



# **Application-optimized Current Sensors and Current Probes**





# 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, CT687x 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.  $\frac{1}{2} \left( \frac{1}{2} \right) = \frac{1}{2} \left( \frac{1}{2} \right) \left( \frac{$ 

CT684x-05 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.



Maintaining power quality

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



#### 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.

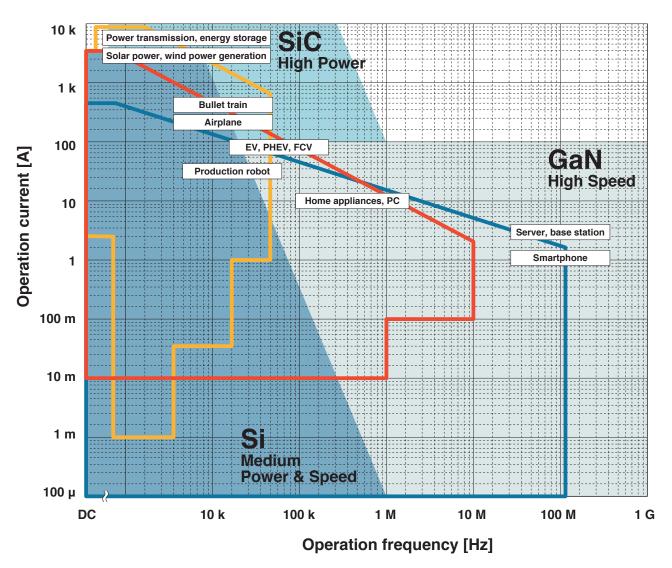
CT67xx series, 327x series + MR6000

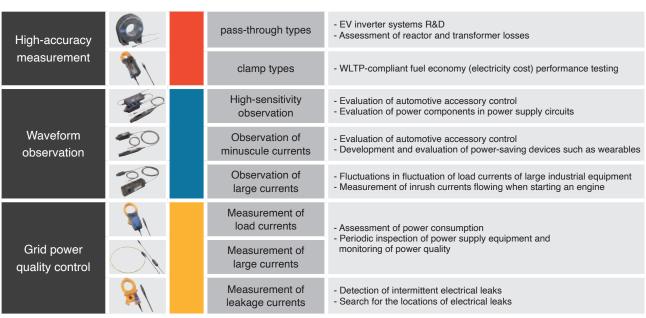


#### Assessing the power consumption of equipment and systems

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).

## 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.

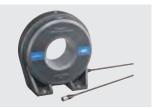
### **High-accuracy measurement**

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

#### **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

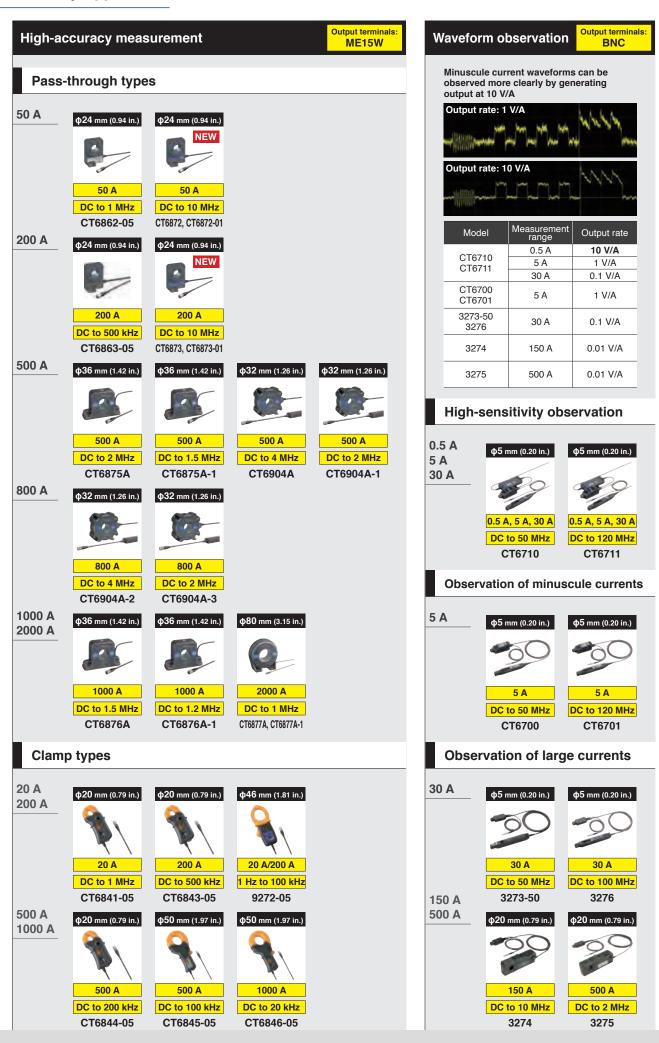
These sensors are used to measure minuscule currents such as leakage currents.

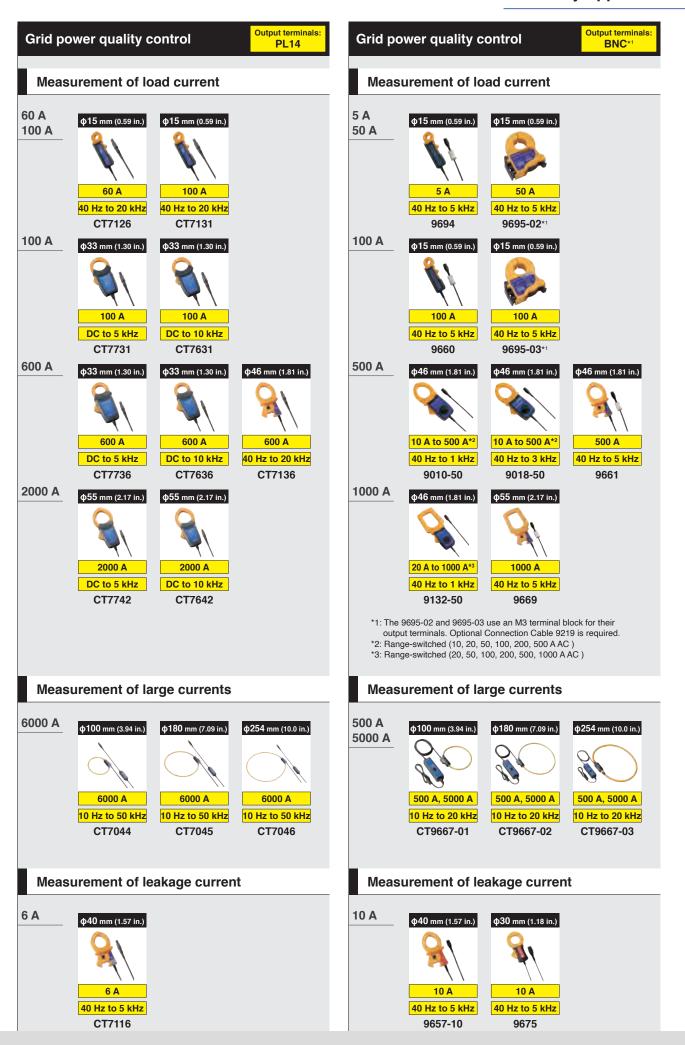




Detection of intermittent electrical leaks

Search for the locations of electrical leaks





High-ac	ccuracy n	neasure	ement					Output t	erminals: ME15W	
Pass-throu	ugh 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 Arms	±141 A peak	7.4 kV AC	40 mV/A	DC to 1 MHz	-	-	-	•
CT6872		50 Arms	±200 A peak	7.4 kV AC	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%	
CT6872-01		50 Arms	±200 A peak	7.4 kV AC	40 mV/A	DC to 10 MHz	±2 ppm	±5 ppm	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 Arms	±565 A peak	7.4 kV AC	10 mV/A	DC to 500 kHz	-	-	-	
CT6873		200 Arms	±350 A peak*1	7.4 kV AC	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%	
CT6873-01		200 Arms	±350 A peak*1	7.4 kV AC	10 mV/A	DC to 10 MHz	±2 ppm	±5 ppm	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		500 Arms	±1500 A peak*1	7.4 kV AC	4 mV/A	DC to 2 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%	
CT6875A-1		500 Arms	±1500 A peak*1	7.4 kV AC	4 mV/A	DC to 1.5 MHz	±5 ppm	±5 ppm	20 kHz to 100 kHz: ±0.5% 100 kHz to 300 kHz: ±1% 300 kHz to 1 MHz: ±5%	
CT6904A		500 Arms	±1000 A peak*1	7.4 kV AC	4 mV/A	DC to 4 MHz	±5 ppm	±10 ppm	-	
CT6904A-1		500 Arms	±1000 A peak*1	7.4 kV AC	4 mV/A	DC to 2 MHz	±5 ppm	±10 ppm	-	
CT6904A-2		800 Arms	±1200 A peak*1	7.4 kV AC	2 mV/A	DC to 4 MHz	±12.5 ppm	±10 ppm	-	
CT6904A-3		800 Arms	±1200 A peak*1	7.4 kV AC	2 mV/A	DC to 2 MHz	±12.5 ppm	±10 ppm	-	
CT6876A		1000 Arms	±1800 A peak*1	7.4 kV AC	2 mV/A	DC to 1.5 MHz	±5 ppm	±5 ppm	DC: ±10 ppm 10 Hz to 100 Hz: ±0.005% 100 Hz to 1 kHz: ±0.03% 1 kHz to 10 kHz: ±0.2%	
CT6876A-1		1000 Arms	±1800 A peak*1	7.4 kV AC	2 mV/A	DC to 1.2 MHz	±5 ppm	±5 ppm	10 kHz to 100 kHz: ±1% 100 kHz to 300 kHz: ±3% 300 kHz to 1 MHz: ±15%	
CT6877A	Q	2000 Arms	±3200 A peak*1	7.4 kV AC	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%	
CT6877A-1	0	2000 Arms	±3200 A peak*1	7.4 kV AC	1 mV/A	DC to 1 MHz	±10 ppm	±5 ppm	10 kHz to 100 kHz: ±1% 100 kHz to 300 kHz: ±2% 300 kHz to 700 kHz: ±10%	
Clamp typ	es									
9272-05	<b>A</b> 1	20 Arms, 200 Arms	±71 Apeak, ±430 Apeak	5.4 kV AC	100 mV/A, 10 mV/A	1 Hz to 100 kHz	-	-	-	
CT6841-05	1	20 Arms	±60 A peak*1	4.26 kV AC	100 mV/A	DC to 1 MHz	-	-	-	
CT6843-05	1	200 Arms	±600 A peak*1	4.26 kV AC	10 mV/A	DC to 500 kHz	-	-	-	
CT6844-05	1	500 Arms	±800 A peak*1	4.26 kV AC	4 mV/A	DC to 200 kHz	-	-	-	
CT6845-05	9	500 Arms	±1500 A peak*1	4.26 kV AC	4 mV/A	DC to 100 kHz	-	-	-	
CT6846-05	9	1000 Arms	±1900 A peak*1	4.26 kV AC	2 mV/A	DC to 20 kHz	-	-	-	
Direct-wire	ed types									
PW9100A-3	gra gra gra	50 Arms	±200 A peak*1	5.4 kV AC	40 mV/A	DC to 3.5 MHz	-	-	-	
PW9100A-4	SER SEP SEP SEE	50 Arms	±200 A	5.4 kV AC	40 mV/A	DC to 3.5 MHz	-	-	-	

