Large current power measurement

CT Series Precision Current Transformers for Power Analyzers and Power Scopes

Precision Making

The Yokogawa CT Series

With the increasing importance of energy efficiency across industries, greater efforts are being made to generate and use power more efficiently.

However, applications such as electric vehicles, railways, and more often demand high current power measurements. The Yokogawa Test&Measurement CT Series of current sensors are the ideal solution to extend the capabilities of power analyzers to support such applications.

Adhering to stringent efficiency standards, the CT Series offers a wide range of reliable options that are optimized for large AC/DC current multichannel measurements.

Accuracy

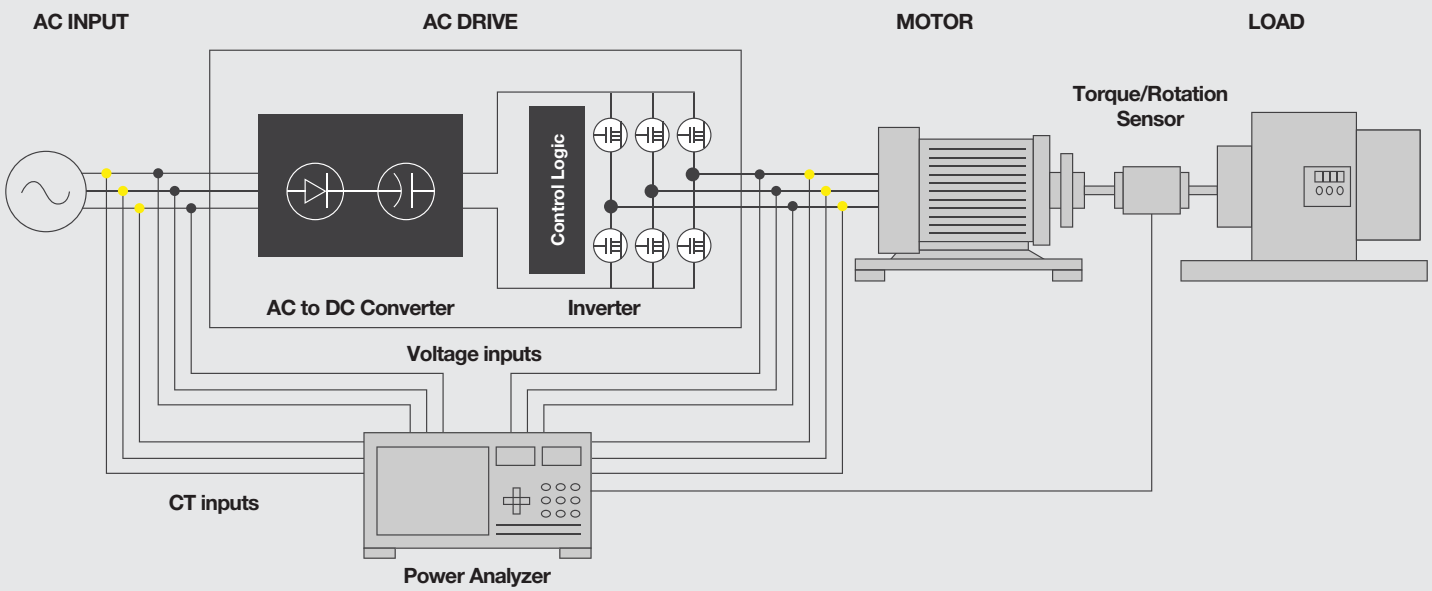
Excellent linearity ensures precise power measurement for applications that require wide dynamic range where current levels change dramatically.

Noise Immunity

High resistance to electromagnetic noise minimizes the influence on current readings and enables accurate measurements.

