

Clamp Tester Line-up to Suit Your Needs Selection guide

Model	3280-10, 3280-20	3281, 3282	3284, 3285, 3285-20	3287, 3288, 3288-20	3291-50
					
True RMS rectifier	(3280-20) ✓ Crest factor 2.5 or less	✓ Crest factor 2.5 or less 3281: 2.5 (1.7 at 600 A range) 3282: 2.5 (1.7 at 1000 A range)	✓ Crest factor 2.5 or less 3284: 2.5 (1.5 at 200 A range) 3285/3285-20: 2.5 (1.42 at 2000 A range)	3287, 3288-20: ✓ Crest factor 3287: 2.5 (150 A, 100 V max.) 3288-20: 3 (2 at 1000 A, 1.5 at AC V)	✓ Crest factor 2.8 or less (1.68 at 1000 A range)
MEAN rectifier	(3280-10) ✓	N/A	N/A	3288: ✓	N/A
AC Current ranges	42.00/ 420.0/ 1000 A	(3281) 30.00/ 300.0/ 600 A (3282) 30.00/ 300.0/ 1000 A	AC, AC+DC (True RMS or Peak value) (3284) 20.00/ 200.0 A (3285/3285-20) 200.0/ 2000 A	(3287) 10.00/ 100.0 A (3288/3288-20) 100.0/ 1000 A	60.00/ 600.0/ 1000 A
AC Voltage ranges	4.200/ 42.00/ 420.0/ 600 V	300.0/ 600 V	AC, AC+DC (True RMS or Peak value) 30.00/ 300.0/ 600 V	(3287) 4.200/ 42.00/ 420.0/ 600 V (3288/3288-20) 4.200/ 42.00/ 420.0/ 600 V	N/A
Frequency characteristics	(3280-10) AC A: 50 or 60 Hz (3280-20) AC A: 40 to 1 kHz AC V: 50 to 500 Hz	40 to 1000 Hz	(3284) DC, 10 to 2 kHz (3285/3285-20) DC, 10 to 1 kHz	(3287) DC, 10 to 1 kHz (3288/3288-20) DC, 10 to 500 Hz AC V: 30 to 500 Hz	45 to 400 Hz
DC Current ranges	N/A	N/A	DC (Average or Peak value) (3284) 20.00/ 200.0 A (3285/3285-20) 200.0/ 2000 A	(3287) 10.00 or 100.0 A (3288/3288-20) 100.0 or 1000 A	N/A
DC Voltage ranges	420.0 m/ 4.200/ 42.00/ 420.0/ 600 V DC	N/A	30.00/ 300.0/ 600 V DC	420.0 m/ 4.200/ 42.00/ 420.0/ 600 V DC	N/A
Basic accuracy (at 50/60Hz)	AC A: $\pm 1.5\%$ rdg. ± 5 dgt. AC V: $\pm 2.3\%$ rdg. ± 8 dgt. DC V: $\pm 1.3\%$ rdg. ± 4 dgt.	AC A: $\pm 1\%$ rdg. ± 5 dgt. AC V: $\pm 1\%$ rdg. ± 3 dgt.	AC A: $\pm 1.3\%$ rdg. ± 3 dgt. AC V: $\pm 1.0\%$ rdg. ± 3 dgt.	AC A: $\pm 1.5\%$ rdg. ± 5 dgt. AC V: $\pm 2.3\%$ rdg. ± 8 dgt. DC A: $\pm 1.5\%$ rdg. ± 5 dgt. DC V: $\pm 1.3\%$ rdg. ± 4 dgt.	AC A: $\pm 1.5\%$ rdg. ± 5 dgt.
Resistance ranges	420.0 to 42.00 M Ω , 6 ranges	1000 or 10.00 k Ω	N/A (3285-20 only: 1000 or 10.00 k Ω)	420.0 Ω to 42.00 M Ω , 6 ranges	N/A
Continuity	✓	✓	N/A (3285-20 only: ✓)	✓	N/A
Frequency (Hz)	N/A	✓	✓	N/A	N/A
Other functions	Data hold, Auto power save	Current wave peak value, Voltage wave peak value, Distortion check, Max./ Min./ Average value record, Data hold, Auto power off	AC+DC mode, Max./ Min./ Average value record, Data hold, Peak hold, Auto power off, Auto zero	Data hold, Auto power save, Auto zero (DC A)	N/A
Monitor / Analog output	N/A	N/A	(3285-20 : N/A)	N/A	N/A
Display refresh rate	2.5 times/s, 1 time/3s	2.5 times/s, 1 time/3s	4 times/s (FAST), 1 time/3s (SLOW)	2.5 times/s	1.1 sec or less
Max. rated voltage to earth	600 V AC rms	600 V AC rms	600 V AC rms	600 V AC rms	600 V AC rms
Measurement categories (current)	CAT III 600V	3281: CAT III 600V 3282: CAT IV 600V	CAT III 600V	CAT III 600V	CAT III 600V CAT IV 300V
Measurement categories (voltage)	CAT III 300V CAT II 600V	CAT IV 600V	CAT III 600V	CAT III 300V CAT II 600V	N/A
Core jaw diameter	$\phi 33$ mm	(3281) $\phi 33$ mm (3282) $\phi 46$ mm	(3284) $\phi 33$ mm (3285/3285-20) $\phi 55$ mm	$\phi 35$ mm	$\phi 30$ mm
Power supply	CR2032 $\times$ 1	6F22 (006P) $\times$ 1	6F22 (006P) $\times$ 1, or AC adapter (except for 3285-20)	CR2032 $\times$ 1	CR2032 $\times$ 1
Model	3280-10	3281	3284	3287	3291-50
Dimensions and mass	57 mm (2.24 in) W $\times$ 175 mm (6.89 in) H $\times$ 16 mm (0.63 in) D, 100 g (3.5 oz)	62 mm (2.44 in) W $\times$ 218 mm (8.58 in) H $\times$ 39 mm (1.54 in) D, 350 g (12.3 oz)	62 mm (2.44 in) W $\times$ 230 mm (9.06 in) H $\times$ 39 mm (1.54 in) D, 460 g (16.2 oz)	57 mm (2.24 in) W $\times$ 180 mm (7.09 in) H $\times$ 16 mm (0.63 in) D, 170 g (6.0 oz)	50 mm (1.97 in) W $\times$ 136 mm (5.35 in) H $\times$ 26 mm (1.02 in) D, 115 g (4.1 oz)
Model	3280-20	3282	3285, 3285-20	3288, 3288-20	
Dimensions and mass	57 mm (2.24 in) W $\times$ 175 mm (6.89 in) H $\times$ 16 mm (0.63 in) D, 100 g (3.5 oz)	62 mm (2.44 in) W $\times$ 230 mm (9.06 in) H $\times$ 39 mm (1.54 in) D, 400 g (14.1 oz)	62 mm (2.44 in) W $\times$ 260 mm (10.24 in) H $\times$ 39 mm (1.54 in) D, 540 g (19.0 oz)	57 mm (2.24 in) W $\times$ 180 mm (7.09 in) H $\times$ 16 mm (0.63 in) D, 150 g (5.3 oz)	

