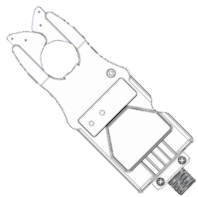


Leakage Current Clamp Tester for Low Voltage CT-M-140LX & CT-M-340LX

English Manual (ver. 1.00)

Thank you very much for purchasing CT-M-140LX & CT-M-340LX. Before using, read this instruction manual carefully and use it correctly. In order to refer the instruction manual anytime, keep it always at a safe and available place.



MULTI MEASURING INSTRUMENTS
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Warranty Sheet

In a case of failures, due to manufacturing defects, contact the shop/ distributor where you purchased product or directly inform us. The warranty period of this product is one year from the date of purchase.

Warranty	
[User Information]	
Street Address:	
Full Name:	
Model :CT-M-140LX & CT-M-340LX	
Serial number :	
Warranty period: 15month after shipment by factory	
Distributor/ shop name:	
<ul style="list-style-type: none"> This warranty sheet is required for after-sales service. 	
<p>Note</p> <ul style="list-style-type: none"> This warranty sheet is not to be reissued. For your convenience, fill in above information and keep it with the end user of the instrument. 	
<p>Warranty policy</p> <ol style="list-style-type: none"> In cases of a malfunction occurs during normal use, within the warranty period, it is to be repaired free of charge, based on the warranty provisions. The warranty sheet is not to be reissued. Even during the warranty period, under the following circumstances, items are not to be repaired free of charge. <ol style="list-style-type: none"> Failure due to improper handling Failure due to handling and use, outside design specifications Failure due to modifications or repairs other than our company or those commissioned by our company Other failures not considered to be manufacturing defects 	

For Safe Use

In order to use this instrument safely, follow this instruction manual strictly and attention to following cautions and warnings described below.



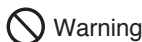
Warning

In cases of misused, it causes serious injury to the body or danger to the life of the end-user. Pay extra attention when used.



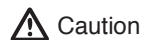
Cautions

If it is misused, it causes damage to the instrument. Or it disturbs the function of the instrument as specified.



Warning

- There is a risk of electric shock.
- For safety reasons, never use it on middle and high voltage circuit. Use it on low voltage line with AC 600 V or less. Ensures to check the circuit voltage before measurement.
- Clamp only on the insulated wires and do not clamp on the bare wires.
- Connect to an insulating rod with a necessary length.
- Never use this unit alone in order to avoid accidents.
- Secure firmly with a screw which is strong enough to support weight of the unit and the insulating rod, in order to prevent it from falling off. *If dropped, the shock may cause damage to workers or surrounding facility.
- Never hit the ground after use. It may cause malfunction.
- Check whether the surrounding environment is safe before use.
- If the temperature of the measuring covered conductor exceeds 50°C, due to overcurrent or so on, avoid using. It may lead to damage to the unit.
- Due to safety reasons, do not use under abnormal condition, such as rain, lightning, eruption, storm, earthquake or tsunami.
- Do not operate with wet hands, including when battery replacement. Also do not use in extremely humid places or when the instrument body is wet as well.



Caution

- Wipe the instrument gently with a soft cloth moistened with a small amount of water or neutral detergent, when it gets dirty. Do not use any abrasives or organic solvents.
- Do not use or leave the instrument in a place with excessive humidity, vapor, excessive dust, fine powder, gas containing salt / sulfur / ammonia, explosive gas, harmful smoke, or strong ultraviolet rays.

- Do not use if water gets inside or its surface is wet.
- Do not wash by immersing it in water or in similar liquid.
- Do not dry it in a microwave oven or in similar heaters.
- Do not expose to direct sunlight for a long time.
- Refrain from storing it in an environment where has mold etc.
- Do not store it in an environment that exceeds the specified storage temperature and humidity.
- Do not roast this unit with a firearm such as a lighter
- Cannot be used underwater.
- Do not give a strong shock to the unit.
- Do not use as a lightning rod.
- Do not use as a hammer etc.
- Do not apply any input current exceeding the measuring range to the instrument.

The symbol marks are shown below:



Warning

In order to protect the human-body and the unit, refer to the instruction manual and pay close attention.



Cautions

In order to avoid accidents or malfunction caused by incorrect use, refer to the instruction manual.



The symbol indicates that the Bluetooth wireless technologies are employed.

