



AMPEROMETRIC CLAMPS	AC CLAMPS				
Model	HT4012	HT4014	HT9012	HT9014	HT9019
Current range	400A	400A	600A	600A	1000A
TRMS measurement					
LCD resolution (points)	2000	2000	2000	6000	6000
DC Voltage	•	•	•	•	•
AC Voltage	•	•	•	•	•
DC Current					
AC Current	•	•	•	•	•
AC+DC Current					
Inrush current of motors					
AC voltage detector			•	•	•
Resistance	•	•	•	•	•
Continuity test	•	•	•	•	•
Frequency		•	•	•	
Leakage current					
Diode test	•	•	•	•	
Duty Cycle				•	
Capacitance				•	
Temperature with type K probe				•	
Phase sequence indication 1 and 2-wires					
Phase conformity with 1-wire					
Active power					
Active/reactive/apparent power					
Power factor (cosφ)					
Energy					
Voltage/current harmonics up to 25th order					
Total Harmonic Distortion (THD%)					
Category of measurement	CAT III 1000V CAT IV 600V	CAT III 600V	CAT IV 600V CAT III 1000V	CAT IV 600V CAT III 1000V	CAT IV 600V CAT III 1000V
Bargraph		•		•	•
Backlight		•	•	•	•
Autorange	•	•	•	•	•
Autopoweroff	•	•	•	•	•
PEAK function				•	•
Data HOLD function	•	•	•	•	•
MAX/MIN function		•	•(MAX)	•	•
AVG (Average) function					
Relative measurement					
Low-pass filter					
Analoghe output					
Maximum diameter of cable	30mm	30mm	30mm	30mm	30mm
Size (L x W x H)mm	205x64x39	205x64x39	220x76x50	210x75x45	210x75x45
Weight	280g	280g	400g	400g	400g
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HT9022

CLAMP-ON POWER QUALITY ANALYZER WITH BLUETOOTH CONNECTION

HT9022 is a combination of a power quality analyzer, a phase sequence/conformity detector, a clamp meter and a voltage detector in one single handy device. The advanced design of HT9022 ensures reliable and accurate measurements under a wide range of operating conditions. HT9022 is the ideal instrument for troubleshooting power quality problems, calculating power factor correctors, recording energy consumption, recording DC power, etc.

Unlike the data loggers that take snapshots of the electrical parameters in regular intervals, losing what happens between an interval and the next, HT9022 continuously records all electrical parameters as a true power quality analyzer. The internal memory enables long-term recording for further download to (and analysis at) a PC, a PDA or a smartphone. HT9022 is flexible and portable to grant the user the most reliable measurements with an easy-to-use interface.



FUNCTIONS

Measuring/recording of DC and AC+DC TRMS voltage
Measuring/recording of DC and AC+DC TRMS current
Phase sequence and conformity
Measuring/recording of active, reactive and apparent power, power factor in single-phase and balanced three-phase systems
Measuring/recording of active, reactive and apparent energy in single-phase and balanced three-phase systems
Measuring/recording V / I harmonics up to the 25th order and THD%
Measuring/recording of DC power
Measuring/recording of current and voltage frequency
Resistance measurement and continuity test with buzzer
Inrush current
Non-contact AC voltage detection with built-in sensor

GENERAL SPECIFICATIONS

Display:	Dot matrix 128x128 with backlight
Power supply:	2x1,5V batteries AAA
Battery life:	>50h
Internal memory:	2Mb
PC interface:	Bluetooth
Safety:	IEC / EN61010-1, IEC / EN61010-2 - 032
Installation category:	CAT IV 600V to the ground, max 1000V between the inputs
Insulation:	double insulation
Pollution degree:	2
Max diameter of the clamped cable:	45mm
Size (LxWxH):	252x88x44mm
Weight (included batteries):	420g

ACCESSORIES

Couple of test leads
Carrying bag
Batteries
ISO9000 calibration certificate
User manual



HT9022
HP009022

HT9021 - HT9015

AMPEROMETRIC CLAMPS AC/DC 1000A AND 600A TRMS CAT IV

HT9021 and HT9015 have been designed for measuring AC/DC current respectively up to 1000A and up to 600A in TRMS reaching CAT IV 600V in compliance with standard IEC/EN61010-1. The clamps are provided with a wide display with 6000 reading dots, backlighting and analog bargraph to facilitate reading also in poorly lit environments. These models also carry out resistance, frequency, capacitance, temperature with type K probes and duty cycle measurements.