pass-throu	ıgh types							
Model	Amplitude DC	accuracy 50/60 Hz	Phase Shift Values	Delay times	Diameter of measurable conductors	Cable length	Operating temperature	Maximum rated voltage to earth
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	±0.03% rdg. ±0.002 % f.s.	±0.03% rdg. ±0.007% f.s.	100 kHz, -1.28°	46 ns	φ24 mm (0.94 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III
CT6872-01	±0.03% rdg. ±0.002% f.s.	±0.03% rdg. ±0.007% f.s.	100 kHz, -2.63°	82 ns	φ24 mm (0.94 in.)	10 m (32.81 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III
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	±0.03% rdg. ±0.002% f.s.	±0.03% rdg. ±0.007% f.s.	100 kHz, -0.75°	36 ns	φ24 mm (0.94 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III
CT6873-01	±0.03% rdg. ±0.002% f.s.	±0.03% rdg. ±0.007% f.s.	100 kHz, -2.10°	69 ns	φ24 mm (0.94 in.)	10 m (32.81 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III
CT6875A	0.04% rdg. ±0.008% f.s.	0.04% rdg. ±0.008% f.s.	200 kHz, -10.45°	145 ns	φ36 mm (1.42 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III
CT6875A-1	0.04% rdg. ±0.008% f.s.	0.04% rdg. ±0.008% f.s.	200 kHz, 12.87°	179 ns	φ36 mm (1.42 in.)	10 m (32.81 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III
CT6904A	±0.025% rdg. ±0.007% f.s.	±0.02% rdg. ±0.007% f.s.	300 kHz, -9.82°	91 ns	ф32 mm (1.26 in.)	3 m (9.84 ft.)	-10°C to 50°C 14°F to 122°F	1000 V CAT III
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.)	10 m (32.81 ft.)	-10°C to 50°C 14°F to 122°F	1000 V CAT III
CT6904A-2	±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°C to 50°C 14°F to 122°F	1000 V CAT III
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.)	10 m (32.81 ft.)	-10°C to 50°C 14°F to 122°F	1000 V CAT III
CT6876A	0.04% rdg. ±0.008% f.s.	0.04% rdg. ±0.008% f.s.	200 kHz, -12.96°	180 ns	ф36 mm (1.42 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III
CT6876A-1	0.04% rdg. ±0.008% f.s.	0.04% rdg. ±0.008% f.s.	200 kHz, -14.34°	199 ns	ф36 mm (1.42 in.)	10 m (32.81 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III
CT6877A	0.04% rdg. ±0.008% f.s.	0.04% rdg. ±0.008% f.s.	100 kHz, -2.63°	73 ns	ф80 mm (3.15 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	1000 V CAT III
CT6877A-1	0.04% rdg. ±0.008% f.s.	0.04% rdg. ±0.008% f.s.	100 kHz -3.34°	93 ns	ф80 mm (3.15 in.)	10 m (32.81 ft)	-40°C to 85°C -40°F to 185°F	1000 V CAT III
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
CT6841-05	±0.3% rdg. ±0.05% f.s.	±0.3% rdg. ±0.01% f.s.	100 kHz, -1.82°	51 ns	φ20 mm (0.79 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	-
CT6843-05	±0.3% rdg. ±0.02% f.s.	±0.3% rdg. ±0.01% f.s.	100 kHz, -1.68°	47 ns	φ20 mm (0.79 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	-
CT6844-05	±0.3% rdg. ±0.02% f.s.	±0.3% rdg. ±0.01% f.s.	50 kHz, -1.29°	72 ns	φ20 mm (0.79 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	-
CT6845-05	±0.3% rdg. ±0.02% f.s.	±0.3% rdg. ±0.01% f.s.	20 kHz, -0.62°	86 ns	φ50 mm (1.97 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	-
CT6846-05	±0.3% rdg. ±0.02% f.s.	±0.3% rdg. ±0.01% f.s.	20 kHz, -1.89°	263 ns	φ50 mm (1.97 in.)	3 m (9.84 ft.)	-40°C to 85°C -40°F to 185°F	-
direct-wire	d types							
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 600 V CAT III
	±0.02% rdg.							

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Wavef	orm obse	ervation						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	Cable length* <sup>1</sup>	Operating temperature
High-sens	sitivity observ	ation of currents	ranging in m	agnitude from	minuscul	e to large			
CT6710	***	0.5 Arms: 10 V/A 5 Arms: 1 V/A 30 Arms: 0.1 V/A	DC to 50 MHz	7.0 ns or less	12 ns*²	±3.0% rdg. ±1 mV	ф5 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
CT6711	***	0.5 Arms: 10 V/A 5 Arms: 1 V/A 30 Arms: 0.1 V/A	DC to 120 MHz	2.9 ns or less	12 ns*²	±3.0% rdg. ±1 mV	ф5 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	ion of minusc	ule currents							
CT6700	90	5 Arms: 1 V/A	DC to 50 MHz	7.0 ns or less	13 ns	±3.0% 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
CT6701	90	5 Arms: 1 V/A	DC to 120 MHz	2.9 ns or less	12 ns	±3.0% 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
Observati	ion of large cເ	ırrents							
3273-50	500	30 Arms: 0.1 V/A	DC to 50 MHz	7.0 ns or less	16 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
3276	200	30 Arms: 0.1 V/A	DC to 100 MHz	3.5 ns or less	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	90	150 Arms: 0.01 V/A	DC to 10 MHz	35 ns or less	40 ns	±1.0% rdg. ±1 mV	ф20 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
3275	29	500 Arms: 0.01 V/A	DC to 2 MHz	175 ns or less	66 ns	±1.0% rdg. ±5 mV	ф20 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

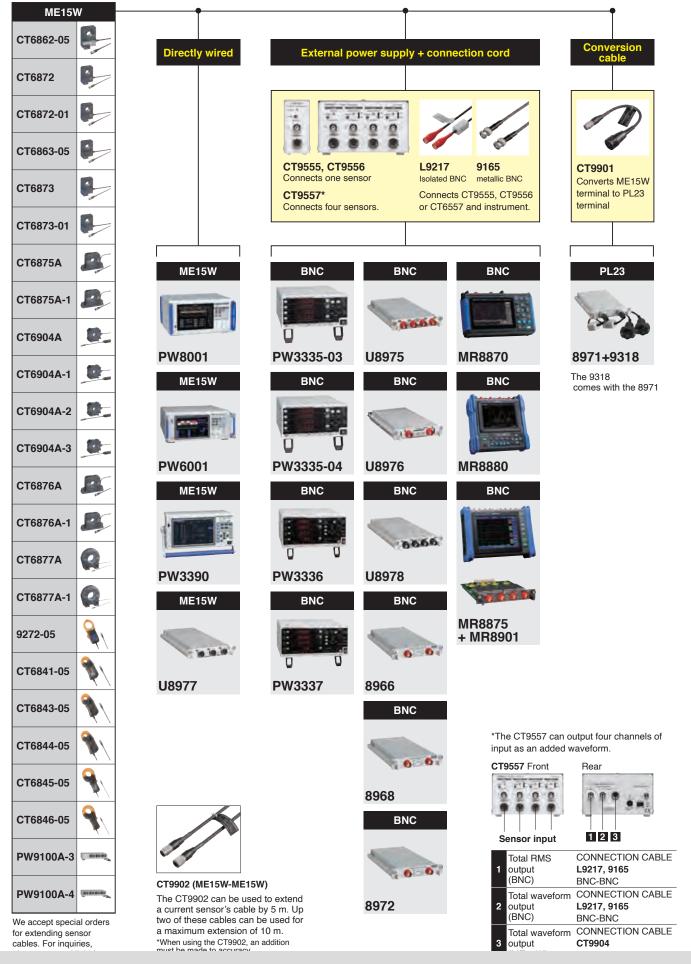
Grid power quality control Output terminals: PL14								inals: PL14
Model	Appearance	Rated current	Frequency range	Amplitude accuracy	Diameter of measurable conductors	Cable length	Operating temperature	CAT
Measuren	nent of load c	urrent						
CT7126	*/	60 A AC	40 Hz to 20 kHz	±0.3% rdg. ±0.01% f.s.	φ15 mm (0.59 in.)	2.5 m (8.20 ft.)	-10°C to 50°C 14°F to 122°F	300 V CAT III
CT7131		100 A AC	40 Hz to 20 kHz	±0.3% rdg. ±0.02% f.s.	φ15 mm (0.59 in.)	2.5 m (8.20 ft.)	-10°C to 50°C 14°F to 122°F	300 V CAT III
CT7731	91	100 A AC/DC	DC to 5 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	600 V CAT IV
CT7631	91	100 A AC/DC	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	600 V CAT IV
CT7736	<b>\$</b> \	600 A AC/DC	DC to 5 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	600 V CAT IV
CT7636	<b>\$</b> \	600 A AC/DC	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	600 V CAT IV 1000 V CAT III
CT7136	91	600 A AC	40 Hz to 20 kHz	±0.3% rdg. ±0.01% f.s.	ф46 mm (1.81 in.)	2.5 m (8.20 ft.)	-10°C to 50°C 14°F to 122°F	600 V CAT IV 1000 V CAT III
CT7742	9/	2000 A AC/DC	DC to 5 kHz	±1.5% rdg. ±0.5% f.s.	ф55 mm (2.17 in.)	2.5 m (8.20 ft.)	-25°C to 65°C -13°F to 149°F	600 V CAT IV 1000 V CAT III
CT7642	9/	2000 A AC/DC	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	600 V CAT IV 1000 V CAT III

