

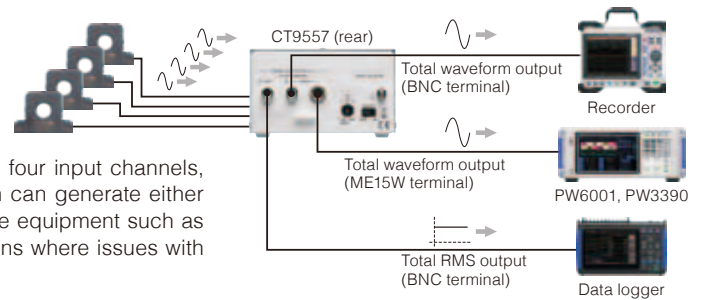
# Aggregate and measure large currents in multi-cable circuits

The Sensor Unit CT9555 Series are power supplies for high-precision current sensors with waveform output functionality.

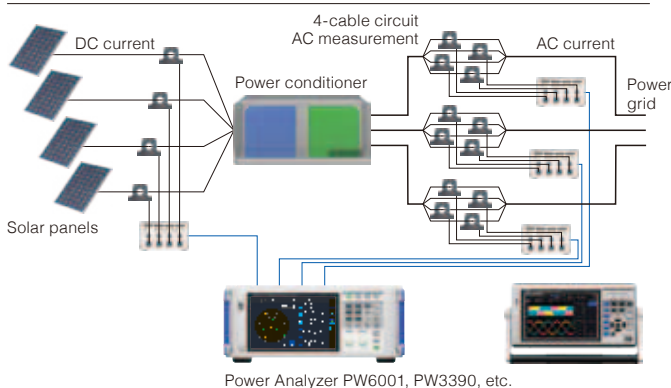
In addition to serving as a four-channel power supply, the CT9557 can also output a single waveform from an aggregate of input waveforms.



The CT9557's total output function adds current waveforms from up to four input channels, converting them into a 2 V f.s. waveform for output. The device, which can generate either total waveform output or total RMS output, makes it possible to measure equipment such as high-capacity solar power conditioners and inverters, even in installations where issues with ratings and cable diameters made measurement impossible in the past.

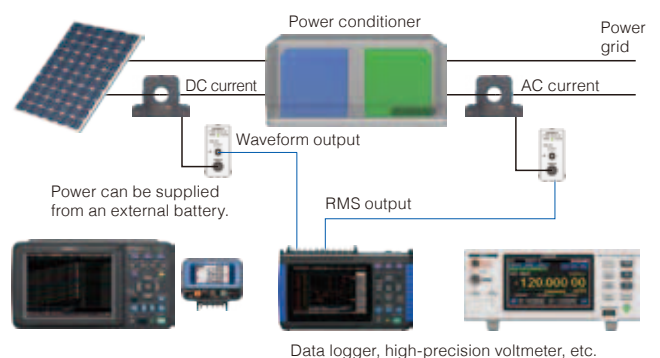


### Measuring large currents and multi-cable circuits with sum functionality

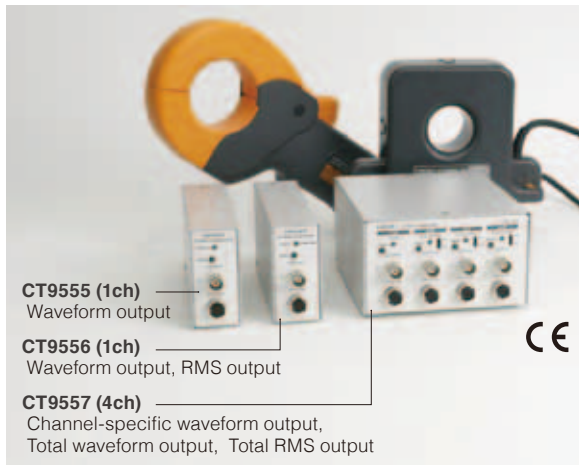


Once a current sensor has been attached to each branch cable, the CT9557 adds the sensor signals together to create a total signal. Since the device can treat multiple sensors as a single sensor, as illustrated in the figure above, the current can be measured using a single power meter.

### Using a data logger to perform high-precision current measurement



In this setup, waveform output is monitored on the DC current side, and RMS output is monitored on the AC current side of the circuit. Even a logger that lacks RMS conversion functionality can be used to measure AC current. A wireless logger can also be used. If a high-precision voltmeter is used, both the AC and DC currents can be measured with a high degree of precision.



**CT9555 (1ch)** —  
Waveform output

**CT9556 (1ch)** —  
Waveform output, RMS output

**CT9557 (4ch)** —  
Channel-specific waveform output,  
Total waveform output, Total RMS output

The CT9555 series with CT9900 can also be used as a replacement for Hioki's legacy 9555-10.