Clamp Tester Line-up to Suit Your Needs

Selection guide

Model	3283	3293-50	3286-20	3290, 3290-10
				
True RMS rectifier	Crest factor 2.5 (1.5 at 200 A range)	Crest factor 2.8 or less (1.68 at 1000 A range)	Crest factor 2.5 or less (1.7 at 1000 A, 600 V range)	(3290, 3290-10) ✓ Crest factor 2.5 or less
MEAN rectifier	N/A	N/A	N/A	(3290) ✓
AC Current ranges	10.00 m/ 100.0 m/ 1.000/ 10.00/ 200.0 A	30.00 m/ 300.0 m/ 6.000/ 60.00/ 600.0/ 1000 A	20.00/ 200.0/ 1000 A	20.00/ 100.0 A (using the CT9691 sensor) 20.00/ 200.0 A (using the CT9692 sensor) 200.0/ 2000 A (using the CT9693 sensor)
AC Voltage ranges	N/A	N/A	150.0/ 300.0/ 600 V	N/A
Frequency characteristics	40 to 2 kHz	45 to 400 Hz	AC A: 45 to 1 kHz AC V: 30 to 1 kHz	DC, or 1 Hz to 1 kHz
DC Current ranges	N/A	N/A	N/A	20.00/ 100.0 A (using the CT9691 sensor) 20.00/ 200.0 A (using the CT9692 sensor) 200.0/ 2000 A (using the CT9693 sensor)
DC Voltage ranges	N/A	N/A	N/A	N/A
Basic accuracy (at 50/60Hz)	AC A: $\pm 1.0\%$ rdg. ± 5 dgt. (at 10 m to 10 A range)	AC A: $\pm 1.5\%$ rdg. ± 5 dgt.	AC A: $\pm 1.3\%$ rdg. ± 3 dgt. AC V: $\pm 1.0\%$ rdg. ± 3 dgt.	$\pm 1.3\%$ rdg. ± 0.10 A/ ± 0.5 A (at 20 to 200 A DC) $\pm 1.3\%$ rdg. ± 0.08 A/ ± 0.3 A (at 20 to 200 A AC)
Resistance ranges	N/A	N/A	N/A (3285-20 only: 1000 or 10.00 k Ω)	N/A
Continuity	N/A	N/A	N/A (3285-20 only: ✓)	N/A
Frequency (Hz)	✓	N/A	✓	N/A
Other functions	Filter function, Max./ Min./ Average value record, Data hold, Auto power off	N/A	Power: $\pm 2.3\%$ rdg. ± 5 dgt. (at single phase, P.F.=1), $\pm 3.0\%$ rdg. ± 10 dgt. (at balanced three phase, P.F.=1)	Response speed select, Filter (3290-10 only) Integral current mea- surement, Rate measurement, Timer settings, Data storage
Monitor / Analog output	✓	N/A	N/A	✓
Display refresh rate	4 times/s (Fast), 1 time/3s (Slow), 4 times/s (bar graph)	1.1 sec or less	1 time/s (Normal) 1 time/3s (Slow), 1 time/2s (Harmonic level)	4 times/s (Fast), 1 time/3s (Slow), 4 times/s (bar graph)
Max. rated voltage to earth	300 V AC rms	300 V AC rms	600 V AC rms	600 V AC rms
Measurement categories (current)	CAT III 300V	CAT III 300V	CAT III 600V	CAT III 600V (Sensor rating)
Measurement categories (voltage)	N/A	N/A	CAT III 600V	N/A
Core jaw diameter	$\phi 40$ mm	$\phi 24$ mm	$\phi 55$ mm or 80 mm bus-bar	CT9691: $\phi 35$ mm, CT9692: $\phi 33$ mm, CT9693: $\phi 55$ mm
Power supply	6F22 (006P) $\times$ 1, or AC adapter	CR2032 $\times$ 1	6LR61/6LF22 (006P) $\times$ 1	LR6 (AA) alkaline batteries $\times$ 4, or AC adapter (3290-10 only) External power
Model	3283	3293-50	3286-20	3290, 3290-10
Dimensions and mass	62 mm (2.44 in) W $\times$ 225 mm (8.86 in) H $\times$ 39 mm (1.54 in) D, 400 g (14.1 oz)	50 mm (1.97 in) W $\times$ 130 mm (5.12 in) H $\times$ 26 mm (1.02 in) D, 135 g (4.8 oz)	100 mm (3.94 in) W $\times$ 287 mm (11.3 in) H $\times$ 39 mm (1.54 in) D, 650 g (22.9 oz)	155 mm (6.10 in) W $\times$ 98 mm (3.86 in) H $\times$ 47 mm (1.85 in) D, 545 g (19.2 oz)