Model	Appearance	Rated current	Frequency range	Amplitude accuracy	Diameter of measurable conductors	Cable length	Operating temperature	CAT
Measuren	nent of large o	currents						
CT7044		6000 A AC	10 Hz to 50 kHz	±1.5% rdg. ±0.25% f.s.	φ100 mm (3.94 in.)	2.3 m, 0.2 m* (7.55 ft., 0.66 ft.)	-25°C to 65°C -13°F to 149°F	600 V CAT IV 1000 V CAT III
CT7045		6000 A AC	10 Hz to 50 kHz	±1.5% rdg. ±0.25% f.s.	φ180 mm (7.09 in.)	2.3 m, 0.2 m* (7.55 ft., 0.66 ft.)	-25°C to 65°C -13°F to 149°F	600 V CAT IV 1000 V CAT III
CT7046		6000 A AC	10 Hz to 50 kHz	±1.5% rdg. ±0.25% f.s.	φ254 mm (10.00 in.)	2.3 m, 0.2 m* (7.55 ft., 0.66 ft.)	-25°C to 65°C -13°F to 149°F	600 V CAT IV 1000 V CAT III
Measuren	nent of leakag	e current						
CT7116	9/	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	-

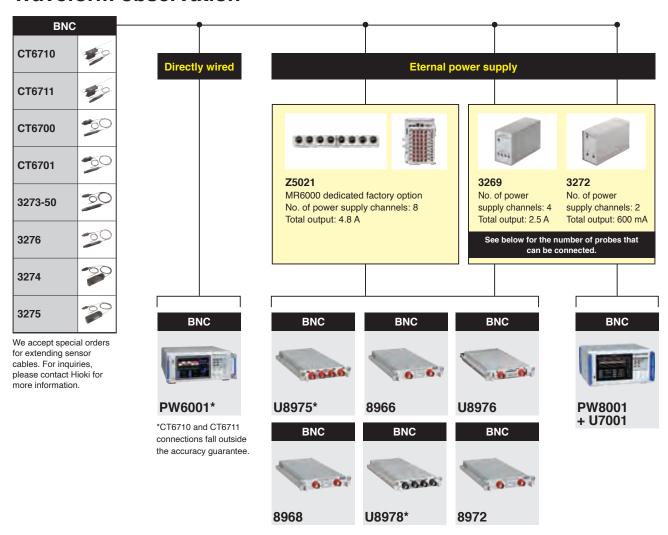
<sup>\*</sup>Sensor cable: between flexible loop and circuit box for flexible sensors (e.g. CT7044), output cable for CT7116

Grid p	ower qua	lity contro	ol				Output term	ninals: 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.	φ15 mm (0.59 in.)	-	0°C to 50°C 32°F to 122°F	300 V CAT III
9660		100 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
9695-03*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>Q</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.	φ46 mm (1.81 in.)	3 m (9.84 ft.)	0°C to 50°C 32°F to 122°F	600 V CAT II
9132-50	<b>Q</b>	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
9661	91	500 A AC	40 Hz to 5 kHz	±0.3% rdg. ±0.01% 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
9669	Q.	1000 A AC	40 Hz to 5 kHz	±1.0% rdg. ±0.01% f.s.	φ55 mm (2.17 in.)	3 m (9.84 ft.)	0°C to 50°C 32°F to 122°F	600 V CAT II
Measuren	nent of large o	currents						
CT9667-01		500 A, 5000 A AC	10 Hz to 20 kHz	±2% rdg. ±0.3% f.s.	ф100 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 II
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* <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 II
CT9667-03		500 A, 5000 A AC	10 Hz to 20 kHz	±2% rdg. ±0.3% f.s.	φ254 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 II
Measurement of leakage current								
9657-10	91	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	-

## **High-accuracy measurement**



#### Waveform observation



<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

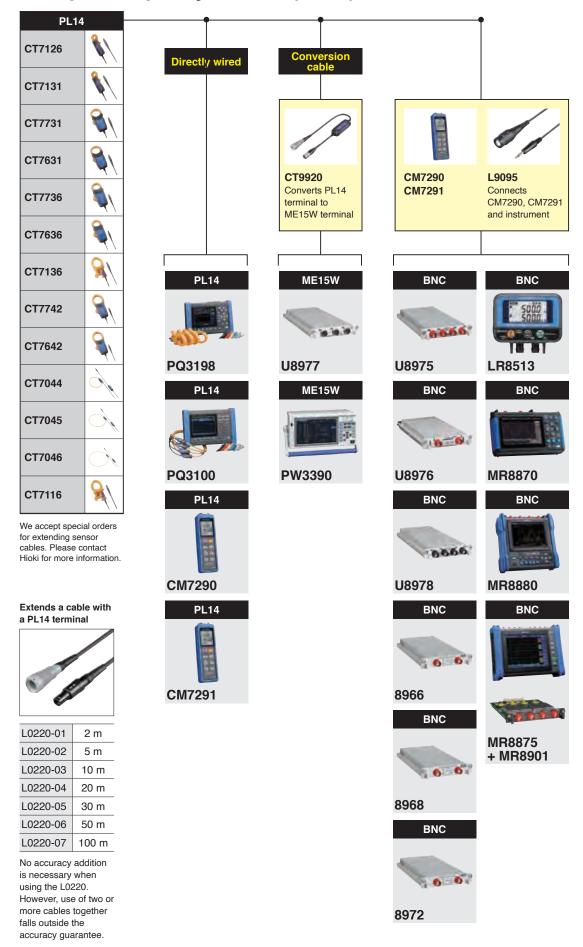


# Current consumption per probe and number of probes per power supply

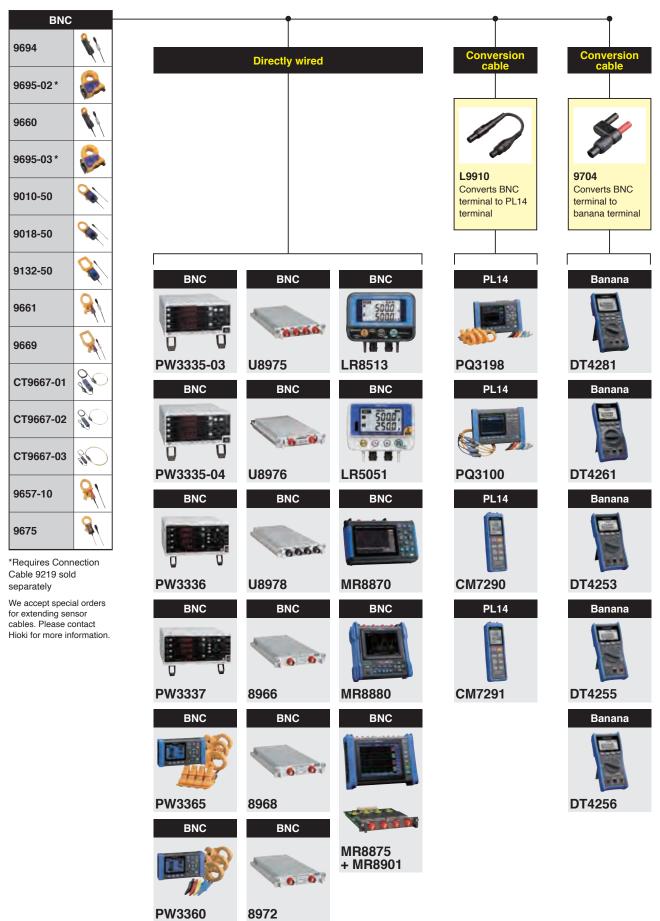
Current consumption varies by probe. The following table indicates how many probes can be utilized when using one type of probe per power supply.

71				
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

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

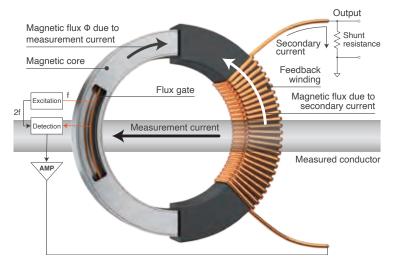


# **Grid power quality control (BNC)**

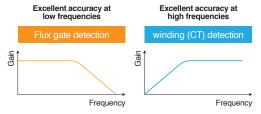


# Accurately evaluating power conversion efficiency

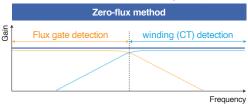
Improving power conversion efficiency is a key part of the effort to facilitate the effective use of energy. Devices that operate at high frequencies are increasingly being used to improve efficiency, and evaluation processes undertaken during the development of such devices requires accurate measurement 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.



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



Flat characteristics from low to high frequencies



High-frequency currents are detected by a winding (CT), while DC to low-frequency currents are detected by a flux gate.