FUNCTIONS

- Measurements in TRMS
- AC/DC current up to 1000A (HT9021)
- AC/DC current up to 600A (HT9015)
- Resistance and continuity test
- “Voltsense” for detecting AC/DC voltage
- Frequency
- Capacitance
- Temperature with K-type probe
- Diode test
- Duty Cycle
- Autorange
- Data HOLD
- MAX/MIN
- Peak current (<10ms)
- Relative measurement
- Bargraph
- Backlight
- AutoPowerOFF

GENERAL SPECIFICATIONS

Display:	LCD, 4 digits, 6000 dots
Conversion type:	TRMS
Power supply:	1x9V battery type IEC 6F22
AutoPowerOff:	after 15 min of idleness
Clamp inner diameter:	45mm (HT9021) 30mm (HT9015)
Safety:	IEC/EN61010-1
Insulation:	double insulation
Pollution degree:	2
Measurement category:	CAT IV 600V - CAT III 1000V
Size (LxWxH):	252x88x44mm (HT9021) 210x75x45mm (HT9015)
Weight (batteries included):	420g (HT9021) 400g (HT9015)

TECHNICAL SPECIFICATIONS

DC voltage (Autorange)

Measuring range:	0.01mV ÷ 1000V
Basic accuracy:	±(1.0%reading + 3digits)

AC TRMS voltage (Autorange)

Measuring range:	0.001V ÷ 1000V
Bandwidth:	50Hz ÷ 400Hz
Basic accuracy:	±(1.0%reading + 4digits)

DC current

Measuring range:	0.01A ÷ 1000A (HT9021) 0.01A ÷ 600A (HT9015)
Basic accuracy:	±(2.0%reading + 8digits)

AC TRMS current

Measuring range:	0.01A ÷ 1000A (HT9021) 0.01A ÷ 600A (HT9015)
Bandwidth:	50Hz ÷ 400Hz
Basic accuracy:	±(2.8%reading + 8digits)

Resistance and continuity test

Measuring range:	0.1Ω ÷ 60MΩ
Basic accuracy:	±(1.0%reading + 5digits)
Continuity buzzer:	<50Ω

Frequency with clamp and probes

Measuring range:	0.01Hz ÷ 60kHz
Basic accuracy:	±(1.0%reading + 5digits)

Capacitance

Measuring range:	0.01nF ÷ 4mF
Basic accuracy:	±(2.5%reading + 5digits)

Temperature with K-type probe

Measuring range:	-20°C ÷ 760°C; -4°F ÷ 1400°F
Basic accuracy:	±(2.0%reading + 3°C); ±(2.0%reading + 6°F)

ACCESSORIES

Standard

- Pair of probes
- K-type wire probe + adapter
- Battery
- Transport bag
- User manual

Optional

- K-type thermocouples



HT9019

PROFESSIONAL AMPEROMETRIC CLAMP AC 1000A TRMS CAT IV

The professional amperometric clamp HT9019 has been designed for measuring AC current up to 1000A in TRMS for reaching CAT IV 600V in compliance with standard IEC/EN61010-1. The clamp is provided with a wide display with 6000 reading dots, backlighting and analogue bargraph to facilitate reading also in poorly lit environments. Clamp HT9019 has an auto power off function in order to preserve its internal battery.

FUNCTIONS

Measurements in TRMS
 AC current up to 1000A
 AC/DC voltage up to 1000V
 Resistance and continuity test
 "Voltsense" for detecting AC/DC voltage
 Autorange
 Data HOLD
 MAX/MIN
 Peak current (<10ms)
 Bargraph
 Backlight
 AutoPowerOff

TECHNICAL SPECIFICATIONS

DC voltage (Autorange)

Measuring range: 0.01mV ÷ 1000V
 Basic accuracy: ±(1.0%reading + 3digits)

AC TRMS voltage (Autorange)

Measuring range: 0.001V ÷ 1000V
 Bandwidth: 50Hz ÷ 400Hz
 Basic accuracy: ±(1.0%reading + 4digits)

AC TRMS current

Measuring range: 0.01A ÷ 1000A
 Bandwidth: 50Hz ÷ 400Hz
 Basic accuracy: ±(2.8%reading + 8digits)

Resistance and continuity test

Measuring range: 0.1Ω ÷ 60MΩ
 Basic accuracy: ±(1.0%rdg + 5dgt)
 Continuity buzzer: <50Ω

GENERAL SPECIFICATIONS

Display: LCD, 4 digits, 6000 dots
 Conversion type: TRMS
 Power supply: 1x9V battery type IEC 6F22
 AutoPowerOff: after 15 min of idleness
 Clamp inner diameter: 45mm
 Safety: IEC/EN61010-1
 Measurement category: CAT IV 600V – CAT III 1000V
 Insulation: double insulation
 Pollution degree: 2
 Size (LxWxH): 252x88x44mm
 Weight (batteries included): 420g