Clamp Meters/Leak

Easily Read Measured Values from All Heights with the Adjustable Display

CLAMP ON LEAK HiTESTER 3293-50



CE
CAT III 300 V
True RMS

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

AC Current	30.00 m/ 300.0 m/ 6.000/ 60.00/ 600.0/ 1000 A, 6 ranges, 45 Hz to 400 Hz, True RMS Basic accuracy: $\pm 1.5\%$ rdg. ± 5 dgt. (50/60 Hz, filter ON)
AC Voltage	N/A
Frequency	N/A
Crest factor	2.8 or less (1.68 or less at 1000 A range)
Filter function	Cut off frequency 180 Hz at filter ON (-3 dB)
Output function	N/A
Other functions	Flip-open mechanism (but still retaining proper orientation of display), Backlight, Maximum value display, Data hold, Auto power off
Display	Digital LCD, max. 6000 dgt., 91 segments Display refresh rate: 1.1 sec or less
Power supply	Coin type lithium battery (CR2032) $\times 1$, Continuous use 18 hours
Core jaw dia.	$\phi 24$ mm (0.94 in)
Dimensions and mass	50 mm (1.97 in) W $\times$ 130 mm (5.12 in) H $\times$ 26 mm (1.02 in) D, 135 g (4.8 oz)
Accessories	Carrying case 9757 $\times 1$, Strap $\times 1$, Instruction manual $\times 1$, Coin type lithium battery (CR2032, for trial purposes only) $\times 1$

- Measure for leakage current and load all with the same device
- Innovative flip clamp design
- Flip display to see measurement readings from any angle
- 1mA to 1000A accuracy guaranteed, 6 ranges and bar graph display
- Measure and display only the leakage current of commercial frequency components using the filter function

Order Code: 3293-50



Easily Monitor Leak Current Fluctuations

CLAMP ON LEAK HiTESTER 3283



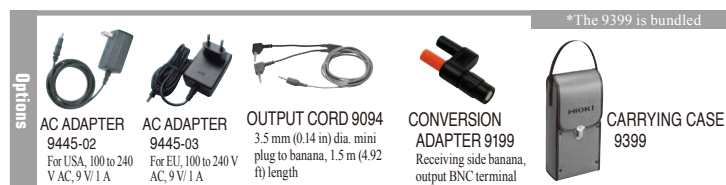
CE
CAT III 300 V
Insulated conductor
True RMS

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

AC Current	10.00m/ 100.0m/ 1.000/ 10.00/ 200.0 A, 5 ranges, (40 Hz to 2 kHz, True RMS), Basic accuracy: $\pm 1.0\%$ rdg. ± 5 dgt.
AC Voltage	N/A
Frequency	30.0 Hz to 1000 Hz, 2 ranges, Basic accuracy: $\pm 0.3\%$ rdg. ± 1 dgt.
Crest factor	2.5 or less (1.5 at 200 A range)
Filter function	Cut off frequency at filter ON: 180 Hz (-3dB)
Output	REC output for current: DC 1 V/f.s. (2 V/f.s. at only 200 A range), response time: less than 200 ms. MON output for current: AC 1 V/f.s. (2 V/f.s. at only 200 A range), 5 Hz to 15 kHz frequency bandwidth (-3 dB)
Other functions	Max./ Min./ Average value record, Data hold, Auto power off
Display	LCD, max. 2000 dgt., Display refresh rate: 4 times/s (Fast), 1 time/3s (Slow), 4 times/s (bar graph)
Power supply	6F22 (Stacked manganese battery) $\times 1$, Continuous use: 40 hours, or AC adapter 9445-02/-03
Core jaw dia.	$\phi 40$ mm (1.57 in)
Dimensions and mass	62 mm (2.44 in) W $\times$ 225 mm (8.86 in) H $\times$ 39 mm (1.54 in) D, 400 g (14.1 oz)
Accessories	Carrying case 9399 $\times 1$, Hand strap $\times 1$, Stacked manganese battery (6F22) $\times 1$, Instruction manual $\times 1$

- Measure leak current using highly sensitive 10 μ A resolution (at 10.00 mA range)
- Indicate 50/60 Hz leak current components with the filtering function
- Monitor leak current conditions in combination with a Memory HiCorder (monitor output)

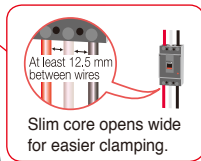
Order Code: 3283



Clamp Meters

Easily Read Measured Values from All Heights with the Adjustable Display

CLAMP ON HiTESTER 3291-50



Display rotates freely through 180° to keep measurements in view.



