

Specifications

Accuracy

Reading (displayed value):

Indicates the value displayed by the instrument. Limit values for reading errors are expressed as a percentage of the reading (“% of reading” or “% rdg”).

Range:

Indicates the instrument’s range. Limit values for range errors are expressed as a percentage of the range (“% of range” or “% rng”).

Full scale (rated current):

Indicates the rated current. Limit values for full-scale errors are expressed as a percentage of full scale (“% of full scale” or “% f.s.”).

Operating environment	Indoor use, pollution degree 2, altitude up to 2000 m (6562 ft.)
Operating temperature and humidity range	-40°C to 85°C (-40°F to 185°F) 80% RH or less (non-condensing)
Storage temperature and humidity range	-40°C to 85°C (-40°F to 185°F) 80% RH or less (non-condensing)
Standards	Safety: EN 61010 EMC: EN 61326
Withstand voltage	7.4 kV AC (sensed current: 1 mA) 50 Hz/60 Hz for 1 minute, between through window and cable output terminal
Power supply	Supplied from PW8001, PW6001, PW3390, CT9555, CT9556, CT9557, U8977 or external DC power supply Rated supply voltage: ±11.5 V to ±15 V (Tracking) Maximum rated current: ±500 mA (2000 A/55 Hz measurement, ±12 V power supply)
Maximum rated power	9.5 VA (2000 A/55 Hz measurement, ±12 V power supply)
Interface	Dedicated interface (ME15W)
Dimensions	Approx. 229W × 232H × 112D mm (9.02"W × 9.13"H × 4.41"D) (excluding protrusions and the cable)
Output cable length	CT6877A: Approx. 3 m CT6877A-1: Approx. 10 m
Mounting hole diameter	φ6 mm (M5 hexagon socket head cap screws, recommended tightening torque: 1.5 N•m to 2.0 N•m)
Weight	CT6877A: Approx. 5 kg (176.4 oz.) CT6877A-1: Approx. 5.3 kg (186.9 oz.)
Product warranty duration	3 years
Accessories	Mark bands ×6 Instruction Manual Operating Precautions (0990A907)
Options	CT9901 Conversion Cable CT9902 Extension Cable
Memory function	Sensor information can be read for products with memory function support. Applicable product: PW8001
Rated current	2000 A AC/DC
Measurable conductor diameter	φ80 mm or less
Maximum input current	Not exceeding derating curve shown in Figure 1 However, a current of up to ±3200 A peak (design value) is allowable for up to 20 ms at 40°C or less.
Output voltage	1 mV/A
Maximum rated line-to-ground voltage	1000 V (Measurement category III) Anticipated transient overvoltage: 8000 V
Output resistance	50 Ω ±10 Ω
Accuracy guarantee conditions	Accuracy guarantee duration: 1 year Accuracy guarantee duration after adjustment made by Hioki: 1 year Accuracy guarantee temperature and humidity range: 0°C to 40°C (32°F to 104°F), 80% RH or less No warm-up required, sine wave inputted, connected with measuring instrument with input resistance 1 MΩ ±10%, line-to-ground voltage: 0 V, no external magnetic field, conductor arranged at center of window

Measurement accuracy

Frequency	Amplitude	Phase
	±(% of reading + % of full scale)	
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 ≤ 10 kHz	0.5% + 0.02%	± (0.3 + 0.1 × f)°
10 kHz < f ≤ 50 kHz	1.5% + 0.05%	
50 kHz < f ≤ 100 kHz	2.5% + 0.05%	
100 kHz < f ≤ 700 kHz	(0.025 × f)% + 0.05%	-
Frequency range	1 MHz (±3 dB Typical)	-

- The variable f in accuracy equations is expressed in kHz.
- Accuracy of amplitude and phase is specified with 110% of full scale input or less and not exceeding derating curve in Figure 1. However, design values are given for DC < f < 10 Hz.
- Add ±0.01% of reading to amplitude accuracy when input is 100% of full scale to 110% of full scale.
- For the CT6877A-01, add the following values to accuracy in the range of 1 kHz < f ≤ 700 kHz.
Amplitude accuracy: ±(0.005 × f [kHz])% of reading
Phase accuracy: ±(0.015 × f [kHz])°

Linearity error *1 *2	±10 ppm Typical (23°C)
Offset voltage *2	±5 ppm Typical (23°C, no input)
Amplitude error *3	DC: ±15 ppm Typical*2 10 Hz to 100 Hz: ±0.01% Typical 100 Hz to 1 kHz: ±0.04% Typical 1 kHz to 10 kHz: ±0.25% Typical 10 kHz to 100 kHz: ±1% Typical 100 kHz to 300 kHz: ±2% Typical 300 kHz to 700 kHz: ±10% Typical

- *1: Measuring the output voltage while cycling the input current (DC) from +2000 A → 0 A → -2000 A → 0 A → +2000 A at an interval of 400 A. Defined as the difference between the regression line calculated from the above measurements and the measurement points.
- *2: Defined as a percentage of the rated current.
- *3: DC error is defined as (linearity error + offset voltage). AC error is defined as deviation from the 55 Hz measurement point.

