



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					
AC voltage detector			•	•	•
Resistance	•	•	•	•	•
Continuity test	•	•	•	•	•
Frequency		•		•	
Leakage current					
Diode test	•	•	•	•	
Duty Cycle				•	
Capacitance				•	
Temperature with type K probe				•	
Phase sequence					
Phase conformity					
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	45mm
Dimensions (LxWxH) (mm)	205x64x39	205x64x39	215x74x43	215x74x43	252x88x44
Weight	280g	280g	400g	400g	400g
Page	61	61	59	59	58

HT9022

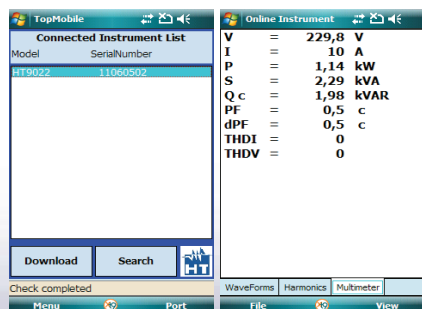
CLAMP-ON POWER QUALITY ANALYZER WITH BLUETOOTH CONNECTION

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
- MAX/MIN/CREST
- Bluetooth connection

ACCESSORIES	Code
Standard	
Couple of test leads	YAAMK0000HTO
Couple of alligator clips	YAAMK0001HTO
Carrying bag	YABRS0000NNO
Batteries	
ISO9000 calibration certificate	
User manual	
Quick reference guide	
Windows software	TOPVIEWS
Win Mobile equipped PDAs and smartphones software	TOPMOBILE



Screenshots of TopMobile



Connecting the instrument

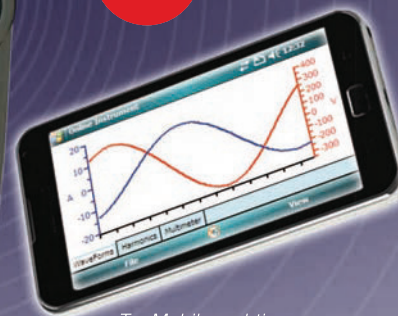
GENERAL SPECIFICATIONS

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
Measurement category:	CAT IV 600V to the ground, max 1000V between the inputs
Insulation:	double insulation
Pollution degree:	2
Max diameter of the cable:	45mm
Dimensions (LxWxH):	252x88x44mm
Weight (batteries included):	420g



With
BLUETOOTH

NEW



TopMobile real-time data viewing

YouTube
www.youtube.com/user/TopInstrument1

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
Dimensions (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)

NEW

HT9021
HP009021

NEW

HT9015
HP009015



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
Dimensions (LxWxH):	252x88x44mm
Weight (batteries included):	420g

ACCESSORIES

Standard

- Pair of probes
- Battery
- Transport bag
- User manual

NEW

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 F22
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
Dimensions (LxWxH):	210x75x45mm
Weight (batteries included):	400g

TECHNICAL SPECIFICATIONS

	HT9012	HT9014
DC Voltage		
Measurement range:	0.1mV ÷ 1000V	0.01mV ÷ 1000V
Basic accuracy:	±(1.0%rdg + 3dgt)	±(1.0%rdg + 3dgt)
AC Voltage		
Measurement range:	0.1mV ÷ 1000V	1mV ÷ 1000V
Bandwidth:	50 ÷ 60Hz	50 ÷ 400Hz
Basic accuracy:	±(1.0%rdg + 4dgt)	±(1.0%rdg + 10dgt)
AC Current		
Measurement range:	1mA ÷ 600A	0.01A ÷ 600A
Bandwidth:	50 ÷ 60Hz	50 ÷ 60Hz
Basic accuracy:	±(2.5%rdg + 4dgt)	±(2.8%rdg + 8dgt)
Resistance and continuity test		
Measurement range:	0.1Ω ÷ 20.00MΩ	0.1Ω ÷ 60.00MΩ
Basic accuracy:	±(1.0%rdg + 5dgt)	±(1.0%rdg + 5dgt)
Continuity buzzer:	<100Ω	<60Ω
Capacitance		
Measurement range:		0.01nF ÷ 4000μF
Basic accuracy:		±(2.5%rdg + 5dgt)
Temperature with K-type probe		
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		
Measurement range:		0.01Hz ÷ 60.00kHz
Basic accuracy:		±(1.0%rdg + 5dgt)

NEW

HT9014
HP009014



NEW

HT9012
HP009012



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 ($\cos\varphi$) 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 ($\cos\varphi$)	•	•
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 $\cos\varphi$		
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
Dimensions (LxWxH):	205x64x39mm
Weight (included batteries):	280g

ACCESSORIES

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

HT4020
HP004020

HT4022
HP004022



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:	1mV ÷ 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)



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
Dimensions (LxWxH):	205x64x39mm
Weight (included batteries)	280g

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

HT77N - HT78

AC AMPEROMETRIC CLAMPS FOR MEASUREMENT OF LEAKAGE CURRENTS

HT77N and HT78 are amperometric clamps designed for accurate measurements of 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. These models are also provided with a built-in low-pass filter to eliminate the harmonic components and with an analogue output with DC voltage for connection of any external data loggers (HT78 only). HT78, thanks to an internal, big-sized clamp (108mm), allows easy measurement of leakage currents even on (single- phase and/or three-phase, 4-wire) installations with big cross-section cables.