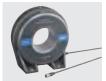
#### Zero-flux method (flux gate) current sensors













CT6841-05, CT6843-05, CT6845-05, CT6846-05

CT6862-05, CT6863-05, CT6875A, CT6876A CT6872, CT6873

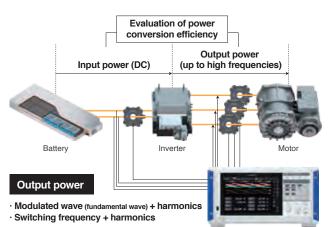
CT6877A

CT6904A

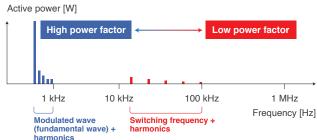
Application

#### 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

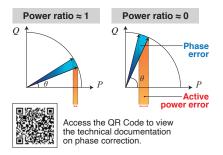


Since the power factor decreases with harmonics, current sensors' phase measurement accuracy becomes key (see right).

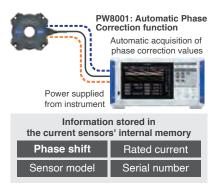
#### Phase measurement accuracy and correction: accurately measuring power at low power factors

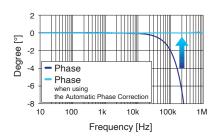
For typical current sensors, phase measurement accuracy is not defined. However, phase measurement precision is important in applications where power must be measured with a high degree of accuracy. Power can be measured more accurately by selecting a current sensor for which phase measurement accuracy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



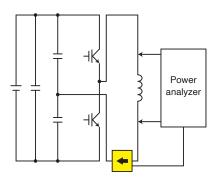


Example of the Automatic Phase Correction for the CT6904A AC/DC current sensor

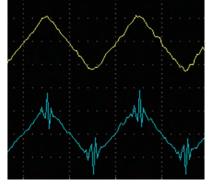
For typical sensors, phase error increases with frequency. Since Hioki has developed both current sensors and the measuring instruments, current sensors' phase characteristics can be corrected by the instruments, allowing accurate power values to be calculated.

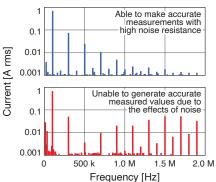
#### Common-mode voltage rejection ratio: measuring current values accurately in noisy environments

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.



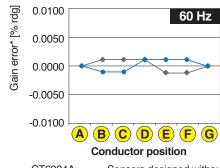


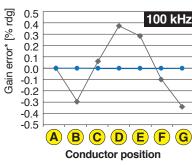
Top: CT6904A CMRR 120 dB or greater (100 Hz); bottom: sensor with a low CMRR

#### 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.







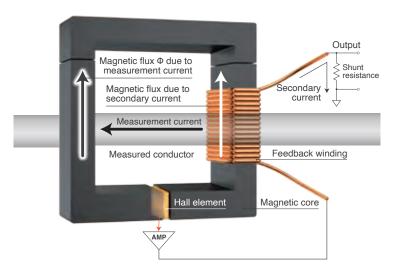
CT6904A — Sensors designed without accounting for conductor position

deviation from center

When using a sensor designed with the effects of conductor position, measured values are not affected when the conductor's position changes

# 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.

# Excellent S/N (signal to noise) ratio at low frequencies Hall element detection Frequency Frequency

Zero-flux method: realizing stable, wideband measurement from

# Zero-flux method Hall element detection winding (CT) detection Frequency

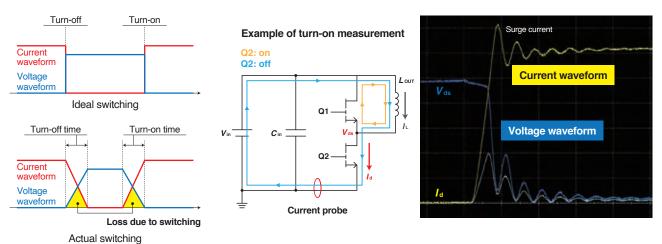
#### Zero-flux method (hall element) current probes



#### 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.

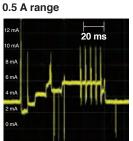


#### Observing waveforms from minuscule currents to large currents: evaluating the control design of ECUs and accessory components

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)



30 A range



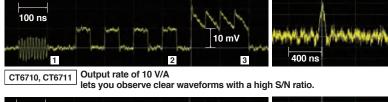
Observing a large current waveform (inrush current)

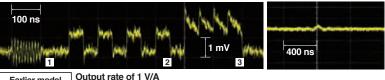
Observing currents of a variety of magnitudes. from minuscule currents to large currents, with a single probe

Freq. band	mesurement range	output rate
	0.5 A	10 V/A
DC to 50 MHz	5 A	1 V/A
	30 A	0.1 V/A
	0.5 A	10 V/A
DC to 120 MHz	5 A	1 V/A
	30 A	0.1 V/A
DC to 50 MHz	5 A	1 V/A
DC to 120 MHz	5 A	1 V/A
DC to 50 MHz	30 A	0.1 V/A
DC to 100 MHz	30 A	0.1 V/A
DC to 10 MHz	150 A	0.01 V/A
DC to 2 MHz	500 A	0.01 V/A
	DC to 50 MHz  DC to 120 MHz  DC to 50 MHz  DC to 120 MHz  DC to 120 MHz  DC to 50 MHz  DC to 100 MHz  DC to 100 MHz	Freq. band range  0.5 A  0.5 A  30 A  0.5 A  DC to 120 MHz  5 A  30 A  DC to 50 MHz  5 A  30 A  DC to 50 MHz  5 A  DC to 120 MHz  5 A  DC to 120 MHz  5 A  DC to 100 MHz  30 A  DC to 100 MHz  DC to 10 MHz  150 A

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

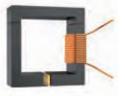
The magnitude of the currents that flow during operation of power-saving devices like wearables and control currents that flow in automotive accessory components tend to decrease in to 1 mA or less. Using a current probe with a high output rate make you possible for clearly observing minuscule current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





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

Noise resistance design: key to increasing output rate





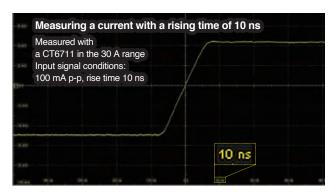
Hioki uses a proprietary Electromagnetic shielding generated inside the probe.

thin-film Hall element to in the sensor improves reduce the amount of noise resistance to environmental noise

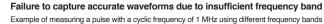
- 1 Sine wave: f = 100 MHz, 1 mA peak-peak
- ② Square wave: f = 10 MHz, 1 mA peak-peak ③ Sawtooth wave: f = 20 MHz, 1 mA peak-peak (offset +1 mA)

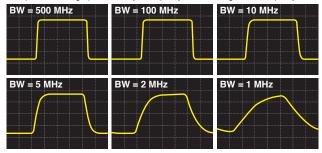
#### Observing waveforms across a broad band of frequencies: capturing waveforms and pulse waveforms that fluctuate at high speeds

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.





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

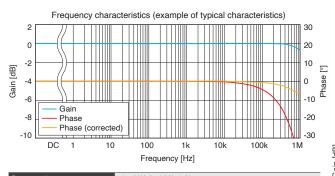
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.05% ±0.01%	-
DC < f ≤ 16 Hz	±0.10% ±0.02%	±0.3°
16 Hz < f ≤ 400 Hz	±0.05% ±0.01%	±0.2°
400 Hz < f ≤ 1 kHz	±0.2% ±0.02%	±0.5°
$1 \text{ kHz} < f \le 5 \text{ kHz}$	±0.7% ±0.02%	±1.0°
5 kHz < f ≤ 10 kHz	±1% ±0.02%	±1.0°
10 kHz < f ≤ 50 kHz	±1% ±0.02%	$\pm (0.5 + 0.1 \times f  kHz)^{\circ}$
50 kHz < f ≤ 100 kHz	±2% ±0.05%	$\pm (0.5 + 0.1 \times f  kHz)^{\circ}$
100 kHz < f ≤ 300 kHz	±5% ±0.05%	$\pm (0.5 + 0.1 \times f  kHz)^{\circ}$
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% rdg,/°C or less Offset voltage: ±0.005% f.s./°C or less
Effect of common mode voltage	0.05% f.s. or less (1000 Vrms, DC to 100 Hz)

# Frequency derating 0 10 100



Frequency [Hz]

10k

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.)	

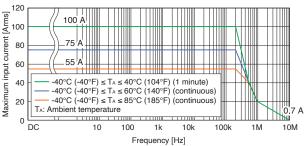
#### Accuracy

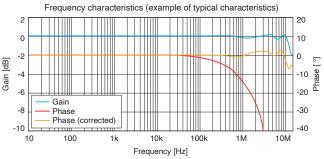
Amplitude ±(% of reading + % of full scale)	Phase
±0.03% ±0.002%	-
±0.1% ±0.01%	±0.1°
±0.05% ±0.01%	±0.08°
±0.03% ±0.007%	±0.05°
±0.04% ±0.01%	±0.1°
±0.06% ±0.01%	±0.15°
±0.1% ±0.01%	±0.4°
±0.15% ±0.02%	±0.4°
±0.15% ±0.02%	±0.5°
(0.012 × f kHz)% + 0.05%	±(0.04 × f kHz)° ±0.1°
	±(% of reading + % of full scale) ±0.03% ±0.002% ±0.1% ±0.01% ±0.05% ±0.01% ±0.03% ±0.007% ±0.04% ±0.01% ±0.06% ±0.01% ±0.11% ±0.01% ±0.15% ±0.02% ±0.15% ±0.02%

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% f.s. or less, or within the derating curve; DC < f < 10 Hz is the value by design. Phase accuracy: defined 110% f.s. or less, or within the derating curve; DC < f > 10 Hz is the value by design. Add  $\pm$ 0.01%  $\pm$ 0,0 to the amplitude accuracy for input from 10% f.s. to 110% f.s. The CT6872-01 adds a phase accuracy of  $\pm$ 0.015  $\pm$  0,0 at a frequency of 1 kHz < f  $\pm$ 1 MHz.