- Innovative flip clamp design
- Flip display to see measurement readings from any angle
- Max. 1000A, 3 ranges, Bar graph display

Order Code: 3291-50

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

AC Current	60.00/ 600.0/ 1000 A, 3 ranges, 45 Hz to 400 Hz, True RMS Basic accuracy: $\pm 1.5\%$ rdg. ± 5 dgt. (50/60 Hz, filter ON)
AC Voltage	N/A
Frequency	N/A
Crest factor	2.8 or less (1.68 or less at 1000 A range)
Filter function	Cut off frequency 180 Hz at filter ON (-3 dB)
Output function	N/A
Other functions	Flip-open mechanism (but still retaining proper orientation of display), Back light, Maximum value display, Data hold, Auto power off
Display	Digital LCD, max. 6000 dgt., 91 segments Display refresh rate: 1.1 sec or less
Power supply	Coin type lithium battery (CR2032) $\times 1$, Continuous use 20 hours
Core jaw dia.	ϕ 30 mm (1.18 in)
Dimensions and mass	50 mm (1.97 in) W $\times$ 136 mm (5.35 in) H $\times$ 26 mm (1.02 in) D, 115 g (4.1 oz)
Accessories	Carrying case 9757 $\times 1$, Strap $\times 1$, Instruction manual $\times 1$, Coin type lithium battery (CR2032, for trial purposes only) $\times 1$



All the Functions You Need for Measurement at DC or 1Hz and Up

CLAMP ON AC/DC HiTESTER 3290



Sensor is sold separately

- Choice of three sensors
Measure up to 100 A, 200 A, or 2000 A rated current
- Correctly measure for inverter current with AC+DC mode and True RMS rectification
- Choice of output (Simultaneous output): Effective value, waveform, frequency, and integral value output
- Choice of response time with three steps
- Model 3290-10 supports current integration and operating ratio measurements

Order Code: 3290

3290-10 (with integral current measurement)

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

	3290	3290-10
Measurement modes	DC, AC+DC (True RMS), AC (True RMS/ Average rectified)	DC, AC+DC (True RMS), AC (True RMS)
Peak value display	Absolute value (of waveform peak)	Polarities independently ($\pm$ peak value of waveform, in DC mode)
Separate AC/DC output	Separate constituent element of AC, DC	N/A
Output (terminal 1)	Current waveform or true RMS value (2 V / setting range), Frequency value (1 V DC / setting range)	Current waveform or true RMS value (2 V / setting range)
Output (terminal 2)	Rms current/Low-battery warning switch	Current integral value (1 V DC / setting range)
Integral current measurement	N/A	$\pm$, $+$, $-$ integral, average value
Rate measurement	N/A	Operating time rate, total measurement time
Timer settings	N/A	99 h, 59 min. (for repeated up to 20 times)
Data storage	N/A	Peak, integral value, operating time rate, or other
Basic accuracy at DC current	20.00/ 100.0 A (using the CT9691 sensor): $\pm 1.3\%$ rdg. ± 0.10 A / ± 0.5 A 20.00/ 200.0 A (using the CT9692 sensor): $\pm 1.3\%$ rdg. ± 0.10 A / ± 0.5 A 200.0/ 2000 A (using the CT9693 sensor): $\pm 1.8\%$ rdg. ± 1.0 A / ± 5 A	20.00/ 100.0 A (using the CT9691 sensor): $\pm 1.3\%$ rdg. ± 0.08 A / ± 0.3 A 20.00/ 200.0 A (using the CT9692 sensor): $\pm 1.3\%$ rdg. ± 0.08 A / ± 0.3 A 200.0/ 2000 A (using the CT9693 sensor): $\pm 1.3\%$ rdg. ± 0.8 A / ± 3 A
Basic accuracy at AC current (45 to 66 Hz)	20.00/ 100.0 A (using the CT9691 sensor): $\pm 1.3\%$ rdg. ± 0.08 A / ± 0.3 A 20.00/ 200.0 A (using the CT9692 sensor): $\pm 1.3\%$ rdg. ± 0.08 A / ± 0.3 A 200.0/ 2000 A (using the CT9693 sensor): $\pm 1.3\%$ rdg. ± 0.8 A / ± 3 A	20.00/ 100.0 A (using the CT9691 sensor): $\pm 1.3\%$ rdg. ± 0.08 A / ± 0.3 A 20.00/ 200.0 A (using the CT9692 sensor): $\pm 1.3\%$ rdg. ± 0.08 A / ± 0.3 A 200.0/ 2000 A (using the CT9693 sensor): $\pm 1.3\%$ rdg. ± 0.8 A / ± 3 A
Voltage measurement	N/A	N/A
Frequency measurement	1.00 Hz to 1000 Hz, Basic accuracy: $\pm 0.3\%$ rdg. ± 1 dgt.	1.00 Hz to 1000 Hz, Basic accuracy: $\pm 0.3\%$ rdg. ± 1 dgt.
Crest factor	2.5 or less, or rated peak value of sensor	2.5 or less, or rated peak value of sensor
Frequency characteristics	DC, or 1 Hz to 1 kHz (accuracy guaranteed range) At monitor output: based on the using sensor	DC, or 1 Hz to 1 kHz (accuracy guaranteed range) At monitor output: based on the using sensor
Other functions	Switching measurement response speed, Turning the filter on/off ($f_c=550$ Hz)	Switching measurement response speed, Turning the filter on/off ($f_c=550$ Hz)
Display refresh rate	4 times/s (Fast), 1 time/3s (Slow), 4 times/s (bar graph)	4 times/s (Fast), 1 time/3s (Slow), 4 times/s (bar graph)
Power supply	LR6 (AA) alkaline batteries $\times 4$, Continuous use : 22 hr, or AC adapter 9445-02/-03 (The 3290-10 only: $+8.4$ to 15.6 V DC external power supply possible)	LR6 (AA) alkaline batteries $\times 4$, Continuous use : 22 hr, or AC adapter 9445-02/-03 (The 3290-10 only: $+8.4$ to 15.6 V DC external power supply possible)
Dimensions and mass	155 mm (6.10 in) W $\times$ 98 mm (3.86 in) H $\times$ 47 mm (1.85 in) D, 545 g (19.2 oz)	155 mm (6.10 in) W $\times$ 98 mm (3.86 in) H $\times$ 47 mm (1.85 in) D, 545 g (19.2 oz)
Accessories	Strap $\times 1$, LR6 (AA) alkaline batteries $\times 4$, Instruction manual $\times 1$	Strap $\times 1$, LR6 (AA) alkaline batteries $\times 4$, Instruction manual $\times 1$

