





Optimized for a variety of applications Current Sensors and Current Probes



Current probes for automotive certification testing

With its compact design, these sensors easily connect to cables in tight motor compartments, significantly reducing setup-time and enhancing overall efficiency.

Current rating: 200 A (CT6833), 500 A (CT6834)

Frequency range: DC to 50 kHz

Accuracy: ±0.07% of reading

Operating Temperature: -40°C to +85°C

50% smaller than the previous model

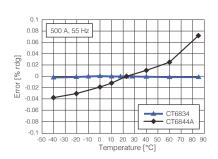




Easy lock mechanism with a single finger

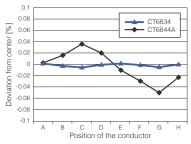
# Advanced fluxgate technology that redefines measurement performance

#### Superior temperature stability



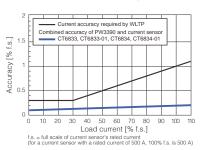


# High reproducibility regardless of conductor position





# Exceptional accuracy for WLTP across all current ranges







# The future standard in a compact size.

The CT6830, CT6831, CT7812, and CT7822 were developed with the concept of "easily clamp wires in tight spaces."

As the world's smallest zero-flux AC/DC current probes and sensors, these offer high accuracy with a lightweight design.

Current rating: 2 A (CT6830, CT7812), 20 A (CT6831, CT7822)

Frequency range: DC to 100 kHz

Accuracy: ±0.3% of reading

Operating Temperature: -40°C to +85°C

For precision power analyzer

CT6830

CT6831



# For multichannel data logger

CT7812

CT7822

Maximum conductor

diameter

Φ5 mm





# **Application**

## Pinpoint ECU issues in completed-vehicle testing

The compact CT7812 (2 A) and CT7822 (20 A) sensors access intricate wiring with ease and ensure stable, high-accuracy current measurements. Combined with the LR8450 Data Logger, they record CAN signals and current data simultaneously, enabling quick issue identification.

# Application-optimized current sensors and current probes

Hioki offers lineup of current sensors and current probes to accommodate current measurement requirements in a variety of applications, from development and evaluation in advanced fields to quality control of commercial power supplies.



**Evaluating power conversion efficiency in EVs** 

Evaluate vehicles' overall power conversion efficiency in order to develop automobiles that run further with less energy.

CT6904A, CT687xA series + PW8001



Evaluating the fuel (energy) efficiency of finished vehicles

Measure fuel efficiency based on the international standard (WLTP) in order to evaluate the fuel efficiency of finished vehicles.  $\frac{1}{2} \left( \frac{1}{2} \right) = \frac{1}{2} \left( \frac{1}{2} \right) \left( \frac{$ 

CT683x series, CT684xA series + PW3390



# Evaluating power devices in power supply circuits

Observe the inputs and outputs of the current waveform in order to evaluate whether power devices are providing the required level of performance.

CT67xx series, 327x series + MR6000



# Evaluating systems used to control accessory components in automobiles

Observe current waveforms of various magnitudes that fluctuate depending on the state of the device in question, including dark current, inrush current, and drive current, in order to evaluate accessory control.

CT67xx series, 327x series + MR6000



# Maintaining power quality

Continuously monitor power quality and analyze the causes of power supply issues in order to maintain stable power quality.

CT7xxx series, CT9667-0x series + PQ3198, PQ3100

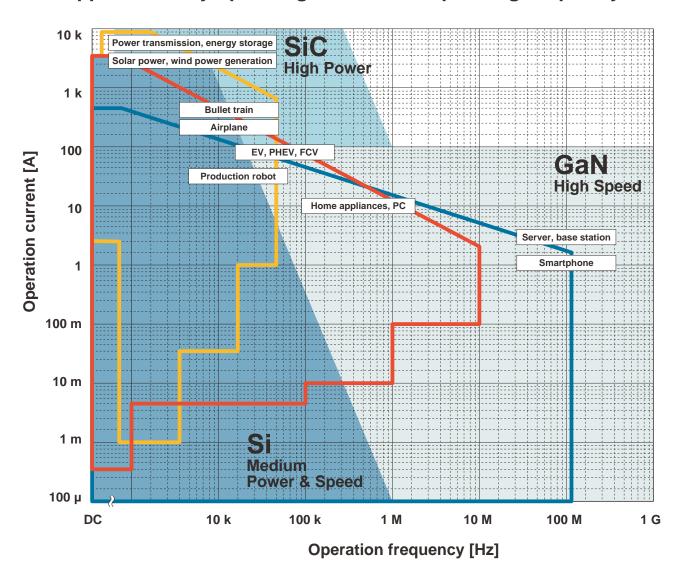


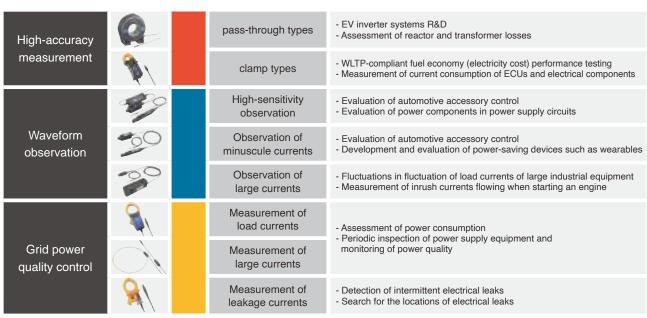
# Assessing the power consumption of equipment and systems

Assess the power consumption of devices and systems in order to pursue energy-saving activities and achieve the goals of the UN's Sustainable Development Goals (SDGs).

CT7xxx series, CT9667-0x series + PW3365

# Applications by operating current and operating frequency





# Current Sensors Current Probes Lineup

Hioki's first current sensor was a magnetic current sensor developed in-house in 1971. We've pursued sensing technologies over the past 50 years, providing a variety of current sensors for the full range of measurement applications.

# **High-accuracy measurement**

These models, rated for 20 A to 2000 A, measure currents in a frequency band from DC to 10 MHz with a high degree of accuracy. They're used in applications that require high measurement accuracy, for example evaluation of inverter equipment and evaluation of loss in reactors and transformers.

# Pass-through types

Pass-through sensors deliver the ultimate level of accuracy and stability. With a broadband measurement at up to 10 MHz and measurement of large currents of up to 2000 A, they're used in state-of-the-art research and development.





EV inverter system R&D

**Evaluation of reactor and transformer losses** 

# Clamp types

Clamp-type sensors are quick and easy to connect, and used for testing finished products, an application where it is difficult to cut wires. Capable of functioning at temperatures from -40°C to 85°C, they're used in high-temperature environments such as engine compartments.







WLTP-compliant fuel economy(electricity cost) performance testing

Measurement of current consumption of ECUs and electrical components

# **Direct-wired types**

Directly wired current sensors deliver world-class accuracy and frequency band characteristics (50 A model) by Hioki's proprietary DCCT (Direct Connection Current Transducer) method





Evaluation of reactor and transformer losses

Evaluation of inverters in energy-saving household appliances

# **Waveform observation**

These models, rated from 0.5 A to 500 A, measure current waveforms in a frequency band of DC to 120 MHz. They're used to analyze fluctuations during operation of various types of equipment operation, including standby current, inrush current, load current, and control current.

# **High-sensitivity observation**

These models can measure current waveforms that range in magnitude from miniscule to large. With the high-sensitivity ranges and an output rate of 10 V/A, minuscule currents that fluctuate at high speeds can be clearly observed.





**Evaluation of automotive accessory control** 

Evaluation of power devices in power supply circuits

# **Observation of minuscule currents**

These models can measure miniscule current waveforms, including control currents flowing in control circuits and fluctuations in the current consumption of compact electronic devices that operate at small currents.





**Evaluation of automotive accessory control** 

Development and evaluation of power-saving devices such as wearables

# Observation of large currents

These models can measure large current waveforms, including fluctuations in load current from the operation of industrial equipment and inrush currents when power supplies are activated.





Fluctuations of load currents of large industrial equipment

Measurement of inrush currents flowing at engine start

# **Grid power quality control**

These models are engineered primarily to measure current at commercial frequencies (50/60 Hz). They're used in applications such as power quality checks and power consumption assessments. We offer models with specifications suitable for a range of measurement locations, from leakage currents to large currents.

#### **Measurement of load current**

These sensors are primarily designed to measure commercial power supplies. They're used to monitor and analyze power quality and to measure power consumption.





Assessment of power consumption

Periodic inspection of power supply equipment and monitoring of power quality

# Measurement of large currents

These sensors can measure large currents of up to 6000 A. Their slim, flexible form make them easy to insert into narrow gaps and between wires.





Assessment of power consumption

Periodic inspection of power supply equipment and monitoring of power quality

# Measurement of leakage currents

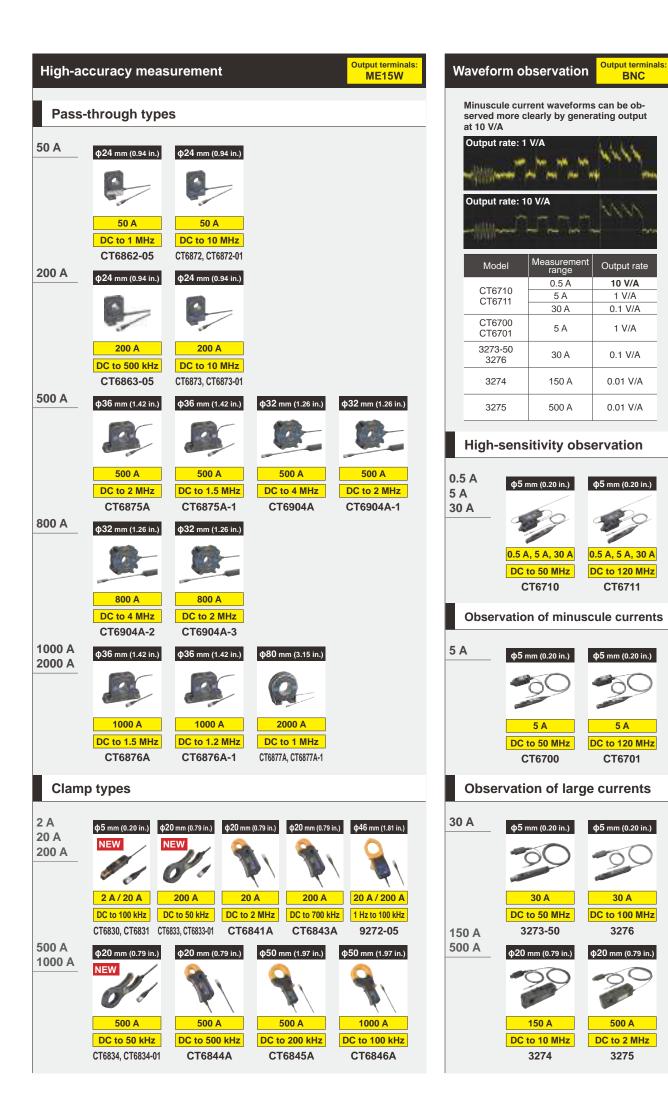
These sensors are used to measure minuscule currents such as leakage currents.

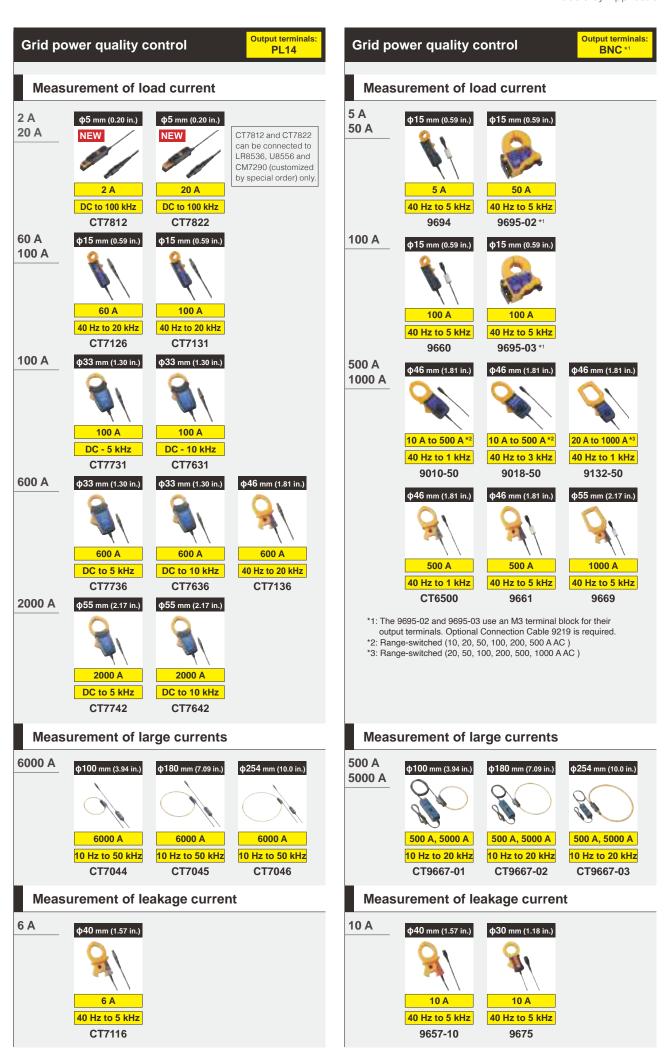




**Detection of intermittent electrical leaks** 

Search for the locations of electrical leaks





High-ac	High-accuracy measurement Output terminals: ME15W								t <mark>erminals: ME15W</mark>
Pass-through types									
Model	Appearance	Rated primary current	Maximum peak current	Withstand voltage *2	Output voltage	Frequency range	Linearity error	Offset error	Amplitude errors
CT6862-05		50 A RMS	±141 A peak	AC 7.4 kV	40 mV/A	DC to 1 MHz	-	-	-
CT6872 CT6872-01		50 A RMS	±200 A peak	AC 7.4 kV	40 mV/A	DC to 10 MHz	±2 ppm	±5 ppm	DC: 7 ppm 10 Hz to 100 Hz: 0.005% 100 Hz to 1 kHz: 0.01% 1 kHz to 50 kHz: 0.1% 50 kHz to 100 kHz: 0.3% 100 kHz to 300 kHz: 1% 300 kHz to 1 MHz: 3%
CT6863-05		200 A RMS	±565 A peak	AC 7.4 kV	10 mV/A	DC to 500 kHz	-	-	-
CT6873 CT6873-01		200 A RMS	±350 A peak *1	AC 7.4 kV	10 mV/A	DC to 10 MHz	±2 ppm	±5 ppm	DC: ±7 ppm 10 Hz to 500 Hz: ±0.005% 500 Hz to 3 kHz: ±0.01% 3 kHz to 30 kHz: ±0.1% 30 kHz to 100 kHz: ±0.4% 100 kHz to 400 kHz: ±1% 400 kHz to 1 MHz: ±3%
CT6875A CT6875A-1		500 A RMS	±1500 A peak*1	AC 7.4 kV	4 mV/A	DC to 2 MHz DC to 1.5 MHz	±5 ppm	±5 ppm	DC: ±10 ppm 10 Hz to 100 Hz: ±0.005% 100 Hz to 1 kHz: ±0.02% 1 kHz to 20 kHz: ±0.08% 20 kHz to 100 kHz: ±0.5% 100 kHz to 300 kHz: ±1% 300 kHz to 1 MHz: ±5%
CT6904A CT6904A-1		500 A RMS	±1000 A peak*1	AC 7.4 kV	4 mV/A	DC to 4 MHz DC to 2 MHz	±5 ppm	±10 ppm	
CT6904A-2 CT6904A-3		800 A RMS	±1200 A peak *1	AC 7.4 kV	2 mV/A	DC to 4 MHz DC to 2 MHz	±12.5 ppm	±10 ppm	-
CT6876A CT6876A-1		1000 A RMS	±1800 A peak*1	AC 7.4 kV	2 mV/A	DC to 1.5 MHz DC to 1.2 MHz	±5 ppm	±5 ppm	DC: ±10 ppm 10 to 100 Hz: ±0.005% 100 to 1 kHz: ±0.03% 1 k to 10 kHz: ±0.2% 10 k to 100 kHz: ±1% 100 k to 300 kHz: ±3% 300 k to 1 MHz: ±15%
CT6877A CT6877A-1	Q	2000 A RMS	±3200 A peak*1	AC 7.4 kV	1 mV/A	DC to 1 MHz	±10 ppm	±5 ppm	DC: ±15 ppm  10 Hz to 100 Hz: ±0.01%  100 Hz to 1 kHz: ±0.04%  1 kHz to 10 kHz: ±0.25%  10 kHz to 100 kHz: ±1%  100 kHz to 300 kHz: ±2%  300 kHz to 700 kHz: ±10%
Clamp type	es								
9272-05	<b>A</b> /	20 A RMS, 200 A RMS	±71 Apeak, ±430 Apeak	AC 5.4 kV	100 mV/A, 10 mV/A	1 Hz to 100 kHz	-	-	
CT6830		2 A RMS	±4.3 A peak	-	1 V/A	DC to 100 kHz	-	-	-
CT6831		20 A RMS	±43 A peak	-	0.1 V/A	DC to 100 kHz	-	-	-
CT6833 CT6833-01	del	200 A RMS	±600 A peak	AC/DC 1kV*3	10 mV/A	DC to 50 kHz	±10 ppm	-	10 Hz - 100 Hz: ±50 ppm 100 Hz - 500 Hz: ±0.04% 500 Hz - 1 kHz: ±0.08% 1 kHz- 20 Hz: ±0.14 f kHz)%
CT6834 CT6834-01	del	500 A RMS	±800 A peak	AC/DC 1kV *3	4 mV/A	DC to 50 kHz	±10 ppm	-	1 kHz - 20 kHz: ±(0.1 x f [kHz])% 10 Hz - 100 Hz: ±50 ppm 100 Hz - 500 Hz: ±0.04% 500 Hz - 1 kHz: ±0.08%
CT6841A	<b>3</b> \	20 A RMS	±60 A peak*1	AC 4.26 kV	100 mV/A	DC to 2 MHz	±20 ppm	-	1 kHz - 20 kHz: ±(0.1 × f [kHz])%
CT6843A	1	200 A RMS	+600 A	AC 4.26 kV	10 mV/A	DC to 700 kHz	±20 ppm	-	-
CT6844A	1	500 A RMS	+800 A	AC 4.26 kV	4 mV/A	DC to 500 kHz	±20 ppm	-	-
CT6845A	9	500 A RMS	±1500 A peak*1	AC 4.26 kV	4 mV/A	DC to 200 kHz	±20 ppm	-	-
CT6846A	9	1000 A RMS	±1900 A peak *1	AC 4.26 kV	2 mV/A	DC to 100 kHz	±20 ppm	-	-
Direct-wire	ed types								
PW9100A-3	an an and	50 A RMS	±200 A peak *1	AC 5.4 kV	40 mV/A	DC to 3.5 MHz	-	-	-
PW9100A-4	manning.	50 A RMS	±200 A peak *1	AC 5.4 kV	40 mV/A	DC to 3.5 MHz	-	-	-
	*1:	: Within 20 ms	and 40°C (104	°F) or less *2:	: Sensed curre	ent of 1 mA, 50/60 H	Iz, 1 min *3: V	Vith the measu	uring conductor clamped