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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 rdg./°C Offset voltage: ±0.2 ppm of fs./°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%	

#### Frequency derating





Outro de colta da	40>//4 / 0.>//50 4>	
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	1000 V CAT III	
ground	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.)	

#### CT6863-05

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

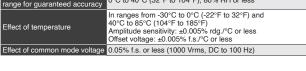
Rated current	200 A AC/DC
Frequency band	DC to 500 kHz (-3 dB)
Diameter of measurable conductors	Max. φ 24 mm (0.94 in.)

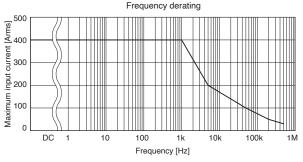
#### Accuracy

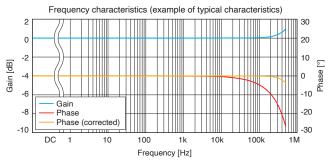
7.000.00			
Frequency	Amplitude ±(% of reading + % of full scale)	Phase	
DC	±0.05% ±0.01%	-	
DC < f ≤ 16 Hz	±0.10% ±0.02%	±0.3°	
16 Hz < f ≤ 400 Hz	±0.05% ±0.01%	±0.2°	
400 Hz < f ≤ 1 kHz	±0.2% ±0.02%	±0.5°	
$1 \text{ kHz} < f \le 5 \text{ kHz}$	±0.7% ±0.02%	±1.0°	
5 kHz < f ≤ 10 kHz	±1% ±0.02%	±1.0°	
10 kHz < f ≤ 50 kHz	±2% ±0.02%	$\pm (0.5 + 0.1 \times f  kHz)^{\circ}$	
50 kHz < f ≤ 100 kHz	±5% ±0.05%	$\pm (0.5 + 0.1 \times f  kHz)^{\circ}$	
100 kHz < f ≤ 300 kHz	±10% ±0.05%	$\pm (0.5 + 0.1 \times f  kHz)^{\circ}$	
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  $1\,\mathrm{M}\Omega$  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.

0°C to 40°C (32°F to 104°F), 80% RH or less







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.)

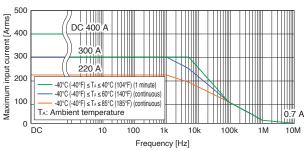
#### **Accuracy**

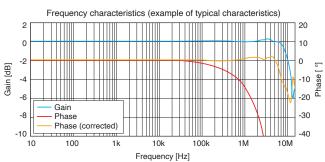
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.03% ±0.002%	-
DC < f ≤ 16 Hz	±0.1% ±0.01%	±0.1°
16 Hz < f ≤ 45 Hz	±0.05% ±0.01%	±0.08°
45 Hz < f ≤ 66 Hz	±0.03% ±0.007%	±0.05°
66 Hz < f ≤ 100 Hz	±0.04% ±0.01%	±0.1°
100 Hz < f ≤ 500 Hz	±0.05% ±0.01%	±0.15°
500 Hz < f ≤ 3 kHz	±0.1% ±0.01%	±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°

The values above are when the input is a sine wave, the measuring instrument has an input resistance of 1 M $\Omega$  ±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% f.s. or less, or within the derating curve; DC < f<10 Hz is the value by design. Phase accuracy: defined 110% f.s. or less, or within the derating curve; DC < f10 Hz is the value by design. Add ±0.01% roll, to the amplitude accuracy for input from 100% f.s. to 110% f.s. The CT6873-01 adds a phase accuracy of  $\pm (0.015 \times 1)^{\circ}$  at a frequency of 1 kHz < f  $\pm 1$  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: ±15 ppm of rdg,/°C Offset voltage: ±0.1 ppm of f.s./°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%

#### Frequency derating





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.)	

#### CT6875A CT6875A-1

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

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

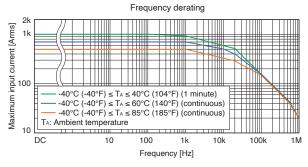
Diameter of measurable conductors Max.  $\varphi$  36 mm (1.41 in.)

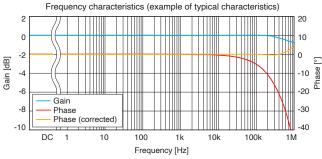
#### Accuracy

•		
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 × f kHz)°

Amplitude accuracy: defined 110% f.s. or less, or within the derating curve; DC < f < 10 Hz is the value by design. Add ±0.01% rdg, to the amplitude accuracy for input from 100% f.s. to 110% f.s. For the CT68/5A-1, add the following for frequencies of 1 kHz < f ≤ 11 MHz (the frequency band is 1.5 MHz ±3 dB): Amplitude accuracy: ±(0.005 × f kHz)% rdg., 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: ±0.02% 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)
NA/a i a la l	CT6875A: approx. 0.8 kg (28.2 oz.)

#### CT6904A CT6904A-1

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

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

Rated current 500 A AC/DC 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

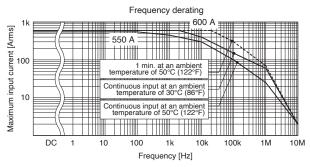
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.025% ±0.007%	-
DC < f < 16 Hz	±0.2% ±0.02%	±0.1°
16 Hz ≤ f < 45 Hz	±0.1% ±0.02%	±0.1°
45 Hz ≤ f ≤ 65 Hz	±0.02% ±0.007%	±0.08°
65 Hz < f ≤ 850 Hz	±0.05% ±0.007%	±0.12°
850 Hz < f ≤ 1 kHz	±0.1% ±0.01%	±0.4°
1 kHz < f ≤ 5 kHz	±0.4% ±0.02%	±0.4°
5 kHz < f ≤ 10 kHz	±0.4% ±0.02%	±(0.08 × f kHz)°
10 kHz < f ≤ 50 kHz	±1% ±0.02%	±(0.08 × f kHz)°
50 kHz < f ≤ 100 kHz	±1% ±0.05%	±(0.08 × f kHz)°
100 kHz < f ≤ 300 kHz	±2% ±0.05%	±(0.08 × f kHz)°
300 kHz < f ≤ 1 MHz	±5% ±0.05%	±(0.08 × f kHz)°

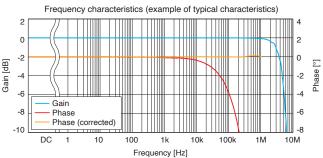
· Amplitude accuracy and phase accuracy: defined 110% f.s. or less, or within the derating curve (continuous input at an ambient temperature of 50°C); DC < f < 10 Hz is the value by design.

-Add ±0.01% rdg, to the amplitude accuracy for input from 100% f.s. to 110% f.s.

-For the CT6904A-1, add the following for frequencies of 50 kHz < f ≥ 1 MHz. (the frequency band is 2 MHz ±3 dB): Amplitude accuracy: ±(0.015 x f)% rdg.

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: $\pm$ 20 ppm of of reading / °C Offset voltage: $\pm$ 1 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	±5 ppm
Offset error	±10 ppm





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



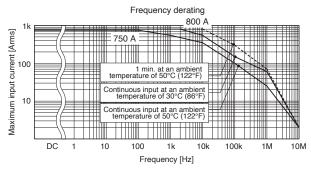
Rated current	800 A AC/DC
Frequency band	CT6904A-2: DC to 4 MHz (±3 dB) CT6904A-3: DC to 2 MHz (±3 dB)
Diameter of measurable conductors	Max. φ 32 mm (1.25 in.)

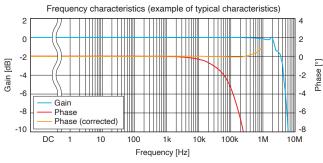
#### Accuracy

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%	$\pm (0.08 \times f \text{ kHz})^{\circ}$
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)°

- 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 < f ≤ 1 MHz (frequency band is 2 MHz ±3):
  Amplitude accuracy: ±(0.015 × f)% rdg.

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: $\pm$ 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)
M/sisla	CT6904A-2: approx. 1.15 kg (40.6 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	Max. φ 36 mm (1.41 in.)

#### Accuracy

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)°

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

  Add ±0.01% rdg, to the amplitude accuracy for input from 100% f.s. to 110% f.s.

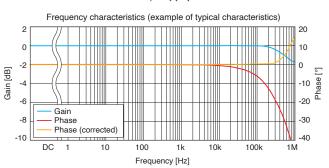
  For the CT6876A-1, add the following for frequencies of 1 kHz < f ≤ 1 MHz

  (the frequency band is 1.2 MHz ±3 dB):

  Amplitude accuracy: ±(0.005 × f kHz)% rdg., 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 Maximum input current [Arms] $-40^{\circ}\text{C} \ (-40^{\circ}\text{F}) \le T_{\text{A}} \le 40^{\circ}\text{C} \ (104^{\circ}\text{F}) \ (1 \ \text{minute})$ $-40^{\circ}\text{C} \ (-40^{\circ}\text{F}) \le T_{\text{A}} \le 60^{\circ}\text{C} \ (140^{\circ}\text{F}) \ (\text{continuous})$ -40°C (-40°F) $\leq$ T<sub>A</sub> $\leq$ 85°C (185°F) (continuous) T<sub>A</sub>: Ambient temperature 10 DC 10 100 1k Frequency [Hz]



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.)
	160 mm (6.30 in.) W × 112 mm (4.41 in.) H × 50 mm (1.97

#### CT6877A CT6877A-1

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

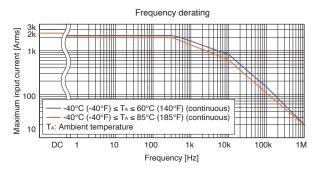
Rated current	2000 A AC/DC
Frequency band	DC to 1 MHz
Diameter of measurable conductors	Max. φ 80 mm (3.14 in.)