Field Measuring Instruments

Current measurement

CLAMP ON AC/DC SENSOR CT9691
DC to 10 kHz (-3dB), 100 A, 2 m (6.56 ft) length

CLAMP ON AC/DC SENSOR CT9692
DC to 20 kHz (-3dB), 200 A, 2 m (6.56 ft) length

CLAMP ON AC/DC SENSOR CT9693
DC to 15 kHz (-3dB), 2000 A, 2 m (6.56 ft) length

Other options

OUTPUT CORD 9094
3.5 mm (0.14 in) dia. mini plug to banana, 1.5 m (4.92 ft) length

CONVERSION ADAPTER 9199
Receiving side banana, output BNC terminal

CARRYING CASE 9400
Includes compartment for options

AC ADAPTER 9445-02
For USA, 100 to 240 V AC, 9 V / 1 A

AC ADAPTER 9445-03
For EU, 100 to 240 V AC, 9 V / 1 A

Clamp Meters

Compact & Easy, One-Touch Maintenance on All Types of AC/DC Equipment

CLAMP ON AC/DC HiTESTER 3288



Guaranteed for 3 years
CE
 CAT III 600 V (Current)
 CAT III 300 V (Voltage)
 CAT II 600 V (Voltage)

True RMS
 3288-20

- Model 3288-20: True RMS
- Use the 3288 for high current measurements such as UPS emergency batteries and train motors
- Voltage, resistance, and continuity check functions

Order Code **3288:** (1000 A AC/DC)
 3288-20: (1000 A AC/DC, True RMS)

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

	3288	3288-20
DC Current	100.0/ 1000 A, Basic accuracy: $\pm 1.5\%$ rdg. ± 5 dgt.	
AC Current	100.0/ 1000 A, (10 Hz to 500 Hz, Average rectified), Basic accuracy: $\pm 1.5\%$ rdg. ± 5 dgt.	100.0/ 1000 A, (10 Hz to 500 Hz, True RMS), Basic accuracy: $\pm 1.5\%$ rdg. ± 5 dgt.
DC Voltage	419.9 mV to 600 V, 5 ranges, Basic accuracy: $\pm 1.3\%$ rdg. ± 4 dgt.	
AC Voltage	4,199 V to 600 V, 4 ranges, Basic accuracy: $\pm 2.3\%$ rdg. ± 8 dgt. (30 to 500 Hz, Average rectified)	4,199 V to 600 V, 4 ranges, Basic accuracy: $\pm 2.3\%$ rdg. ± 8 dgt. (30 to 500 Hz, True RMS)
Resistance	419.9 Ω to 41.99 M Ω , 6 ranges, Basic accuracy: $\pm 2\%$ rdg. ± 4 dgt.	
Crest factor	N/A	3 or less (2 at 1000 A range, 1.5 at Voltage)
Other functions	Continuity: (50 Ω $\pm 40 \Omega$) or less buzzer sounds, Data hold, Auto power save, Auto zero (DC A)	
Display	LCD, max. 4199 dgt., Display refresh rate: 2.5 times/s	
Power supply	Coin type lithium battery (CR2032) $\times 1$, Continuous use 60 hours	Coin type lithium battery (CR2032) $\times 1$, Continuous use 35 hours
Core jaw dia.	ϕ 35 mm (1.38 in)	
Dimensions and mass	57 mm (2.24 in)W $\times$ 180 mm (7.09 in)H $\times$ 16 mm (0.63 in)D, 150 g (5.3 oz)	
Accessories	Instruction manual $\times 1$, Test lead L9208 $\times 1$, Carrying case 9398 $\times 1$	



Compact & Easy, One-Touch Maintenance on All Types of AC/DC Equipment

CLAMP ON AC/DC HiTESTER 3287



Guaranteed for 3 years
CE
 CAT III 600 V (Current)
 CAT III 300 V (Voltage)
 CAT II 600 V (Voltage)

True RMS

- True RMS
- Accurately measure even small currents with 10 A range
- Voltage, resistance, and continuity check functions

Order Code: **3287** (100 A AC/DC, True RMS)

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

DC Current	10.00/ 100.0 A, Basic accuracy: $\pm 1.5\%$ rdg. ± 5 dgt.
AC Current	10.00/ 100.0 A (10 Hz to 1 kHz, True RMS) Basic accuracy: $\pm 1.5\%$ rdg. ± 5 dgt.
DC Voltage	419.9 mV to 600 V, 5 ranges, Basic accuracy: $\pm 1.3\%$ rdg. ± 4 dgt.
AC Voltage	4,199 V to 600 V, 4 ranges (30 to 500 Hz, True RMS) Basic accuracy: $\pm 2.3\%$ rdg. ± 8 dgt.
Resistance	419.9 Ω to 41.99 M Ω , 6 ranges, Basic accuracy: $\pm 2\%$ rdg. ± 4 dgt.
Crest factor	2.5 or less (150 A, 100 V max.)
Other functions	Continuity: (50 Ω $\pm 40 \Omega$) or less buzzer sounds, Data hold, Auto power save, Auto zero (DC A)
Display	LCD, max. 4199 dgt., Display refresh rate: 2.5 times/s
Power supply	Coin type lithium battery (CR2032) $\times 1$, Continuous use 25 hours
Core jaw dia.	ϕ 35 mm (1.38 in)
Dimensions and mass	57 mm (2.24 in)W $\times$ 180 mm (7.09 in)H $\times$ 16 mm (0.63 in)D, 170 g (6.0 oz)
Accessories	Instruction manual $\times 1$, Test lead L9208 $\times 1$, Carrying case 9398 $\times 1$



