Smart Current Transformer

Featuring LoRaWAN®

CT10x

◆ Introduction

CT10x is a LoRaWAN® Smart Current Transformer for monitoring the energy and analyzing consumption remotely. CT10x provides multiple current options to suit energy monitoring and support sending threshold alarms. CT10x is detachable, the compact size and clamp design allow it to be installed in any indoor space quickly and safely without de-energizing a facility, simplifying the installation and saving the cost. Compliant with Milesight LoRaWAN® gateway and Milesight Development Platform solution, CT10x can be monitored via webpage remotely.

CT10x is widely used for energy motoring of smart buildings, machine failure detection and prevention, etc.



CT101/CT103 (Detachable Design)



CT105

◆ Features

- Report the RMS current and accumulated current data by minutes
- Support optional accumulated energy consumption reporting
- High measuring accuracy with a sampling frequency of up to 3.3 kHz
- Self-powered, free from batteries or external wires
- Utilize a sampling rate of up to 1s for real-time monitoring and quick alarm response
- Compact size allows for installation in narrow scenarios
- Support flexible detachable design to accommodate various installation environments
- Non-invasive clamp design ensures easy and safe installation without the need for power de-energizing
- Equipped with LED indicator to indicate working status and alarms
- Support to connect to a temperature sensor via USB for cable temperature measurement
- Compliant with standard LoRaWAN® gateways and network servers
- Compliant with Milesight Development Platform
- Support Firmware Update Over the Air (FUOTA) feature

◆ Specifications

Model	CT101	CT103	CT105
Electrical Measurement			
Detection Parameter	RMS Current		
Sampling Frequency	3.3 kHz		
Working Frequency	50~60 Hz		
Rated Primary Current	100 A_{rms}	250 A_{rms}	500 A_{rms}
Rated Secondary Current	100 mA_{rms}	125 mA_{rms}	150 mA_{rms}
Minimum Reporting Current*	1.5A_{rms} (1min Interval) 1.4A_{rms} (10min Interval)	3A_{rms} (1min Interval) 2.8A_{rms} (10min Interval)	5A_{rms} (1min Interval) 4.7A_{rms} (10min Interval)
Accuracy	±1 % (>5A_{rms}), ±3 % (≤ 5A_{rms})		
Resolution	1 mA		

Temperature Sensor	Sensor type: NTC Measuring range: -20°C ~ 100°C Measuring accuracy: ±1 %
Wireless Transmission	
Protocol	LoRaWAN®
Antenna Connector	1 × 50 Ω SMA Connector (Center PIN: SMA Female)
Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
Tx Power	16 dBm (868 MHz)/22 dBm (915 MHz)/19 dBm (470 MHz)
Sensitivity	-137dBm
Mode	OTAA/ABP Class A
Others	
Button	1 × Reboot Button
LED Indicator	1 × Status/Alarm Indicator
Port	1 × USB Type-C for Power Supply, Configuration, Console or Cable Temperature Sensor Connection
Software	
Configuration	USB Type-C or Downlink
Advanced Feature	Threshold Alarm, Overrange Alarm, FUOTA
Physical Characteristics	
Power Supply	1. Induced current power supply 2. 5V by USB Type-C Port
Insulation Voltage	2.5kV$_{ac}$(r.m.s)(1mA/1min)
Color/ Material	Blue, PBT+PC (UL94 V0)
Extension Cable Length	1m
Operating Temperature	-20°C~70°C (-4°F~158°F)
Storage Temperature	-25°C~80°C (-13°F~176°F)
Relative Humidity	≤ 95% (Non-condensing)
Ingress	IP30

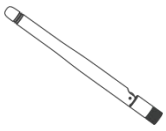
Protection		
Dimensions	86.5 × 31 × 37.4 mm (3.4 × 1.22 × 1.47 in)	Transceiver: 38 × 34.5 × 16 mm (1.5 × 1.36 × 0.63 in) CT Clamp: 68 × 86 × 41.8 mm (2.68 × 3.39 × 1.65 in)
	Wire Hole: Φ 16 mm (Φ 0.63 in)	Wire Hole: Φ 36.5 mm (Φ 1.44 in)
Weight	85.65 g	Transceiver: 13.05 g CT Clamp: 276.75 g
Installation	Transceiver: Cable-tie Mounting (under integrated mode) CT Clamp: Suspended on the Testing Conductor	
Approvals		
Regulatory	CE, FCC, UL508	

* The minimum current to report data under different reporting intervals when the device is powered by the testing conductor. To measure lower currents, the device must be powered via USB.

◆ Antenna Options



Mini Stubby Antenna (50mm)



Stubby Antenna (108mm)



Magnetic Antenna

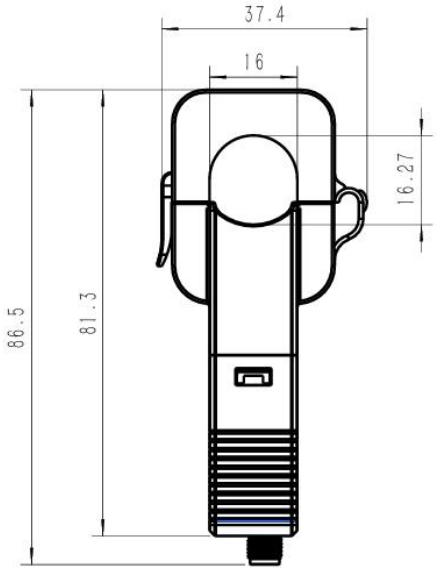
Note:

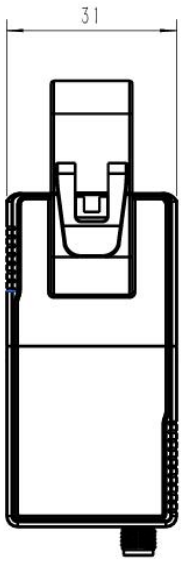
*Contact us if you need any other special accessories or customized accessories.