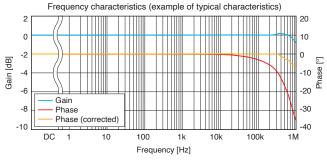
#### Accuracy

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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%	± (0.3 + 0.1 × f kHz)°
5 kHz < f ≤ 10 kHz	±0.5% ±0.02%	$\pm (0.3 + 0.1 \times f  kHz)^{\circ}$
10 kHz < f ≤ 50 kHz	±1.5% ±0.05%	± (0.3 + 0.1 × f kHz)°
50 kHz < f ≤ 100 kHz	±2.5% ±0.05%	$\pm (0.3 + 0.1 \times f  kHz)^{\circ}$
100 kHz < f ≤ 700 kHz	±(0.025 × f)% ±0.05%	± (0.3 + 0.1 × f kHz)°

- Amplitude accuracy and phase accuracy: defined 110% f.s. or less, or within the derating curve, DC < f < 10 Hz is the value by design . Add ±0.01% rdg to the amplitude accuracy for input from 100% f.s. to 110% f.s. For the CT6877A-1, add the following for frequencies of 1 kHz < f ≤ 700 kHz: Amplitude accuracy: ±(0.005 × f)% rdg., Phase accuracy: ±(0.015 × f)\*

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%





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.)
B: :	229 mm (9.02 in.) W × 232 mm (9.13 in.) H × 112 mm

#### 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

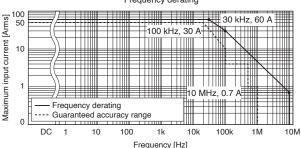
#### **Accuracy**

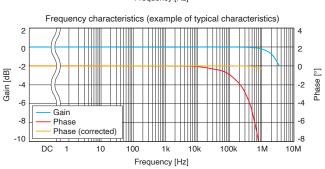
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.02% ±0.007%	-
DC < f < 30 Hz	±0.1% ±0.02%	±0.3°
30 Hz ≤ f < 45 Hz	±0.1% ±0.02%	±0.1°
45 Hz ≤ f ≤ 65 Hz	±0.02% ±0.005%	±0.1°
65 Hz < f ≤ 500 Hz	±0.1% ±0.01%	±0.12°
500 Hz < f ≤ 1 kHz	±0.1% ±0.01%	±0.5°
1 kHz < f ≤ 5 kHz	±0.5% ±0.02%	±0.5°
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)°

- Amplitude accuracy and phase accuracy: defined within the accuracy guarantee range shown in the derating figure below; DC < f < 10 Hz is the value by design. Add  $\pm 0.01\%$  rdg. to the amplitude accuracy for input from 100% f.s. to 110% f.s.

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 derating





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.)

#### CT6841-05

Rated current	20 A AC/DC
Frequency band	DC to 1 MHz
Diameter of measurable conductors	Max. φ 20 mm (0.79 in.)

CT6843-05



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

Rated current	200 A AC/DC
Frequency band	DC to 500 kHz
Diameter of measurable conductors	Max. φ 20 mm (0.79 in.)

#### **Accuracy**

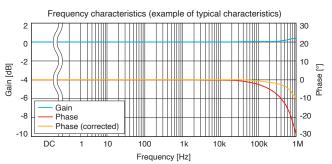
_			
Frequency	Amplitude ±(% of reading + % of full scale)	Phase	
DC	±0.3% ±0.05%*	-	
DC < f ≤ 100 Hz	±0.3% ±0.01%	±0.1°	
100 Hz < f ≤ 500 Hz	±0.3% ±0.02%	±0.2°	
500 Hz < f ≤ 1 kHz	±0.5% ±0.02%	±0.5°	
1 kHz < f≤ 5 kHz	±1.0% ±0.02%	±1.0°	
5 kHz < f≤ 10 kHz	±1.5% ±0.02%	±1.5°	
10 kHz < f≤ 50 kHz	±2.0%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

<sup>\*±0.05%</sup> f.s. after adjusting the offset voltage to ±0.5 mV or less.

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 value by design. Phase accuracy: defined at the rated value or less or within the derating curve; DC < 1 < 5 Hz is the 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 -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
Effect of common mode voltage	0.05% f.s. or less (1000 Vrms, DC to 100 Hz)

#### Frequency derating 50 input current [Arms] 40 30 20 Maximum -40°C (-40°F) ≤ T<sub>A</sub> ≤ 60°C (140°F) 10 --40°C (-40°F) ≤ T<sub>A</sub> ≤ 85°C (185°F) T<sub>A</sub>: Ambient temperature DC 10 100 1k 10k 100k Frequency [Hz]



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. 350 g (12.3 oz.)

#### Accuracy

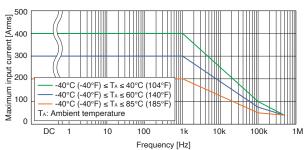
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Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.3% ±0.02%*	-
DC < f ≤ 100 Hz	±0.3% ±0.01%	±0.1°
100 Hz < f ≤ 500 Hz	±0.3% ±0.02%	±0.2°
500 Hz < f ≤ 1 kHz	±0.5% ±0.02%	±0.5°
1 kHz < f ≤ 5 kHz	±1.0% ±0.02%	±1.0°
5 kHz < f ≤ 10 kHz	±1.5% ±0.02%	±1.5°
10 kHz < f ≤ 50 kHz	±5.0% ±0.02%	± (0.5 + 0.1 × f kHz)°
50 kHz < f ≤ 100 kHz	±15% ±0.05%	± (0.5 + 0.1 × f kHz)°
100 kHz < f ≤ 300 kHz	±15% ±0.05%	± (0.5 + 0.1 × f kHz)°
300 kHz < f ≤ 500 kHz	±30% ±0.05%	-
* 0 000/ 6		

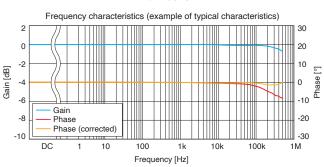
<sup>\*±0.02%</sup> f.s. after adjusting the offset voltage to ±0.2 mV or less

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 value by design. Phase accuracy defined at the rated value or less or within the derating curve; DC < f < 10 Hz is the 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 -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
Effect of common mode voltage	0.05% f.s. or less (1000 Vrms, DC to 100 Hz)

#### Frequency derating





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. 370 g (13.1 oz.)

#### CT6844-05

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

Rated current	500 A AC/DC
Frequency band	DC to 200 kHz
Diameter of measurable conductors	Max. φ 20 mm (0.79 in.)

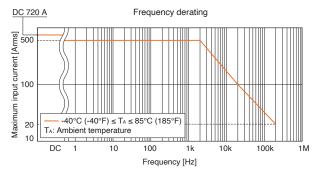
#### **Accuracy**

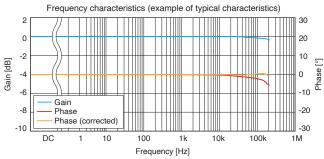
Amplitude ±(% of reading + % of full scale)	Phase
±0.3% ±0.02%*	-
±0.3% ±0.01%	±0.1°
±0.3% ±0.02%	±0.2°
±0.5% ±0.02%	±0.5°
±1.0% ±0.02%	±1.0°
±1.5% ±0.02%	±1.5°
±5.0% ±0.02%	$\pm (0.5 + 0.1 \times f \text{ kHz})^{\circ}$
±15% ±0.05%	$\pm (0.5 + 0.1 \times f \text{ kHz})^{\circ}$
±30% ±0.05%	$\pm (0.5 + 0.1 \times f \text{ kHz})^{\circ}$
	±(% of reading + % of full scale) ±0.3% ±0.02%* ±0.3% ±0.01% ±0.3% ±0.02% ±1.5% ±0.02% ±1.5% ±0.02% ±5.0% ±0.02% ±15% ±0.02%

<sup>\*±0.02%</sup> f.s. after adjusting the offset voltage to ±0.2 mV or less

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 value by design. Phase accuracy defined at the rated value or less, or within the derating curve; DC < f < 10 Hz is the 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 -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
Effect of common mode voltage	0.05% f.s. or less (1000 Vrms, DC to 100 Hz)





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.)

#### CT6845-05



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

Rated current	500 A AC/DC
Frequency band	DC to 100 kHz
Diameter of measurable conductors	Max. φ 50 mm (1.97 in.)

#### **Accuracy**

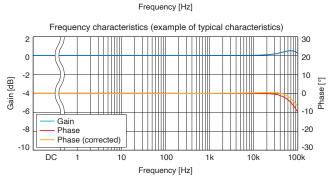
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.3% ±0.02%*	-
DC < f ≤ 100 Hz	±0.3% ±0.01%	±0.1°
100 Hz < f ≤ 500 Hz	±0.3% ±0.02%	±0.2°
500 Hz < f ≤ 1 kHz	±0.5% ±0.02%	±0.5°
1 kHz < f ≤ 5 kHz	±1.0% ±0.02%	±1.5°
5 kHz < f ≤ 10 kHz	±1.5% ±0.02%	±2.0°
10 kHz < f ≤ 20 kHz	±5.0% ±0.02%	±(0.2 × f kHz)°
20 kHz < f ≤ 50 kHz	±10% ±0.05%	±(0.2 × f kHz)°
50 kHz < f ≤ 100 kHz	±30% ±0.05%	±(0.2 × f kHz)°

<sup>\*±0.02%</sup> f.s. after adjusting the offset voltage to ±0.2 mV or less

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 value by design. Phase accuracy defined at the rated value or less, or within the derating curve; DC < f < 10 Hz is the 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 -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
Effect of common mode voltage	0.05% f.s. or less (1000 Vrms, DC to 100 Hz)

#### Frequency derating $-40^{\circ}\text{C} \text{ (-}40^{\circ}\text{F)} \le T_{A} \le 60^{\circ}\text{C (140^{\circ}\text{F)}}$ $-40^{\circ}\text{C (-}40^{\circ}\text{F)} \le T_{A} \le 85^{\circ}\text{C (185^{\circ}\text{F)}}$ T<sub>A</sub>: Ambient temperature 10 10 100 100k



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 × 116 mm (4.57 in.) H × 35 mm (1.38 in.) D (excluding protruding parts and cables)	
Weight	Approx. 860 g (30.3 oz.)	