ACCESSORIES

Standard

Pair of probes
 Battery
 Transport bag
 User manual



HT9019
 HP009019

HT9012 - HT9014 PROFESSIONAL AMPEROMETRIC CLAMPS AC 600A IN CAT IV

The professional amperometric clamps HT9012 and HT9014 have been designed for measuring AC current up to 600A for reaching respectively CAT IV 600V and CAT III 1000V in compliance with standard IEC/EN61010-1. The clamps are provided with a wide display and with an auto power off function in order to preserve the internal battery. Model HT9014, in TRMS and provided with a 6000-dot display allows carrying out tests with an optimal resolution, taking advantage of a wide measuring range.

FUNCTIONS	HT9012	HT9014
Measurements in TRMS		•
DC/AC voltage	•	•
AC current	•	•
Resistance / continuity test	•	•
Frequency		•
“Voltsense” sensor	•	•
Diode test	•	•
Temperature with K-type probe		•
Capacitance		•
Duty Cycle		•
Autorange		•
Data HOLD	•	•
MAX/MIN	(MAX only)	•
Peak current (<10ms)		•
Relative measurement		•
Bargraph		•
Backlight	•	•
AutoPowerOff	•	•



GENERAL SPECIFICATIONS	
Display:	LCD, 3 ½ digits, 2000 dots (HT9012) LCD, 4 digits, 6000 dots (HT9014)
Conversion type:	average value (HT9012) TRMS (HT9014)
Power supply:	1x9V battery type IEC 622
AutoPowerOff:	after 15 min of idleness
Clamp inner diameter:	30mm
Safety:	IEC/EN61010-1
Measurement category:	CAT IV 600V - CAT III 1000V
Insulation:	double insulation
Pollution degree:	2
Size (LxWxH):	210x75x45mm
Weight (batteries included):	400g

TECHNICAL SPECIFICATIONS	HT9012	HT9014
DC Voltage		
Measurement range:	0.1mV ÷ 600V	0.1mV ÷ 1000V
Basic accuracy:	±(1.0%rdg + 3dgt)	±(0.5%rdg + 2dgt)
AC Voltage		
Measurement range:	1mV ÷ 600V	1.5mV ÷ 1000V
Bandwidth:	50 ÷ 60Hz	50 ÷ 400Hz
Basic accuracy:	±(1.0%rdg + 4dgt)	±(1.0%rdg + 4dgt)
Measurement range:	1mA ÷ 600A	1mA ÷ 600A
Bandwidth:	50 ÷ 60Hz	50 ÷ 60Hz
Basic accuracy:	±(2.5%rdg + 4dgt)	±(2.5%rdg + 4dgt)
Resistance and continuity test		
Measurement range:	0.1Ω ÷ 20MΩ	0.1Ω ÷ 60MΩ
Basic accuracy:	±(1.0%rdg + 4dgt)	±(1.0%rdg + 45dgt)
Continuity buzzer:	<100Ω	<100Ω
Capacitance (HT9014 only)		
Measurement range:		0.01nF ÷ 4000nF
Basic accuracy:		±(2.5%rdg + 5dgt)
Temperature with K-type probe (HT9014 only)		
Measurement range:		-20°C ÷ 760°C; -4°F ÷ 1400°F
Basic accuracy:		±(2.0%rdg + 3°C); ±(2.0%rdg + 6°F)
Frequency with clamp and probes (HT9014 only)		
Measurement range:		0.01Hz ÷ 60kHz
Basic accuracy:		±(1.0%rdg + 5dgt)

ACCESSORIES

Standard

- Pair of probes
- K-type wire probe + adapter (HT9014)
- Battery
- Transport bag
- User manual

Optional

- K-type thermocouples (HT9014 only)

HT4020 - HT4022

TRMS AMPEROMETRIC CLAMP 400A AC WITH POWER MEASUREMENT

The HT4020 and HT4022 professional clamp meters perform TRMS AC Current measurement up to 400A, AC/DC voltage, frequency, resistance, continuity test, active, reactive and apparent power, power factor ($\cos\phi$) and energy measurements on single phase and/or three-phase balanced systems more than the phase sequence indication with 1-wire method. The HT4022 also performs the absolute/percentage voltage/current harmonics with the calculation of THD%. Each meter is designed in compliance with IEC/EN61010-1 in CAT III 600V and is an ideal solution to troubleshoot typical industrial equipments such as non-linear motors controlled frequency, networks of PC, etc.

