measurement. Use it with electric paths below CAT.III 300 V.
2. Use caution when working with voltages above 33 V ac rms (46.7 V peak) or 70 V dc. These voltages pose a shock hazard.
3. Do not apply any voltage exceeding the maximum rated input voltage (see 1.3.).
4. Do not use the instrument if the CT unit or output cable look damaged.
5. Do not use the instrument with the case opened.
6. Grab the lead wire side of the barrier of current sensor during measurement to prevent electric shock.
7. When the current sensor is clamping a conductor, do not connect or disconnect the output cable terminal.
8. Do not operate the instrument when it is wet or with wet hands.
9. Insulation protective equipment must be used to prevent accidents for facilities which have dangerous live line parts. Follow local and national safety standards.
10. Never attempt to repair or modify the instrument.
11. Use indoors.
12. Make sure that a pre-operational check is performed and an inspection is performed at least once a year.
13. Do not use the instrument in places where explosive gas or corrosive gas is generated.
14. Use the instrument in the specified method to prevent from losing the protective function.

⚠ CAUTION

It may not be possible to measure properly near an strong magnetic field such as a transformer or a large current path, near an electromagnetic wave such as a radio equipment, or near a something charged.

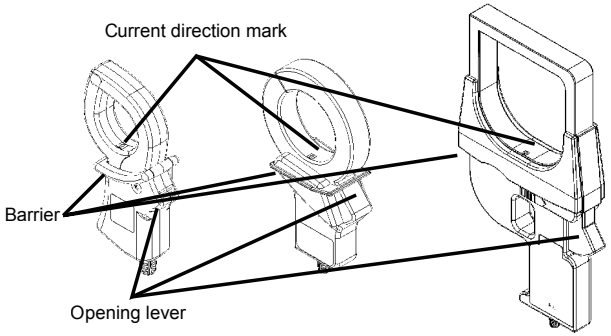
1.3. Overload Protection Input Value

Type	Max. Rated Input	Overload Protection
CL40I0R	999.999 mA	Applying voltage is prohibited. 100 Arms
CL68I0R	999.999 mA	Applying voltage is prohibited. 100 Arms
CL110I0R	999.999 mA	Applying voltage is prohibited. 100 Arms

[2] APPLICATIONS

This device is a current sensor for measuring a leakage current dedicated to the I0R logger I0R700V / I0R700.

[3] PART IDENTIFICATION



[4] MEASURING PROCEDURE

⚠ CAUTION

1- Be sure to turn off the power of I0R700 / I0R700V before connecting the device.
2- When connecting to I0R700 / I0R700V, align the arrow mark on the current sensor output terminal with ▲ mark on the instrument.
3- Do not directly pull on the cable.
4- Do not strongly bend the cable near the output plug.
5- When disconnecting the output plug, pull on the plug lock (ring engraving), not the cable.

Connect the output plug of this device to the I0R700 / I0R700V current input terminal (CURRENT INPUT) to use it.

[5] MAINTENANCE

⚠ WARNING

1. The followings are important to safety. Read this manual throughly to maintain the instrument.
2. Calibrate and inspect the instrument at least once a year to ensure safety and maintain its accuracy.

5.1. Simple Examination

1) Appearance: Check that the instrument does not look damaged caused by dropping etc.
2) The current sensor, cable and output plug: Check that anywhere is not damaged and the cable core is not exposed from anywhere.

If you find any problem on the above items, stop using immediately and ask us to repair it.

5.2. Calibration / Inspection

For requesting calibration and inspection, contact an authorized agent / distribution service provider, listed in our website.

5.3. Storage

⚠ CAUTION

1. The instrument is not resistant to volatile solvents. Do not wipe out with solvents or isopropyl alcohol.
2. The instrument is not resistant to heat. Keep it away from heat-generating devices such as solder irons.
3. Do not save the instrument into vibratory places or where the instrument may fall off.
4. Do not expose the instrument to direct sunlight and do not save it into any places with extreme temperature, humid, or condensation.