Output noise	300 μV rms or less (≤ 1 MHz)
Effects of temperature	Within the range of -40°C to 0°C or 40°C to 85°C Amplitude sensitivity: ±15 ppm of reading/°C Offset voltage: ±0.5 ppm of full scale/°C
Effects of magnetization	10 mA or less (input equivalent, after 2000 A DC is inputted)
Common mode rejection ratio (CMRR)	140 dB or more (50 Hz/60 Hz) 120 dB or more (100 kHz) (Effect on output voltage / common-mode voltage)
Effects of conductor position	DC, 50 Hz/60 Hz: ±0.01% of reading or less (input current: 100 A) 1 kHz: ±0.05% of reading or less (input current: 10 A) 10 kHz: ±0.2% of reading or less (input current: 10 A) 100 kHz: ±0.8% of reading or less (input current: 10 A) When wire of outer diameter 10 mm is used
Effects of external magnetic field	80 mA or less (input equivalent, under a magnetic field of 400 A/m DC or 400 A/m with 60 Hz)
Effects of radiated radio-frequency electromagnetic field	5% of full scale or less at 10 V/m
Effects of conducted radio-frequency electromagnetic field	1% of full scale or less at 10 V

Connectable products

1. PW8001 Power Analyzer

-1. U7001 Combined accuracy

Frequency	Current	Power	Phase
	±(% of reading + % of range)	±(% of reading + % of range)	
DC	0.06% + 0.058%	0.06% + 0.058%	U7001 accuracy + sensor accuracy (Consider sensor rating for full scale error.)
45 Hz ≤ f ≤ 66 Hz	0.06% + 0.058%	0.06% + 0.058%	
Bands other than DC and 45 Hz ≤ f ≤ 66 Hz	U7001 accuracy + sensor accuracy (Consider sensor rating for full scale error.)		

- For other measurement parameters, U7001 accuracy + sensor accuracy (consider sensor rating for full scale error).
- For the 40 A range or the 80 A range, add ±0.15% of range.
- Add accuracy according to each condition in specifications of the power analyzer and sensor.
- Defined after zero adjustment has been performed.

-2. U7005 Combined accuracy

Frequency	Current	Power	Phase
	±(% of reading + % of range)	±(% of reading + % of range)	
DC	0.06% + 0.038%	0.06% + 0.038%	U7005 accuracy + sensor accuracy (Consider sensor rating for full scale error.)
45 Hz ≤ f ≤ 66 Hz	0.05% + 0.028%	0.05% + 0.028%	
Bands other than DC and 45 Hz ≤ f ≤ 66 Hz	U7005 accuracy + sensor accuracy (Consider sensor rating for full scale error.)		

- For other measurement parameters, U7005 accuracy + sensor accuracy (consider sensor rating for full scale error).
- For the 40 A range or the 80 A range, add ±0.15% of range.
- Add accuracy according to each condition in specifications of the power analyzer and sensor.
- Defined after zero adjustment has been performed.

2. PW6001 Power Analyzer

Combined accuracy

Frequency	Current	Power	Phase
	±(% of reading + % of range)	±(% of reading + % of range)	
DC	0.06% + 0.038%	0.06% + 0.058%	PW6001 accuracy + sensor accuracy (Consider sensor rating for full scale error.)
45 Hz ≤ f ≤ 66 Hz	0.06% + 0.028%	0.06% + 0.038%	
Bands other than DC and 45 Hz ≤ f ≤ 66 Hz	PW6001 accuracy + sensor accuracy (Consider sensor rating for full scale error.)		

- For other measurement parameters, PW6001 accuracy + sensor accuracy (consider sensor rating for full scale error).
- For the 40 A range or the 80 A range, add ±0.15% of range.
- Add accuracy according to each condition in specifications of the power analyzer and sensor.
- Defined after zero adjustment has been performed.

3. PW3390 Power Analyzer

Combined accuracy

Frequency	Current	Power	Phase
	±(% of reading + % of range)	±(% of reading + % of range)	
DC	0.09% + 0.078%	0.09% + 0.078%	PW3390 accuracy + sensor accuracy (Consider sensor rating for full scale error.)
45 Hz ≤ f ≤ 66 Hz	0.08% + 0.058%	0.08% + 0.058%	
Bands other than DC and 45 Hz ≤ f ≤ 66 Hz	PW3390 accuracy + sensor accuracy (Consider sensor rating for full scale error.)		