FUNCTIONS	HT4020	HT4022
DC/AC TRMS voltage	•	•
AC TRMS current	•	•
Resistance and continuity test	•	•
Frequency with test leads and clamp	•	•
Active, reactive, apparent power		•
Active, reactive, apparent energy	•	•
Power factor ($\cos\phi$)	•	•
V / I harmonics up to 25 th order and THD%		•
Phase sequence indication with 1-wire	•	•
Autorange	•	•
Data HOLD	•	•
MAX/MIN/AVG/PEAK	•	•
Backlight	•	•
AutoPowerOFF	•	•

TECHNICAL SPECIFICATIONS	HT4020	HT4022
DC Voltage		
Measurement range:	0.1V ÷ 600V	0.1V ÷ 600V
Basic accuracy:	±(1.0%rdg + 3dgt)	±(1.0%rdg + 3dgt)
AC TRMS Voltage		
Measurement range:	1.6V ÷ 600V	1.6V ÷ 600V
Basic accuracy:	±(1.0%rdg + 3dgt)	±(1.0%rdg + 3dgt)
AC TRMS Current		
Measurement range:	0.1A ÷ 400A	0.1A ÷ 400A
Basic accuracy:	±(1.0%rdg + 3dgt)	±(1.0%rdg + 3dgt)
AC active, reactive, apparent power [kW, kVAR, kVA]		
Measurement range:	0.01 ÷ 1000	0.01 ÷ 1000
Basic accuracy:	±(3.5%rdg + 3dgt)	±(3.5%rdg + 3dgt)
Power factor $\cos\phi$		
Measurement range:	0.20 ÷ 1.00	0.20 ÷ 1.00
Basic accuracy:	±3°	±3°
Voltage/current harmonics		
Harmonic order:		1 ÷ 25
Basic accuracy:		±(10%rdg + 5dgt)
Resistance and continuity test		
Measurement range:	0.1Ω ÷ 2kΩ	0.1Ω ÷ 2kΩ
Basic accuracy:	±(1.0%rdg + 5dgt)	±(1.0%rdg + 5dgt)
Buzzer	<40Ω	<40Ω
Frequency with clamp and test leads		
Measurement range:	40Hz ÷ 400Hz	40Hz ÷ 400Hz
Basic accuracy:	±(1.5%rdg + 1dgt)	±(1.5%rdg + 1dgt)
Phase sequence indication with 1-wire method		
Voltage range:	50V ÷ 600V	50V ÷ 600V
Frequency range:	40Hz ÷ 69Hz	40Hz ÷ 69Hz

GENERAL SPECIFICATIONS	
Display:	LCD 4 dgt, 10000 points
Conversion:	TRMS, 64 samples in 20ms
Power supply:	2x1.5V batteries type AAA LR03
AutoPowerOFF:	after 5 min of idleness
Safety:	IEC/EN 61010-1
Category of measurement:	CAT III 600V
Insulation:	double insulation
Pollution degree:	2
Max altitude:	2000m
Max diameter of clamped cable:	30mm
Size (LxWxH):	205x64x39mm
Weight (included batteries):	280g

ACCESSORIES	Code
Standard	
Couple of test leads	4413-2
Couple of alligator clips	
Carrying bag	B80
Rubber clamp protection	
Batteries	
ISO9000 calibration certificate	
User manual	



HT4012 - HT4014 AMPEROMETRIC CLAMPS AC 400A IN AUTORANGE

The HT4012 and HT4014 amperometric clamps run mainly AC current measurements up to 400A (HT4014 in total Autorange), AC/DC voltage, resistance and continuity test. Thanks to the practical and patented rubber protection which covers the clamp is possible to enter a tip into the slot free and, therefore, operating with one hand, is ensured simplicity and speed during measurements. The models are compliance with IEC/EN61010-1 CAT III 600V and are ideal for measurements in both civil and industrial environments

FUNCTIONS	HT4012	HT4014
AC/DC voltage	•	•
AC current	•	•
Resistance and continuity test	•	•
Frequency		•
Diode test	•	•
Data HOLD	•	•
MAX/MIN		•
Selection of manual range	•	
Backlight		•
Bargraph		•
AutoPowerOFF	•	•

