UNI-T UT-CS09A-D Flex Clamp Current Sensor User Manual

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UNI-T UT-CS09A-D Flex Clamp Current Sensor

Thank you for purchasing this brand-new UNI-T product. In order to safely and correctly use this device, please read this manual carefully, especially the Safety Instructions section. Please keep the manual accessible near the device for future reference.

Instruction

UT-CS09AUT-CS09D is a stable, safe, and reliable 3000A AC Rogowski flex Clamp Current Sensor (hereinafter called the current sensor). The core of the design is the Rogowski coil.

Warning
To avoid electric shock or injury, please read Safety Instructions and Warnings before operating this product.

Open Box Inspection
Open the package box and take out the device. Please check whether the following items are deficient or damaged and contact your supplier immediately if they are.

- User manual pc
- BNC adapter- pc
- Battery: 1.5V AAA- 3pc

Safety Instructions

In this manual, a Warning identifies conditions and actions that pose hazard(s) to the user or the test device. This device strictly follows CE standards: IEC61010-1; EC61010-031; IEC61010-2-032 as well as CAT IV 600v, RoHS, pollution grade II, and double insulation standards. If the clamp is used in a manner that is not specified in this manual, the protection provided by the device might be impaired.

1. Do not use the device if the rear cover or the battery cover is not covered up.
2. When measuring. keep fingers behind the finger guard on the measuring head. Do not touch bare cables, connectors, unoccupied input terminals, or circuits being measured.
3. Before measuring, the switch should be in the correct position. Do not switch positions during measurement.
4. Do not use the clamp on any conductor with voltages higher than DC 1000V or AC 750V.
5. Use caution when working with voltages above 33V AC RMS. Such voltages pose a shock hazard.
6. Do not use the device to measure current higher than the specified range. If the current value being measured is unknown, select the 3000A position and reduce it accordingly.
7. To avoid false readings, replace the battery if the “POWER” indicator flashes. Remove the battery if the sensor is left unused for a long time.
8. Do not change the internal circuit of the device
9. Do not store or use the sensor in high temperature, high humidity, explosive, or strong magnetic field environments.
10. Use a soft cloth to clean the case, do not use abradants or solvents.
11. Do not use when the jaw or jaw end” is worn.

Symbols

⧈	Double insulation
⏚	Grounding
⚠	Warning
~	AC (Alternating Current)
-+	Battery
⚠	High voltage hazard
CE	Comply with European Union standards
ETL Intertek	Conforms to UL STD. 61010-1, 61010-2-032, 61010-031, Certified to CSA STD. C22.2 No. 61010-1, 61010-2-032, 61010-031.
CAT IV	It is applicable to test and measuring circuits connected at the source of the building's low-voltage MAINS installation.

Structure

1. Flexible Rogowski coil
2. Flexible clamp loc Rotate the knob according to the arrow mark on the case to lock or unlock
3. Fixed piece

4. Power indicator Normal status: constant red light Low power (<3.3V): flash once for every 1s period. Please replace the batteries.
5. Switch A. 30A For measuring 1.5A-30A 300A
6. For measuring 30A-300A 3000A For measuring 300A-3000A OFF Switch off the sensor
7. Corresponding output voltage
8. 30A range: 1A-> 100mv
9. 300A range: 1A-> 10mV C. 3000A range: 1A-> 1mV
10. Voltage signal output terminal The corresponding voltage output of AC current is measured through a flexible current sensor.

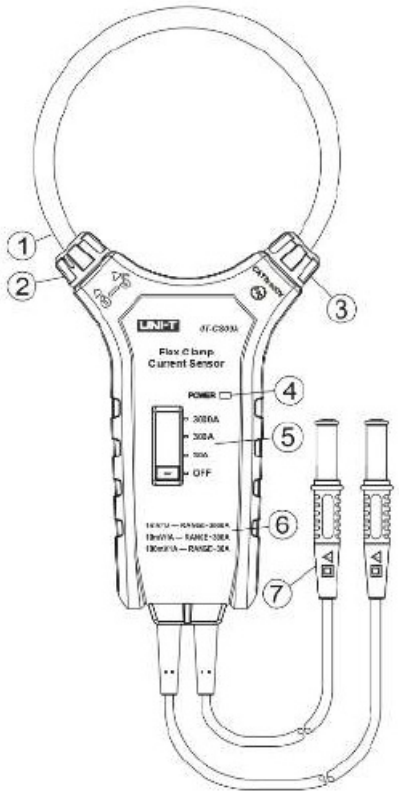


Figure 1

Operations

BNC terminal can be used to connect the flexible current sensor to read out on the oscilloscope.

warnings
To avoid false readings, do not use low input impedance settings when using oscilloscopes as readouts.

AC measurement
Warning
Before measuring, switch off the conductor to be measured. Do not turn on the conductor before the sensor is locked around the conductor to be measured.

Caution
Keep your hands away from the Rogowski ring and conductor to be measured.