Functionality and Safety Packed into a Handheld Unit

CLAMP ON POWER HiTESTER 3286-20



CE
 CAT III 600 V

True RMS

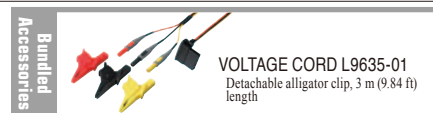
- Measure single-phase 600 kW lines and up to the 20th harmonic level
- Active/ reactive/ apparent power, power factor, phase detection, frequency, harmonic waveform value, or waveform peak value
- Simple checking of three-phase lines (balanced with no distortion)

Order Code: **3286-20**

Note: The 3286-20's three-phase power measurement method calculates and displays the power values for a sine wave input at 50/60 Hz, assuming it is balanced and there is no distortion. Accurate measurement is not possible on a three-phase line if it is not balanced, for example when controlled by an inverter or thyristor. Since there is no integration function, it is not possible to measure total energy consumed (Wh).

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

Measurement line	Single-phase, Three-phase (balanced with no distortion)
Measurement items	Voltage, Current, Voltage/current peak, Active/ reactive/ apparent power, Power factor, Phase angle, Reactivity, Frequency, Voltage/current harmonic levels
Voltage ranges	150.0 V to 600 V, 3 ranges Basic accuracy: $\pm 1.0\%$ rdg. ± 3 dgt. (at 45 - 66 Hz, True RMS)
Current ranges	20.00 A to 1000 A, 3 ranges Basic accuracy: $\pm 1.3\%$ rdg. ± 3 dgt. (at 45 - 66 Hz, True RMS)
Power ranges	[Single phase] 3,000 kW to 600.0 kW Basic accuracy: $\pm 2.3\%$ rdg. ± 5 dgt. (at 50/60 Hz, Power factor = 1) [Balanced three phase] 6,000 kW to 1200 kW Basic accuracy: $\pm 3.0\%$ rdg. ± 10 dgt. (at 50/60 Hz, Power factor = 1)
Harmonic levels	Voltage/current harmonic levels up to 20th, Content factor, Total harmonic distortion ratio
Other functions	[Phase angle] Forward 90.0 $^\circ$ to 0 to delay 90.0 $^\circ$ [Power factor] Forward 0 to 1.000 to delay 0 [Frequency] 30.0 Hz to 1000 Hz Waveform peak, Phase detection, Max. / Min. value record, Data hold, Auto power off, RS-232C output (Options are discontinued, so cannot use RS-232C)
Display	LCD, Max. 6000 digits, Display refresh rate: 1 time/s (Normal) 1 time/3s (Slow), 1 time/2s (Harmonic level)
Power supply	Stacked alkaline battery (6LR61, 6LF22) $\times 1$, Continuous use: 25 hours
Core jaw dia.	ϕ 55 mm (2.17 in) or 80 mm (3.15 in) $\times$ 20 mm (0.79 in) bus-bar
Dimensions and mass	100 mm (3.94 in)W $\times$ 287 mm (11.3 in)H $\times$ 39 mm (1.54 in)D, 650 g (22.9 oz)
Accessories	Carrying case 9245 $\times 1$, Voltage cord L9635-01 $\times 1$, Hand strap $\times 1$, Stacked alkaline battery (6LF22) $\times 1$, Instruction manual $\times 1$



Clamp Meters

AC/DC Current Measurements Up to 2000 A

CLAMP ON AC/DC HiTESTER 3285



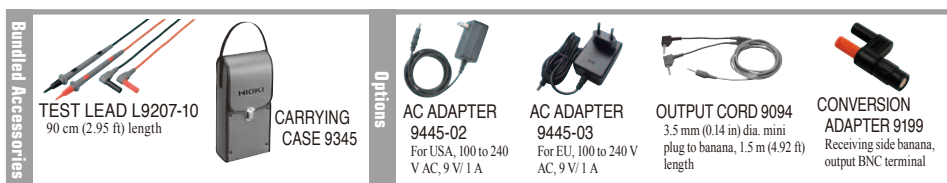
True RMS

- Analog output for current measuring level, current measuring waveform, or frequency measuring level.
- Peak hold function displays the crest value peak current up to 2840 A
- AC+DC mode enables measurement of the RMS value of full- or half-wave rectified waveforms
- Model 3285-20 adds resistance and continuity check functions

Order Code: 3285 (with monitor/analog output)
3285-20 (with Resistance, Continuity check)