		easureme							
pass-through types									
Model	Amplitude DC	e accuracy 50/60 Hz	Phase Shift Values	Delay times	Diameter of measurable conductors	Cable length	Operating temperature	Maximum rated voltage to earth	Automa phas correcti
CT6862-05	±0.05 % rdg ±0.01 % f.s.	±0.05 % rdg ±0.01 % f.s.	300 kHz, -10.96 °	101 ns	φ24 mm (0.94 in.)	3 m (9.84 ft.)	-30°C to 85°C -22°F to 185°F	1000 V CAT III	-
CT6872 CT6872-01	±0.03 % rdg ±0.002 % f.s.	±0.03 % rdg ±0.007 % f.s.	100 kHz, -1.28° 100 kHz, -2.63°	46 ns 82 ns	ф24 mm (0.94 in.)	3 m (9.84 ft.) 10 m (32.81 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III	Yes
CT6863-05	±0.05 % rdg ±0.01 % f.s.	±0.05 % rdg ±0.01 % f.s.	100 kHz, -4.60 °	128 ns	φ24 mm (0.94 in.)	3 m (9.84 ft.)	-30°C to 85°C -22°F to 185°F	1000 V CAT III	-
CT6873 CT6873-01	±0.03 % rdg ±0.002 % f.s.	±0.03 % rdg ±0.007 % f.s.	100 kHz, -0.75° 100 kHz,-2.10°	36 ns 69 ns	ф24 mm (0.94 in.)	3 m (9.84 ft.) 10 m (32.81 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III	Yes
CT6875A CT6875A-1	0.04 % rdg ±0.008 % f.s.	0.04 % rdg ±0.008 % f.s.	200 kHz,-10.45 ° 200 kHz, 12.87 °	145 ns 179 ns	φ36 mm (1.42 in.)	3 m (9.84 ft.) 10 m (32.81 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III	Ye
CT6904A CT6904A-1	±0.025 % rdg ±0.007 % f.s.	±0.02 % rdg ±0.007 % f.s.	300 kHz, -9.82 °	91 ns	φ32 mm (1.26 in.)	3 m (9.84 ft.) 10 m (32.81 ft.)	-10°C to 50°C 14°F to 122°F	1000 V CAT III	Ye
CT6904A-2 CT6904A-3	±0.030 % rdg. ±0.009 % f.s.	±0.025 % rdg ±0.009 % f.s.	300 kHz, -9.82 °	91 ns	ф32 mm (1.26 in.)	3 m (9.84 ft.) 10 m (32.81 ft.)	-10°C to 50°C 14°F to 122°F	1000 V CAT III	Ye
CT6876A CT6876A-1	0.04 % rdg ±0.008 % f.s.	0.04 % rdg ±0.008 % f.s.	200 kHz,-12.96 ° 200 kHz,-14.34 °	180 ns 199 ns	ф36 mm (1.42 in.)	3 m (9.84 ft.) 10 m (32.81 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III	Ye
CT6877A CT6877A-1	0.04 % rdg ±0.008 % f.s.	0.04 % rdg ±0.008 % f.s.	100 kHz,-2.63 ° 100 kHz,-3.34 °	73 ns 93 ns	ф80 mm (3.15 in.)	3 m (9.84 ft.) 10 m (32.81 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III	Ye
clamp type	es								
9272-05	-	±0.3 % rdg ±0.01 % f.s.	50 kHz, -3.34 ° 50 kHz, -4.18 °	186 ns/ 232 ns	φ46 mm (1.81 in.)	3 m (9.84 ft.)	0°C to 50°C 32°F to 122°F	600 V CAT III	-
CT6830	±0.3% rdg ±0.1% f.s.	±0.3 % rdg ±0.05 % f.s.	10 kHz, -6.9 °	1.9 µs	φ5 mm (0.20 in.)	4 m, 0.2 m <sup>-4</sup> (13.12 ft., 0.66 ft.)	-40°C to 85°C -40°F to 185°F	-	Ye
CT6831	±0.3% rdg ±0.1% f.s.	±0.3 % rdg ±0.01 % f.s.	10 kHz, -4.4 °	1.2 µs	φ5 mm (0.20 in.)	4 m, 0.2 m <sup>-4</sup> (13.12 ft., 0.66 ft.)	-40°C to 85°C -40°F to 185°F	-	Ye
CT6833 CT6833-01	±0.07% rdg ±0.01% f.s.	±0.07% rdg ±0.007% f.s.	1 kHz, -0.64 °	1.8 µs	φ20 mm (0.79 in.)	5 m (16.40 ft.) 10 m (32.81 ft.)	-40°C to 85°C -40°F to 185°F	-	Ye
CT6834 CT6834-01	±0.07% rdg ±0.01% f.s.	±0.07% rdg ±0.007% f.s.	1 kHz, -0.64 °	1.8 µs	ф20 mm (0.79 in.)	5 m (16.40 ft.) 10 m (32.81 ft.)	-40°C to 85°C -40°F to 185°F	-	Ye
CT6841A	±0.2 % rdg ±0.05 % f.s.	±0.2 % rdg ±0.01 % f.s.	100 kHz, -3.59 °	100 ns	ф20 mm (0.79 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	-	Ye
CT6843A	±0.2 % rdg ±0.02 % f.s.	±0.2 % rdg ±0.01 % f.s.	100 kHz, -3.96 °	110 ns	φ20 mm (0.79 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	-	Ye
CT6844A	±0.2 % rdg ±0.02 % f.s.	±0.2 % rdg ±0.01 % f.s.	100 kHz, -3.92 °	109 ns	φ20 mm (0.79 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	-	Ye
CT6845A	±0.2 % rdg ±0.02 % f.s.	±0.2 % rdg ±0.01 % f.s.	10 kHz, -0.94 °	261 ns	φ50 mm (1.97 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	-	Ye
CT6846A	±0.2 % rdg ±0.02 % f.s.	±0.2 % rdg ±0.01 % f.s.	10 kHz, -1.05 °	292 ns	φ50 mm (1.97 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	-	Ye
direct-wire									
PW9100A-3	±0.02 % rdg ±0.007 % f.s.	±0.02 % rdg ±0.005 % f.s.	300 kHz, -2.80 °	26 ns	M6 screw terminals	3 ch	0°C to 40°C 32°F to 104°F	1000 V CAT II 600V CAT III	Ye
PW9100A-4	±0.02 % rdg ±0.007 % f.s.	±0.02 % rdg ±0.005 % f.s.	300 kHz, -2.80 °	26 ns	M6 screw terminals	4 ch	0°C to 40°C 32°F to 104°F	1000 V CAT II 600V CAT III	Ye

Wavef	orm obse	rvation						Output termin	nals: BNC
Model	Appearance	Rated current: output rate	Frequency range	Rise time (10% to 90%)	Delay time	Amplitude accuracy	Diameter of measurable conductors		Operating temperature
High-sens	High-sensitivity observation of currents ranging in magnitude from minuscule to large								
CT6710 CT6711	***	0.5 A RMS: 10 V/A 5 A RMS: 1 V/A 30 A RMS: 0.1 V/A	DC to 50 MHz DC to 120 MHz	7.0 ns or less 2.9 ns or less	12 ns *2	±3.0% rdg ±1mV	φ5 mm (0.20 in.)	1.5 m, 1 m (4.92 ft., 3.28 ft.)	0°C to 40°C 32°F to 104°F
Observati	on of minusc	ule currents							
CT6700 CT6701	90	5 A RMS: 1 V/A	DC to 50 MHz DC to 120 MHz	7.0 ns or less 2.9 ns or less	13 ns 12 ns	±3.0% rdg ±1mV	φ5 mm (0.20 in.)	1.5 m, 1 m (4.92 ft., 3.28 ft.)	0°C to 40°C 32°F to 104°F
Observati	on of large cι	ırrents							
3273-50 3276	00	30 A RMS: 0.1 V/A	DC to 50 MHz DC to 100 MHz	7.0 ns or less 3.5 ns or less	16 ns 14 ns	±1.0 % rdg ±1 mV	φ5 mm (0.20 in.)	1.5 m, 1 m (4.92 ft., 3.28 ft.)	0°C to 40°C 32°F to 104°F
3274 3275	20	150 A RMS: 0.01 V/A 500 A RMS: 0.01 V/A	DC to 10 MHz DC to 2 MHz	35 ns or less 175 ns or less	40 ns 66 ns	±1.0 % rdg,±1 mV ±1.0 % rdg,±5 mV	φ20 mm (0.79 in.)	2.0 m, 1 m (6.56 ft., 3.28 ft.)	0°C to 40°C 32°F to 104°F

<sup>\*1:</sup> Sensor cable: cable between relay box and sensor for models with relay boxes (i.e. CT6710, CT6711), power supply cable for other models \*2: When using 0.5 A range: 13 ns

Grid p	ower qua	lity contro	ol				Output term	inals: PL14
Model	Appearance	Rated current	Frequency range	Amplitude accuracy	Diameter of measurable conductors	Cable length	Operating temperature	CAT
Measuren	nent of load c	urrent						
CT7126 CT7131		60 A AC 100 A AC	40 Hz to 20 kHz	±0.3% rdg ±0.01% f.s. ±0.3% rdg ±0.02% f.s.	ф15 mm (0.59 in.)	2.5 m (8.20 ft.)	-10°C to 50°C 14°F to 122°F	CAT III 300 V
CT7731 CT7631	91	100 A AC/DC	DC to 5 kHz DC to 10 kHz	±1.0% rdg ±0.5% f.s.	ф33 mm (1.30 in.)	2.5 m (8.20 ft.)	-25°C to 65°C -13°F to 149°F	CAT IV 600 \
CT7736 CT7636		600 A AC/DC	DC to 5 kHz DC to 10 kHz	±2.0% rdg ±0.5% f.s.	ф33 mm (1.30 in.)	2.5 m (8.20 ft.)	-25°C to 65°C -13°F to 149°F	CAT IV 600 V CAT III 1000 V
CT7136	NO.	600 A AC/DC	40 Hz to 20 kHz	±0.3 % rdg ±0.01 % f.s.	φ46 mm (1.81 in.)	2.5 m (8.20 ft.)	-10°C to 50°C 14°F to 122°F	CAT IV 600 V
CT7742 CT7642	<b>A</b> /	2000 A AC/DC	DC to 5 kHz DC to 10 kHz	±1.5% rdg ±0.5% f.s.	φ55 mm (2.17 in.)	2.5 m (8.20 ft.)	-25°C to 65°C -13°F to 149°F	CAT IV 600 V
CT7812*3		2 A RMS	DC to 100 kHz	±0.3% rdg ±0.1% f.s.	φ5 mm (0.20 in.)	4 m, 0.2 m *4 (13.12 ft., 0.66 ft.)	-40°C to 85°C -40°F to 185°F	-
CT7822*3		20 A RMS	DC to 100 kHz	±0.3% rdg ±0.1% f.s.	φ5 mm (0.20 in.)	4 m, 0.2 m *4 (13.12 ft., 0.66 ft.)	-40°C to 85°C -40°F to 185°F	-
Measuren	nent of large o	urrents						
CT7044		6000 A AC	10 Hz to 50 kHz	±1.5 % rdg ±0.25% f.s.	ф100 mm (3.94 in.)	2.3 m, 0.2 m*5 (7.55 ft., 0.66 ft.)	-25°C to 65°C -13°F to 149°F	CAT IV 600 V
CT7045		6000 A AC	10 Hz to 50 kHz	±1.5 % rdg ±0.25% f.s.	ф180 mm (7.09 in.)	2.3 m, 0.2 m*5 (7.55 ft., 0.66 ft.)	-25°C to 65°C -13°F to 149°F	CAT IV 600 V
CT7046		6000 A AC	10 Hz to 50 kHz	±1.5 % rdg ±0.25% f.s.	ф254 mm (10.00 in.)	2.3 m, 0.2 m*5 (7.55 ft., 0.66 ft.)	-25°C to 65°C -13°F to 149°F	CAT IV 600 V
Measuren	nent of leakag	e current						
CT7116	91	6 A AC	40 Hz to 5 kHz	±1.0% rdg ±0.05% f.s.	φ40 mm (1.57 in.)	2.5 m (8.20 ft.)	-25°C to 65°C -13°F to 149°F	-

<sup>\*3:</sup> Can be connected to LR8536, U8556, CM7290 only
\*4: Sensor to relay box, relay box to output connector \*5: Between sensor to circuit box, between circuit box to output connector

Grid p	ower qua	lity contro	ol				Output term	inals: BNC
Model	Appearance	Rated current	Frequency range	Amplitude accuracy	Diameter of measurable conductors	Cable length	Operating temperature	CAT
Measuren	nent of load c	urrent						
9694		5 A AC	40 Hz to 5 kHz	±0.3% rdg ±0.02% f.s.	φ15 mm (0.59 in.)	3 m (9.84 ft.)	0°C to 50°C 32°F to 122°F	300 V CAT III
9695-02*1		50 A AC	40 Hz to 5 kHz	±0.3% rdg ±0.02% f.s.	ф15 mm (0.59 in.)	-	0°C to 50°C 32°F to 122°F	300 V CAT III
9660	1	100 A AC	40 Hz to 5 kHz	±0.3% rdg ±0.02% f.s.	ф15 mm (0.59 in.)	3 m (9.84 ft.)	0°C to 50°C 32°F to 122°F	300 V CAT III
9695-03 *1		100 A AC	40 Hz to 5 kHz	±0.3% rdg ±0.02% f.s.	φ15 mm (0.59 in.)	-	0°C to 50°C 32°F to 122°F	300 V CAT III
9010-50	<b>W</b>	10 A to 500 A AC	40 Hz to 1 kHz	±2% rdg ±1% f.s.	ф46 mm (1.81 in.)	3 m (9.84 ft.)	0°C to 50°C 32°F to 122°F	600 V CAT III
9018-50	<b>%</b>	10 A to 500 A AC	40 Hz to 3 kHz	±1.5% rdg ±0.1% f.s.	ф46 mm (1.81 in.)	3 m (9.84 ft.)	0°C to 50°C 32°F to 122°F	600 V CAT III
9132-50	9	20 A to 1000 A AC	40 Hz to 1 kHz	±3 % rdg ±0.2 % f.s.	φ55 mm (2.17 in.)	3 m (9.84 ft.)	-10°C to 50°C 14°F to 122°F	600 V CAT III
CT6500	81	500 A AC	40 Hz to 1 kHz	±1.5 % rdg ±0.03 % f.s.	φ46 mm (1.81 in.)	3 m (9.84 ft.)	0°C to 50°C 32°F to 122°F	600 V CAT III
9661	91	500 A AC	40 Hz to 5 kHz	±0.3% rdg ±0.01% f.s.	ф46 mm (1.81 in.)	3 m (9.84 ft.)	0°C to 50°C 32°F to 122°F	600 V CAT III
9669	SI	1000 A AC	40 Hz to 5 kHz	±1.0% rdg ±0.01% f.s.	ф55 mm (2.17 in.)	3 m (9.84 ft.)	0°C to 50°C 32°F to 122°F	600 V CAT III
Measuren	nent of large o	currents						
CT9667-01		500 A, 5000 A AC	10 Hz to 20 kHz	±2 % rdg ±0.3 % f.s.	φ100 mm (3.94 in.)	2 m, 1 m* <sup>2</sup> (6.56 ft., 3.28 ft.)	-25°C to 65°C -13°F to 149°F	600 V CAT IV 1000 V CAT III
CT9667-02		500 A, 5000 A AC	10 Hz to 20 kHz	±2 % rdg ±0.3 % f.s.	ф180 mm (7.09 in.)	2 m, 1 m *2 (6.56 ft., 3.28 ft.)	-25°C to 65°C -13°F to 149°F	600 V CAT IV 1000 V CAT III
CT9667-03		500 A, 5000 A AC	10 Hz to 20 kHz	±2 % rdg ±0.3 % f.s.	ф254 mm (10.00 in.)	2 m, 1 m* <sup>2</sup> (6.56 ft., 3.28 ft.)	-10°C to 50°C 14°F to 122°F	600 V CAT IV 1000 V CAT III
Measuren	nent of leakag	e current						
9657-10	81	10 A AC	40 Hz to 5 kHz	±.1.0 % rdg ±0.05 % f.s.	ф40 mm (1.57 in.)	3 m (9.84 ft.)	0°C to 50°C 32°F to 122°F	-
9675	81	10 A AC	40 Hz to 5 kHz	±.1.0 % rdg ±0.005 % f.s.	ф30 mm (1.18 in.)	3 m (9.84 ft.)	0°C to 50°C 32°F to 122°F	-

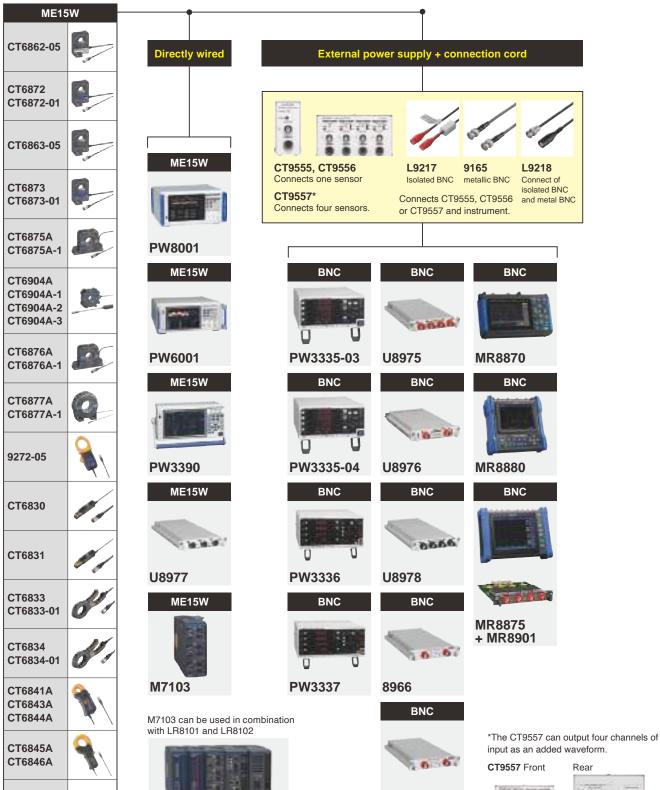
<sup>\*1:</sup> The 9695-02 and 9695-03 use an M3 terminal block for their output terminals. The extra purchase of the connection cable 9219 is required.

\*2: Sensor cable: between flexible loop and circuit box for flexible sensors (e.g. CT9667-01), output cable for others.

# **High-accuracy measurement**

\* Depending on the connected instruments, it may not be possible to measure up to the rated current of the current sensors.

For details, refer to the instruction manual of the connected instruments.



We accept special orders for extending sensor cables. For inquiries, please contact Hioki

and the state of

PW9100A-3

PW9100A-4

for more information.



LR8101, LR8102



CT9902 (ME15W-ME15W)

The CT9902 can be used to extend a current sensor's cable by 5 m. Up two of these cables can be used for a maximum extension of 10 m

\*When using the CT9902, an addition must be made to accuracy.
For details, see the sensor's user manual.

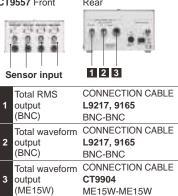


BNC



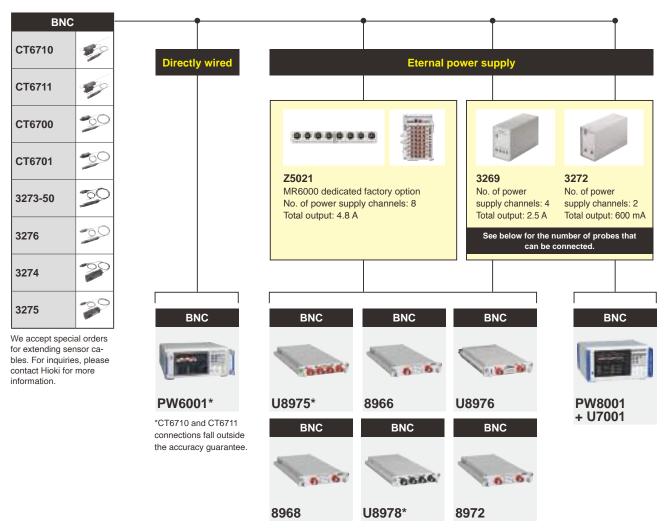
8972

input as an added waveform.