1. Connect the sensor with an alternating voltage measure device e.g. multimeter. (see figure 2)

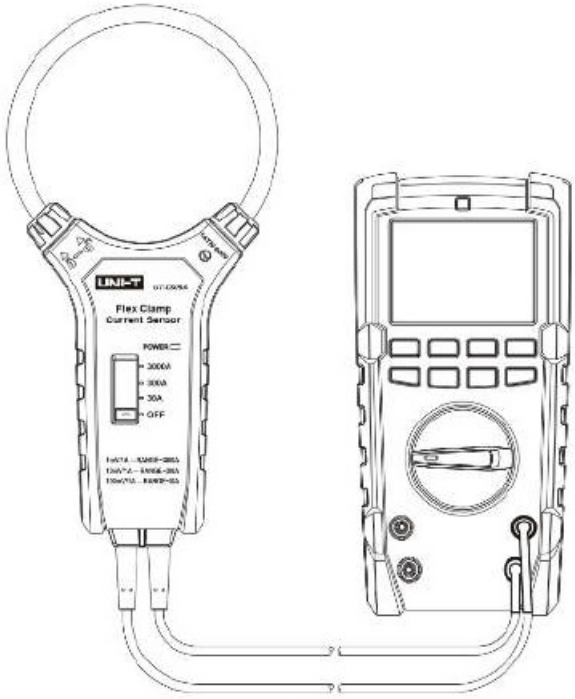


Figure 2

2. Unlock the Rogowski coil according to Section 5.2 (see figure 3).

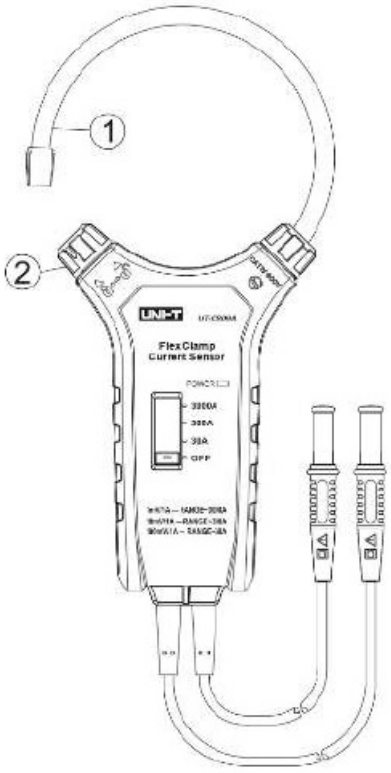


Figure 3

3. Use the Rogowski coil to wrap and lock around the conductor to be measured. (see figure 4)

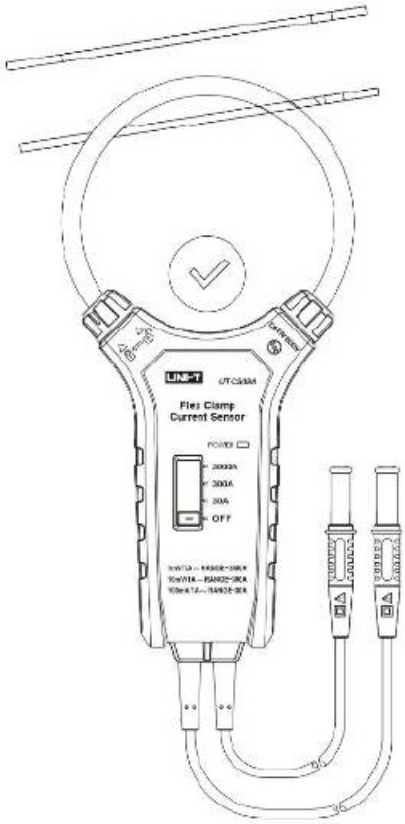


Figure 4

4. Turn on the sensor, then power on the conductor.
5. Read the value displayed on the multimeter. (Max Value=3.0V). If the current to be measured er the range, please select an appropriate range (30A300A/300OA)
6. Improper operation example (see figure 5a, 5b).

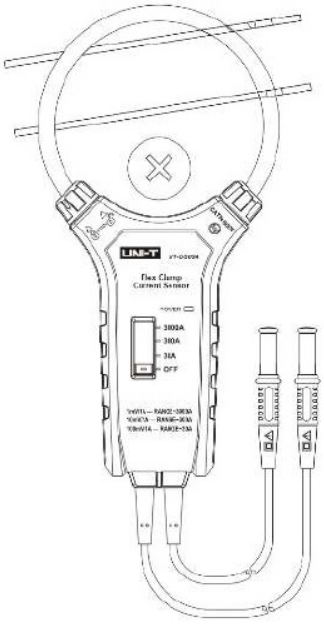


Figure 5a

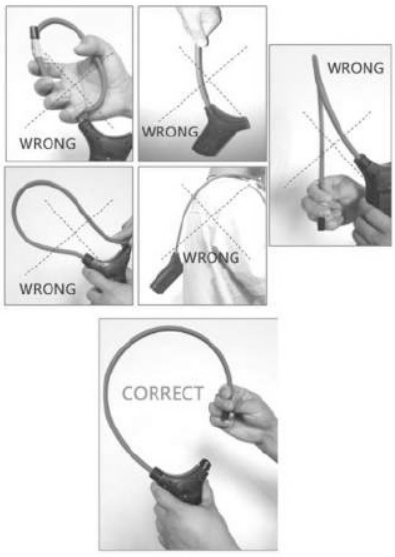


Figure 5b

Shut down
After measurement, switch to the OFF position to shut down the device.