Versatility

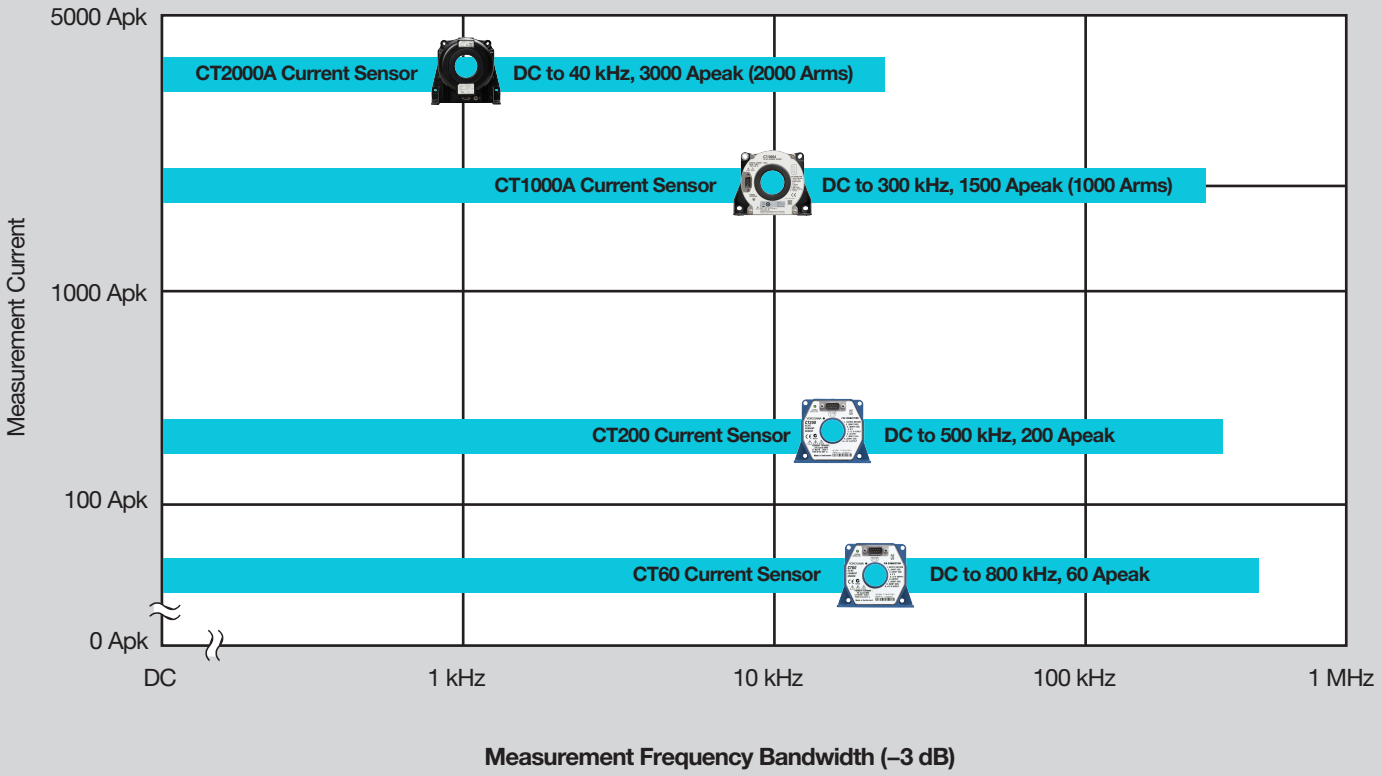
Choose from a range of sensors - from 60 A to 2000 A - that operate from DC to 40 KHz for power measurement requirements across a variety of applications.