# **Waveform observation**

\* Depending on the connected instruments, it may not be possible to measure up to the rated current of the current sensors. For details, refer to the instruction manual of the connected instruments.



<sup>\*</sup>Special-order cables are required when using three or more probes simultaneously. Please contact Hioki for details.

#### The following products can be used with the U8975, U8976, U8978, 8966, 8968, and 8972



MR6000

U8975 🗸 U8976 🗸 U8977 U8978 8966 8968 V 8971 8972 V

MR8847A



V

~

8971

8972

U8975

U8976

U8977

U8978

8966

8968

8971

8972







U8975

8971

8972

~



8966 8968 8971 MR8740T 8972



V

U8975 V

U8976

U8977

MR8740



MR8741



# probes per power supply Current consumption varies by probe. The following table

indicates how many probes can be utilized when using one type of probe per power supply.

Current consumption per probe and number of

Sensor	Consumption current*	Z5021	3269	3272
CT6710	approx. 650 mA	4	2	-
CT6711	approx. 650 mA	4	2	-
CT6700	approx. 250 mA	8	4	2
CT6701	approx. 250 mA	8	4	2
3273-50	approx. 450 mA	8	4	1
3274	approx. 450 mA	8	4	1
3275	approx. 600 mA	8	4	1
3276	approx. 450 mA	8	4	1

\*When measuring the rated current.

L0220-06

L0220-07

50 m

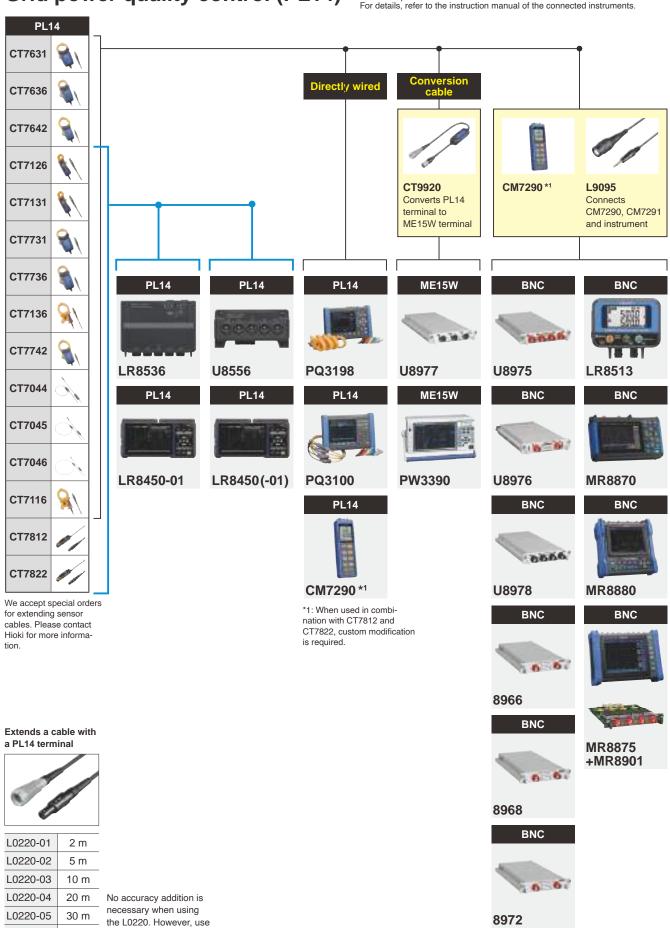
100 m

of two or more cables together falls outside the

accuracy guarantee.

# **Grid power quality control (PL14)**

 Depending on the connected instruments, it may not be possible to measure up to the rated current of the current sensors.
 For details, refer to the instruction manual of the connected instruments.

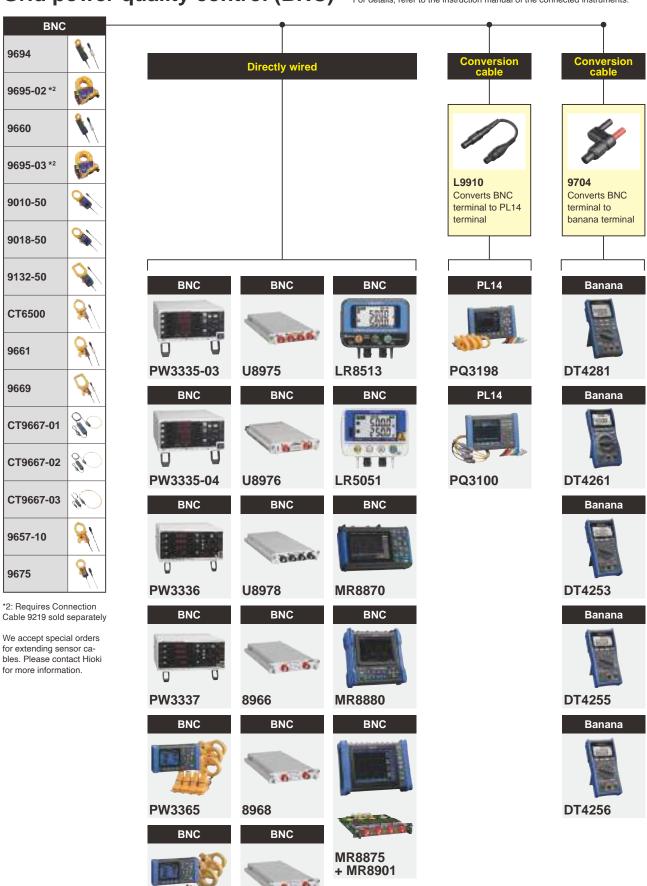


# **Grid power quality control (BNC)**

PW3360

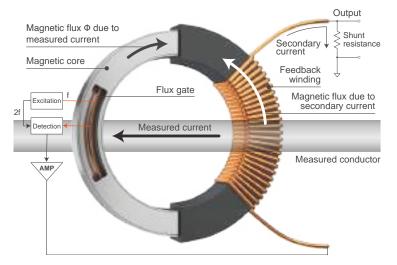
8972

\* Depending on the connected instruments, it may not be possible to measure up to the rated current of the current sensors. For details, refer to the instruction manual of the connected instruments.



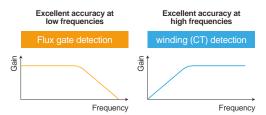
# Accurately evaluating power conversion efficiency

Improving power conversion efficiency is a key part of the effort to facilitate the effective use of energy. Devices that operate at high frequencies are increasingly being used to improve efficiency, and evaluation processes undertaken during the development of such devices requires accurate measurement of power at the low frequencies used by in previous devices as well as at high frequencies. Additionally, sensors that can resist noise are necessary since noise becomes stronger as the frequency increases. Hioki offers current sensors that can measure power accurately while providing robust noise resistance over a broad band of frequencies.



 $\label{eq:high-frequency} \mbox{High-frequency currents are detected by a winding (CT),} \mbox{while DC to low-frequency currents are detected by a flux gate.}$ 

## Zero-flux method: achieving stable, wideband measurement from DC to high frequencies



# Flat characteristics from low to high frequencies



# Zero-flux method (flux gate) current sensors



CT6830, CT6831 CT7812, CT7822



CT6833, CT6833-01 CT6834, CT6834-01



CT6841A, CT6845A, CT6843A, CT6846A CT6844A



CT6862-05, CT6863-05 CT6872, CT6873



CT6875A, CT6876A



CT6877A

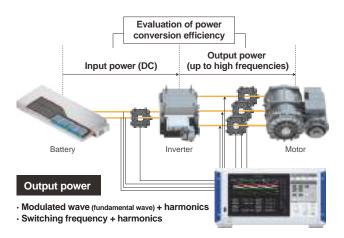


CT6904A

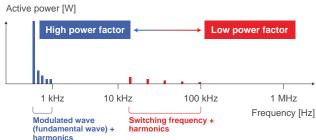
#### Application

# Evaluating the power conversion efficiency of an inverter

When evaluating the power conversion efficiency of an inverter, the inverter's input and output power are measured and its efficiency is checked. PWM (pulse width modulated) inverter output, which has been widely used in recently years, contains a modulated wave (fundamental wave) and a switching frequency along with their respective harmonic components. Since switching frequencies tend to be high, the process requires wide frequency band current sensors.



## Inverter output: principal active power components

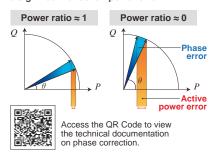


Since the power factor decreases with harmonics, current sensors' phase measurement accuracy becomes key (see right).

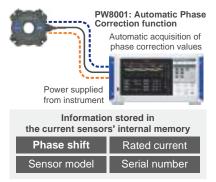
# Phase measurement accuracy and correction: accurately measuring power at low power factors

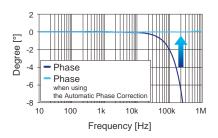
For typical current sensors, phase measurement accuracy is not defined. However, phase measurement precision is important in applications where power must be measured with a high degree of accuracy. Power can be measured more accurately by selecting a current sensor for which phase measurement accuracy is defined in the measurement band.

At low power factors, phase error has a significant effect on power error.



The power factor decreases in the high-frequency range of the switching frequencies and other frequency components. At low power factors, phase error has a significant effect on power measured values.



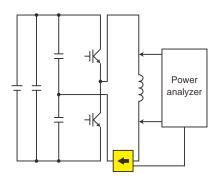


Example of the Automatic Phase Correction for the CT6904A AC/DC current sensor

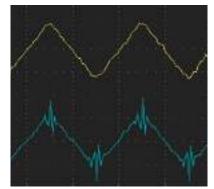
For typical sensors, phase error increases with frequency. Since Hioki has developed both current sensors and the measuring instruments, current sensors' phase characteristics can be corrected by the instruments, allowing accurate power values to be calculated.

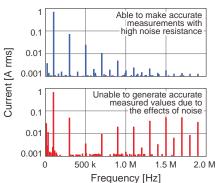
# Common-mode voltage rejection ratio: measuring current values accurately in noisy environments

In high-frequency measurement, sensors' resistance to noise is critical. A sensor's ability to remove noise is expressed by its common-mode rejection ratio (CMRR). Sensors with a high CMRR reject more noise and therefore can make more accurate measurements.



For reactors, higher frequencies mean lower current values. The image to the right shows a waveform obtained by measuring reactor current at high frequency along with variations in current values that accompany variations in the frequency.



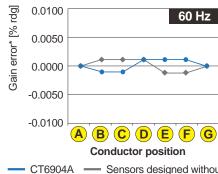


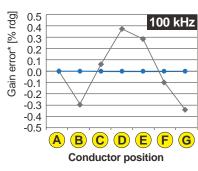
Top: CT6904A CMRR 120 dB or greater (100 Hz); bottom: sensor with a low CMRR

# Effects of conductor position: stable, highly reproducible sensing

In general, speaking, the effects of conductor position increase with frequency. Since the position of the conductor inside the clamp core affects the measurement accuracy, resulting the reproducibility of measurement reduces. Sensors are designed the effects of conductor position, highly reproducible measurements are possible since conductor position does not affect measured values.







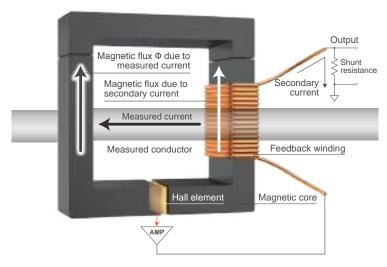
Sensors designed without accounting for conductor position

deviation from center

When using sensors designed to take into account the effects of conductor position, changes in conductor position have only a small effect on the measured value.

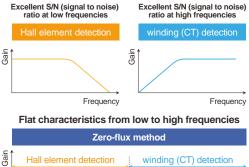
# Clearly observing current waveforms

The magnitude of the currents that flow in power-saving devices during operation and control currents that flow in automotive accessory components have reduced to 1 mA or less. At the same time, reliance on high-speed switching operation for device control is resulting in increased noise. Wideband current probes that are highly resistant to noise are essential in order to clearly observe low-current waveforms without losing them in noise. Hioki offers current probes that enable clear waveform observation while providing robust noise resistance over a broad band of frequencies.



High-frequency currents are detected by the winding (CT), while DC to low-frequency currents are detected by the Hall element.

#### Zero-flux method: realizing stable, wideband measurement from DC to high frequencies



Zero-flux method

Hall element detection winding (CT) detection

Frequency

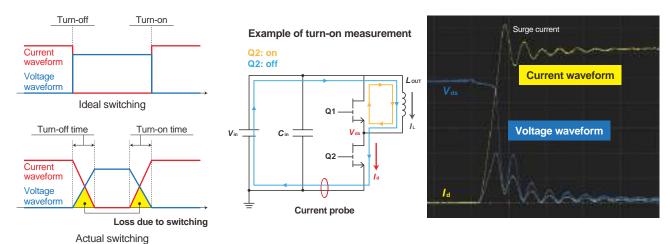
# Zero-flux method (hall element) current probes



#### Application

# **Evaluating the response performance of switching devices**

Switching devices control equipment by turning the power on and off. The response performance of switching devices is evaluated by observing fluctuations of current and voltage when the device cycles the power on and off. Capturing current fluctuations caused by high-speed switching operation requires current probes with a broad frequency band. Additionally, noise resistance is important since switching operation generates noise.

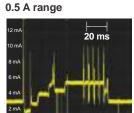


# Observing waveforms from minuscule currents to large currents: evaluating the control design of ECUs and accessory components

The control systems used in ECUs and accessory components carry currents of a variety of magnitudes according to the vehicle's operation, from control currents to inrush currents. Using a current probe that can switch current ranges makes it possible to observe current waveforms associated with an array of operating conditions with a single probe.

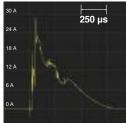


CT6710/CT6711 0.5 A, 5 A, 30 A range switching



Observing a minuscule current waveform (current consumption of a power-saving device)





Observing a large current waveform (inrush current)

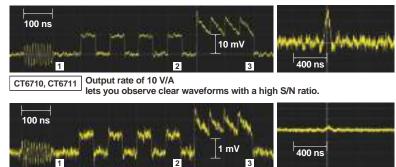
Observing currents of a variety of magnitudes. from minuscule currents to large currents, with a single probe

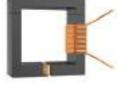
Model	Freq. band	mesurement range	output rate
		0.5 A	10 V/A
CT6710	DC to 50 MHz	5 A	1 V/A
		30 A	0.1 V/A
		0.5 A	10 V/A
CT6711	DC to 120 MHz	5 A	1 V/A
		30 A	0.1 V/A
CT6700	DC to 50 MHz	5 A	1 V/A
CT6701	DC to 120 MHz	5 A	1 V/A
3273-50	DC to 50 MHz	30 A	0.1 V/A
3276	DC to 100 MHz	30 A	0.1 V/A
3274	DC to 10 MHz	150 A	0.01 V/A
3275	DC to 2 MHz	500 A	0.01 V/A
			****

Noise resistance design: key to increasing output rate

# Clearly observing minuscule currents: operating currents of power-saving devices and control currents flowing to accessory components

The magnitude of the currents that flow during operation of power-saving devices like wearables and control currents that flow in automotive accessory components tend to decrease in to 1 mA or less. Using a current probe with a high output rate make you possible for clearly observing minuscule current waveforms.





Hioki uses a proprietary thin- Electromagnetic shielding ed inside the probe.



film Hall element to reduce in the sensor improves rethe amount of noise generat- sistance to environmental noise

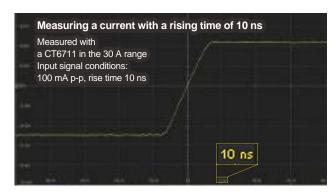
- 1 Sine wave: f = 100 MHz, 1 mA peak-peak
- 2 Square wave: f = 10 MHz, 1 mA peak-peak 3 Sawtooth wave: f = 20 MHz, 1 mA peak-peak (offset +1 mA)

Output rate of 1 V/A

# Observing waveforms across a broad band of frequencies: capturing waveforms and pulse waveforms that fluctuate at high speeds

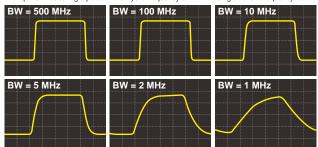
precludes observation of accurate waveforms as they are obscured by noise.

Currents from switching operation of devices such as SiC and GaN inverters and currents that flow momentarily when a power supply is activated fluctuate at high speeds. Using a current probe with a wide frequency band allows you observe current waveforms that fluctuate at high speed. Additionally, such devices allow you observe current waveforms such as pulse waveforms that contain a variety of frequency components.



Current probes with a wide frequency band can capture high-speed current fluctuations with a rising time of 10 ns.

#### Failure to capture accurate waveforms due to insufficient frequency band Example of measuring a pulse with a cyclic frequency of 1 MHz using different frequency bands



Current probes with a wide frequency band can accurately capture pulse waveforms.

#### CT6862-05



Product warranty period: 3 years Guaranteed accuracy period: 1 year

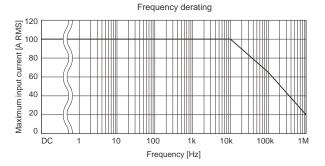
Rated current	50 A AC/DC
Frequency band	DC to 1 MHz (-3 dB)
Diameter of measurable conductors	Max. φ 24 mm (0.94 in.)

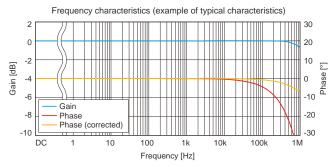
#### Accuracy

Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.05% ±0.01%	-
DC < f ≤ 16 Hz	±0.10% ±0.02%	±0.3°
16 Hz < f ≤ 400 Hz	±0.05% ±0.01%	±0.2°
400 Hz < f ≤ 1 kHz	±0.2% ±0.02%	±0.5°
1 kHz < f ≤ 5 kHz	±0.7% ±0.02%	±1.0°
5 kHz < f ≤ 10 kHz	±1% ±0.02%	±1.0°
10 kHz < f ≤ 50 kHz	±1% ±0.02%	$\pm (0.5 + 0.1 \times f \text{ kHz})^{\circ}$
50 kHz < f ≤ 100 kHz	±2% ±0.05%	$\pm (0.5 + 0.1 \times f \text{ kHz})^{\circ}$
100 kHz < f ≤ 300 kHz	±5% ±0.05%	$\pm (0.5 + 0.1 \times f \text{ kHz})^{\circ}$
300 k Hz < f ≤ 700 kHz	±10% ±0.05%	-
700 kHz < f < 1 MHz	±30% ±0.05%	-

The values above are when the input is a sine wave, the conductor is in the center of the sensor opening, and the measurement instrument's input resistance is 1 M $\Omega$  or higher. Amplitude accuracy: defined at the rated value or less, or within the derating curve; DC < f < 5 Hz is the typical value by design. Phase accuracy: defined at the rated value or less, or within the derating curve; DC < f < 10 Hz is the typical value by design.

