



9709 AC/DC CURRENT SENSOR

Clamp Sensors 

Measure with Absolute Precision

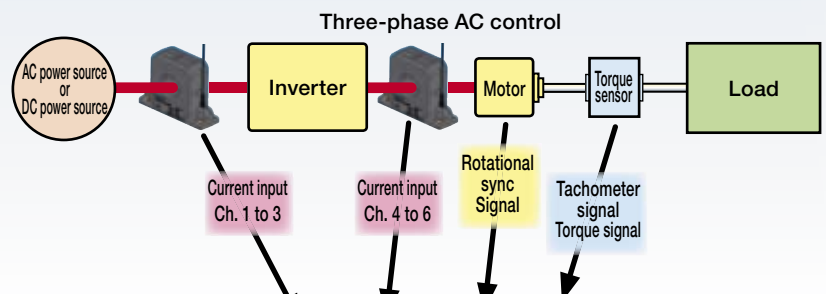
Features

- Rated at 500A rms (maximum 700A rms, 1000A peak)
- Wide bandwidth: DC to 100 kHz
- Super high precision: $\pm 0.05\%$ rdg. $\pm 0.01\%$ f.s.
- Excellent characteristics: Conductor position/external magnetic field/magnetization effect
- Compatible with cables up to 36mm (1.42") in diameter
- CAT III 1000 V Safety
- Convenient voltage output design



The 9709 AC/DC CURRENT SENSOR offers superior precision on measurement of large-current, wide-bandwidth signals. Use in combination with HIOKI's high performance power meters to achieve advanced measurement capabilities to meet a wide variety of applications in the field of electrical vehicle, inverter and fuel cell development.

Ideal for comprehensive evaluation of large-current, wide-bandwidth, and high-precision inverter motors



3194 MOTOR/HARMONIC HITESTER



ISO 9001
JMI-0216



ISO 14001
JQA-E-90091



HIOKI company overview, new products, environmental considerations and other information are available on our website.

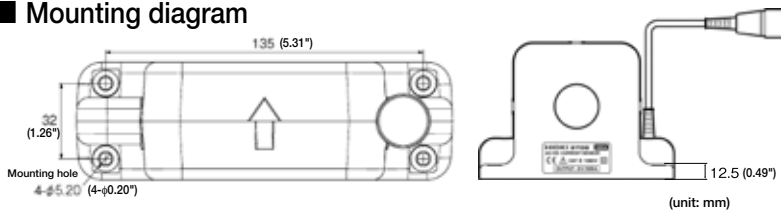
<http://www.hioki.co.jp/>

Specifications

(Accuracy guaranteed for 6 months; accuracy is given for 23°C ±5°C, up to 80% rh, combination with model 9555, warm-up time of 10 minutes, within derating range)

Rated current	500A AC/DC
Output voltage	2V/500A
Maximum input current	700A rms (1000A peak, 50/60 Hz, continuous)
Output resistance	50 Ω
Amplitude precision	DC < f < 45 Hz : ±0.2% rdg. ±0.02% f.s. (DC < f < 5 Hz is reference value) DC, 45 Hz ≤ f < 100 Hz : ±0.05% rdg. ±0.01% f.s. 100 Hz ≤ f < 500 Hz : ±0.2% rdg. ±0.02% f.s. 500 Hz ≤ f < 5 kHz : ±0.5% rdg. ±0.05% f.s. 5 kHz ≤ f < 10 kHz : ±2.0% rdg. ±0.10% f.s. 10 kHz ≤ f < 50 kHz : ±5.0% rdg. ±0.50% f.s. 50 kHz ≤ f < 100 kHz : ±30% rdg. ±1.00% f.s.
Phase precision	DC < f < 45 Hz : ±0.3 deg (No stipulation for DC accuracy, DC < f < 20 Hz is design value) 45 Hz ≤ f < 100 Hz : ±0.2 deg 100 Hz ≤ f < 5 kHz : ±0.5 deg 5 kHz ≤ f < 10 kHz : ±1.0 deg 10 kHz ≤ f < 50 kHz : ±5.0 deg 50 kHz ≤ f < 100 kHz : ±15 deg
Temperature coefficient	Amplitude sensitivity: ±0.01% rdg./°C or less Offset voltage ±0.005% f.s./°C or less
Effect of conductor position	±0.05% or less (when using 100A DC input, and cable with an external diameter of 10 mm(0.39"))
Effect of external magnetic field	50mA or less (400A/m, 60 Hz and a DC magnetic field)
Effect of magnetization	20mA or less (after 500A DC input)
Maximum rated voltage against ground	1000V AC/DC (50/60 Hz) (measurement category III)
Measurable conductor diameter	36 mm(1.42") or less
Supply voltage	DC ±11 V to ±15 V (tracking)
Power consumption	5 VA or less (during 500A DC measurement, with ±12 V power supply)
Dimensions/weight	160 W(6.30") × 112 H(4.41") × 50 D(1.97") mm, 850 g(30.0oz.)
Cord length	3 m(9.84ft)
Accessories	Mark bands × 6, Operating Manual × 1
Storage temperature and humidity range	-10°C to 60°C, 80% rh or less (with no condensation)
Operating temperature and humidity range	0°C to 50°C, 80% rh or less (with no condensation)
Applicable standards	Safety: EN61010-1:2001, pollution class 2, measurement category CAT III 1000 V (expected transient overvoltage of 8000 V) EMC: EN61326:1997 + A1: 1998 + A2: 2001+A3:2003