#### CT6846-05



Rated current	1000 A AC/DC
Frequency band	DC to 20 kHz
Diameter of measurable conductors	Max. φ 50 mm (1.97 in.)

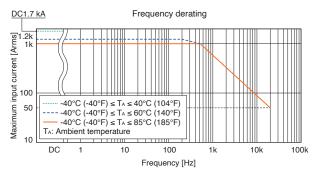
#### **Accuracy**

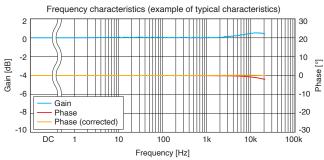
Frequency	Amplitude ±(% of reading + % of full scale)	Phase
DC	±0.3% ±0.02%*	-
DC < f ≤ 100 Hz	±0.3% ±0.01%	±0.1°
100 Hz < f ≤ 500 Hz	±0.5% ±0.02%	±0.2°
500 Hz < f ≤ 1 kHz	±1.0% ±0.02%	±0.5°
1 kHz < f ≤ 5 kHz	±2.0% ±0.02%	±1.5°
5 kHz < f ≤ 10 kHz	±5.0% ±0.05%	±2.0°
10 kHz < f ≤ 20 kHz	±30% ±0.10%	±10.0°

\*±0.02% f.s. after adjusting the offset voltage to ±0.2 mV or less

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 value by design. Phase accuracy defined at the rated value or less, or within the derating curve; DC < f < 10 Hz is the 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 -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
Effect of common mode voltage	0.05% f.s. or less (1000 Vrms, DC to 100 Hz)





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:

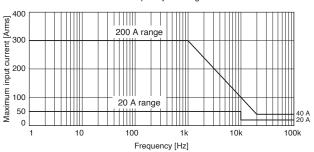
Less than or equal to the rated current of each current range

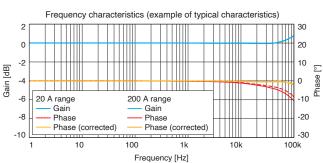
Within derating range of each current range.

Within derating range of each current range and inside of derating 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

#### Frequency derating





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.)
Dimensions	78 mm (3.07 in) W × 188 mm (7.40 in) H × 35 mm (1.38
	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

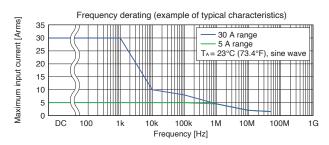
Rise time	7.0 ns or less (10% to 90%)
Output voltage	0.1 V/A (30 A range) 1 V/A (5 A range) 10 V/A (0.5 A range)
Maximum peak current	±50 A peak*¹ (30 A range) ±7.5 A peak (5 A range) ±0.75 A peak (0.5 A range, ≥ 10 MHz) ±0.3 A peak (0.5 A range, < 10 MHz)
Noise	75 μArms or less*2 (typical: 60 μArms)

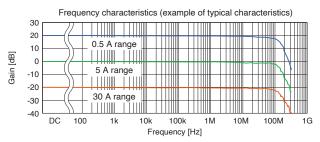
- \*1: Maximum 2 sec input; requires cooling time of at least 10 times longer than the time current has been input \*2: Does not apply to devices to which the probe is connected; applicable in the 0.5 A range and when used with 20 MHz bandwidth instrument devices

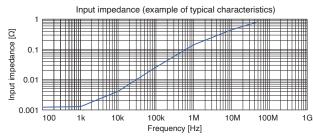
#### Accuracy (amplitude)

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







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 x 18 mm (0.71 in.) H x
	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

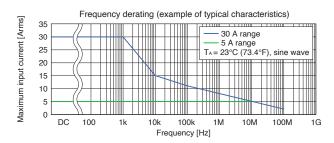
Rise time	2.9 ns or less (10% to 90%)
Output voltage	0.1 V/A (30 A range) 1 V/A (5 A range) 10 V/A (0.5 A range)
Maximum peak current	±5.0 A peak*! (30 A range) ±7.5 A peak (5 A range) ±0.75 A peak (0.5 A range, ≥ 10 MHz) ±0.3 A peak (0.5 A range, < 10 MHz)
Noise	75 μArms or less*2 (typical: 60 μArms)

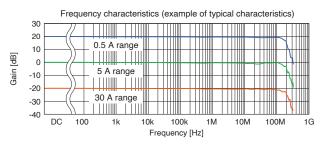
- \*1: Maximum 2 sec. input; requires cooling time at least 10 times longer than the time current has been input \*2: Does not apply to devices to which the probe is connected; applicable in the 0.5 A range and when used with 20 MHz bandwidth instrument devices

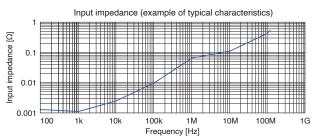
#### Accuracy (amplitude)

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

The accuracy above is valid within the following conditions: Warm-up time: 30 minutes, operating environment of 28°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







	7. 7.
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 x 18 mm (0.71 in.) H x
	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.)

#### 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

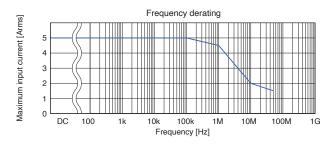
Rise time	7.0 ns or less (10% to 90%)	
Output voltage	1 V/A	
Maximum peak current	±7.5 A peak (non-continuous)	
Noise	75 μArms or less* (typical: 60 μA rms)	

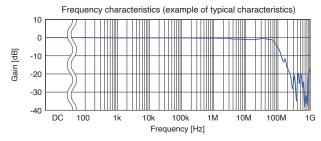
<sup>\*</sup>Does not apply to devices to which the probe is connected; applicable when used with 30 MHz bandwidth instrument devices

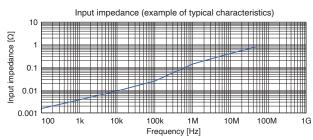
#### Accuracy (amplitude)

Accuracy	typical
±3.0% rdg. ±1 mV	±1.0% rdg. ±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 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	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 $\times$ 18 mm (0.71 in.) H $\times$ 26 mm (1.02 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. 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

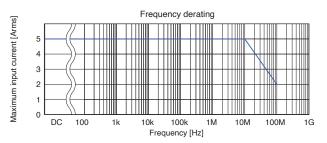
Rise time	2.9 ns or less (10% to 90%)	
Output voltage	1 V/A	
Maximum peak current	±7.5 A peak (non-continuous)	
Noise	75 μArms or less* (typical: 60 μA rms)	

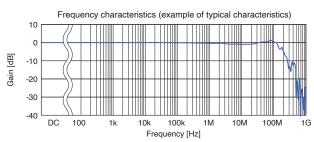
<sup>\*</sup>Does not apply to devices to which the probe is connected; applicable when used with 30 MHz bandwidth instrument devices

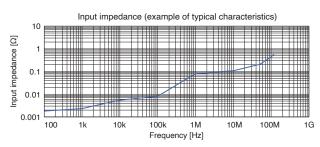
#### Accuracy (amplitude)

Accuracy	typical
±3.0% rdg. ±1 mV	±1.0% rdg. ±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 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	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 $\times$ 18 mm (0.71 in.) H $\times$ 26 mm (1.02 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. 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)

DC

100

1k

to 30 Arms	to 50 A peak
±1.0% rdg. ±1 mV	±2.0% rdg.

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, 0 Arms to 5 Arms

#### 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

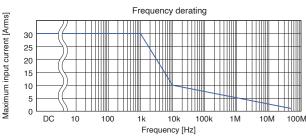
Rise time	3.5 ns or less
Output voltage	0.1 V/A
Maximum peak current	50 A peak (non-continuous)
Noise	2.5 mArms or less*

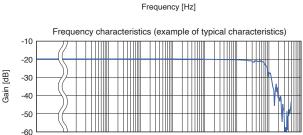
<sup>\*</sup>Does not apply to devices to which the probe is connected; applicable when used with 20 MHz bandwidth instrument devices

#### Accuracy (amplitude)

to 30 Arms	to 50 A peak
±1.0% rdg. ±1 mV	±2.0% rdg.

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





100k

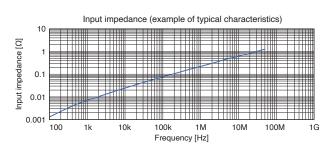
Frequency [Hz]

1M

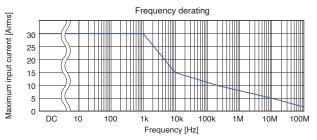
10M

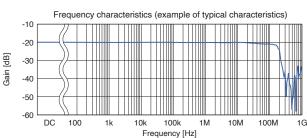
100M

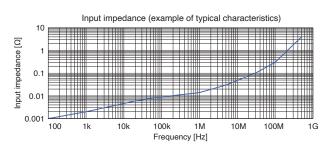
1G



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)







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 x 55 mm (2.17
	in.) H × 18 mm (0.71 in.) D
	(excluding BNC connector or protrusions)
Weight	Approx. 240 g (8.5 oz)

#### 3274

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

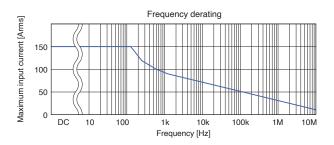
Rise time	35 ns or less
Output voltage	0.01 V/A
Maximum peak current	300 A peak (non-continuous)*1
Noise	25 mArms or less*2

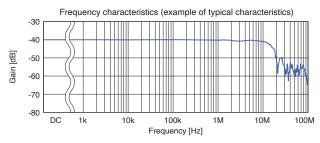
<sup>\*1: 500</sup> Apeak with pulse width  $\leq$  30  $\mu$ s

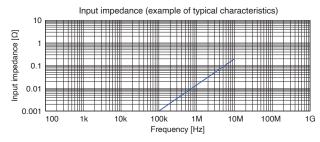
#### Accuracy (amplitude)

to 150 A	to 300 A peak
±1.0% rdg. ±1 mV	±2.0% rdg.