Temperature and humidity range for guaranteed accuracy	0°C to 40°C (32°F to 104°F), 80% RH or less
Effect of temperature	In ranges from -30°C to 0°C (-22°F to 32°F) and 40°C to 85°C (104°F to 185°F) Amplitude sensitivity: ±0.005% of reading/°C or less Offset voltage: ±0.005% of full scale/°C or less
Effect of common mode voltage	0.05% of full scale or less (1000 Vrms, DC to 100 Hz)





Output voltage	40 mV/A (= 2 V/50 A)
Operating temperature and humidity range	-30°C to 85°C (-22°F to 185°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-30°C to 85°C (-22°F to 185°F), 80% RH or less (no condensation)
Maximum rated voltage to ground	1000 V AC/DC (50/60 Hz), measurement category III, anticipated transient overvoltage: 8000 V
Standards	Safety: EN61010, EMC: EN61326
Cable length	3 m (9.84 ft.)
Dimensions	70 mm (2.76 in.) W $\times$ 100 mm (3.94 in.) H $\times$ 53 mm (2.09 in.) D (Excluding protruding parts and cables)
Weight	Approx. 340 g (12.0 oz.)

# CT6872 CT6872-01



Product warranty period: 3 years Guaranteed accuracy period: 1 year

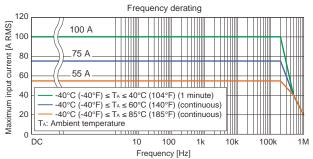
Rated current	50 A AC/DC
Frequency band	DC to 10 MHz (-3 dB)
Diameter of measurable conductors	Max. φ 24 mm (0.94 in.)

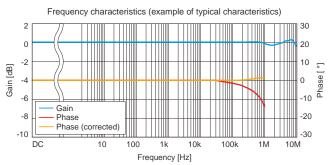
#### Accuracy

Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.03% ±0.002%	-
$DC < f \le 16 Hz$	±0.1% ±0.01%	±0.1°
16 Hz < f ≤ 45 Hz	±0.05% ±0.01%	±0.08°
45 Hz < f ≤ 66 Hz	±0.03% ±0.007%	±0.05°
66 Hz < f ≤ 100 Hz	±0.04% ±0.01%	±0.1°
100 Hz < f ≤ 500 Hz	±0.06% ±0.01%	±0.15°
500 Hz < f ≤ 1 kHz	±0.1% ±0.01%	±0.4°
1 kHz < f ≤ 5 kHz	±0.15% ±0.02%	±0.4°
5 kHz < f ≤ 10 kHz	±0.15% ±0.02%	±0.5°
10 kHz < f ≤ 1 MHz	(0.012 × f kHz)% + 0.05%	±(0.04 × f kHz)° ±0.1°

Combined accuracy with HIOKI power analyzer PW8001, PW6001 and PW3390 is specified (DC, 45 Hz  $\le$  1  $\le$  66 Hz). For details of combined accuracy, refer to the instruction manual. The values above are when the input is a sine wave, the measuring instrument has an input resistance of 1 M $\Omega$   $\pm$ 10%, the voltage to ground is 0 V, there is no external magnetic field, and the conductor is in the center of the sensor opening. Amplitude accuracy, defined 110% of full scale or less, or within the derating curve; DC < 1< 10 Hz is the value by design. Phase accuracy defined 110% of full scale or less, or within the derating curve; DC < 1< 10 Hz is the value by design. Add  $\pm$ 0.01% of reading to the amplitude accuracy for input from 100% of full scale to 110% of full scale The CT6872-01 adds a phase accuracy of  $\pm$ 0.015 x V0 at a requency of 1 kHz < 1  $\pm$ 1 MHz.

Temperature and humidity range for guaranteed accuracy	23°C ±5°C (73.4°F ±41°F), 80% RH or less	
Effect of temperature	In ranges from -40°C to 18°C (-40°F to 64.4°F) and 28°C to 85°C (82.4°F to 185°F) Amplitude sensitivity: ±20 ppm of of reading/°C Offset voltage: ±0.2 ppm of of full scale/°C	
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 150 dB or greater (DC to 1 kHz) 140 dB or greater (1 kHz to 10 kHz) 120 dB or greater (10 kHz to 100 kHz) 100 dB or greater (100 kHz to 1 MHz)	
Linearity error	±2 ppm	
Offset error	±5 ppm	
Amplitude errors	DC: 7 ppm 10 Hz to 100 Hz: 0.005% 100 Hz to 1 kHz: 0.01% 1 kHz to 50 kHz: 0.1%	50 kHz to 100 kHz: 0.3% 100 kHz to 300 kHz: 1% 300 kHz to 1 MHz: 3%





Output voltage	40 mV/A (= 2 V / 50 A)
Operating temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Maximum rated voltage to ground	1000 V CAT III Anticipated transient overvoltage: 8000 V
Standards	Safety: EN61010, EMC: EN61326
Cable length	CT6872: 3 m (9.84 ft.) CT6872-01: 10 m (32.81 ft.)
Dimensions	70 mm (2.76 in.) W $\times$ 110 mm (4.33 in.) H $\times$ 53 mm (2.09 in.) D (excluding protruding parts and cables)
Weight	CT6872: approx. 370 g (13.1 oz.) CT6872-01: approx. 690 g (24.3 oz.)

#### CT6863-05



Product warranty period: 3 years Guaranteed accuracy period: 1 year

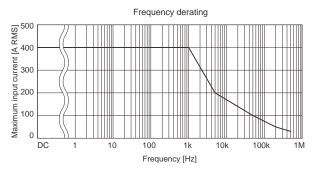
Rated current	200 A AC/DC
Frequency band	DC to 500 kHz (-3 dB)
Diameter of measurable conductors	Max. φ 24 mm (0.94 in.)

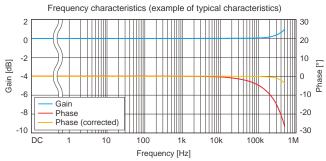
#### Accuracy

• • • • • •		
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.05% ±0.01%	-
DC < f ≤ 16 Hz	±0.10% ±0.02%	±0.3°
16 Hz < f ≤ 400 Hz	±0.05% ±0.01%	±0.2°
400 Hz < f ≤ 1 kHz	±0.2% ±0.02%	±0.5°
1 kHz < f ≤ 5 kHz	±0.7% ±0.02%	±1.0°
5 kHz < f ≤ 10 kHz	±1% ±0.02%	±1.0°
10 kHz < f ≤ 50 kHz	±2% ±0.02%	± (0.5 + 0.1 × f kHz)°
50 kHz < f ≤ 100 kHz	±5% ±0.05%	$\pm (0.5 + 0.1 \times f \text{ kHz})^{\circ}$
100 kHz < f ≤ 300 kHz	±10% ±0.05%	$\pm (0.5 + 0.1 \times f \text{ kHz})^{\circ}$
300 kHz < f ≤ 500 kHz	±30% ±0.05%	-

The values above are when the input is a sine wave, the conductor is in the center of the sensor opening, and the measurement instrument's input resistance is 1 M $\Omega$  or higher. Amplitude accuracy: defined at the rated value or less, or within the derating curve; DC <1 < 5 Hz is the typical value by design. Phase accuracy: defined at the rated value or less, or within the derating curve; DC < 1 < 10 Hz is the typical value by design.

Temperature and humidity range for guaranteed accuracy	0°C to 40°C (32°F to 104°F), 80% RH or less
Effect of temperature	In ranges from -30°C to 0°C (-22°F to 32°F) and 40°C to 85°C (104°F to 185°F) Amplitude sensitivity: ±0.005% of reading/°C or less Offset voltage: ±0.005% of full scale/°C or less
Effect of common mode voltage	0.05% of full scale or less (1000 Vrms, DC to 100 Hz)





Output voltage	10 mV/A (= 2 V / 200 A)
Operating temperature and humidity range	-30°C to 85°C (-22°F to 185°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-30°C to 85°C (-22°F to 185°F), 80% RH or less (no condensation)
Maximum rated voltage to ground	1000 V AC/DC (50/60 Hz), measurement category III, anticipated transient overvoltage: 8000 V
Standards	Safety: EN61010, EMC: EN61326
Cable length	3 m (9.84 ft.)
Dimensions	70 mm (2.76 in.) W $\times$ 100 mm (3.94 in.) H $\times$ 53 mm (2.09 in.) D (excluding protruding parts and cables)
Weight	Approx. 340 g (12.0 oz.)

# CT6873 CT6873-01



Product warranty period: 3 years Guaranteed accuracy period: 1 year

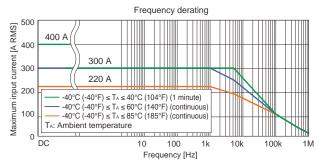
Rated current	200 A AC/DC
Frequency band	DC to 10 MHz (-3 dB)
Diameter of measurable conductors	Max. φ 24 mm (0.94 in.)

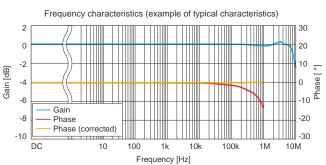
#### **Accuracy**

Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.03% ±0.002%	-
DC < f ≤ 16 Hz	±0.1% ±0.01%	±0.1°
16 Hz < f ≤ 45 Hz	±0.05% ±0.01%	±0.08°
45 Hz < f ≤ 66 Hz	±0.03% ±0.007%	±0.05°
66 Hz < f ≤ 100 Hz	±0.04% ±0.01%	±0.1°
100 Hz < f ≤ 500 Hz	±0.05% ±0.01%	±0.15°
500 Hz < f ≤ 3 kHz	±0.1% ±0.01%	±0.4°
3 kHz < f ≤ 5 kHz	±0.2% ±0.02%	±0.4°
5 kHz < f ≤ 10 kHz	±0.2% ±0.02%	±0.5°
10 kHz < f ≤ 1 MHz	(0.018 × f kHz)% + 0.05%	±(0.04 × f kHz)° ±0.1°

Combined accuracy with HIOKI power analyzer PW8001, PW8001 and PW3390 is specified (DC, 45 Hz s f s 66 Hz). For details of combined accuracy, refer to the instruction manual. The values above are when the input is a sine wave, the measuring instrument has an input resistance of 1 MΩ ±10%, the voltage to ground is 0 V, there is no external magnetic field, and the conductor is in the center of the sensor opening. Amplitude accuracy defined 110% of full scale or less, or within the derating curve; DC < 10 Hz is the value by design. Phase accuracy: defined 110% of full scale or less, or within the derating curve; DC < 10 Hz is the value by design. Add ±0.01% of reading to the amplitude accuracy for input from 100% of full scale to 110% of full scale. The CT6873-01 adds a phase accuracy of ±0.015 × f)° at a frequency of 1 kHz < f ≤ 1 MHz.

Temperature and humidity range for guaranteed accuracy	23°C ±5°C (73.4°F ±41°F), 80% RH or less	
Effect of temperature	In ranges from -40°C to 18°C (-40°F to 64.4°F) and 28°C to 85°C (82.4°F to 185°F) Amplitude sensitivity: ±15 ppm of of reading/°C Offset voltage: ±0.1 ppm of of full scale/°C	
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 150 dB or greater (DC to 1 kHz) 140 dB or greater (1 kHz to 10 kHz) 120 dB or greater (10 kHz to 100 kHz) 100 dB or greater (100 kHz to 1 MHz)	
Linearity errors	±2 ppm	
Offset error	±5 ppm	
Amplitude error	DC: ±7 ppm 10 Hz to 500 Hz: ±0.005% 500 Hz to 3 kHz: ±0.01% 3 kHz to 30 kHz: ±0.1%	30 kHz to 100 kHz: ±0.4% 100 kHz to 400 kHz: ±1% 400 kHz to 1 MHz: ±3%





Output voltage	10 mV/A (= 2 V / 200 A)
Operating temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Maximum rated voltage to ground	1000 V CAT III Anticipated transient overvoltage: 8000 V
Standards	Safety: EN61010, EMC: EN61326
Cable length	CT6873: 3 m (9.84 ft.) CT6873-01: 10 m (32.81 ft.)
Dimensions	70 mm (2.76 in.) W $\times$ 110 mm (4.33 in.) H $\times$ 53 mm (2.09 in.) D (excluding protruding parts and cables)
Weight	CT6873: approx. 370 g (13.1 oz.) CT6873-01: approx. 690 g (24.3 oz.)

# CT6875A CT6875A-1

Product warranty period: 3 years Guaranteed accuracy period: 1 year

Rated current	500 A AC/DC
Frequency band	CT6875A: DC to 2 MHz (±3 dB) CT6875A-1: DC to 1.5 MHz (±3 dB)

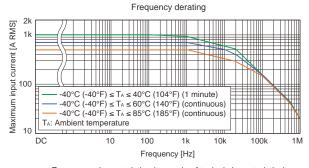
Diameter of measurable conductors Max.  $\varphi$  36 mm (1.41 in.)

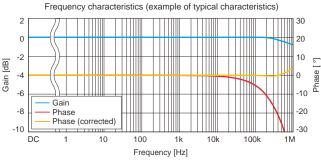
#### Accuracy

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Frequency	Amplitude ±(% of reading + % of full scale)	Phase	
DC	±0.04% ±0.008%	-	
DC < f < 16 Hz	±0.1% ±0.02%	±0.1°	
16 Hz ≤ f < 45 Hz	±0.05% ±0.01%	±0.1°	
45 Hz ≤ f ≤ 66 Hz	±0.04% ±0.008%	±0.08°	
66 Hz < f ≤ 100 Hz	±0.05% ±0.01%	±0.1°	
100 Hz < f ≤ 500 Hz	±0.1% ±0.02%	±0.2°	
500 Hz < f ≤ 1 kHz	±0.2% ±0.02%	±0.4°	
1 kHz < f ≤ 5 kHz	±0.4% ±0.02%	±0.5°	
5 kHz < f ≤ 10 kHz	±0.4% ±0.02%	±(0.1 × f kHz)°	
10 kHz < f ≤ 50 kHz	±1.5% ±0.05%	±(0.1 × f kHz)°	
50 kHz < f ≤ 100 kHz	±2.5% ±0.05%	±(0.1 × f kHz)°	
100 kHz < f < 1 MHz	+(0.025 × f kHz)% +0.05%	+(0.1 x f kHz)°	

Combined accuracy with HIOKI power analyzer PW8001, PW8001 and PW3390 is specified (IOc, 45 Hz s f s 66 Hz). For details of combined accuracy, refer to the instruction manual. Amplitude accuracy: defined 110% of full scale or less, or within the derating curve; DC < < 10 Hz is the value by design. Add ±0.01% of reading to the amplitude accuracy for input from 100% of full scale to 110% of full scale < For the CT6875A-1, add the following for frequencies of 1 Hz < < 1 × 1 Hz (the frequency band is 1.5 MHz ±3 dB): Amplitude accuracy: < 10.015 × 1 kHz)% of reading, Phase accuracy: < 1.015 × 1 kHz)%

Temperature and humidity range for guaranteed accuracy	0°C to 40°C (32°F to 104°F), 80% RH or less		
Effect of temperature	In ranges from -40°C to 0°C (-40°F to 32°F) and 40°C to 85°C (104°F to 185°F) Amplitude sensitivity: ±20 ppm of reading / °C Offset voltage: ±1 ppm of full scale / °C		
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 140 dB or greater (50/60 Hz) 120 dB or greater (100 kHz)		
Linearity error	±5 ppm		
Offset error	±5 ppm		
Amplitude error	DC: ±10 ppm 10 Hz to 100 Hz: ±0.005% 100 Hz to 1 kHz: ±0.02% 1 kHz to 20 kHz: ±0.08%	20 kHz to 100 kHz: ±0.5% 100 kHz to 300 kHz: ±1% 300 kHz to 1 MHz: ±5%	





Output voltage	4 mV/A (= 2 V / 500 A)
Operating temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Maximum rated voltage to ground	1000 V CAT III Anticipated transient overvoltage: 8000 V
Standards	Safety: EN61010, EMC: EN61326
Cable length	CT6875A: 3 m (9.84 ft.) CT6875A-1: 10 m (32.81 ft.)
Dimensions	160 mm (6.30 in.) W $\times$ 112 mm (4.41 in.) H $\times$ 50 mm (1.97 in.) D (excluding protruding parts and cables)
Weight	CT6875A: approx. 0.8 kg (28.2 oz.) CT6875A-1: approx. 1.1 kg (38.8 oz.)

# CT6904A CT6904A-1

(CT6904A-1: build-to-order product)

Product warranty period: 3 years Guaranteed accuracy period: 1 year

500 A AC/DC Rated current CT6904A: DC to 4 MHz (±3 dB) Frequency band CT6904A-1: DC to 2 MHz (±3 dB)

Diameter of measurable conductors  $Max. \ \varphi \ 32 \ mm \ (1.25 \ in.)$ 

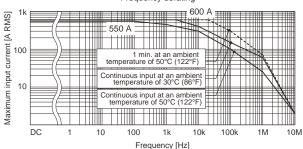
#### Accuracy

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Amplitude ±(% of reading + % of full scale)	Phase	
±0.025% ±0.007%	-	
±0.2% ±0.02%	±0.1°	
±0.1% ±0.02%	±0.1°	
±0.02% ±0.007%	±0.08°	
±0.05% ±0.007%	±0.12°	
±0.1% ±0.01%	±0.4°	
±0.4% ±0.02%	±0.4°	
±0.4% ±0.02%	±(0.08 × f kHz)°	
±1% ±0.02%	±(0.08 × f kHz)°	
±1% ±0.05%	±(0.08 × f kHz)°	
±2% ±0.05%	±(0.08 × f kHz)°	
±5% ±0.05%	±(0.08 × f kHz)°	
	±(% of reading + % of full scale) ±0.025% ±0.007% ±0.2% ±0.02% ±0.1% ±0.02% ±0.02% ±0.007% ±0.05% ±0.007% ±0.1% ±0.01% ±0.4% ±0.02% ±0.4% ±0.02% ±1% ±0.02% ±1% ±0.02% ±1% ±0.05%	

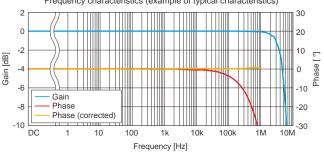
Combined accuracy with HIOKI power analyzer PW8001 and PW6001 is specified (IOC, 45 Hz  $\le 15$  Bt.2). For details of combined accuracy, refer to the instruction manual. - Amplitude accuracy and phase accuracy; defined 110% of full scale or less, or within the derating curve (continuous input at an ambient temperature of 50°C); DC < 1< 10 Hz is the value by design. - Add  $\pm 0.01\%$  of reading to the amplitude accuracy for input from 100% of full scale to 110% of full scale < 15 Cb Kt+2 < 15 I MHz.(the frequency band is < 15 MHz  $\pm 3$  dB): Amplitude accuracy:  $\pm (0.015 \times 1)\%$  of reading to

Temperature and humidity range for guaranteed accuracy	23°C ±5°C (73°F ±9°F), 80% RH or less
Effect of temperature	In ranges from -10°C to 18°C (14°F to 64.4°F) or 28°C to 50°C (82.4°F to 122°F) Amplitude sensitivity: ±20 ppm of of reading / °C Offset voltage: ±1 ppm of full scale / °C Phase: ±0.01°/°C
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 140 dB or greater (50/60 Hz) 120 dB or greater (100 kHz)
Linearity error	±5 ppm
Offset error	±10 ppm

## Frequency derating



Frequency characteristics (example of typical characteristics)



Output voltage	4 mV/A (= 2 V / 500 A)	
Operating temperature and humidity range	-10°C to 50°C (-14°F to 122°F), 80% RH or less (no condensation)	
Storage temperature and humidity range	-20°C to 60°C (-4°F to 140°F), 80% RH or less (no condensation)	
Maximum rated voltage to ground	1000 V CAT III Anticipated transient overvoltage: 8000 V	
Standards	Safety: EN61010, EMC: EN61326	
Cable length	CT6904A: 3 m (9.84 ft.) (including relay box)) CT6904A-1: 10 m (32.81 ft.) (including relay box)	
Dimensions	139 mm (5.47 in.) W $\times$ 120 mm (4.72 in.) H $\times$ 52 mm (2.05 in.) D (excluding protrusions and cables)	
Weight	CT6904A: approx. 1.05 kg (37.0 oz.) CT6904A-1: approx. 1.35 kg (47.6 oz.)	