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

	3285	3285-20
DC Current	200.0/ 2000 A, Basic accuracy: $\pm 1.3\%$ rdg. ± 3 dgt.	
AC Current	200.0/ 2000 A, (10 Hz to 1 kHz, True RMS), Basic accuracy: $\pm 1.3\%$ rdg. ± 3 dgt.	
DC Voltage	30.00 V to 600 V, 3 ranges, Basic accuracy: $\pm 1.0\%$ rdg. ± 3 dgt.	
AC Voltage	30.00 V to 600 V, 3 ranges, Basic accuracy: $\pm 1.0\%$ rdg. ± 3 dgt. (10 to 1 kHz, True RMS)	
Crest factor	2.5 or less (1.42 at 2000 A, 1.7 at 600 V)	
Monitor, Analog output	DC, or AC 1 V/ f.s., Level output, Waveform output: DC to 15 kHz bandwidth (± 3 dB)	N/A
Resistance, Continuity check	N/A	1000 Ω / 10.00 k Ω , Basic accuracy: $\pm 1.5\%$ rdg. ± 5 dgt., Continuity: Beep sound at 30 Ω or less
Frequency	1.00 Hz to 1000 Hz, Basic accuracy: $\pm 0.3\%$ rdg. ± 1 dgt.	
Other functions	AC+DC mode, Maximum/ Minimum/ Average value record function, Data hold, Peak hold, Auto power off, Auto zero	
Display	Display refresh rate: 4 times/s (Fast), 1 time/3s (Slow), 4 times/s (bar graph)	
Power supply	6F22 (Stacked manganese battery) $\times 1$, Continuous use: 25 hours, or AC adapter 9445-02/-03	6F22 (Stacked manganese battery) $\times 1$, Continuous use: 20 hours, Cannot use with the AC adapter
Core jaw dia.	$\phi 55$ mm (2.17 in)	
Dimensions and mass	62 mm (2.44 in) W $\times$ 260 mm (10.24 in) H $\times$ 39 mm (1.54 in) D, 540 g (19.0 oz)	
Accessories	Test lead L9207-10 $\times 1$, Carrying case 9345 $\times 1$, Hand strap $\times 1$, 6F22 (Stacked manganese battery) $\times 1$, Instruction manual $\times 1$	



Analysis for DC to Distorted Waves

CLAMP ON AC/DC HiTESTER 3284



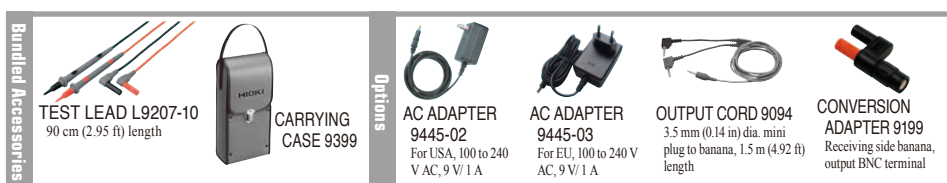
True RMS

- Analog output for current measuring level, current measuring waveform, or frequency measuring level.
- Peak hold function displays the crest value of the inrush current occurring when electrical equipment starts
- AC+DC mode enables measurement of the RMS value of full- or half-wave rectified waveforms

Order Code: 3284 (with monitor/analog output)

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

DC Current	20.00/ 200.0 A, Basic accuracy: $\pm 1.3\%$ rdg. ± 3 dgt.	
AC Current	20.00/ 200.0 A, (10 Hz to 2 kHz, True RMS), Basic accuracy: $\pm 1.3\%$ rdg. ± 3 dgt.	
DC Voltage	30.00 V to 600 V, 3 ranges, Basic accuracy: $\pm 1.0\%$ rdg. ± 3 dgt.	
AC Voltage	30.00 V to 600 V, 3 ranges, Basic accuracy: $\pm 1.0\%$ rdg. ± 3 dgt. (10 to 1 kHz, True RMS)	
Crest factor	2.5 or less (1.5 at 200 A, 1.7 at 600 V)	
Monitor, Analog output	DC, or AC 1 V/ f.s., Level output, Waveform output: DC to 20 kHz bandwidth (± 3 dB)	
Resistance, Continuity check	N/A	
Frequency	1.00 Hz to 1000 Hz, Basic accuracy: $\pm 0.3\%$ rdg. ± 1 dgt.	
Other functions	AC+DC mode, Maximum/ Minimum/ Average value record function, Data hold, Peak hold, Auto power off, Auto zero	
Display	Display refresh rate: 4 times/s (Fast), 1 time/3s (Slow), 4 times/s (bar graph)	
Power supply	6F22 (Stacked manganese battery) $\times 1$, Continuous use: 25 hours, or AC adapter 9445-02/-03	
Core jaw dia.	$\phi 33$ mm (1.30 in)	
Dimensions and mass	62 mm (2.44 in) W $\times$ 230 mm (9.06 in) H $\times$ 39 mm (1.54 in) D, 460 g (16.2 oz)	
Accessories	Test lead L9207-10 $\times 1$, Carrying case 9399 $\times 1$, Hand strap $\times 1$, 6F22 (Stacked manganese battery) $\times 1$, Instruction manual $\times 1$	



Clamp Meters

True RMS Multi-Functional Clamp Testers for Distorted Waveforms

DIGITAL CLAMP ON HITESTER 3281, 3282



CE
Current : CAT III 600 V
Voltage : CAT IV 600 V
3281



CE
CAT IV 600 V
3282



True RMS

- Choose from two models to measure current up to 600A or 1000A
- Multi-functional testing of AC current, voltage, frequency, resistance and wave peak value
- Non-fuse type protects up to 600 V AC

Order Code: 3281 (600 A AC)
3282 (1000 A AC)