**Only one type of antenna is provided as standard accessory, while the others can be offered as optional accessories.

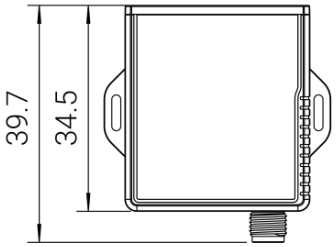
◆ Dimensions(mm)

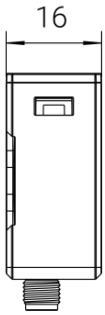
CT101/CT103

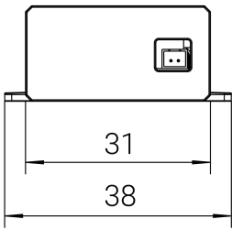


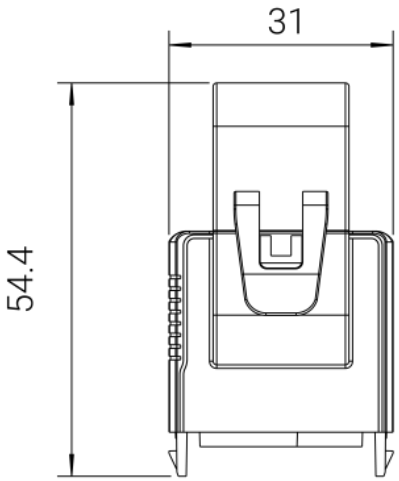


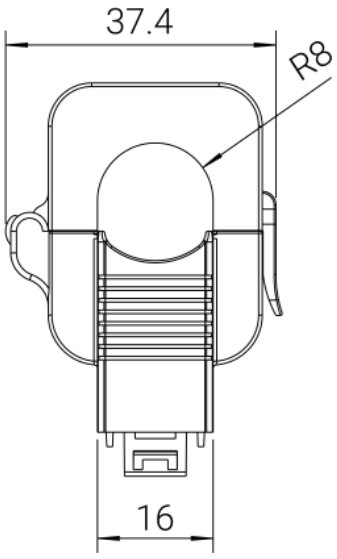
CT101/CT103 (Detachable Design)



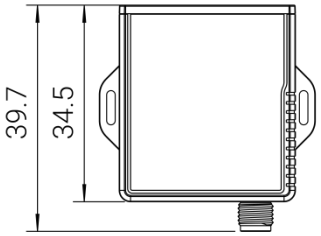


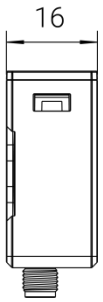


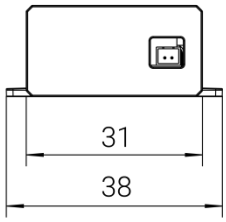


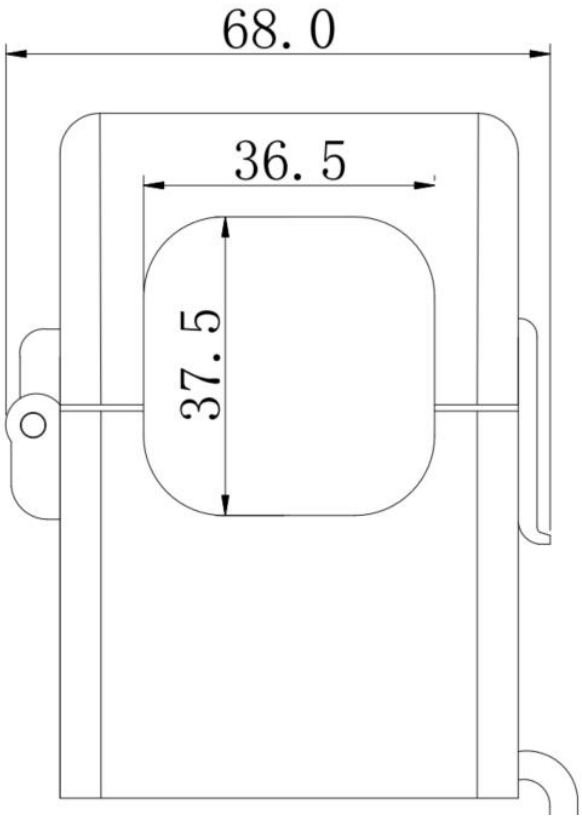


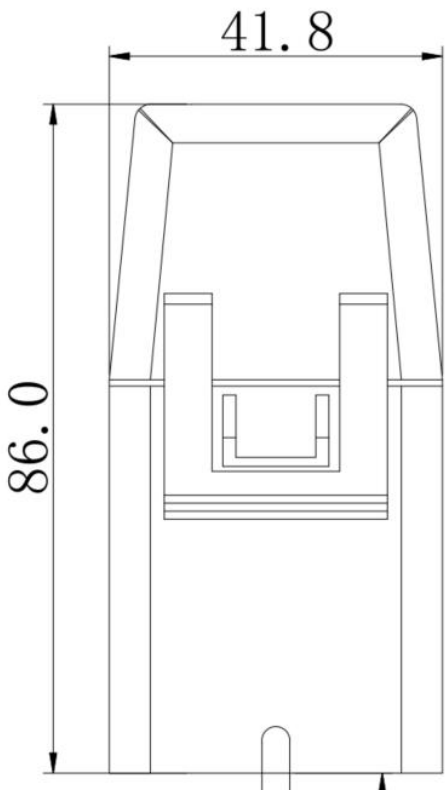
CT105


39.7
34.5


16


31
38


68. 0
36. 5
37. 5


41. 8
86. 0