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)

#### 3275

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

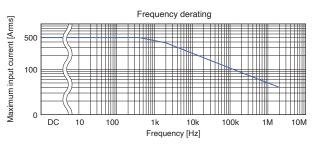
Rise time	175 ns or less
Output voltage	0.01 V/A
Maximum peak current	700 A peak (non-continuous)
Noise	25 mArms or less*

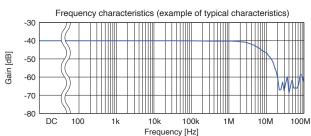
<sup>\*</sup>Does not apply to devices to which the probe is connected; when used with a 20 MHz bandwidth instrument devices

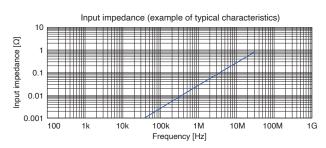
#### Accuracy (amplitude)

to 500 A	to 700 A peak
±1.0% rdg. ±5 mV	±2.0% rdg.

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	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 $\times$ 69 mm (2.72 in.) H $\times$
	27 mm (1.06 in.) D
	Termination unit: 27 mm (1.06 in.) W x 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>\*2:</sup> Does not apply to devices to which the probe is connected; when used with a 20 MHz bandwidth instrument devices

High-accuracy measurement (ME15W)			
Pass-through types	Rated current	Frequency 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	
0070.07			
9272-05	20 A, 200 A	1 Hz to 100 kHz	
9272-05 CT6841-05	20 A, 200 A 20 A	1 Hz to 100 kHz DC to 1 MHz	
	,		
CT6841-05	20 A	DC to 1 MHz	
CT6841-05 CT6843-05	20 A 200 A	DC to 1 MHz DC to 500 kHz	
CT6841-05 CT6843-05 CT6844-05	20 A 200 A 500 A	DC to 1 MHz DC to 500 kHz DC to 200 kHz	
CT6841-05 CT6843-05 CT6844-05 CT6845-05	20 A 200 A 500 A 500 A	DC to 1 MHz DC to 500 kHz DC to 200 kHz DC to 100 kHz	
CT6841-05 CT6843-05 CT6844-05 CT6845-05 CT6846-05	20 A 200 A 500 A 500 A 1000 A	DC to 1 MHz DC to 500 kHz DC to 200 kHz DC to 100 kHz DC to 20 kHz Frequency	
CT6841-05 CT6843-05 CT6844-05 CT6845-05 CT6846-05 Direct-wired types	20 A 200 A 500 A 500 A 1000 A Rated current	DC to 1 MHz DC to 500 kHz DC to 200 kHz DC to 100 kHz DC to 20 kHz To 20 kHz DC to 20 kHz	
CT6841-05 CT6843-05 CT6844-05 CT6845-05 CT6846-05 Direct-wired types	20 A 200 A 500 A 500 A 1000 A Rated current	DC to 1 MHz DC to 500 kHz DC to 200 kHz DC to 100 kHz DC to 20 kHz Frequency range DC to 3.5 MHz	
CT6841-05 CT6843-05 CT6844-05 CT6845-05 CT6846-05 Direct-wired types PW9100A-3 PW9100A-4	20 A 200 A 500 A 500 A 1000 A Rated current	DC to 1 MHz DC to 500 kHz DC to 200 kHz DC to 100 kHz DC to 20 kHz DC to 20 kHz Frequency range DC to 3.5 MHz DC to 3.5 MHz	
CT6841-05 CT6843-05 CT6844-05 CT6845-05 CT6846-05 Direct-wired types PW9100A-3 PW9100A-4 Connection options	20 A 200 A 500 A 500 A 1000 A Rated current 50 A 50 A	DC to 1 MHz DC to 500 kHz DC to 200 kHz DC to 100 kHz DC to 20 kHz DC to 20 kHz Frequency range DC to 3.5 MHz DC to 3.5 MHz	
CT6841-05 CT6843-05 CT6844-05 CT6845-05 CT6846-05 Direct-wired types PW9100A-3 PW9100A-4 Connection options CT9555	20 A 200 A 500 A 500 A 1000 A Rated current 50 A 50 A 10th, external power su output function 1 ch, external power su	DC to 1 MHz DC to 500 kHz DC to 200 kHz DC to 100 kHz DC to 20 kHz Prequency range DC to 3.5 MHz DC to 3.5 MHz DC to 3.5 MHz DC to 3.5 MHz DD to 3.5 MHz	
CT6841-05 CT6843-05 CT6844-05 CT6845-05 CT6846-05 Direct-wired types PW9100A-3 PW9100A-4 Connection options CT9555	20 A 200 A 500 A 500 A 1000 A Rated current 50 A 500 A 100 cycle a series of the serie	DC to 1 MHz DC to 500 kHz DC to 200 kHz DC to 100 kHz DC to 20 kHz Frequency range DC to 3.5 MHz DC to 3.5 MHz DC to 3.5 MHz upply, with waveform upply, includes waveform/aggregated-	
CT6841-05 CT6843-05 CT6844-05 CT6845-05 CT6846-05 Direct-wired types PW9100A-3 PW9100A-4 Connection options CT9555 CT9556	20 A 200 A 500 A 500 A 1000 A Rated current 50 A 50 A 100 ch, external power stoutput function 1 ch, external power stwith waveform/RMS ot 4 ch, external power stwith waveform/aggregated-RMS output functions	DC to 1 MHz DC to 500 kHz DC to 200 kHz DC to 100 kHz DC to 20 kHz Frequency range DC to 3.5 MHz DC to 3.5 MHz DC to 3.5 MHz upply, with waveform upply, includes waveform/aggregated-	
CT6841-05 CT6843-05 CT6844-05 CT6845-05 CT6846-05  Direct-wired types  PW9100A-3 PW9100A-4  Connection options  CT9555  CT9556  CT9557	20 A 200 A 500 A 500 A 1000 A Rated current 50 A 50 A 100 A 100 A Recompany Section 10 Company Section 10 Co	DC to 1 MHz DC to 500 kHz DC to 200 kHz DC to 100 kHz DC to 20 kHz Frequency range DC to 3.5 MHz DC to 3.5 MHz DC to 3.5 MHz upply, with waveform upply, itput function upply, includes waveform/aggregated-	
CT6841-05 CT6843-05 CT6844-05 CT6845-05 CT6846-05  Direct-wired types  PW9100A-3 PW9100A-4  Connection options  CT9555  CT9556  CT9557  L9217 9165	20 A 200 A 500 A 500 A 1000 A Rated current 50 A 50 A 100 A 100 A Rated current 50 A 50 A 100 A 100 A Rated current 100 A 100	DC to 1 MHz DC to 500 kHz DC to 200 kHz DC to 100 kHz DC to 20 kHz Frequency range DC to 3.5 MHz DC to 3.5 MHz DC to 3.5 MHz upply, with waveform upply, includes waveform/aggregated- seled waveform output	

Waveform observation (BNC)			
High-sensitivity observation	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 minuscule currents	Rated current	Frequency range	
CT6700	5 A	DC to 50 MHz	
CT6701	5 A	DC to 120 MHz	
Observation of large currents	Rated current	Frequency range	
3273-50	30 A	DC to 50 MHz	
3276	30 A	DC to 100 MHz	
3274	150 A	DC to 10 MHz	
3275	500 A	DC to 2 MHz	
Connection options			
3269	4 ch, external power supply, total output 2.5 A		
3272	2 ch, external power su	pply, total output 600 mA	

Grid power quality control (PL14)			
Measurement of load current	Rated current	Frequency range	
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 options			
CT9920	Converts PL14 terminal	to ME15W terminal	
L9095	Connects CM7290, CM7291 and instrument		
L0220-01	Extends a cable with a PL14 terminal, 2 m (6.56 ft.)		
L0220-02	Extends a cable with a PL14 terminal, 5 m (16.40 ft.)		
L0220-03	Extends a cable with a PL14 terminal, 10 m (32.81 ft.)		
L0220-04	Extends a cable with a PL14 terminal, 20 m (65.62 ft.)		
L0220-05	Extends a cable with a PL14 terminal, 30 m (98.43 ft.)		
L0220-06	Extends a cable with a PL14 terminal, 50 m (164.04 ft.)		
L0220-07	Extends a cable with a PL14	terminal, 100 m (328.08 ft.)	

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*1	40 Hz to 1 kHz	
9018-50	10 A - 500 A*1	40 Hz to 3 kHz	
9132-50	20 A - 1000 A*2	40 Hz to 1 kHz	
9661	500 A	40 Hz to 5 kHz	
9669	500 A	40 Hz to 5 kHz	
Measurement of large currents	Rated current	Frequency range	
CT9667-01	500 A, 5000 A	10 Hz to 20 kHz	
CT9667-02	500 A, 5000 A	10 Hz to 20 kHz	
CT9667-03	500 A, 5000 A	10 Hz to 20 kHz	
Measurement of leakage current	Rated current	Frequency range	
9657-10	10 A	40 Hz to 5 kHz	
9675	10 A	40 Hz to 5 kHz	
Connection options			
9219	Converts crimped terminal to BNC terminal		
L9910	Converts BNC terminal to PL14 terminal		
9704	Converts BNC terminal to banana terminal		
*1: Can switch between ranges (10, 20, 50, 100, 200, 500 A AC.)			

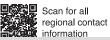
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<sup>\*1:</sup> Can switch between ranges (10, 20, 50, 100, 200, 500 A AC ) \*2: Can switch between ranges (20, 50, 100, 200, 500, 1000 A AC )