[6] AFTER-SALE SERVICE

6.1. Warranty and Provision

SANWA offers comprehensive warranty services to its end-users and to its product resellers. Under SANWA's general warranty policy, each instrument is warranted to be free from defects in workmanship or material under normal use for the period of one (1) year from the date of purchase.

This warranty policy is valid within the country of purchase only, and applied only to the product purchased from SANWA authorized agent or distributor.

SANWA reserves the right to inspect all warranty claims to determine the extent to which the warranty policy shall apply. This warranty shall not apply to disposables batteries, or any product or parts, which have been subject to one of the following causes:

1. A failure due to improper handling or use that deviates from the instruction manual.
2. A failure due to inadequate repair or modification by people other than SANWA service personnel.
3. A failure due to causes not attributable to this product such as fire, flood and other natural disaster.
4. Non-operation due to a discharged battery.
5. A failure or damage due to transportation, relocation or dropping after the purchase.

6.2. Repair

Customers are asked to provide the following information when requesting services:

1. Customer name, address, and contact information
2. Description of problem
3. Description of product configuration
4. Model Number
5. Product Serial Number
6. Proof of Date-of-Purchase
7. Where you purchased the product

Please contact SANWA authorized agent / distributor / service provider, listed in our website, in your country with above information. An instrument sent to SANWA / agent / distributor without above information will be returned to the customer.

Note:

1) Prior to requesting repair, please check the following:
   Capacity of the built-in battery, polarity of installation and discontinuity of the test leads.
2) Repair during the warranty period:
   The failed instrument will be repaired in accordance with the conditions stipulated in 8-1 Warranty and Provision.
3) Repair after the warranty period has expired:
   In some cases, repair and transportation cost may become higher than the price of the product. Please contact SANWA authorized agent / service provider in advance.
   The minimum retention period of service functional parts is 6 years after the discontinuation of manufacture. This retention period is the repair warranty period. Please note, however, if such functional parts become unavailable for reasons of discontinuation of manufacture, etc., the retention period may become shorter accordingly.
4) Precautions when sending the product to be repaired:
   To ensure the safety of the product during transportation, place the product in a box that is larger than the product 5 times or more in volume and fill cushion materials fully and then clearly mark “Repair Product Enclosed” on the box surface. The cost of sending and returning the product shall be borne by the customer.

6.3. SANWA web site

http://www.sanwa-meter.co.jp
E-mail: exp_sales@sanwa-meter.co.jp

[7] SPECIFICATIONS

7.1. General Specifications

Items	Explanation
CT diameter	CL40I0R: φ 40 mm CL68I0R: φ 68 mm CL110I0R: φ 110 mm
Cable length	CL40I0R: Approx. 1.8 m CL68I0R: Approx. 1.8 m CL110I0R: Approx. 1.8 m
Operating temperature and humidity range	5 to 40 °C, 80 %RH or less (without condensation)
Strage temperature and humidity range	-10 to 40 °C, 80 %RH or less (without condensation) 40 to 50 °C, 70 %RH or less (without condensation)
Dimensions	CL40I0R: 71 (*H*) x 143 (*W*) x 31 (*D*) mm (excluding protrusions) CL68I0R: 129 (*H*) x 188 (*W*) x 53 (*D*) mm (excluding protrusions) CL110I0R: 194 (*H*) x 341.5 (*W*) x 52 (*D*) mm (excluding protrusions)
Mass	CL40I0R: Approx. 340 g CL68I0R: Approx. 575 g CL110I0R: Approx. 1920 g

7.2. Measuring ranges

Type	Measuring range	Tolerance
CL40I0R	0 to 999.999 mA	Specified by I0R700V / I0R700
CL68I0R	0 to 999.999 mA	Specified by I0R700V / I0R700
CL110I0R	0 to 999.999 mA	Specified by I0R700V / I0R700

The product specifications and its appearance described in this manual are subject to change without prior notice for improvements or other reasons.