

User's Manual

Models CTW10, CTW20, CTW100, and CTW130 Clamp-on Current Transformers

Yokogawa Electric Corporation
2-9-32, Naka-cho Musashino-shi, Tokyo 180-8750 Japan

You can download the latest manuals from the following website:

 <http://www.yokogawa.com/ns/powercert/>

Thank you for purchasing the Clamp-on Current Transformers.
Please read through this manual before use for correct handling.

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1. CAUTIONARY NOTES FOR SAFE USE OF THE PRODUCTS

The following symbol is used on the product and in this manual to ensure safe usage.



WARNING

Calls attention to actions or conditions that could cause serious or fatal injury to the user, and indicates precautions that should be taken to prevent such occurrences.



CAUTION

Calls attention to actions or conditions that could cause injury to the user or damage to the instrument or property and indicates precautions that should be taken to prevent such occurrences.

2. CROSS-CHECK THE MODEL

Make sure the model and suffix codes shown on the data plate attached to the transformer are the same as specified in your purchase order.

Models	Names
CTW10	Clamp-on Current Transformer (for 100 A / 1 A) Applicable cable diameter: less than $\Phi 24$ mm
CTW20	Clamp-on Current Transformer (for 200 A / 1 A) Applicable cable diameter: less than $\Phi 24$ mm
CTW100	Clamp-on Current Transformer (for 500 A / 5 A) Applicable cable diameter: less than $\Phi 36$ mm
CTW130	Clamp-on Current Transformer (for 800 A / 5 A) Applicable cable diameter: less than $\Phi 36$ mm

3. HANDLING PRECAUTIONS AND INSTALLATION LOCATION



CAUTION

- Note that these current transformers are designed for use with general-purpose instruments and have not yet gained any official certification. They cannot therefore be used for the purpose of ascertaining wattage or other electric parameters.
- Use each current transformers under a load no greater than its rated level. When calculating the load, you must calculate the sum of the load given by the instruments to be connected to the transformer and the load given by the lead-wire of the secondary-stage cable.
- The inner-walls of the clamp are treated with rust preventive. But if rusted, remove the rust with CRC-5-56 (goods on the market) and spray rust preventive on the inner-walls again for recovery.

Avoid installing the current transformers in locations subject to: ambient temperatures outside the specified range of -20 °C to 50 °C, where condensation is likely; ambient humidity exceeding 80 % RH, where condensation is likely; relatively large amounts of flammable or explosive gas, saline substance, lampblack or dust; splashes of water, oil or solvent; radioactive rays or intense electric or magnetic fields; frequent mechanical vibration or shock; or direct sunlight.

4. INSTALLATION



WARNING

Since there is a risk of electric shock during installation, be sure to observe the following.

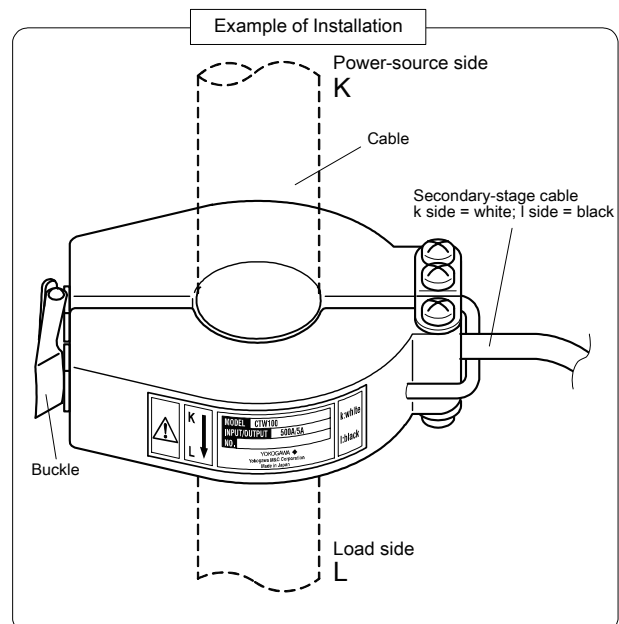
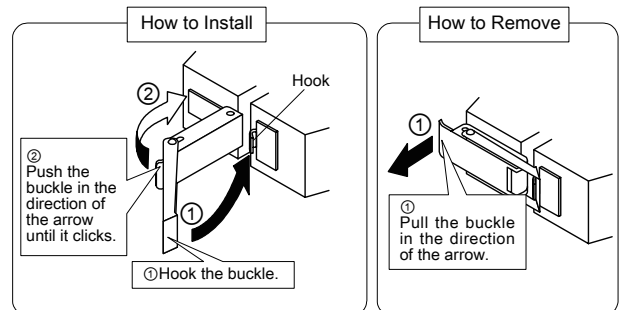
- Before connecting the transformer to any other equipment, make sure the circuit is not receiving any power in order to prevent electric shock.
- Fasten the connecting terminals securely so they will not loosen readily.
- Do not touch the terminals or any other part of the transformer when the circuit is live.
- Do not use the transformer under a circuit current greater than the level specified for that model.
- Do not use the transformer under a circuit voltage greater than 500 V AC.