Buzzer
The buzzer will go off at an effective range.

Technical specifications

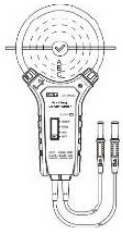
General specifications

- Max output voltage:. Over range indication
- Low power indication: 3.00V (AC) reading> 3.00V (AC)
- POWER" indicator flashes, battery voltage<3.3V,please replace the battery Sensor type
- Position error: Rogowski clamp sensor
- At central position: t3.0% of reading outside central area: additional error according to zone ABC. (see Electric specification
- Drop test:meter measuring head size-UT-CSO9A Length=25.4cm (10″) UT-CSO9D Length= 45.7cm (18″)
- Conductor trace line:-Electromagnetic field interference unstable performance or incorrect reading
- Battery Max diameter: 14cm – AAA 1.5V (3pcs)

Operating environment

- Max altitude:- 2000m
- Safety standard: EC61010-1; 1EC61010-031 EC61010-2-032; CAT IV 600V Pollution grade
- Information of usage: Operating temperature
- Operating humidity:- 2 – Indoor -0'C-50'C -80%RH Storage- –20 C60 C (80%RH)
- Electric specifications Accuracy:- +(%of reading+ numerical number of least significant digit) 1 Year Warranty 23 "C+5 C
- Environment temperature Environment humidity:- Temperature coefficient- s80%RH 0.2x(specified accuracyy 'C (<18 'C or >28 C)

UT-CS09A AC current measurement

Range 3QA	R SOlJtlo ,1 fl 1A	Score! Ar.:11ti nr l OCCU C'/ fi; o ne we, measuri ng.9 ou tside of c-platin um :/\ om 1 c external electric O' mc1 gnetic fi e :!; iipnn:ling voltn9:c -mnmVi1A	Cent·.31op t 1lU1l mcnsurcrr, cm locati:,r 1!lm·n(O !i ".t "",\lay from c.Mr 2sm11(1.0 "') awa}' from center 3b,wn(1.4·, away from center	±1.3%•5} ·1′ Jr..:lditi::mal 2.::!% Zone **A** :.1(1fl111,::1 1ul ti% /(J••• •: i; ad<liticnal 3. 0% Zone C	–	Acr.u  rnr.y (:ii centr.:il po sition) .t(3%+!:)	Frequency Re.sponse 45Hz-500Hz

300/\	1,'\	-10mVi”1/\		
3000A	10A	-1mV.'1A		

UT-CSO9D AC current measurement

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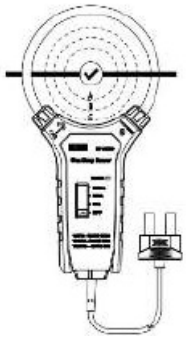
Additional ac-:ura y ra1ge w hen measuring o utside of optimu m location	CAnTr::11 nr: hM!Jm me;”IF=ltrem r1t lc:,::·.::: lion	=(l%-s·1	v	
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Maintenance

General maintenance

- Warning: remove the test probes before opening the rear cover or it may pose a shock hazard.
- The maintenance and service must be implemented by qualified professionals or designated departments
- Clean the case with a dry cloth. Do not use abradants or solvents
- Battery installation & replacement The sensor uses three AAA 1.5V alkaline batteries for operation. To install or replace the battery:
- Switch off the sensor and remove the test probes from the terminal input
- Unscrew the battery cover, remove the cover and install new batteries ensuring that the correct polarity is observed.
- Use batteries of the same type
- Replace the battery cover and screw up.

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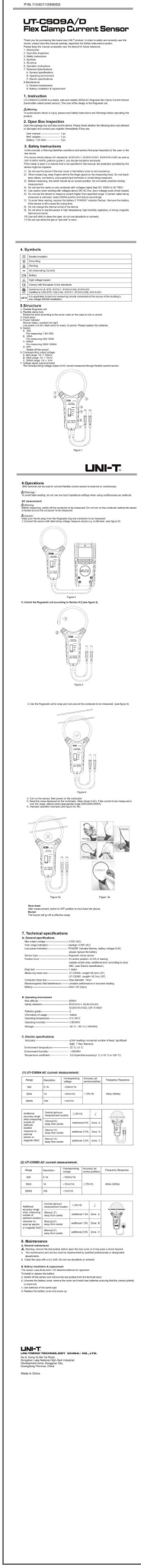
Guangdong Province, China
Made in China

Documents / Resources



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[pdf] User Manual

UT-CS09A-D Flex Clamp Current Sensor, UT-CS09A-D, Flex Clamp Current Sensor, Clamp Current Sensor, Current Sensor, Sensor