# CT6904A-2 CT6904A-3

(Build-to-order product)

Product warranty period: 3 years Guaranteed accuracy period: 1 year



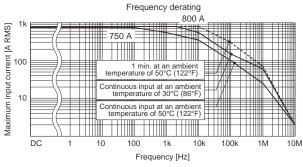
Rated current	800 A AC/DC
Frequency band	CT6904A-2: DC to 4 MHz (±3 dB)
	CT6904A-3: DC to 2 MHz (±3 dB)
Diameter of measurable conductors	Max. φ 32 mm (1.25 in.)

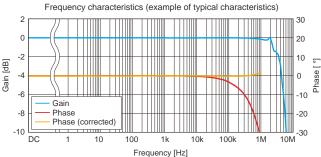
#### Accuracy

Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.030% ±0.009%	-
DC < f < 16 Hz	±0.2% ±0.025%	±0.1°
16 Hz ≤ f < 45 Hz	±0.1% ±0.025%	±0.1°
45 Hz ≤ f ≤ 65 Hz	±0.025% ±0.009%	±0.08°
65 Hz < f ≤ 850 Hz	±0.05% ±0.009%	±0.12°
850 Hz < f ≤ 1 kHz	±0.1% ±0.013%	±0.4°
1 kHz < f ≤ 5 kHz	±0.4% ±0.025%	±0.4°
5 kHz < f ≤10 kHz	±0.4% ±0.025%	±(0.08 × f kHz)°
10 kHz < f ≤ 50 kHz	±1% ±0.025%	±(0.08 × f kHz)°
50 kHz < f ≤ 100 kHz	±1% ±0.063%	±(0.08 × f kHz)°
100 kHz < f ≤ 300 kHz	±2% ±0.063%	±(0.08 × f kHz)°
300 kHz < f ≤ 1 MHz	±5% ±0.063%	±(0.08 × f kHz)°

Combined accuracy with HIDKI power analyzer PW8001 and PW6001 is specified (DC, 45 Hz  $\leq$  1  $\leq$  65 Hz). For details of combined accuracy, refer to the instruction manual. Amplitude accuracy and phase accuracy are specified by the following conditions: -Rated value or less -At 100Hz or more and within the range of "Continuous input at an ambient temperature of 50°C (122°F)" described in the frequency derating graph below -For the CT6904A-3, add the following for frequencies of 50 kHz < 1 MHz (frequency band is 2 MHz  $\pm$ 3): Amplitude accuracy:  $\pm$ (0.015  $\times$  1)% of reading

Temperature and humidity range for guaranteed accuracy	23°C ±5°C (73°F ±9°F), 80% RH or less
Effect of temperature	In ranges from -10°C to 18°C (14°F to 64.4°F) or 28°C to 50°C (82.4°F to 142°F) Amplitude sensitivity: $\pm$ 50 ppm of reading / °C Offset voltage: $\pm$ 5 ppm of full scale / °C Phase: $\pm$ 0.01° / °C
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 140 dB or greater (50/60 Hz) 120 dB or greater (100 kHz)
Linearity error	±12.5 ppm
Offset error	±10 ppm





Output voltage	2 mV/A (= 2 V / 1000 A)	
Operating temperature and humidity range	-10°C to 50°C (-14°F to 122°F), 80% RH or less (no condensation)	
Storage temperature and humidity range	-20°C to 60°C (-4°F to 140°F), 80% RH or less (no condensation)	
Maximum rated voltage to ground	1000 V CAT III Anticipated transient overvoltage: 8000 V	
Standards	Safety: EN61010, EMC: EN61326	
Cable length	CT6904A-2: 3 m (9.84 ft.) (including relay box) CT6904A-3: 10 m (32.81 ft.) (including relay box)	
Dimensions	139 mm (5.47 in.) W $\times$ 120 mm (4.72 in.) H $\times$ 52 mm (2.05 in.) D (excluding protrusions and cables)	
Weight	CT6904A-2: approx. 1.15 kg (40.6 oz.) CT6904A-3: approx. 1.45 kg (51.1 oz.)	

# CT6876A CT6876A-1



Product warranty period: 3 years Guaranteed accuracy period: 1 year

Rated current	1000 A AC/DC
Frequency band	CT6876A: DC to 1.5 MHz (±3 dB) CT6876A-1: DC to 1.2 MHz (±3 dB)
Diameter of measurable conductors	May & 36 mm (1 /11 in )

#### Accuracy

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Frequency	Amplitude ±(% of reading + % of full scale)	Phase	
DC	±0.04% ±0.008%	-	
DC < f < 16 Hz	±0.1% ±0.02%	±0.1°	
16 Hz ≤ f < 45 Hz	±0.05% ±0.01%	±0.1°	
45 Hz ≤ f ≤ 66 Hz	±0.04% ±0.008%	±0.08°	
66 Hz < f ≤ 100 Hz	±0.05% ±0.01%	±0.1°	
100 Hz < f ≤ 500 Hz	±0.1% ±0.02%	±0.2°	
500 Hz < f ≤ 1 kHz	±0.2% ±0.02%	±0.4°	
1 kHz < f ≤ 5 kHz	±0.5% ±0.02%	±0.5°	
5 kHz < f ≤ 10 kHz	±0.5% ±0.02%	±(0.1 × f kHz)°	
10 kHz < f ≤ 50 kHz	±2% ±0.05%	±(0.1 × f kHz)°	
50 kHz < f ≤ 100 kHz	±3% ±0.05%	±(0.1 × f kHz)°	
100 kHz < f ≤ 1 MHz	±(0.03 × f kHz)% ±0.05%	±(0.1 × f kHz)°	

- Combined accuracy with HIOKI power analyzer PW8001, PW8001 and PW3390 is specified (IDC, 45 Hz ≤ f ≤ 66 Hz). For details of combined accuracy, refer to the instruction manual.

  Amplitude accuracy and phase accuracy: defined 110% of full scale or less or within the derating curve; DC < f < 10 Hz is the value by design

  Add ±0.01% of reading to the amplitude accuracy for input from 100% of full scale to 110% of full scale

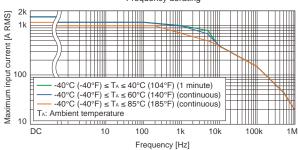
  For the CT6876A-1, add the following for frequencies of 1 kHz < f ≤ 1 MHz

  (the frequency band is 1.2 MHz 3d 68);

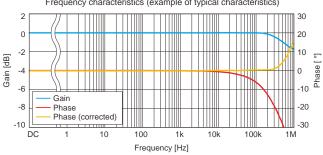
  Amplitude accuracy: ±(0.005 × f kHz)% of reading, Phase accuracy: ±(0.015 × f kHz)°

Temperature and humidity range for guaranteed accuracy	0°C to 40°C (32°F to 104°F), 80% RH or less	
Effect of temperature	In ranges from -40°C to 0°C (-40°F to 32°F) and 40°C to 85°C (104°F to 185°F) Amplitude sensitivity: ±20 ppm of reading / °C Offset voltage: ±1 ppm of full scale / °C	
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 140 dB or greater (50/60 Hz) 120 dB or greater (100 kHz)	
Linearity error	±5 ppm	
Offset error	±5 ppm	
Amplitude error	DC: ±10 ppm 10 Hz to 100 Hz: ±0.005% 100 Hz to 1 kHz: ±0.03% 1 kHz to 10 kHz: ±0.2%	10 kHz to 100 kHz: ±1% 100 kHz to 300 kHz: ±3% 300 kHz to 1 MHz: ±15%

# Frequency derating



# Frequency characteristics (example of typical characteristics)



Output voltage	2 mV/A (= 2 V / 1000 A)	
Operating temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)	
Storage temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)	
Maximum rated voltage to ground	1000 V CAT III Anticipated transient overvoltage: 8000 V	
Standards	Safety: EN61010, EMC: EN61326	
Cable length	CT6876A: 3 m (9.84 ft.) CT6876A-1: 10 m (32.81 ft.)	
Dimensions	160 mm (6.30 in.) W $\times$ 112 mm (4.41 in.) H $\times$ 50 mm (1.97 in.) D (excluding protruding parts and cables)	
Weight	CT6876A: approx. 0.95 kg (33.5 oz.) CT6876A-1: approx. 1.25 kg (44.1 oz.)	

# CT6877A CT6877A-1



Product warranty period: 3 years Guaranteed accuracy period: 1 year

Rated current	2000 A AC/DC
Frequency band	DC to 1 MHz
Diameter of measurable conductors	Max. φ 80 mm (3.14 in.)

#### Accuracy

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Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.04% ±0.008%	-
DC < f < 16 Hz	±0.1% ±0.02%	±0.1°
16 Hz ≤ f < 45 Hz	±0.05% ±0.01%	±0.1°
45 Hz ≤ f ≤ 66 Hz	±0.04% ±0.008%	±0.08°
66 Hz < f ≤ 100 Hz	±0.05% ±0.01%	±0.1°
100 Hz < f ≤ 500 Hz	±0.1% ±0.02%	±0.2°
500 Hz < f ≤ 1 kHz	±0.2% ±0.02%	±0.4°
1 kHz < f ≤ 5 kHz	±0.5% ±0.02%	$\pm (0.3 + 0.1 \times f \text{ kHz})^{\circ}$
5 kHz < f ≤ 10 kHz	±0.5% ±0.02%	$\pm (0.3 + 0.1 \times f \text{ kHz})^{\circ}$
10 kHz < f ≤ 50 kHz	±1.5% ±0.05%	$\pm (0.3 + 0.1 \times f \text{ kHz})^{\circ}$
50 kHz < f ≤ 100 kHz	±2.5% ±0.05%	± (0.3 + 0.1 × f kHz)°
100 kHz < f ≤ 700 kHz	±(0.025 × f)% ±0.05%	$\pm (0.3 + 0.1 \times f \text{ kHz})^{\circ}$

- Combined accuracy with HIOKI power analyzer PW8001, PW6001 and PW3390 is specified (DC, 45 Hz ≤ 66 Hz). For details of combined accuracy, refer to the instruction manual.

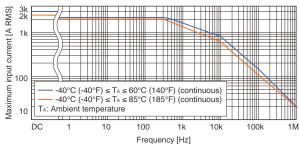
  Amplitude accuracy and phase accuracy: defined 110% of full scale or less, or within the derating curve, DC < f < 10 Hz is the value by design

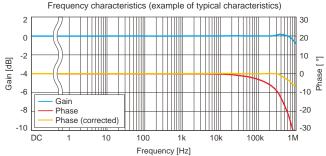
  Add ±0.01% of reading to the amplitude accuracy for input from 100% of full scale to 110% of full scale. For the CT6877A-1, add the following for frequencies of 1 kHz < f ≤ 700 kHz:

  Amplitude accuracy: ±(0.005 × f)% of reading, Phase accuracy: ±(0.015 × f)°

Amplitude accuracy. ±(0.003 × 1)/6 of reading, I have accuracy. ±(0.013 × 1)			
Temperature and humidity range for guaranteed accuracy	0°C to 40°C (32°F to 104°F), 80% RH or less		
Effect of temperature	In ranges from -40°C to 0°C (-40°F to 32°F) and 40°C to 85°C (104°F to 185°F) Amplitude sensitivity: ±15 ppm of reading / °C Offset voltage: ±0.5 ppm of full scale / °C		
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 140 dB or greater (50/60 Hz) 120 dB or greater (100 kHz)		
Linearity error	±10 ppm		
Offset error	±5 ppm		
Amplitude error	DC: ±15 ppm 10 Hz to 100 Hz: ±0.01% 100 Hz to 1 kHz: ±0.04% 1 kHz to 10 kHz: ±0.25%	10 kHz to 100 kHz: ±1% 100 kHz to 300 kHz: ±2% 300 kHz to 700 kHz: ±10%	

## Frequency derating





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Output voltage	1 mV/A (= 2 V / 2000 A)
Operating temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Maximum rated voltage to ground	1000 V CAT III Anticipated transient overvoltage: 8000 V
Standards	Safety: EN61010, EMC: EN61326
Cable length	CT6877A: 3 m (9.84 ft.) CT6877A-1: 10 m (32.81 ft.)
Dimensions	229 mm (9.02 in.) W $\times$ 232 mm (9.13 in.) H $\times$ 112 mm (4.41 in.) D (excluding protruding parts and cables)
Weight	CT6877A: approx. 5 kg (176.4 oz.) CT6877A-1: approx. 5.3 kg (187.0 oz.)

# PW9100A-3 PW9100A-4



Product warranty period: 3 years Guaranteed accuracy period: 1 year

Rated current	50 A AC/DC
Frequency band	DC to 3.5 MHz
Input and measurement method	Isolated input, DCCT* input
Measurement terminals	Terminal block M6 screws

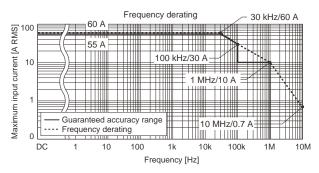
\*Direct Connection Current Transducer

#### **Accuracy**

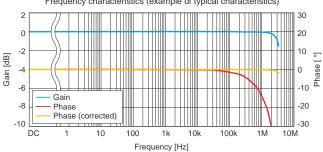
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.02% ±0.007%	-
DC < f < 30 Hz	±0.1% ±0.02%	±0.3°
30 Hz ≤ f < 45 Hz	±0.1% ±0.02%	±0.1°
45 Hz ≤ f ≤ 65 Hz	±0.02% ±0.005%	±0.1°
65 Hz < f ≤ 500 Hz	±0.1% ±0.01%	±0.12°
500 Hz < f ≤ 1 kHz	±0.1% ±0.01%	±0.5°
1 kHz < f ≤ 5 kHz	±0.5% ±0.02%	±0.5°
5 kHz < f ≤ 20 kHz	±1% ±0.02%	±1°
20 kHz < f ≤ 50 kHz	±1% ±0.02%	±(0.05 × f kHz)°
50 kHz < f ≤ 100 kHz	±2% ±0.05%	±(0.06 × f kHz)°
100 kHz < f ≤ 300 kHz	±5% ±0.05%	±(0.06 × f kHz)°
300 kHz < f ≤ 700 kHz	±5% ±0.05%	±(0.07 × f kHz)°
700 kHz < f ≤ 1 MHz	±10% ±0.05%	±(0.07 × f kHz)°

- Combined accuracy with HIOKI power analyzer PW8001, PW6001 and PW3390 is specified (Dc, 45 Hz  $\le$ 1  $\le$ 65 Hz). For details of combined accuracy, refer to the instruction manual. Amplitude accuracy and phase accuracy defined within the accuracy guarantee range shown in the derating figure below; DC  $\le$ 1  $\le$ 10 Hz is the value by design. Add  $\le$ 0.01% of reading to the amplitude accuracy for input from 100% of full scale to 110% of full scale

Temperature and humidity range for guaranteed accuracy	23°C ±5°C (73°F ±9°F), 80% RH or less
Effect of temperature	In ranges from 0°C to 18°C (32°F to 64°F) and 28°C to 40°C (82°F to 104°F) Amplitude sensitivity: ±20 ppm of reading /°C Offset voltage: ±1 ppm of full scale / °C Phase: ±0.01° / °C
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 120 dB or greater (50/60 Hz, 100 kHz)



Frequency characteristics (example of typical characteristics)



Output voltage	40 mV/A (= 2 V / 50 A)
Operating temperature and humidity range	0°C to 40°C (32°F to 104°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-10°C to 50°C (14°F to 122°F), 80% RH or less (no condensation)
Maximum rated voltage to ground	600 V CAT III, 1000 V CAT II Anticipated transient overvoltage: 6000 V
Standards	Safety: EN 61010, EMC: EN 61326 Class A
Cable length	0.8 m (2.62 ft.)
Dimensions	430 mm (16.9 in.) W $\times$ 88 mm (3.46 in.) H $\times$ 260 mm (10.23 in.) D
Weight	PW9100A-3: approx. 3.7 kg (130.5 oz.) PW9100A-4: approx. 4.3 kg (151.7 oz.)

# CT6830

# NEW



Product warranty period: 3 years Guaranteed accuracy period: 1 year

Rated current	AC/DC 2 A
Frequency band	DC to 100 kHz
Diameter of measurable conductors	Max. φ 5 mm (0.20 in.)

#### **Accuracy**

Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.3% ±0.10%	-
$DC < f \le 66Hz$	±0.3% ±0.05%	±0.1°
66Hz < f ≤ 500Hz	±0.3% ±0.05%	±0.7°
$500Hz < f \le 1kHz$	±0.5% ±0.05%	±2.0°
$1kHz < f \le 5kHz$	±1.0% ±0.10%	±7.0°
5kHz < f ≤ 10kHz	±5.0% ±0.10%	±15.0°
$10kHz < f \le 100kHz$	±30.0% ±0.10%	-

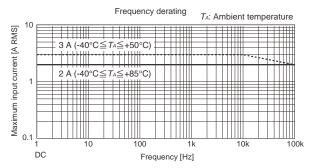
- DC accuracy is specified by adjusting the offset voltage to ±0.5mV or less with the 0ADJ dial or after performing 0 ADJ on the connected device.

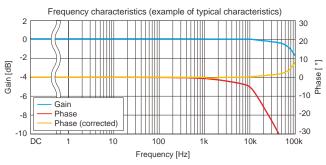
  Offset voltage is ±0.005% f.s./°C added from the ambient temperature at the time of 0ADJ.

  Amplitude accuracy and phase accuracy are specified within 110% of full scale and within the derating range.

  DC⊲<10 Hz are design value.

Temperature and humidity range for guaranteed accuracy	0°C to 40°C (32°F to 104°F), 80% RH or less
Effect of temperature	In ranges from -40°C to 0°C (-40°F to 32°F) and 40°C to 85°C (104°F to 185°F) Amplitude sensitivity: ±0.01% of reading /°C Offset voltage: ±0.05% of full scale / °C
Common-Mode Rejection Ratio (CMRR)	140 dB or greater (DC to 100 Hz) 125 dB or greater (100 Hz to 1 kHz) (effect on output voltage and common mode voltage)





Outrot with the	4 1//4
Output voltage	1 V/A
Operating temperature and humidity range	Sensor: -40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation) Relay box: -25°C to 50°C (-13°F to 122°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-25°C to 50°C (-13°F to 122°F), 80% RH or less (no condensation) (sensor and relay box)
Standards	Safety: EN 61010, EMC: EN 61326
Cable length	Between sensor to relay box: approx. 4 m (13.12 ft.) Between relay box to output connector: approx 0.2 m (0.66 ft.)
Dimensions	Sensor: approx. 76.5W × 23.4H × 14.2D mm (approx. 3.00W × 0.92H × 0.56D in.) Relay box: approx. 80W × 20H × 26.5D mm (approx. 3.15W × 0.79H × 1.04D in.)
Weight	Approx. 160 g (5.64 oz.)