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

	3281	3282
AC Current	30.00 to 600 A, 3 ranges (40 Hz to 1 kHz, True RMS), Basic accuracy: $\pm 1.0\%$ rdg. ± 5 dgt.	30.00 to 1000 A, 3 ranges (40 Hz to 1 kHz, True RMS), Basic accuracy: $\pm 1.0\%$ rdg. ± 5 dgt.
AC Voltage	300.0/ 600 V, (40 Hz to 1 kHz, True RMS), Basic accuracy: $\pm 1.0\%$ rdg. ± 3 dgt.	
Crest factor	2.5 or less (1.7 at 600 A, 1.7 at 600 V)	2.5 or less (1.7 at 1000 A, 1.7 at 600 V)
Monitor, Analog output	N/A	
Frequency	30.0 Hz to 1000 Hz, Basic accuracy: $\pm 0.3\%$ rdg. ± 1 dgt.	
Resistance, Continuity check	1000 Ω / 10.00 k Ω , Basic accuracy: $\pm 1.5\%$ rdg. ± 5 dgt., Continuity: Beep sound at 30 Ω or less	
Other functions	Current wave peak value, Voltage wave peak value, Distortion check (Crest factor 1.00 to 5.00), Maximum/ Minimum/ Average value record function, Data hold, Auto power off	
Display	LCD, Max. 3000 dgt., Display refresh rate: 4 times/s (Fast), 1 time/3s (Slow), 4 times/s (bar graph)	
Power supply	Stacked manganese battery (6F22) $\times 1$, Continuous use: 45 hours	
Core jaw dia.	ϕ 33 mm (1.30 in)	ϕ 46 mm (1.81 in)
Dimensions and mass	62 mm (2.44 in) W $\times$ 218 mm (8.58 in) H $\times$ 39 mm (1.54 in) D, 350 g (12.3 oz)	62 mm (2.44 in) W $\times$ 230 mm (9.06 in) H $\times$ 39 mm (1.54 in) D, 400 g (14.1 oz)
Accessories	Test lead L9207-10 $\times 1$, Instruction manual $\times 1$, Carrying case 9399 $\times 1$, Hand strap $\times 1$, Stacked manganese battery (6F22) $\times 1$	

Note: The 3281/3282 includes a temperature measurement function, but because the optional Thermister Temperature Probe 9462 has been discontinued, the function is not available for new customers.



Easy Clamping in Narrow Locations with 16 mm Slim Body

CLAMP ON HITESTER 3280



3280-10



True RMS
3280-20



CAT III 600 V (Current)
CAT III 300 V (Voltage)
CAT II 600 V (Voltage)

- Model 3280-10: Measure the fundamental waveform component using the average rectified method
- Model 3280-20: Measure even harmonic waveform components using the True RMS method
- Wide range of max. 1000 A, drop proof design withstands drop from a height of 1 meter

Order Code: 3280-10 (1000 A AC)
3280-20 (1000 A AC, True RMS)

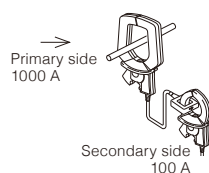
Basic specifications (Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)

	3280-10	3280-20
AC Current	41.99 to 1000 A, 3 ranges (50 to 60 Hz, Average rectified), Basic accuracy: $\pm 1.5\%$ rdg. ± 5 dgt.	41.99 to 1000 A, 3 ranges (40 Hz to 1 kHz, True RMS), Basic accuracy: $\pm 1.5\%$ rdg. ± 5 dgt.
DC Voltage	419.9 mV to 600 V, 5 ranges, Basic accuracy: $\pm 1.3\%$ rdg. ± 4 dgt.	
AC Voltage	4.199 V to 600 V, 4 ranges (50 to 500 Hz, Average rectified), Basic accuracy: $\pm 2.3\%$ rdg. ± 8 dgt.	4.199 V to 600 V, 4 ranges (50 to 500 Hz, True RMS), Basic accuracy: $\pm 2.3\%$ rdg. ± 8 dgt.
Crest factor	N/A	2.5 or less (1.5 at f.s. of range)
Resistance	419.9 Ω to 41.99 M Ω , 6 ranges, Basic accuracy: $\pm 2\%$ rdg. ± 4 dgt.	
Other functions	Continuity: (50 Ω $\pm$ 40 Ω) or less buzzer sounds, Data hold, Auto power save, Drop proof design withstands dropping onto a concrete floor from a height of 1 meter	
Display	LCD, max. 4199 dgt., Display refresh rate: 2.5 times/s, 1 time/3s	
Power supply	Coin type lithium battery (CR2032) $\times 1$, Continuous use 150 hours	Coin type lithium battery (CR2032) $\times 1$, Continuous use 50 hours
Core jaw dia.	ϕ 33 mm (1.30 in)	
Dimensions and mass	57 mm (2.24 in) W $\times$ 175 mm (6.89 in) H $\times$ 16 mm (0.63 in) D, 100 g (3.5 oz)	
Accessories	Instruction manual $\times 1$, Carrying case 9398 $\times 1$, Test lead L9208 $\times 1$	



Clamp-type CT that enables measurement in excess of 1000 A (clamp ammeter option/AC use only)

CLAMP ON ADAPTER 9290-10



CAT III 600 V

- Outputs large currents of 1000 A AC continuously (1500 A for 5 minutes) at a CT ratio of 10:1
- Expands the measurement range of normal clamp ammeters
- Excellent phase characteristics; also used to expand power meter measurement ranges

Basic specifications (Accuracy guaranteed for 1 year)

Rated primary current	AC 1000 A continued (Maximum 1500 A for 5 minutes or shorter)
Rated secondary current	AC 100 A (10 : 1 CT ratio)
Amplitude accuracy	$\pm 1.5\%$ rdg.
Phase accuracy	$\pm 1.0^\circ$ or less
Frequency characteristics	Amplitude: 20 Hz to 5 kHz: $\pm 2.0\%$ rdg. (deviation from accuracy) Phase: 20 Hz to 5 kHz: $\pm 1.0^\circ$ or less (deviation from accuracy)
Max. rated voltage to earth	600 V AC rms (insulated wire)
Core jaw dia.	$\phi 55$ mm (2.17 in) or 80 mm (3.15 in) $\times$ 20 mm (0.79 in) bus-bar
Dimensions and mass	99.5 mm (3.92 in) W $\times$ 188 mm (7.40 in) H $\times$ 42 mm (1.65 in) D, 580 g (20.5 oz), cord length 3 m (9.84 ft)
Accessories	Instruction manual $\times 1$, Mark band $\times 6$

Note: Cannot use with Model 9279