- For other measurement parameters, PW3390 accuracy + sensor accuracy (consider sensor rating for full scale error).
- For the 40 A range or the 80 A range, add ±0.15% of range.
- Add accuracy according to each condition in specifications of the power analyzer and sensor.
- Defined after zero adjustment has been performed.

4. CT9555, CT9556, CT9557 Sensor Unit

Combined accuracy

- Sensor accuracy is applicable (with output coaxial cable of length 1.6 m or less).
- Add sensor unit accuracy when RMS output or total output is used.
- Add accuracy according to each condition in specifications of the products to be connected and sensor.

5. U8977 3CH Current Unit

Combined accuracy

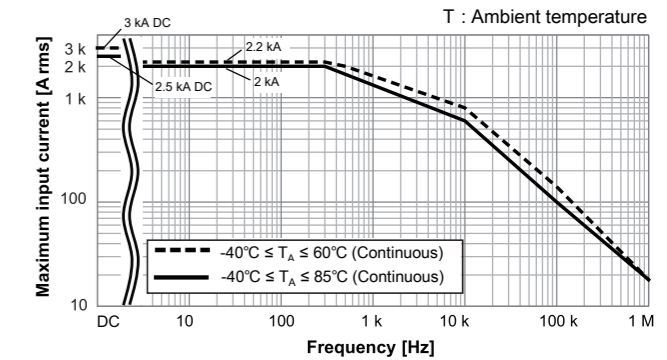
- (U8977 accuracy) + (sensor accuracy)
- Add accuracy according to each condition in specifications of Memory HiCorder to be connected and sensor.
- Defined after zero adjustment has been performed.

6. Other connectable products

Connecting CT9901 Conversion Cable enables the device to be used in combination with the following products:

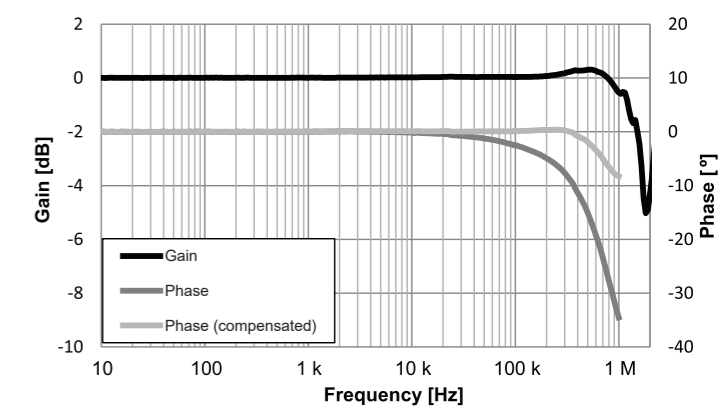
Combined product	Combined accuracy and conditions
9555-10 Sensor Unit	(Combined accuracy) = Sensor accuracy With output coaxial cable of length 1.6 m or less
3390, 3390-10 Power Analyzer	Recognized as [AC/DC 200 A]. Set CT ratio to [10]. (Combined accuracy) = (3390 (-10) accuracy) + (sensor accuracy), (power factor: 1) Defined after zero adjustment has been performed.

Figure 1. Frequency Derating Curve

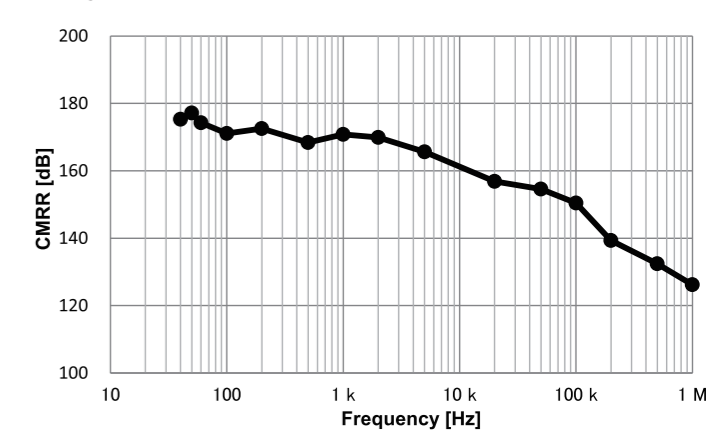


Characteristics

Frequency characteristics (Typical)



CMRR (Typical)



Linearity error (Typical)