# CT6831

# **NEW**

Product warranty period: 3 years Guaranteed accuracy period: 1 year



Rated current	AC/DC 20 A
Frequency band	DC to 100 kHz
Diameter of measurable conductors	Max. φ 5 mm (0.20 in.)

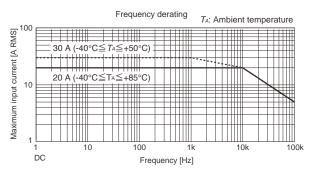
#### **Accuracy**

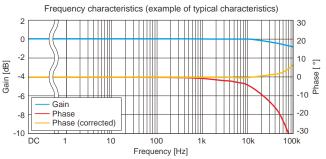
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.3% ±0.10%	-
DC < f ≤ 66Hz	±0.3% ±0.01%	±0.1°
66Hz < f ≤ 500Hz	±0.3% ±0.02%	±0.7°
500Hz < f ≤ 1kHz	±0.5% ±0.05%	±2.0°
$1kHz < f \le 5kHz$	±1.0% ±0.10%	±7.0°
5kHz < f ≤ 10kHz	±5.0% ±0.10%	±15.0°
$10kHz < f \le 100kHz$	±30.0% ±0.10%	-

- DC accuracy is specified by adjusting the offset voltage to ±0.5mV or less with the 0ADJ dial or after performing 0 ADJ on the connected device.

  Amplitude accuracy and phase accuracy are specified within 110% of full scale and within the derating range.
  DC<f<10 Hz are design value.

Temperature and humidity range for guaranteed accuracy	0°C to 40°C (32°F to 104°F), 80% RH or less
Effect of temperature	In ranges from -40°C to 0°C (-40°F to 32°F) and 40°C to 85°C (104°F to 185°F). Amplitude sensitivity: ±0.01% of reading /°C Offset voltage: ±0.01% of full scale / °C
Common-Mode Rejection Ratio (CMRR)	140 dB or greater (DC to 100 Hz) 130 dB or greater (100 Hz to 1 kHz) (effect on output voltage and common mode voltage)



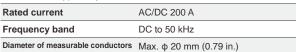


Output voltage	0.1 V/A (=2 V/20 A)
Operating temperature and humidity range	Sensor: -40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation) Relay box: -25°C to 50°C (-13°F to 122°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-25°C to 50°C (-13°F to 122°F), 80% RH or less (no condensation) (sensor and relay box)
Standards	Safety: EN 61010, EMC: EN 61326
Cable length	Between sensor to relay box: approx. 4 m (13.12 ft.) Between relay box to output connector: approx 0.2 m (0.66 ft.)
Dimensions	Sensor: approx. 76.5W × 23.4H × 14.2D mm (approx. 3.00W × 0.92H × 0.56D in.) Relay box: approx. 80W × 20H × 26.5D mm (approx. 3.15W × 0.79H × 1.04D in.)
Weight	Approx. 160 g (5.64 oz.)

# **CT6833** CT6833-01

#### NEW

Product warranty period: 1 years Guaranteed accuracy period: 1 year



#### **Accuracy**

Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.07% ±0.01%	-
DC < f < 16 Hz	±0.15% ±0.01%	±0.1°
16 Hz ≤ f ≤ 66 Hz	±0.07% ±0.007%	±0.1°
66 Hz < f ≤ 100 Hz	±0.07% ±0.007%	±0.15°
100 Hz < f ≤ 500 Hz	±0.1% ±0.01%	±(1.5 × f)°
500 Hz < f ≤ 1 kHz	±0.25% ±0.02%	±(1.5 × f)°
1 kHz < f ≤ 20 kHz	±(0.25% × f)% ±0.02%	±(1.5 × f)°

Combined accuracy with HIOKI power analyzer PW8001, PW6001 and PW3390 is specified (DC, 45 Hz sf  $\leq$  66 Hz). For details of combined accuracy, refer to the instruction manual. "DC accuracy after adjusting the offset voltage to  $\leq$  0.5 mV or less.

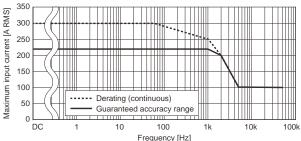
- The values above are when the input is a sine wave or DC, the measurement instrument's input resistance is 1 M $\Omega$  ± 10%, voltage to ground 0 V, no external magnetic fields and the conductor is in the center of the sensor opening.

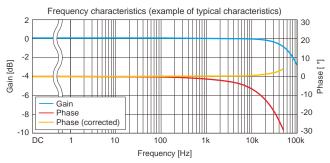
  Amplitude accuracy and phase accuracy are defined 110% of full scale or less and within the derating curve, DC < f < 10 Hz is a design value.

  Add ±0.01% of reading to the amplitude accuracy for input from 100% of full scale to 110% of full scale.

Temperature and humidity range for guaranteed accuracy	23°C ±5°C (73.4°F ±41°F), 80% RH or less
Effect of temperature	In ranges from -40°C to 18°C (-40°F to 64°F) and 28°C to 85°C (82°F to 185°F) Amplitude sensitivity: ±4 ppm of reading /°C Offset voltage: ±3 ppmof full scale / °C
Effect of conductor position	DC: ±0.03% of reading or less 50 Hz, 60Hz: ±0.04% of reading or less 1 kHz: ±0.1% of reading or less 10 kHz: ±1% of reading or less
Linearity error	± 10 ppm typical
Amplitude error	10 Hz - 100 Hz : ± 50 ppm typical 100 Hz - 500 Hz : ± 0.04% typical 500 Hz - 1 kHz : ± 0.08% typical 1 kHz - 20 kHz : ± (0.1 × f)% typical

# Frequency derating





Output voltage	10 mV/A	
Measurable conductors	Insulated conductor	
Operating temperature and humidity range	Sensor, cable: -40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation) Relay box: -25°C to 50°C (-13°F to 122°F), 80% RH or less (no condensation)	
Storage temperature and humidity range	-25°C to 50°C (-13°F to 122°F), 80% RH or less (no condensation) (sensor and relay box)	
Standards	Safety: EN 61010, EMC: EN 61326	
Cable length	CT6833: approx. 5 m (16.40 ft.) including relay box CT6833-01: approx 10 m (32.81 ft.) including relay box	
Dimensions	Sensor: approx. 149W × 46H × 16.5D mm (approx. 5.87W × 1.81H × 0.65D in.) Relay box: approx. 126W × 57H × 20.5D mm (approx. 4.96W × 2.24H × 0.81D in.)	
Weight	CT6833: approx. 500 g (17.64 oz.) CT6833-01: approx. 710 g (25.05 oz.)	

# CT6834 CT6834-01

# NEW

Product warranty period: 1 years Guaranteed accuracy period: 1 year

AC/DC 500 A Rated current Frequency band DC to 50 kHz Diameter of measurable conductors Max. φ 20 mm (0.79 in.)

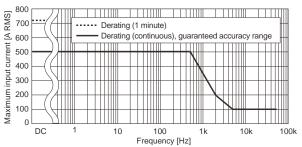
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.07% ±0.01%	-
DC < f < 16 Hz	±0.15% ±0.01%	±0.1°
16 Hz ≤ f ≤ 66 Hz	±0.07% ±0.007%	±0.1°
66 Hz < f ≤ 100 Hz	±0.07% ±0.007%	±0.15°
100 Hz < f ≤ 500 Hz	±0.1% ±0.01%	±(1.5 × f)°
500 Hz < f ≤ 1 kHz	±0.25% ±0.02%	±(1.5 × f)°
1 kHz < f ≤ 20 kHz	±(0.25% × f)% ±0.02%	±(1.5 × f)°

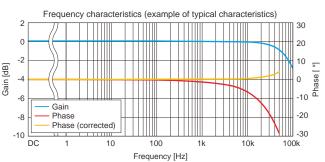
Combined accuracy with HIOKI power analyzer PW8001, PW6001 and PW3390 is specified (Dc, 45 Hz s  $\leq$  66 Hz). For details of combined accuracy, refer to the instruction manual. 
^\*DC accuracy after adjusting the offset voltage to  $_{20.5}$  mV or less.

- The values above are when the input is a sine wave or DC, the measurement instrument's input resistance is 1 M $\Omega$  ± 10%, voltage to ground 0 V, no external magnetic fields and the conductor is in the center of the sensor opening. Amplitude accuracy and phase accuracy are rated current value or less and within the derating curve. DC < 1 < 10 Hz is a design value.

Temperature and humidity range for guaranteed accuracy	23°C ±5°C (73.4°F ±41°F), 80% RH or less
Effect of temperature	In ranges from -40°C to 18°C (-40°F to 64°F) and 28°C to 85°C (82°F to 185°F) Amplitude sensitivity: ±4 ppm of reading /°C Offset voltage: ±3 ppmof full scale / °C
Effect of conductor position	DC: ±0.03% of reading or less 50 Hz, 60Hz: ±0.04% of reading or less 1 kHz: ±0.1% of reading or less 10 kHz: ±1% of reading or less
Linearity error	± 10 ppm typical
Amplitude error	10 Hz - 100 Hz : ± 50 ppm typical 100 Hz - 500 Hz : ± 0.04% typical 500 Hz - 1 kHz : ± 0.08% typical 1 kHz - 20 kHz : ± (0.1 x f)% typical

## Frequency derating





Output voltage	4 mV/A
Measurable conductors	Insulated conductor
Operating temperature and humidity range	Sensor, cable: -40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation) Relay box: -25°C to 50°C (-13°F to 122°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-25°C to 50°C (-13°F to 122°F), 80% RH or less (no condensation) (sensor and relay box)
Standards	Safety: EN 61010, EMC: EN 61326
Cable length	CT6834: approx. 5 m (16.40 ft.) including relay box CT6834-01: approx 10 m (32.81 ft.) including relay box
Dimensions	Sensor: approx. 149W × 46H × 16.5D mm (approx. 5.87W × 1.81H × 0.65D in.) Relay box: approx. 126W × 57H × 20.5D mm (approx. 4.96W × 2.24H × 0.81D in.)
Weight	CT6834: approx. 500 g (17.64 oz.) CT6834-01: approx. 710 g (25.05 oz.)

#### CT6841A



Product warranty period: 3 years Guaranteed accuracy period: 1 year

Rated current	20 A AC/DC
Frequency band	DC to 2 MHz
Diameter of measurable conductors	Max. φ 20 mm (0.79 in.)

#### Accuracy

Accuracy		
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.2% ±0.05%*	-
DC < f ≤ 100 Hz	±0.2% ±0.01%	±0.1°
100 Hz < f ≤ 500 Hz	±0.3% ±0.02%	±0.2°
500 Hz < f ≤ 1 kHz	±0.5% ±0.02%	±0.5°
1 kHz < f≤ 5 kHz	±1.0% ±0.02%	±1.0°
5 kHz < f≤ 10 kHz	±1.5% ±0.02%	±1.5°
10 kHz < f≤ 50 kHz	±2.0% ±0.02%	$\pm (0.5 + 0.1 \times f  kHz)^{\circ}$
50 kHz < f≤ 100 kHz	±5.0% ±0.05%	± (0.5 + 0.1 × f kHz)°
100 kHz < f≤ 300 kHz	±10% ±0.05%	$\pm (0.5 + 0.1 \times f  kHz)^{\circ}$
300 kHz < f≤ 500 kHz	±15% ±0.05%	± (0.5 + 0.1 × f kHz)°
500 kHz < f < 1 MHz	±30% ±0.05%	± (0.5 + 0.1 × f kHz)°

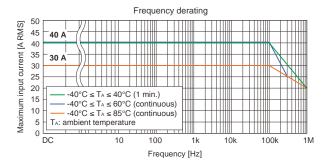
Combined accuracy with HIOKI power analyzer PW8001, PW6001 and PW3390 is specified (DC, 45 Hz s  $1 \le 66$  Hz). For details of combined accuracy, refer to the instruction manual. "DC accuracy after adjusting the offset voltage to 40.5 mV or less.

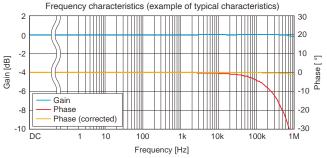
- The values above are when the input is a sine wave or DC, the measurement instrument's input resistance is 1 M $\Omega$  ± 10%, voltage to ground 0 V, no external magnetic fields and the conductor is in the center of the sensor opening.

  Amplitude accuracy and phase accuracy are defined 110% of full scale or less and within the derating curve. DC < 1 OH z is a design value.

  Add ±0.03% of reading to the amplitude accuracy for input from 100% of full scale to 110% of full scale.

Temperature and humidity range for guaranteed accuracy	0°C to 40°C (32°F to 104°F), 80% RH or less
Effect of temperature	In ranges from -40°C to 0°C (-40°F to 32°F) and 40°C to 85°C (104°F to 185°F) Amplitude sensitivity: ±0.019% of reading /°C Offset voltage: ±0.005% of full scale / °C
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 140 dB or greater (DC to 1 kHz) 125 dB or greater (1 kHz to 10 kHz) 100 dB or greater (10 kHz to 100 kHz) 80 dB or greater (100 kHz to 1 MHz)
Linearity error	±20 ppm





Output voltage	100 mV/A (= 2 V / 20 A)
Measurable conductors	Insulated conductor
Operating temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Withstand voltage	4260 V AC Withstand test current of 1 mA, 50/60 Hz, 1 min., between jaws and cable output terminal
Standards	Safety: EN 61010, EMC: EN 61326
Cable length	3 m (9.84 ft.)
Dimensions	153 mm (6.02 in.) W $\times$ 67 mm (2.64 in.) H $\times$ 25 mm (0.98 in.) D (excluding protruding parts and cables)
Weight	Approx. 370 g (13.1 oz.)

# CT6843A



Product warranty period: 3 years Guaranteed accuracy period: 1 year

Rated current	200 A AC/DC
Frequency band	DC to 700 kHz
Diameter of measurable conductors	Max. φ 20 mm (0.79 in.)

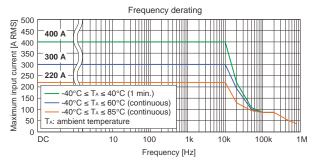
#### Accuracy

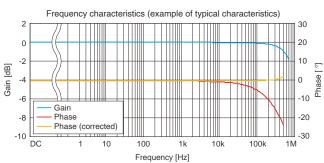
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.2% ±0.02%*	-
DC < f ≤ 100 Hz	±0.2% ±0.01%	±0.1°
100 Hz < f ≤ 500 Hz	±0.3% ±0.02%	±0.2°
500 Hz < f ≤ 1 kHz	±0.5% ±0.02%	±0.5°
$1 \text{ kHz} < f \le 5 \text{ kHz}$	±1.0% ±0.02%	±1.0°
5 kHz < f ≤ 10 kHz	±1.5% ±0.02%	±1.5°
10 kHz < f ≤ 50 kHz	±5.0% ±0.02%	$\pm (0.5 + 0.1 \times f  kHz)^{\circ}$
50 kHz < f ≤ 100 kHz	±15% ±0.05%	$\pm (0.5 + 0.1 \times f  kHz)^{\circ}$
100 kHz < f ≤ 300 kHz	±15% ±0.05%	± (0.5 + 0.1 × f kHz)°
300 kHz < f ≤ 500 kHz	±30% ±0.05%	± (0.5 + 0.1 × f kHz)°

Combined accuracy with HIOKI power analyzer PW8001, PW6001 and PW3390 is specified (DC, 45 Hz  $\pm$ 1  $\pm$ 6 Hz). For details of combined accuracy, refer to the instruction manual. "DC accuracy after adjusting the offset voltage to  $\pm$ 0.2 mV or less.

- The values above are when the input is a sine wave or DC, the measurement instrument's input resistance is 1 M $\Omega$  ± 10%, voltage to ground 0 V, no external magnetic fields and the conductor is in the center of the sensor opening. Amplitude accuracy and phase accuracy are defined 110% of full scale or less and within the derating curve, DC < f < 10 Hz is a design value. Add ±0.03% of reading to the amplitude accuracy for input from 100% of full scale to 110% of full scale.

Temperature and humidity range for guaranteed accuracy	0°C to 40°C (32°F to 104°F), 80% RH or less
Effect of temperature	In ranges from -40°C to 0°C (-40°F to 32°F) and 40°C to 85°C (104°F to 185°F) Amplitude sensitivity: ±0.01% of reading /°C Offset voltage: ±0.005% of full scale / °C
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 150 dB or greater (DC to 1 kHz) 135 dB or greater (1 kHz to 10 kHz) 115 dB or greater (10 kHz to 100 kHz) 95 dB or greater (100 kHz to 500 kHz)
Linearity error	±20 ppm





Output voltage	10 mV/A (= 2 V / 200 A)
Measurable conductors	Insulated conductor
Operating temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Withstand voltage	4260 V AC Withstand test current of 1 mA, 50/60 Hz, 1 min., between jaws and cable output terminal
Standards	Safety: EN 61010, EMC: EN 61326
Cable length	3 m (9.84 ft.)
Dimensions	153 mm (6.02 in.) W $\times$ 67 mm (2.64 in.) H $\times$ 25 mm (0.98 in.) D (excluding protruding parts and cables)
Weight	Approx. 380 g (13.4 oz.)

#### CT6844A



Product warranty period: 3 years Guaranteed accuracy period: 1 year

Rated current	500 A AC/DC
Frequency band	DC to 500 kHz
Diameter of measurable conductors	Max. φ 20 mm (0.79 in.)

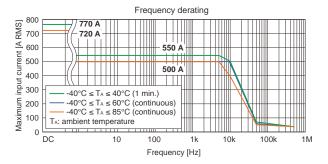
#### Accuracy

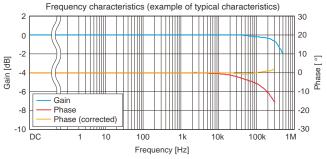
•		
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.2% ±0.02%*	-
DC < f ≤ 100 Hz	±0.2% ±0.01%	±0.1°
100 Hz < f ≤ 500 Hz	±0.3% ±0.02%	±0.2°
500 Hz < f ≤ 1 kHz	±0.5% ±0.02%	±0.5°
1 kHz < f ≤ 5 kHz	±1.0% ±0.02%	±1.0°
5 kHz < f ≤ 10 kHz	±1.5% ±0.02%	±1.5°
10 kHz < f ≤ 50 kHz	±5.0% ±0.02%	±(0.15 × f kHz)°
50 kHz < f ≤ 100 kHz	±15% ±0.05%	±(0.15 × f kHz)°
100 kHz < f ≤ 300 kHz	±30% ±0.05%	±(0.15 × f kHz)°

Combined accuracy with HIOKI power analyzer PW8001, PW6001 and PW3390 is specified (DC, 45 Hz  $\leq$  1  $\leq$  66 Hz). For details of combined accuracy, refer to the instruction manual. 
^DC accuracy after adjusting the offset voltage to  $\pm$ 0.2 mV or less.

- The values above are when the input is a sine wave or DC, the measurement instrument's input resistance is 1 M $\Omega$  ± 10%, voltage to ground 0 V, no external magnetic fields and the conductor is in the center of the sensor opening. Amplitude accuracy and phase accuracy are defined 110% of full scale or less and within the derating curve. DC < f < 10 Hz is a design value.