Mounting diagram



9709 AC/DC CURRENT SENSOR

(Accessories: Mark bands, Instruction Manual)

Options

9555 SENSOR UNIT

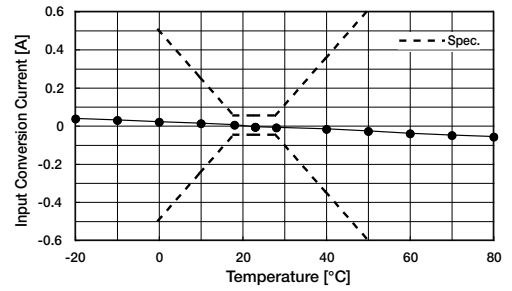
* When using the 9709 AC/DC CURRENT SENSOR on a standalone basis, the 9555 SENSOR UNIT can be used as a power supply.

9602 AC/DC CLAMP INPUT UNIT

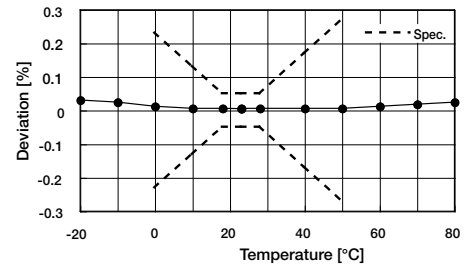
* The 9602 is required when using the 9709 AC/DC CURRENT SENSOR in combination with the 3193 POWER HITESTER or the 3194 MOTOR/HARMONIC HITESTER.



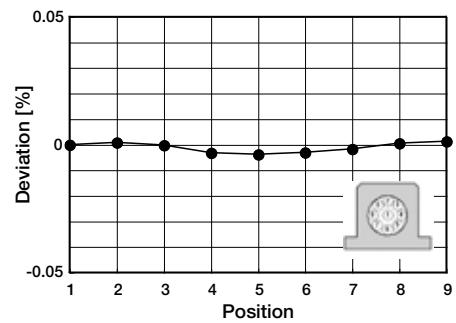
Offset - Temperature Characteristics



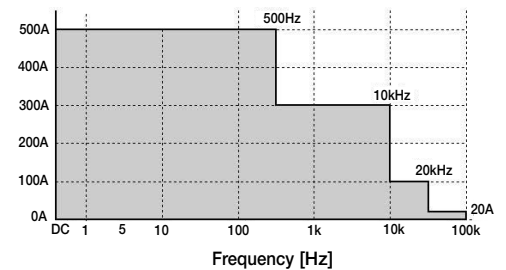
Sensitivity - Temperature Characteristics



Effect of Conductor Position (ref:φ10 mm(0.39") wire)



Derating Characteristics



HIOKI instruments compatible with Model 9709

Model number	Compatibility level
9555	Full
9602(3193)	Full (Subtract 0.1% rdg from the standard accuracy of the 9709 when used in this combination)
8951(8855)	Full
8940(8860, 8835)	Partial
3167	(Please contact your HIOKI distributor for further information.)

HIOKI

HIOKI E. E. CORPORATION

HEAD OFFICE :

81 Koizumi, Ueda, Nagano, 386-1192, Japan
TEL +81-268-28-0562 / FAX +81-268-28-0568
E-mail: os-com@hioki.co.jp

HIOKI USA CORPORATION :

6 Corporate Drive, Cranbury, NJ 08512 USA
TEL +1-609-409-9109 / FAX +1-609-409-9108
E-mail: hioki@hiokiusa.com

Shanghai Representative Office :

1704 Shanghai Times Square Office
93 Huaihai Zhong Road
Shanghai, 200021, P.R.China
TEL +86-21-6391-0090, 0092
FAX +86-21-6391-0360
E-mail: info@hioki.cn

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