- Trademarks (TM, (R) mark, etc. are not specified in this manual.)
- Bluetooth is a trademark of Bluetooth SIG, Inc.
 - Multi Measuring Instruments Co., Ltd. uses it under a license agreement with the company.
 - Android and Google Play are trademarks of Google LLC
 - The iOS trademark is used under a license agreement with Cisco Systems, Inc.USA.
 - iPhone, iPad, iPad mini and iPod Touch are trademarks of Apple Inc., registered in the US and other countries.
 - App Store is a service mark of Apple Inc.

Specification

- Suitable for use in overhead low voltage service lines.
- Use by connecting to the hot stick. The height and insulation strength depend on the hot stick.
- Measurement value can be kept in the our cloud server through our APP "Multi-Tracer" by the Bluetooth. Otherwise connect to our dedicated display unit MDU-200X.
- In addition to measured values, location registration by GPS, temperature, date and time can also be saved.
- High measurement accuracy.

Electrical Specification

Measuring part		Specification		
Measurement		AC Leakage/Load current		
	Range	Resolution	Measurement range	Accuracy
CT-M-140LX	30mA	0.01mA	0.01mA~30.00mA	±1%/rdg±5dgt
	300mA	0.1mA	30.0mA~300.0mA	
	3000mA	1mA	300mA~3000mA	
CT-M-340LX	100A	0.1A	3.0A~100.0A	
	3mA	0.001mA	0.001mA~3.000mA	
	30mA	0.01mA	3.00mA~30.00mA	
	300mA	0.1mA	30.0mA~300.0mA	
	20A	0.01A	0.30A~20.00A	
Range switch		Auto 4 ranges		
Measuring frequency		50~60Hz		
AC converting Method		RMS values by the waveform calculation		
A/D converting method		Integration Method		
Sampling rate		2-times/ second		

Note: Conditions 23 °C±5 °C, 80 %RH (No condensation)
50 / 60 Hz (Sine wave) Location of the wire to be measured: at the center of the CT

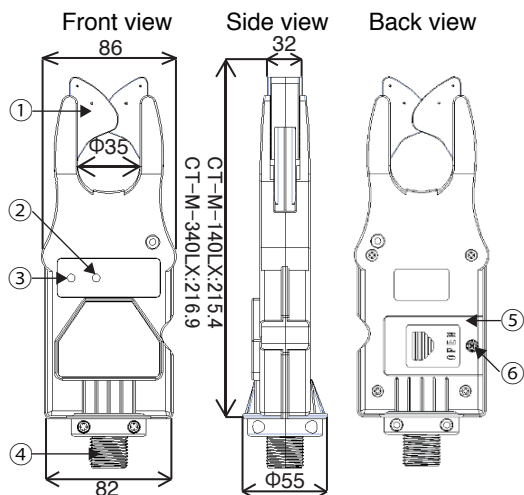
General Specification

Contents	Specification
Safety standard	CATIII300V
Withstanding Voltage	AC3.7kVrms/1min(Between the core metal part~connection part)
Applicable Circuit Voltage	AC600V(50/60Hz)
Operating Temperature and Humidity Range	0~50°C 85%RH (w/o condensation)
Storage Temperature and Humidity Range	-60~60°C 85%RH (w/o condensation)
CT inside Diameter	Φ35mm
Standard	RoHS Directive
Over range indication	"OL" on the display unit
Low Battery Indication	The power lamp lights up when the battery voltage drops. If the battery voltage is normal, the power lamp blink once every 3s.
Filter function	Band pass filter fo=55Hz
Auto Power OFF	The instrument will be turned power off automatically after approximately 30 minutes of no activities.
Battery	AAA(LR3)*3pcs
Weight	CT-M-140LX:380g CT-M-340LX:385g
Size	CT-M-140LX:W86*D55*H215.4mm CT-M-340LX:W86*D55*H216.9mm

Accessory

Contents	Specification
Included items	Instruction Manual
	AAA(LR3)*3pcs
	Hotstick connection attachment
Optional item	Display unit(MDU series)
Excluded items	Insulation rods

Name of parts and function



Name of parts	Function
① Open/Close guide for CT	Clamp type ZCT for current measurement
② Power Button	To power On/ Off
③ Power light	Flashes once every 3s when the power is turned on. When pairing with the display unit is successful, it will flashes rapidly. Lights up when the battery voltage drops.
④ Joint terminal for connection attachment	Terminal section for attaching the insulating rod connection attachment
⑤ Battery Cover	Insert three AAA alkaline batteries then be attention to the polarity.
⑥ Battery cover installation screw	This screw is to secure the battery cover.

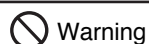
Handling Instruction

Replacing Batteries

- Be sure to power-off and take off the battery-cover on the back-side and place batteries in right

directions.