Temperature and humidity range for guaranteed accuracy	0°C to 40°C (32°F to 104°F), 80% RH or less
Effect of temperature	In ranges from -40°C to 0°C (-40°F to 32°F) and 40°C to 85°C (104°F to 185°F) Amplitude sensitivity: ±0.01% of reading /°C Offset voltage: ±0.005% of full scale / °C
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 150 dB or greater (DC to 1 kHz) 135 dB or greater (1 kHz to 10 kHz) 120 dB or greater (10 kHz to 100 kHz) 100 dB or greater (100 kHz to 300 kHz)
Linearity error	±20 ppm





Output voltage	4 mV/A (= 2 V / 500 A)
Measurable conductors	Insulated conductor
Operating temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Withstand voltage	4260 V AC Withstand test current of 1 mA, 50/60 Hz, 1 min., between jaws and cable output terminal
Standards	Safety: EN 61010, EMC: EN 61326
Cable length	3 m (9.84 ft.)
Dimensions	153 mm (6.02 in.) W $\times$ 67 mm (2.64 in.) H $\times$ 25 mm (0.98 in.) D (excluding protruding parts and cables)
Weight	Approx. 400 g (14.1 oz.)

#### CT6845A



Product warranty period: 3 years Guaranteed accuracy period: 1 year

Rated current	500 A AC/DC
Frequency band	DC to 200 kHz
Diameter of measurable conductors	Max. φ 50 mm (1.97 in.)

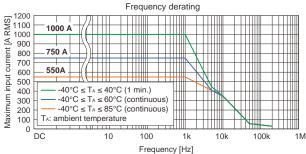
#### **Accuracy**

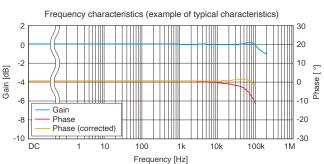
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.2% ±0.02%*	-
DC < f ≤ 100 Hz	±0.2% ±0.01%	±0.1°
100 Hz < f ≤ 500 Hz	±0.3% ±0.02%	±0.2°
500 Hz < f ≤ 1 kHz	±0.5% ±0.02%	±0.5°
$1 \text{ kHz} < f \le 5 \text{ kHz}$	±1.0% ±0.02%	±(0.5 × f kHz)°
5 kHz < f ≤ 10 kHz	±1.5% ±0.02%	±(0.5 × f kHz)°
10 kHz < f ≤ 20 kHz	±5.0% ±0.02%	±(0.5 × f kHz)°
20 kHz < f ≤ 50 kHz	±10% ±0.05%	±(0.5 × f kHz)°
50 kHz < f ≤ 100 kHz	±30% ±0.05%	±(0.5 × f kHz)°

Combined accuracy with HIOKI power analyzer PW8001, PW6001 and PW3390 is specified (DC, 45 Hz  $\leq$  f  $\leq$  66 Hz). For details of combined accuracy, refer to the instruction manual.  $^{\circ}$ DC accuracy after adjusting the offset voltage to  $\pm$ 0.2 mV or less.

- The values above are when the input is a sine wave or DC, the measurement instrument's input resistance is 1 M $\Omega$  = 10%, voltage to ground 0 V, no external magnetic fields and the conductor is in the center of the sensor opening. Amplitude accuracy and phase accuracy are defined 110% of full scale or less and within the derating curve, DC < f < 10 Hz is a design value. Add  $\pm$ 0.03% of reading to the amplitude accuracy for input from 100% of full scale to 110% of full scale.

Temperature and humidity range for guaranteed accuracy	0°C to 40°C (32°F to 104°F), 80% RH or less
Effect of temperature	In ranges from -40°C to 0°C (-40°F to 32°F) and 40°C to 85°C (104°F to 185°F) Amplitude sensitivity: ±0.01% of reading /°C Offset voltage: ±0.005% of full scale / °C
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 150 dB or greater (DC to 1 kHz) 130 dB or greater (1 kHz to 10 kHz) 100 dB or greater (10 kHz to 100 kHz)
Linearity error	±20 ppm





Output voltage	4 mV/A (= 2 V / 500 A)
Measurable conductors	Insulated conductor
Operating temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Withstand voltage	4260 V AC Withstand test current of 1 mA, 50/60 Hz, 1 min., between jaws and cable output terminal
Standards	Safety: EN 61010, EMC: EN 61326
Cable length	3 m (9.84 ft.)
Dimensions	238 mm (9.37 in.) W $\times$ 116 mm (4.57 in.) H $\times$ 35 mm (1.38 in.) D (excluding protruding parts and cables)
Weight	Approx. 860 g (30.3 oz.)

#### CT6846A



Product warranty period: 3 years Guaranteed accuracy period: 1 year

Rated current	1000 A AC/DC
Frequency band	DC to 100 kHz
Diameter of measurable conductors	Max. φ 50 mm (1.97 in.)

#### **Accuracy**

Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.2% ±0.02%*	-
DC < f ≤ 100 Hz	±0.2% ±0.01%	±0.1°
100 Hz < f ≤ 500 Hz	±0.5% ±0.02%	±0.2°
500 Hz < f ≤ 1 kHz	±1.0% ±0.02%	±0.5°
1 kHz < f ≤ 5 kHz	±2.0% ±0.02%	$\pm (0.7 \times f \text{ kHz})^{\circ}$
5 kHz < f ≤ 10 kHz	±5.0% ±0.02%	$\pm (0.7 \times f \text{ kHz})^{\circ}$
10 kHz < f ≤ 50 kHz	±30% ±0.02%	±(0.7 × f kHz)°

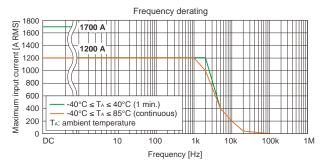
Combined accuracy with HIOKI power analyzer PW8001, PW6001 and PW3390 is specified (Dc, 45 Hz s  $\leq$  66 Hz). For details of combined accuracy, refer to the instruction manual. "DC accuracy after adjusting the offset voltage to  $\pm$ 0.2 mV or less.

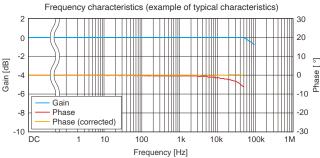
- The values above are when the input is a sine wave or DC, the measurement instrument's input resistance is 1 M\Omega ± 10\%, voltage to ground 0 V, no external magnetic fields and the conductor is in the center of the sensor opening.

   Amplitude accuracy and phase accuracy are defined 110\% of full scale or less and within the derating curve, DC < f < 10 Hz is a design value.

   Add ±0.03\% of reading to the amplitude accuracy for input from 100\% of full scale to 110\% of full scale.

Temperature and humidity range for guaranteed accuracy	0°C to 40°C (32°F to 104°F), 80% RH or less
Effect of temperature	In ranges from -40°C to 0°C (-40°F to 32°F) and 40°C to 85°C (104°F to 185°F) Amplitude sensitivity: ±0.01% of reading /°C Offset voltage: ±0.005% of full scale / °C
Common-Mode Rejection Ratio (CMRR)	(effect on output voltage and common mode voltage) 150 dB or greater (DC to 1 kHz) 130 dB or greater (1 kHz to 10 kHz) 100 dB or greater (10 kHz to 50 kHz)
Linearity error	±20 ppm





Output voltage	2 mV/A (= 2 V / 1000 A)
Measurable conductors	Insulated conductor
Operating temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-40°C to 85°C (-40°F to 185°F), 80% RH or less (no condensation)
Withstand voltage	4260 V AC Withstand test current of 1 mA, 50/60 Hz, 1 min., between jaws and cable output terminal
Standards	Safety: EN 61010, EMC: EN 61326
Cable length	3 m (9.84 ft.)
Dimensions	238 mm (9.37 in.) W $\times$ 116 mm (4.57 in.) H $\times$ 35 mm (1.38 in.) D (excluding protruding parts and cables)
Weight	Approx. 990 g (34.9 oz.)

#### 9272-05



Product warranty period: 3 years Guaranteed accuracy period: 1 year

Rated current	20 A AC, 200 A AC (2 ranges)
Frequency band	1 Hz to 100 kHz
Diameter of measurable conductors	φ 46 mm or less

#### **Accuracy**

Frequency	Amplitude ±(% of reading + % of full scale)	Phase
1 Hz ≤ f < 5 Hz	±2.0% ±0.10%	-
5 Hz ≤ f < 10 Hz	±1.0% ±0.05%	±1.0°
10 Hz ≤ f < 45 Hz	±0.5% ±0.02%	±0.5°
45 Hz ≤ f ≤ 66 Hz	±0.3% ±0.01%	±0.2°
66 Hz < f ≤ 500 Hz	±0.5% ±0.02%	±0.5°
500 Hz < f ≤ 1 kHz	±0.5% ±0.02%	±1.0°
1 kHz < f ≤ 5 kHz	±1.0% ±0.05%	±2.0°
5 kHz < f ≤ 10 kHz	±2.5% ±0.10%	±3.0°
10 kHz < f ≤ 20 kHz	±5% ±0.1%	±5.0°
20 kHz < f ≤ 50 kHz	±5% ±0.1%	±15.0°
50 kHz < f ≤ 100 kHz	±30% ±0.1%	-

- Accuracy is specified by the following conditions:

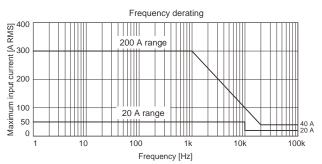
  Less than or equal to the rated current of each current range

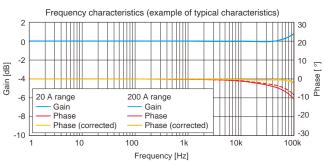
  Within derating range of each current range

  The accuracy values above are for within the rated current for each range and inside of derating range.

  (The values are the values by design: amplitude at under 5 Hz and phase at under 10 Hz)

Temperature and humidity range for guaranteed accuracy	23°C ±5°C (73°F ±9°F), 80% RH or less
Effect of temperature	Amplitude sensitivity: ±0.03% of reading /°C





Output voltage	20 A range: 100 mV/A (= 2 V / 20 A)
	200 A range: 10 mV/A (= 2 V / 200 A)
Operating temperature and	0°C to 50°C (32°F to 122°F), 80% RH or less (no
humidity range	condensation)
Storage temperature and	-10°C to 60°C (14°F to 140°F), 80% RH or less (no
humidity range	condensation)
Maximum rated voltage to	600 V AC CAT III (50/60 Hz)
ground	Anticipated transient overvoltage: 6000 V
Standards	Safety: EN 61010, EMC: EN 61326 Class A
Cable length	3 m (9.84 ft.)
Discoursians.	78 mm (3.07 in) W × 188 mm (7.40 in) H × 35 mm (1.38
Dimensions	in) D (excluding protruding parts and cables)
Weight	Approx. 450 g (15.9 oz.)

# CT6710

Product warranty period: 1 year Guaranteed accuracy period: 1 year



Rated current* (3 ranges)	30 Arms, 5 Arms, 0.5 Arms AC/DC
Frequency band	DC to 50 MHz (-3dB)
Diameter of measurable conductors	Max. φ 5 mm (0.20 in.) (insulated conductors)

\*DC or sine wave signals of 45 to 66 Hz, within maximum peak current for each range

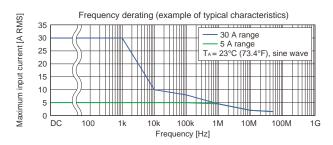
Rise time	7.0 ns or less (10% to 90%)
Output voltage	0.1 V/A (30 A range) 1 V/A (5 A range) 10 V/A (0.5 A range)
Maximum peak current	±50 A peak*¹ (30 A range) ±7.5 A peak (5 A range) ±0.75 A peak (0.5 A range, ≥ 10 MHz) ±0.3 A peak (0.5 A range, < 10 MHz)
Noise	75 μArms or less*2 (typical: 60 μArms)

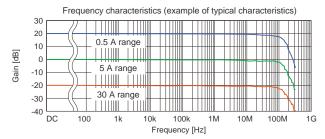
- \*11: Maximum 2 sec input; requires cooling time of at least 10 times longer than the time current has been input \*2: Does not apply to devices to which the probe is connected; applicable in the 0.5 A range and when used with 20 MHz bandwidth instrument devices

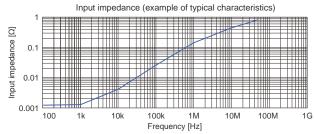
#### Accuracy (amplitude)

Range	Accuracy	typical
30 A	±3.0% of reading ±1 mV	±1.0% of reading ±1 mV (≤ 10 A)
5 A	±3.0% of reading ±1 mV	±1.0% of reading ±1 mV
0.5 A	±3.0% of reading ±10 mV	±1.0% of reading ±10 mV

The accuracy above is valid within the following conditions: Warm-up time: 30 minutes, operating environment of  $23^{\circ}\text{C}\pm5^{\circ}\text{C}$  ( $73^{\circ}\text{F}\pm9^{\circ}\text{F}$ ) at 80% RH or less, DC or sine wave signals of 45 to 66 Hz, within maximum peak current for each range







Operating temperature	0°C to 40°C (32°F to 104°F),
and humidity range	80% RH or less (no condensation)
Storage temperature	-10°C to 50°C (14°F to 122°F),
and humidity range	80% RH or less (no condensation)
Standards	Safety: EN 61010, EMC: EN 61326
Maximum rated power	7.8 VA (continuous maximum input)
Cable length	Sensor/junction box: 1500 mm (59.06 in.)
	Junction box/termination unit: 150 mm (5.91 in.)
	Power cord: 1000 mm (39.37 in.)
Dimensions	Sensor: 155 mm (6.10 in.) W × 18 mm (0.71 in.) H ×
	26 mm (1.02 in.) D
	Junction box: 45 mm (1.77 in.) W x 120 mm (4.72
	in.) H × 25 mm (0.98 in.) D
	Termination unit: 29 mm (1.14 in.) W x 83 mm (3.27
	in.) H × 40 mm (1.57 in.) D
	(excluding BNC connector or protrusions)
Weight	Approx. 370 g (13.1 oz.)

## CT6711

Product warranty period: 1 year Guaranteed accuracy period: 1 year



Rated current* (3 ranges)	30 Arms, 5 Arms, 0.5 Arms AC/DC
Frequency band	DC to 120 MHz (-3dB)
Diameter of measurable conductors	Max. φ 5 mm (0.20 in.) (insulated conductors)

\*DC or sine wave signals of 45 to 66 Hz, within maximum peak current for each range

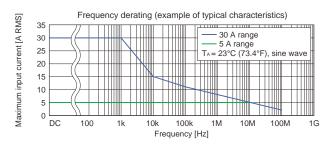
Rise time	2.9 ns or less (10% to 90%)
Output voltage	0.1 V/A (30 A range) 1 V/A (5 A range) 10 V/A (0.5 A range)
Maximum peak current	±50 A peak*¹ (30 A range) ±7.5 A peak (5 A range) ±0.75 A peak (0.5 A range, ≥ 10 MHz) ±0.3 A peak (0.5 A range, < 10 MHz)
Noise	75 μArms or less*2 (typical: 60 μArms)

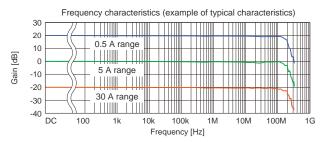
- \*1: Maximum 2 sec. input; requires cooling time at least 10 times longer than the time current has been input \*2: Does not apply to devices to which the probe is connected; applicable in the 0.5 A range and when used with 20 MHz bandwidth instrument devices

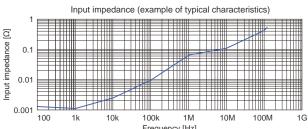
#### Accuracy (amplitude)

Range	Accuracy	typical
30 A	±3.0% of reading ±1 mV	±1.0% of reading ±1 mV (≤ 10 A)
5 A	±3.0% of reading ±1 mV	±1.0% of reading ±1 mV
0.5 A	±3.0% of reading ±10 mV	±1.0% of reading ±10 mV

The accuracy above is valid within the following conditions: Warm-up time: 30 minutes, operating environment of 23°C±5°C (73°F ±9°F) at 80% RH or less, DC or sine wave signals of 45 to 66 Hz, within maximum peak current for each range







Frequency [nz]	
Operating temperature and humidity range	0°C to 40°C (32°F to 104°F), 80% RH or less (no condensation)
Storage temperature and humidity range	-10°C to 50°C (14°F to 122°F), 80% RH or less (no condensation)
Standards	Safety: EN 61010, EMC: EN 61326
Maximum rated power	7.8 VA (continuous maximum input)
Cable length	Sensor/junction box: 1500 mm (59.06 in.) Junction box/termination unit: 150 mm (5.91 in.) Power cord: 1000 mm (39.37 in.)
Dimensions	Sensor: 155 mm (6.10 in.) W $\times$ 18 mm (0.71 in.) H $\times$ 26 mm (1.02 in.) D Junction box: 45 mm (1.77 in.) W $\times$ 120 mm (4.72 in.) H $\times$ 25 mm (0.98 in.) D Termination unit: 29 mm (1.14 in.) W $\times$ 83 mm (3.27 in.) H $\times$ 40 mm (1.57 in.) D (excluding BNC connector or protrusions)
Weight	Approx. 370 g (13.1 oz.)

# **CT6700**

Product warranty period: 1 year Guaranteed accuracy period: 1 year



Rated current*	5 Arms
Frequency band	DC to 50 MHz (-3dB)
Diameter of measurable conductors	Max. φ 5 mm (0.20 in.) (insulated conductors)

\*DC or sine wave signals of 45 to 66 Hz, within maximum peak current for each range

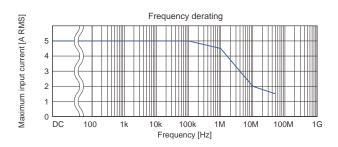
Rise time	7.0 ns or less (10% to 90%)	
Output voltage	1 V/A	
Maximum peak current	±7.5 A peak (non-continuous)	
Noise	75 μArms or less* (typical: 60 μA rms)	

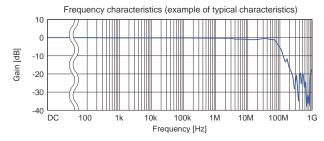
<sup>\*</sup>Does not apply to devices to which the probe is connected; applicable when used with 30 MHz bandwidth instrument devices

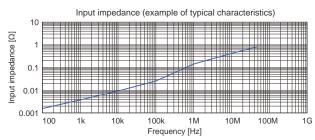
#### Accuracy (amplitude)

Accuracy	typical
±3.0% of reading ±1 mV	±1.0% of reading ±1 mV

The accuracy above is valid within the following conditions: Warm-up time: 30 minutes, operating environment of 23°C $\pm$ 5°C (73°F  $\pm$ 9°F) at 80% RH or less, DC or sine wave signals of 45 to 66 Hz, 0 Arms to 5 Arms







Operating temperature	0°C to 40°C (32°F to 104°F),
and humidity range	80% RH or less (no condensation)
Storage temperature	-10°C to 50°C (14°F to 122°F),
and humidity range	80% RH or less (no condensation)
Standards	Safety: EN 61010, EMC: EN 61326
Maximum rated power	3.2 VA (continuous maximum input)
Cable length	Sensor cable: 1500 mm (59.06 in.)
	Power cord: 1000 mm (39.37 in.)
Dimensions	Sensor: 155 mm (6.10 in.) W x 18 mm (0.71 in.) H x
	26 mm (1.02 in.) D
	Termination unit: 29 mm (1.14 in.) W x 83 mm (3.27
	in.) H × 40 mm (1.57 in.) D
	(excluding BNC connector or protrusions)
Weight	Approx. 250 g (8.8 oz.)