Increased current measurement capabilities

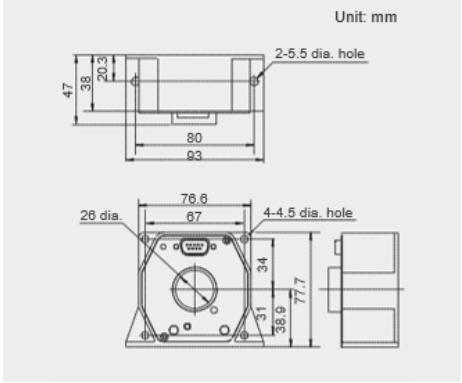
The Yokogawa Test&Measurement CT Series of current sensors work with power analyzers that have direct current input, resulting in precision current and power measurement. These sensors and probes have the capability to measure larger power currents precisely, across a broad selection of applications.

Current sensors and probes

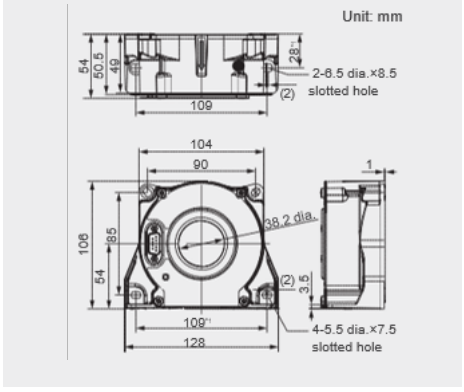


Dimensions

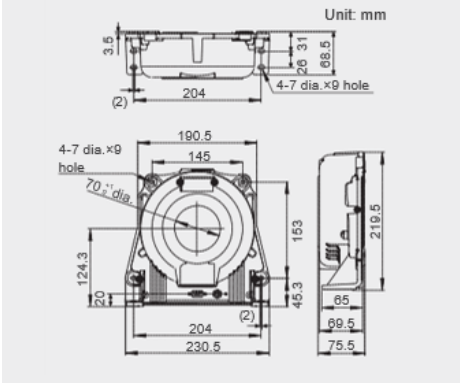
CT200/CT60



CT1000A



CT2000A



CT Series AC/DC current sensor specifications

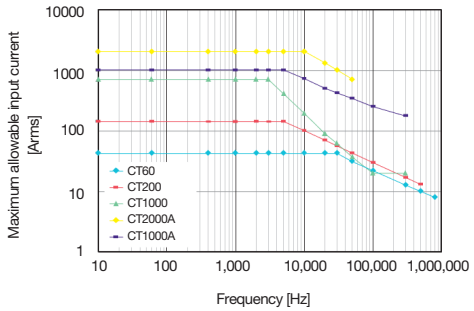



Model		CT60	CT200	CT1000A	CT2000A
Rated Current	DC	0 to 60 A	0 to 200 A	0 to 1000 A	0 to 2000 A
	AC	60 Apeak	200 Apeak	1000 Arms (1500 Apeak)	2000 Arms (3000 Apeak)
Current transformation ratio		600:1	1000:1	1500:1	2000:1
Accuracy*1		DC ±(0.05% of rdg + 30 µA) 50/60 Hz ±(0.05% of rdg + 30 µA) Sine wave		DC ±(0.04% of rdg + 30 µA) 50/60 Hz ±(0.04% of rdg + 30 µA) Sine wave	DC ±(0.05% of rdg + 30 µA) 50/60 Hz ±(0.05% of rdg + 30 µA) Sine wave
Guarantee accuracy period		12 months			
Effect of conductor position		±0.01% of rdg			
Measurement range		DC to 800 kHz (−3 dB)	DC to 500 kHz (−3 dB)	DC to 300 kHz (−3 dB)	DC to 40 kHz (−3 dB)
Temperature coefficient		±0.01%/°C or less in the ranges from 10 to 18°C and 28 to 50°C		±0.01%/°C or less in the ranges from −40 to 18°C and 28 to 85°C	
Maximum allowable continuous input		60 Apeak	200 Apeak	1500 Apeak	3000 Apeak
Maximum allowable instantaneous input(reference value)		300 Apeak 0.1 seconds or less	1000 Apeak 0.1 seconds or less	5000 Apeak 0.1 seconds or less	10000 Apeak 0.1 seconds or less
Load resistance (±15 V)		0 to 20 Ω	0 to 30 Ω	0 to 1 Ω	
Operating temperature range		10 to 50°C		−40 to 85°C	
Operating humidity range		20 to 80% RH (no condensation)			
Storage temperature range		−20 to 60°C		−40 to 85°C	
Storage humidity range		20 to 80% RH (no condensation)			
Dimensions		Approx. 93 (W) × 77 (H) × 38 (D) mm (excluding connector, conductor guide, and projections)		Approx. 128 (W) × 106 (H) × 54 (D) mm	Approx. 230 (W) × 220 (H) × 76 (D) mm
Primary current hole diameter		26 mm diameter		38.2 mm diameter	70 mm diameter
Secondary connector		D-Sub-9 pin			
Weight		Approx. 0.3 kg		Approx. 1.3 kg	Approx. 4.2 kg
Power Voltage		±(15 V ±5%)			
Maximum rated power		7 VA	11 VA	30 VA	35 VA
Consumption current (at each power voltage)		Approx. (80 mA + output current)		Approx. (120 mA + output current)	Approx. (225 mA + output current)
Recommended fixing screw and tightening torque		M4 stainless steel screw × 4, 2.8 N·m M5 stainless steel screw × 2, 3.7 N·m		M5 stainless steel screw × 4, 3.7 N·m M6 stainless steel screw × 2, 4.4 N·m	M6 stainless steel screw × 8, 5.5 N·m