TECHNICAL SPECIFICATIONS	HT4012	HT4014
DC Voltage		
Measurement range:	mV ÷ 600V	1mV ÷ 600V
Basic accuracy:	±(0.8%rdg + 2dgt)	±(0.8%rdg + 2dgt)
AC Voltage		
Measurement range:	1mV ÷ 600V	0.1mV ÷ 600V
Basic accuracy:	±(1.0%rdg + 3dgt)	±(1.0%rdg + 3dgt)
AC Current		
Measurement range:	0.1A ÷ 400A	0.1A ÷ 400A
Basic accuracy:	±(2.0%rdg + 10dgt)	±(2.0%rdg + 10dgt)
Resistance and continuity test		
Measurement range:	0.1Ω ÷ 20MΩ	0.1Ω ÷ 40MΩ
Basic accuracy:	±(1.0%rdg + 3dgt)	±(1.0%rdg + 3dgt)
Buzzer:	<25Ω	<40Ω
Frequency with test leads		
Measurement range:		1Hz ÷ 400kHz
Basic accuracy:		±(8%rdg + 3dgt)

HT4012
HP004012

HT4014
HP004014



GENERAL SPECIFICATIONS	
Display:	LCD 3 3/4 dgt, 2000 points (HT4012) LCD 3 3/4 dgt, 4000 points (HT4014)
Conversion :	mean value
Power supply:	2x1.5V batteries type AAA LR03
AutoPowerOFF:	after 10 min of idleness (HT4012) after 30 min of idleness (HT4014)
Safety	IEC/EN 61010-1
Category of measurement:	CAT III 600V
Insulation:	double insulation
Pollution degree:	2
Max altitude:	2000m
Max diameter of clamped cable:	30mm
Size (LxWxH):	205x64x39mm
Weight (included batteries)	280g

ACCESSORIES	Code
Standard	
Couple of test leads	4413-2
Carrying bag	B80
Rubber clamp protection	
Batteries	
User manual	

HT77 - HT78

AC AMPEROMETRIC CLAMPS FOR MEASURING LEAKAGE CURRENTS

Models HT77 and the innovative HT78 are amperometric clamps designed for accurately measuring very low values of AC currents and, therefore, they are mainly used in searching and determining leakage currents which typically cause the tripping of differential devices in civil and industrial electric systems. The instrument HT78 is also provided with a built-in low-pass filter to eliminate the harmonic components and with an analogue output with DC voltage for the connection of possible external data loggers. Model HT78, thanks to an internal, big-sized clamp (108mm), allows easily measuring leakage currents even on (single-phase and/or three-phase, 4-wire) installations with cables with big cross-sections.

FUNCTIONS	HT77	HT78
Measurement in TRMS	•	•
AC TRMS voltage	•	
AC current	90A	3000A
Resistance and continuity test	•	
Frequency	•	
Low-pass filter (150Hz)		•
Analogue DC output 300mV FS		•
Data HOLD	•	•
MAX/MIN	•	
PEAK HOLD	•	
Manual scale change	•	•
Bargraph		•
AutoPowerOFF		•

TECHNICAL SPECIFICATIONS	HT77	HT78
AC TRMS voltage (HT77 only)		
Measurement range:	1V ÷ 750V	
Basic accuracy:	±(1.5%rdg + 5dgt)	
AC TRMS current		
Measuring range:	10µA ÷ 90A	10µA ÷ 90A
Basic accuracy:	±(1.5%rdg + 5dgt)	±(1.5%rdg + 8dgt)
Analogue DC output (HT78 only)		
Measurement range:		0.3,3,30,300,3kA
Full scale for each measuring range:		300mV
Basic accuracy:		±(1.5%FS)
Resistance and continuity test (HT77 only)		
Measurement range:	0.1Ω ÷ 400MΩ	
Basic accuracy:	±(1.0%rdg + 2dgt)	
Continuity test	<240Ω	
Frequency (HT77 only)		
Measurement range:	0.001kHz ÷ 30kHz	
Basic accuracy:	±(1.8%rdg + 3dgt)	

GENERAL SPECIFICATIONS	
Display:	LCD, 3½ digits, 4000 dots (HT77) LCD 4 digits, 3200 dots with bargraph (HT78)
Conversion:	TRMS
Power supply:	1x9V battery type IEC 6F22 (HT77) 2x1.5V battery type AAA LR03 (HT78)
AutoPowerOFF:	10 minutes of idleness (HT78)
Safety	IEC/EN 61010-1
Measurement category	CAT IV 600V, CAT III 600V (HT77) CAT II 600V, CAT III 300V (HT78)
Insulation	double insulation
Pollution degree	2
Maximum altitude	2000m
Clamp inner diameter	30mm (HT77), 108mm (HT78)
Size (LxWxH)	250x85x46mm (HT77) 341x194x52mm (HT78)
Weight (with batteries)	400g (HT77), 1.9kg (HT78)

ACCESSORIES	Code
Standard	
Pair of measuring probes (HT77 only)	4312-2
Transport bag	
Batteries	
Non-slip belt (HT78 only)	
User manual	