## Compatible products

### AC/DC CURRENT SENSOR (pass-through type)

CT6862-05	50 A AC/DC	φ24 mm	DC to 1 MHz
CT6863-05	200 A AC/DC	φ24 mm	DC to 500 kHz
9709-05	500 A AC/DC	φ36 mm	DC to 100 kHz
CT6865-05	1000 A AC/DC	φ36 mm	DC to 20 kHz

### AC/DC CURRENT PROBE (clamp-on type)

CT6841-05	20 A AC/DC	φ20 mm	DC to 1 MHz
CT6843-05	200 A AC/DC	φ20 mm	DC to 500 kHz
CT6844-05	500 A AC/DC	φ20 mm	DC to 200 kHz
CT6845-05	500 A AC/DC	φ50 mm	DC to 100 kHz
CT6846-05	1000 A AC/DC	φ50 mm	DC to 20 kHz

### AC/DC CURRENT BOX (direct-connect type)

PW9100-03, -04	50 A AC/DC	Terminal block (M6 screws)	DC to 3.5 MHz
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## Specifications

(Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)

Model	SENSOR UNIT CT9557		SENSOR UNIT CT9556	SENSOR UNIT CT9555
Model No. (Order Code)	CT9557		CT9556	CT9555
Appearance				
Connectable current sensors	Current sensors with a Hioki ME15W (male) output connector (CT686x-05, CT684x-05, etc.)			
Output voltage	Waveform output/ total waveform output: 2 V f.s. Total RMS output: 2 V DC f.s.		Waveform output: 2 V f.s. RMS output: 2 V DC f.s.	Waveform output: 2 V f.s.
Output resistance	50 Ω			
Operating temperature range	-10 °C to 50 °C (14 °F to 122 °F)			
Product warranty period	1 year			
Power supply	<ul style="list-style-type: none"> <li>AC Adapter Z1002 (100 to 240 V AC, 50/60 Hz, maximum rated power when used with sensors: 155 VA)</li> <li>External power supply (10 to 30 V DC; maximum rated power: 60 VA)</li> </ul>		<ul style="list-style-type: none"> <li>AC Adapter Z1008 (100 to 240 V AC, 50/60 Hz, maximum rated power when used with sensors: 45 VA)</li> <li>External power supply (10 to 30 V DC; maximum rated power: 15 VA)</li> </ul>	
Response time	0.8 s for both RMS output and total RMS output (when the input value changes as follows: 0% to 90%, 100% to 10%)			Not defined
Dimensions	116 mm (4.57 in)W × 67 mm (2.64 in)H × 132 mm (5.20 in)D mm (excluding protruding parts)		33 mm (1.30 in)W × 67 mm (2.64 in)H × 132 mm (5.20 in)D mm (excluding protruding parts)	
Mass	420 g (14.8 oz)		200 g (7.1 oz)	
Accessories	AC Adapter Z1002, power cord, user manual		AC Adapter Z1008, power cord, user manual	

### Total waveform output accuracy (CT9557)

Frequency	Amplitude accuracy	Phase accuracy
DC	±0.06 %rdg. ±0.03 %f.s.	Not defined
DC ≤ f ≤ 1 kHz	±0.06 %rdg. ±0.03 %f.s.	±0.1 deg.
1 kHz < f ≤ 10 kHz	±0.10 %rdg. ±0.03 %f.s.	±(0.1×f kHz) deg.
10 kHz < f ≤ 100 kHz	±0.20 %rdg. ±0.10 %f.s.	
100 kHz < f ≤ 300 kHz	±1.0 %rdg. ±0.20 %f.s.	
300 kHz < f ≤ 700 kHz	±5.0 %rdg. ±0.20 %f.s.	
700 kHz < f ≤ 1 MHz	±10.0 %rdg. ±0.50 %f.s.	

### Total RMS output accuracy (CT9557), RMS output accuracy (CT9556)

Frequency	Accuracy
DC	±0.2 %rdg. ±0.1 %f.s.
5 Hz < f ≤ 10 Hz	±0.3 %rdg. ±0.5 %f.s.
10 Hz < f < 45 Hz	±0.2 %rdg. ±0.2 %f.s.
45 Hz ≤ f ≤ 66 Hz	±0.2 %rdg. ±0.1 %f.s.
66 Hz < f ≤ 10 kHz	±0.2 %rdg. ±0.2 %f.s.
10 kHz < f ≤ 100 kHz	±0.3 %rdg. ±0.5 %f.s.
100 kHz < f ≤ 300 kHz	±5.0 %rdg. ±0.5 %f.s.
300 kHz < f ≤ 700 kHz	±7.0 %rdg. ±0.5 %f.s.
700 kHz < f ≤ 1 MHz	±10.0 %rdg. ±1.0 %f.s.

## Options



**CONNECTION CABLE CT9904**  
Hioki ME15W (12 pin) terminal to ME15W (12 pin) terminal, 1 m (3.28 ft) length (for connecting CT9557 total output to PW6001 or PW3390 only)



**CONNECTION CORD L9217**  
Cord has insulated BNC connectors at both ends, 1.6 m (5.25 ft) length



**CONNECTION CORD 9165**  
Cord has metallic BNC connectors at both ends, use at metallic terminal, 1.5 m (4.92 ft) length



**CONVERSION CABLE CT9901**  
Hioki ME15W (12 pin) to Hioki PL23 (10 pin) connector



**CONVERSION CABLE CT9900**  
Hioki PL23 (10 pin) to Hioki ME15W (12 pin) connector

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