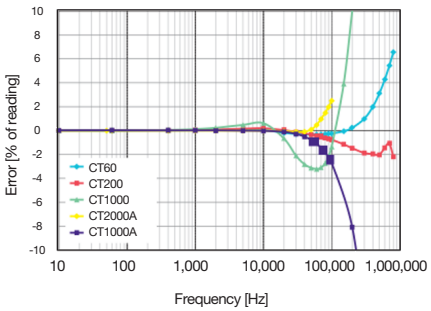
CT1000A takes approximately 10 seconds to turn on LED after supplying power.
*1 Basic conditions 23 ±5°C
Common mode voltage: 0 V
Conductor: Use a linear conductor with 25 mm diameter and 300 mm or more in length.

Characteristic example

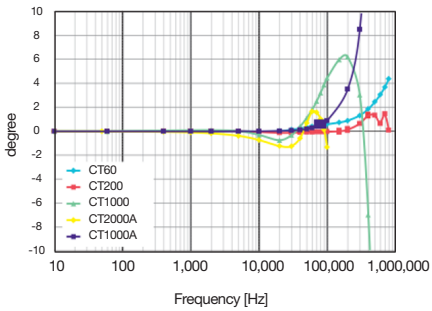
*The characteristic is a typical example, not a guaranteed one.



CT Series primary current derating by frequency example



CT Series frequency characteristic example



CT Series phase characteristic example*1

*1 Lead is set as positive

Models and suffix codes

AC/DC current sensors and clamp-on probe

Model	Product Name	Specifications
CT2000A	AC/DC Current Sensor	Measurement range: DC to 40 kHz, basic accuracy: ±(0.05% of reading + 30 µA), 2000 Arms (3000 Apeak)
CT1000A	AC/DC Current Sensor	Measurement range: DC to 300 kHz, basic accuracy: ±(0.04% of reading + 30 µA), 1000 Arms (1500 Apeak)
CT200	AC/DC Current Sensor	Measurement range: DC to 500 kHz, basic accuracy: ±(0.05% of reading + 30 µA), 200 Apeak
CT60	AC/DC Current Sensor	Measurement range: DC to 800 kHz, basic accuracy: ±(0.05% of reading + 30 µA), 60 Apeak

Accessories (sold separately)

Model	Product Name	Specifications	Sales Unit
761954	Measurement lead set	3 m	1
761955	Measurement lead set	5 m	1
761956	Measurement lead set	10 m	1