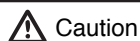
- Place the battery-cover and secure the battery cover installation screw with (+) screw driver.



Warning

Possible electrical shock

- If opening the battery-cover, return to the original position.
- Do not use these products with the battery cover closed.



Caution

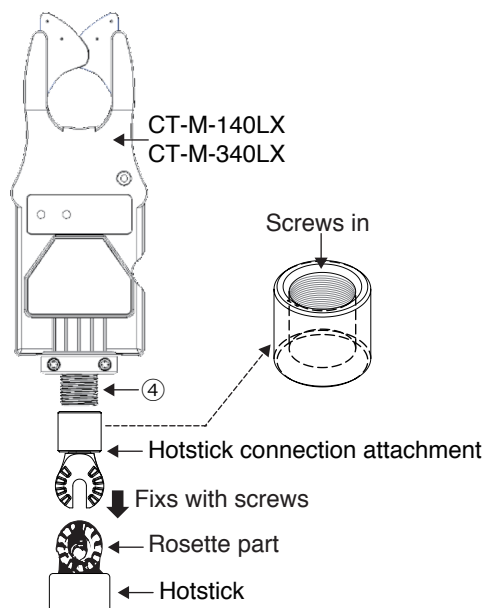
Risk of damaging the instrument.

- If these products are not to be used for a long period of time, remove the battery and store. The battery may leak and damage these products.

■ Connection with the Hotstick.

Attach the Hotstick connection attachment by turning it along the threaded part of the Joint terminal at the bottom of the CT-M-140LX and CT-M-340LX. Turn it all the way in and make sure it is firmly fixed. Then, fit the Hotstick connection attachment to the rosette of the Hotstick, and use the screws included with the Hotstick to firmly fix the Hotstick connection attachment to prevent it falling out from the Hotstick. If these fixings are loose, it may lead to an unexpected accident during use, so please make sure to fix them firmly.

Note: It is recommended that the screw length is at least 35mm.



Measurements

<1> Press the Power switch to turn on the power and the power light will flash.

<2> When the display unit(MDU series) is turned on, it will pair with these products.

When pairing is successful, the power lamp on these products will flash rapidly, and the Bluetooth® mark is displayed on the display unit LCD.

For more details, see the instruction manual of MDU series.

<3> Push the opening/closing guide into the low voltage service lines and firmly clamp the lines.

<4> Read the indicated value on the display unit. When value will be over range "OL" will be displayed on the display.

<5> When the measurement is finished, pull out the CT from the lines.

<6> Turn off the power to the main unit and display unit.

■ Measurement of load current

Clamp on the one line.

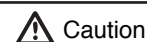
■ Measurement of leakage current

Ground wire: Clamp the ground wire.

Other than grounding wire: Clamp on the 2 lines for single-phase 2-line system.

Clamp on the 3 lines for single-phase 3-line system and three-phase 3 lines and three-phase 4 lines (excluding neutral line).

*Vibration noise may occur when measuring large currents, but there is no problem with safety or performance.



Caution

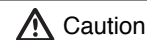
- When an overcurrent exceeding the measurement range is applied to the CT, it may cause damages to the instrument.

- This instrument is a precision mechanical equipment. When handling, be careful not to apply shock, vibration or excessive stress.

- Do not use these products for any purpose other than current measurement.

Bluetooth® communication

These products sends measurement data to the display unit via Bluetooth communication. (Bluetooth4.2 Class2)



Caution

- These products has a low power data communication system based on the Radio Law. (Built-in equipment; EYSHCN: 001-A10745)
- The communication range depends on the surrounding environment such as other radio waves and devices.
- This product uses communication frequencies of the 2.4 GHz band. If another wireless devices are using similar communication frequencies near this product, it may disturb wireless communication of both devices. Radio-wave interference may occur. In this case, stop other wireless devices or change the place where this product is used to avoid radio-wave interference.
- Use of devices with radio-communication requires approval in the country of use, and use of the instrument in a country or a region may be subject to penalty as a violation of related laws.

After Sales Service

In the unlikely event of failure, please contact your distributor or our agent at where you have purchased. If you contact a distributor or agent which are different from the one you have purchased, it may be difficult to provide our after-sales service. Please be noted. When you are sending the item for repair, put it in a dedicated packaging box enclosed for this delivery, wrap it sufficiently not to be opened or damaged easily, along with the warranty card including information clearly describing the address, name, and details of the failure, and return to designated retailer/agent where you have purchased the item.