CAUTION

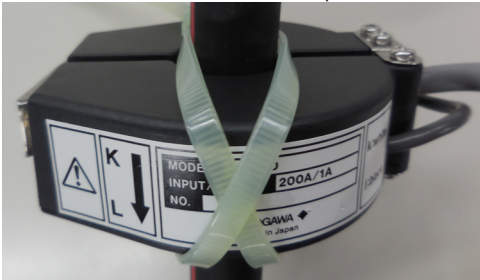
The CTW contains a device for suppressing hazardous voltages that arise when the secondary line is open-circuited.

Install the transformer referring to the following figures.



- Attach the transformer to the cable according to the orientation of the K and L symbols, as shown in the figure.
- Securely fasten the clamp using the buckle.
- Use a crimp-on terminal for 0.75 mm² cables to connect the secondary-stage cable.
- The wires of the secondary-stage cable are color-coded as follows. k side=white; l side=black

Secure the current transformer and cable with a commercially available cable tie as shown in the photo below.



CAUTION

When extending secondary-stage cable of the current transformer, use a covered ring-sleeve or the like and a cable of 1.25 to 2 mm². The standard cable length is as follows.

When secondary-stage current is 5 A:
Up to 2.6 m for 1.25 mm², and up to 4.6 m for 2 mm²
When secondary-stage current is 1 A:
Up to 8.3 m for 1.25 mm², and up to 15 m for 2 mm²

5. DISPOSAL

These current transformers, when no longer serviceable, must be disposed of as industrial refuse.

6. SPECIFICATIONS

6.1 General

The CTW series are clamp-on current transformers that can be installed much easier than conventional current transformers, whereby saving labor. These transformers are particularly useful when expanding existing system since you can attach them to a cable without having to cut it.

6.2 Characteristic Specifications

Rated primary current (I_n) / Rated secondary current:

CTW10= 100A / 1A

CTW20= 200A / 1A

CTW100= 500A / 5A

CTW130= 800A / 5A

Rated frequency: 50 / 60 Hz

Rated burden:

CTW10, CTW20 = 0.5VA

CTW100, CTW130 = 2.5VA

Accuracy / Linearity: ±1.0% against rated primary current I_n

Phase difference: Within ±2° against rated primary current I_n

Operating circuit voltage: Within 500 V AC

Insulation resistance: 100 MΩ or more at 500 V DC (across core and output)

Withstand voltage: 2000 V AC for one minute (across core and output)

Operating temperature range: -20 to 50°C (no condensation)

Operating conditions: Indoor location

Weight:

CTW10= Approx. 220 g

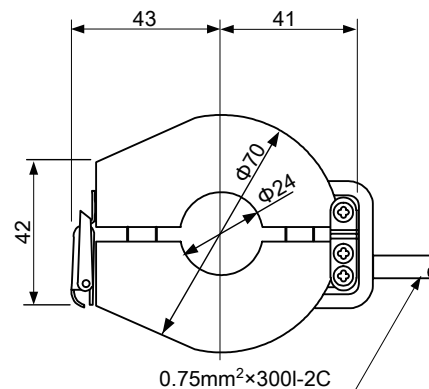
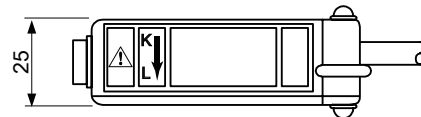
CTW20= Approx. 220 g

CTW100= Approx. 350 g

CTW130= Approx. 380 g

7. EXTERNAL DIMENSIONS

7.1 CTW10 and CTW20



7.2 CTW100 and CTW130