# CT6701

Product warranty period: 1 year Guaranteed accuracy period: 1 year



Rated current*	5 Arms
Frequency band	DC to 120 MHz (-3dB)
Diameter of measurable conductors	Max. φ 5 mm (0.20 in.) (insulated conductors)

\*DC or sine wave signals of 45 to 66 Hz, within maximum peak current for each range

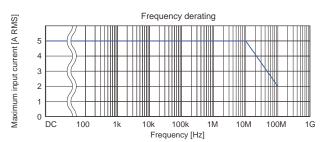
Rise time	2.9 ns or less (10% to 90%)
Output voltage	1 V/A
Maximum peak current	±7.5 A peak (non-continuous)
Noise	75 μArms or less* (typical: 60 μA rms)

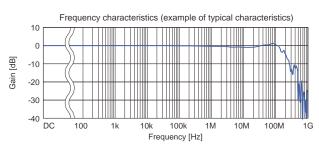
<sup>\*</sup>Does not apply to devices to which the probe is connected; applicable when used with 30 MHz bandwidth instrument devices

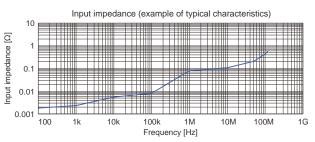
#### Accuracy (amplitude)

Accuracy	typical
±3.0% of reading ±1 mV	±1.0% of reading ±1 mV

The accuracy above is valid within the following conditions: Warm-up time: 30 minutes, operating environment of 23°C $\pm$ 5°C (73°F  $\pm$ 9°F) at 80% RH or less, DC or sine wave signals of 45 to 66 Hz, 0 Arms to 5 Arms







Operating temperature	0°C to 40°C (32°F to 104°F),
and humidity range	80% RH or less (no condensation)
Storage temperature	-10°C to 50°C (14°F to 122°F),
and humidity range	80% RH or less (no condensation)
Standards	Safety: EN 61010, EMC: EN 61326
Maximum rated power	3.2 VA (continuous maximum input)
Cable length	Sensor cable: 1500 mm (59.06 in.)
	Power cord: 1000 mm (39.37 in.)
Dimensions	Sensor: 155 mm (6.10 in.) W x 18 mm (0.71 in.) H x
	26 mm (1.02 in.) D
	Termination unit: 29 mm (1.14 in.) W x 83 mm (3.27
	in.) H × 40 mm (1.57 in.) D
	(excluding BNC connector or protrusions)
Weight	Approx. 250 g (8.8 oz.)

# 3273-50

Product warranty period: 1 year Guaranteed accuracy period: 1 year



Rated current*	30 Arms
Frequency band	DC to 50 MHz (-3dB)
Diameter of measurable conductors	Max. φ 5 mm (0.20 in.) (insulated conductors)

\*Refer to the graph for frequency derating characteristics.

Rise time	7.0 ns or less
Output voltage	0.1 V/A
Maximum peak current	50 A peak (non-continuous)
Noise	2.5 mArms or less*

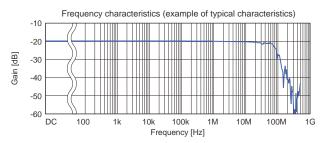
<sup>\*</sup>Does not apply to devices to which the probe is connected; applicable when used with 20 MHz bandwidth instrument devices

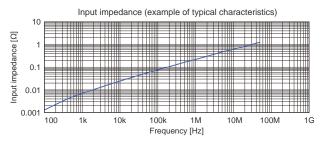
#### Accuracy (amplitude)

to 30 Arms	to 50 A peak
±1.0% of reading ±1 mV	±2.0% of reading

The accuracy above is valid within the following conditions: Warm-up time: 30 minutes, operating environment of 23°C± 5°C (73°F ±9°F) at 80% RH or less, DC or sine wave signals of 45 to 66 Hz, 0 Arms to 5 Arms

#### Frequency derating Maximum input current [A RMS] 30 25 20 15 10 5 0 DC 10 100 10k 100k 1M 10M 100M Frequency [Hz]





Operating temperature	0°C to 40°C (32°F to 104°F),
and humidity range	80% RH or less (no condensation)
Storage temperature	-10°C to 50°C (14°F to 122°F),
and humidity range	80% RH or less (no condensation)
Standards	Safety: EN 61010, EMC: EN 61326
Maximum rated power	5.6 VA
Cable length	Sensor cable: 1500 mm (59.06 in.)
	Power cord: 1000 mm (39.37 in.)
Dimensions	Sensor: 175 mm (6.89 in.) W x 18 mm (0.71 in.) H x
	40 mm (1.57 in.) D
	Termination unit: 27 mm (1.06 in.) W × 55 mm (2.17
	in.) H × 18 mm (0.71 in.) D
	(excluding BNC connector or protrusions)
Weight	Approx. 230 g (8.1 oz)

# 3276

Product warranty period: 1 year Guaranteed accuracy period: 1 year



Rated current*	30 Arms
Frequency band	DC to 100 MHz (-3dB)
Diameter of measurable conductors	Max. φ 5 mm (0.20 in.) (insulated conductors)

\*Refer to the graph for frequency derating characteristics.

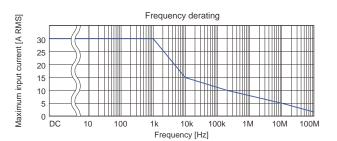
Rise time	3.5 ns or less
Output voltage	0.1 V/A
Maximum peak current	50 A peak (non-continuous)
Noise	2.5 mArms or less*

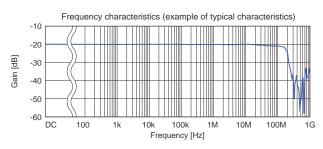
<sup>\*</sup>Does not apply to devices to which the probe is connected; applicable when used with 20 MHz bandwidth instrument devices

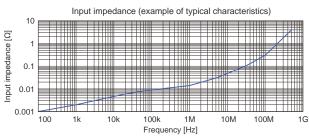
#### Accuracy (amplitude)

to 30 Arms	to 50 A peak
±1.0% of reading ±1 mV	±2.0% of reading

The accuracy above is valid within the following conditions: Warm-up time: 30 minutes, operating environment of 23°C± 5°C (73°F ±9°F) at 80% RH or less, DC or sine wave signals of 45 to 66 Hz, 0 Arms to 5 Arms







Operating temperature	0°C to 40°C (32°F to 104°F),
and humidity range	80% RH or less (no condensation)
Storage temperature	-10°C to 50°C (14°F to 122°F),
and humidity range	80% RH or less (no condensation)
Standards	Safety: EN 61010, EMC: EN 61326
Maximum rated power	5.3 VA
Cable length	Sensor cable: 1500 mm (59.06 in.)
	Power cord: 1000 mm (39.37 in.)
Dimensions	Sensor: 175 mm (6.89 in.) W x 18 mm (0.71 in.) H x
	40 mm (1.57 in.) D
	Termination unit: 27 mm (1.06 in.) W × 55 mm (2.17
	in.) H × 18 mm (0.71 in.) D
	(excluding BNC connector or protrusions)
Weight	Approx. 240 g (8.5 oz)

Product warranty period: 1 year Guaranteed accuracy period: 1 year



Rated current*	150 Arms
Frequency band	DC to 10 MHz (-3dB)
Diameter of measurable conductors	Max. φ 20 mm (0.79 in)(insulated conductors)

\*The accuracy above is valid within the following conditions:

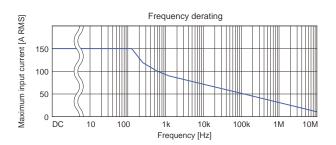
DC or sine wave signals of 45 to 66 Hz, within maximum peak current for each range

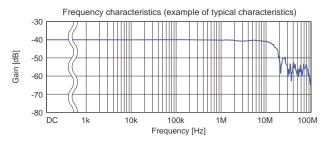
Rise time	35 ns or less
Output voltage	0.01 V/A
Maximum peak current	300 A peak (non-continuous)*1
Noise	25 mArms or less*2

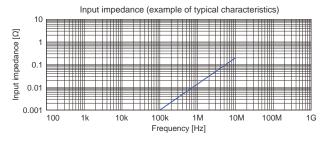
#### Accuracy (amplitude)

to 150 A	to 300 A peak
±1.0% of reading ±1 mV	±2.0% of reading

The accuracy above is valid within the following conditions: Warm-up time: 30 minutes, operating environment of 23°C± 5°C (73°F ±9°F) at 80% RH or less, DC or sine wave signals of 45 to 66 Hz







Operating temperature	0°C to 40°C (32°F to 104°F),
and humidity range	80% RH or less (no condensation)
Storage temperature	-10°C to 50°C (14°F to 122°F),
and humidity range	80% RH or less (no condensation)
Standards	Safety: EN 61010, EMC: EN 61326
Maximum rated power	5.5 VA (continuous maximum input)
Cable length	Sensor cable: 2000 mm (78.74 in.)
	Power cord: 1000 mm (39.37 in.)
Dimensions	Sensor: 176 mm (6.93 in.) W x 69 mm (2.72 in.) H x
	27 mm (1.06 in.) D
	Termination unit: 27 mm (1.06 in.) W × 55 mm (2.17
	in.) H × 18 mm (0.71 in.) D
	(excluding BNC connector or protrusions)
Weight	Approx. 500 g (17.6 oz)

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Product warranty period: 1 year Guaranteed accuracy period: 1 year



Rated current*	500 Arms
Frequency band	DC to 2 MHz (-3dB)
Diameter of measurable conductors	Max. φ 20 mm (0.79 in)(insulated conductors)

\*The accuracy above is valid within the following conditions:

DC or sine wave signals of 45 to 66 Hz, within maximum peak current for each range

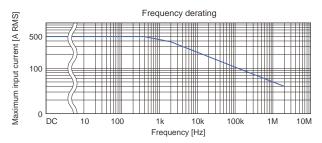
Rise time	175 ns or less
Output voltage	0.01 V/A
Maximum peak current	700 A peak (non-continuous)
Noise	25 mArms or less*

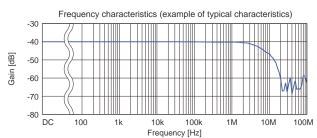
<sup>\*</sup>Does not apply to devices to which the probe is connected; when used with a 20 MHz bandwidth instrument devices

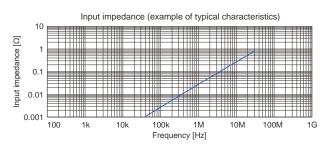
#### Accuracy (amplitude)

to 500 A	to 700 A peak
±1.0% of reading ±5 mV	±2.0% of reading

The accuracy above is valid within the following conditions: Warm-up time: 30 minutes, operating environment of  $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$  ( $73^{\circ}\text{F} \pm 9^{\circ}\text{F}$ ) at 80% RH or less, DC or sine wave signals of 45 to 66 Hz







Operating temperature	0°C to 40°C (32°F to 104°F),
and humidity range	80% RH or less (no condensation)
Storage temperature	-10°C to 50°C (14°F to 122°F),
and humidity range	80% RH or less (no condensation)
Standards	Safety: EN 61010, EMC: EN 61326
Maximum rated power	7.2 VA (continuous maximum input)
Cable length	Sensor cable: 2000 mm (78.74 in.)
	Power cord: 1000 mm (39.37 in.)
Dimensions	Sensor: 176 mm (6.93 in.) W x 69 mm (2.72 in.) H x
	27 mm (1.06 in.) D
	Termination unit: 27 mm (1.06 in.) W × 55 mm (2.17
	in.) H × 18 mm (0.71 in.) D
	(excluding BNC connector or protrusions)
Weight	Approx. 520 g (18.3 oz)

<sup>\*1: 500</sup> Apeak with pulse width  $\leq$  30  $\mu s$  \*2: Does not apply to devices to which the probe is connected; when used with a 20 MHz bandwidth instrument devices

			Frequency
Pass-through type	es	Rated current	range
CT6862-05		50 A	DC to 1 MHz
CT6872		50 A	DC to 10 MHz
CT6872-01		50 A	DC to 10 MHz
CT6863-05		200 A	DC to 500 kHz
CT6873		200 A	DC to 10 MHz
CT6873-01		200 A	DC to 10 MHz
CT6875A		500 A	DC to 2 MHz
CT6875A-1		500 A	DC to 1.5 MHz
CT6904A		500 A	DC to 4 MHz
CT6904A-1		500 A	DC to 2 MHz
CT6904A-2		800 A	DC to 4 MHz
CT6904A-3		800 A	DC to 2 MHz
CT6876A		1000 A	DC to 1.5 MHz
CT6876A-1		1000 A	DC to 1.2 MHz
CT6877A		2000 A	DC to 1 MHz
CT6877A-1		2000 A	DC to 1 MHz
Clamp types		Rated current	Frequency range
9272-05		20 A, 200 A	1 Hz to 100 kHz
CT6830 NEW		2 A	DC to 100 kHz
CT6831 NEW		20 A	DC to 100 kHz
CT6833, CT6833-0	1 NEW	200 A	DC to 50 kHz
CT6834, CT6834-0	1 NEW	500 A	DC to 50 kHz
CT6841A		20 A	DC to 2 MHz
CT6843A		200 A	DC to 700 kHz
CT6844A		500 A	DC to 500 kHz
CT6845A		500 A	DC to 200 kHz
CT6846A		1000 A	DC to 100 kHz
Direct-wired types	s	Rated current	Frequency range
PW9100A-3		50 A	DC to 3.5 MHz
PW9100A-4		50 A	DC to 3.5 MHz
Connection option	ns		
comiconon opno			
•	1 ch, external power s	upply, with waveform of	output function
CT9555	1 ch, external power s 1 ch, external power s		
CT9555 CT9556		upply, with waveform/fupply, includes waveform	RMS output function
CT9555 CT9556 CT9557	1 ch, external power s 4 ch, external power s	upply, with waveform/fupply, includes waveforms	RMS output function
CT9555 CT9556 CT9557	1 ch, external power s 4 ch, external power s waveform/aggregated	upply, with waveform/f upply, includes wavefo -RMS output functions s	RMS output function orm/aggregated-
CT9555 CT9556 CT9557 L9217 L9218 9165	1 ch, external power s 4 ch, external power s waveform/aggregated Isolated BNC terminal	upply, with waveform/h upply, includes wavefor- RMS output functions s als - metal BNC termi	RMS output function orm/aggregated-

Waveform observ	ation (BNC)		
High-sensitivity ol	bservation	Rated current	Frequency range
CT6710		0.5 A, 5 A, 30 A	DC to 50 MHz
CT6711		0.5 A, 5 A, 30 A	DC to 120 MHz
Observation of mi	nuscule currents	Rated current	Frequency range
CT6700		5 A	DC to 50 MHz
CT6701		5 A	DC to 120 MHz
Observation of lar			Frequency
Oboor vacion or lar	ge currents	Rated current	range
	ge currents	Rated current 30 A	
3273-50	ge currents		range
3273-50 3276	ge currents	30 A	range DC to 50 MHz
3273-50 3276 3274	ge currents	30 A 30 A	range DC to 50 MHz DC to 100 MHz
3273-50 3276 3274 3275 Connection option	-	30 A 30 A 150 A	DC to 50 MHz DC to 100 MHz DC to 10 MHz
3273-50 3276 3274 3275	ns	30 A 30 A 150 A	range DC to 50 MHz DC to 100 MHz DC to 10 MHz DC to 10 MHz DC to 2 MHz

Used with CT9557 added waveform output

Used to extend cable length

Grid power qual	ity control (PL14)		
Measurement of	load current	Rated current	Frequency range
CT7812*1 NEW		2 A	DC to 100 kHz
CT7822*1 NEW		20 A	DC to 100 kHz
CT7126		60 A	40 Hz to 2 kHz
CT7131		100 A	40 Hz to 2 kHz
CT7731		100 A	DC to 5 kHz
CT7631		100 A	DC to 10 kHz
CT7736		600 A	DC to 5 kHz
CT7636		600 A	DC to 10 kHz
CT7136		600 A	40 Hz to 5 kHz
CT7742		2000 A	DC to 5 kHz
CT7642		2000 A	DC to 10 kHz
Measurement of	large currents	Rated current	Frequency range
CT7044		6000 A	10 Hz to 50 kHz
CT7045		6000 A	10 Hz to 50 kHz
CT7046		6000 A	10 Hz to 50 kHz
Measurement of	leakage current	Rated current	Frequency range
CT7116		6 A	40 Hz to 5 kHz
Connection option	ons		
CT9920	Converts PL14 term	inal to ME15W terminal	
L9095	Connects CM7290,	CM7291 and instrument	
L0220-01	Extends a cable with	n a PL14 terminal, 2 m (6	.56 ft.)
L0220-02	Extends a cable with	n a PL14 terminal, 5 m (1	6.40 ft.)
L0220-03	Extends a cable with	n a PL14 terminal, 10 m (32.81 ft.)	
L0220-04	Extends a cable with	n a PL14 terminal, 20 m (	65.62 ft.)
L0220-05	Extends a cable with	n a PL14 terminal, 30 m (	98.43 ft.)
L0220-06	Extends a cable with	n a PL14 terminal, 50 m (	164.04 ft.)
L0220-07	Extends a cable with	n a PL14 terminal, 100 m	(328.08 ft.)

\*1: Can be connected to LR8536, U8556, CM7290 only

Grid power quality control (BNC)		
Measurement of load current	Rated current	Frequency range
9694	5 A	40 Hz to 5 kHz
9695-02	50 A	40 Hz to 5 kHz
9660	100 A	40 Hz to 5 kHz
9695-03	100 A	40 Hz to 5 kHz
9010-50	10 A - 500 A*2	40 Hz to 1 kHz
9018-50	10 A - 500 A*2	40 Hz to 3 kHz
9132-50	20 A - 1000 A*3	40 Hz to 1 kHz
CT6500	500 A	40 Hz to 1 kHz
9661	500 A	40 Hz to 5 kHz
9669	1000 A	40 Hz to 5 kHz
Measurement of large currents	Rated current	Frequency range
Measurement of large currents CT9667-01	Rated current 500 A, 5000 A	
· ·		range
CT9667-01	500 A, 5000 A	range 10 Hz to 20 kHz
CT9667-01 CT9667-02	500 A, 5000 A 500 A, 5000 A	range 10 Hz to 20 kHz 10 Hz to 20 kHz
CT9667-01 CT9667-02 CT9667-03	500 A, 5000 A 500 A, 5000 A 500 A, 5000 A	range  10 Hz to 20 kHz  10 Hz to 20 kHz  10 Hz to 20 kHz  Frequency
CT9667-01 CT9667-02 CT9667-03 Measurement of leakage current	500 A, 5000 A 500 A, 5000 A 500 A, 5000 A Rated current	range  10 Hz to 20 kHz  Frequency range
CT9667-01 CT9667-02 CT9667-03 Measurement of leakage current 9657-10	500 A, 5000 A 500 A, 5000 A 500 A, 5000 A Rated current	range  10 Hz to 20 kHz  Frequency range  40 Hz to 5 kHz
CT9667-01 CT9667-02 CT9667-03 Measurement of leakage current 9657-10	500 A, 5000 A 500 A, 5000 A 500 A, 5000 A Rated current	range  10 Hz to 20 kHz  Frequency range  40 Hz to 5 kHz  40 Hz to 5 kHz
CT9667-01 CT9667-02 CT9667-03 Measurement of leakage current 9657-10 9675 Connection options	500 A, 5000 A 500 A, 5000 A 500 A, 5000 A Rated current 10 A 10 A	range  10 Hz to 20 kHz  Frequency range  40 Hz to 5 kHz  40 Hz to 5 kHz  anal to BNC terminal

- \*2: Can switch between ranges (10, 20, 50, 100, 200, 500 A AC )
  \*3: Can switch between ranges (20, 50, 100, 200, 500, 1000 A AC )

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**HEADQUARTERS** 

CT9904

CT9902

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