FUNCTIONS	HT77N	HT78
Measurement in TRMS	•	•
AC Current	•100A	•3000A
Low-pass filter	• (100Hz)	• (150Hz)
Analogue DC output		•
Data HOLD	•	•
Auto HOLD	•	
Peak HOLD	•	
Autorange	•	
Bargraph	•	
Backlight	•	
Auto Power OFF	•	•

TECHNICAL SPECIFICATIONS	HT77N	HT78
AC TRMS current		
Measuring range:	0.001mA ÷ 100A	0.1mA ÷ 3000A
Resolution:	0.001mA ÷ 0.1A	0.1mA ÷ 1A
Basic accuracy:	±(1.0%rdg + 8dgt)	±(1.5%rdg + 8dgt)
Protection:	max 120Arms	3000Arms
Analogue DC output (HT78 only)		
Conversion ratio:		1mV/1mA ÷ 1mV/10A
Full scale for each conversion ratio:		300mV
Basic accuracy:		±(1.5%FS)

GENERAL SPECIFICATIONS	
Display:	LCD, 4 digits, 6000 dots (HT77N) LCD, 4 digits, 3200 dots (HT78)
Conversion type:	TRMS
Power supply:	2x1.5V battery type AAA LR03
AutoPowerOFF:	after 20 minutes of idleness (HT77N) after 10 minutes of idleness (HT78)
Safety:	IEC/EN 61010-1
Measurement category:	CAT III 300V (HT77N) CAT II 600V, CAT III 300V (HT78)
Insulation:	double insulation
Pollution degree:	2
Max altitude:	2000m
Clamp inner diameter:	40mm (HT77), 108mm (HT78)
Dimensions (LxWxH):	202x75x42mm (HT77N) 341x194x52mm (HT78)
Weight (with batteries):	265g (HT77N) 1.9kg (HT78)

ACCESSORIES	
Standard	
Carrying bag	
Batteries	
Wrist belt (HT78 only)	
User manual	



HT4010

AC 600A AMPEROMETRIC CLAMP

Clamp-on meter HT4010 can measure AC current up to 600 A, AC/DC voltage, resistance, continuity test and diode test. The backlighted LCD permits easy reading even under critical conditions. The instrument complies with EN 61010-1 under CAT III 600V and is suitable for measurements both in civil and industrial sites.

FUNCTIONS

- AC current up to 600A
- AC/DC voltage up to 600V
- Non-contact AC voltage detection
- Resistance and continuity test
- Diode test
- Data HOLD
- MAX
- Backlight
- Auto Power OFF

TECHNICAL SPECIFICATIONS

DC Voltage

Measurement range:	0.1mV ÷ 600V
Resolution:	0.1mV ÷ 1V
Basic accuracy:	±(1.5%rdg + 2dgt)
Protection:	600VDC/ACrms

AC Voltage

Measurement range:	0.1mV ÷ 600V
Resolution:	0.1mV ÷ 1V
Frequency range:	50 ÷ 60Hz
Basic accuracy:	±(1.8%rdg + 8dgt)
Protection:	600VDC/ACrms

AC Current

Measurement range:	0.001A ÷ 600A
Resolution:	0.001A ÷ 0.1A
Frequency range:	50 ÷ 60Hz
Basic accuracy:	±(2.5%rdg + 4dgt)
Protection:	600Arms

Resistance and continuity test with buzzer

Measurement range:	0.1Ω ÷ 20MΩ
Resolution:	0.1Ω ÷ 0.01MΩ
Basic accuracy:	±(1.0%rdg + 4dgt)
Buzzer:	<150Ω

GENERAL SPECIFICATIONS

Display:	LCD, 3 ½ digits, 2000 counts
Conversion type:	mean value
Power supply:	1x9V battery type IEC 6F22
AutoPowerOFF:	after 15 minutes of idleness
Clamp inner diameter:	30mm
Safety:	IEC/EN 61010-1
Measurement category:	CAT III 600V
Insulation:	double insulation
Pollution degree:	2
Max altitude:	2000m
Dimensions (LxWxH):	197x70x40mm
Weight (batteries included):	180g

ACCESSORIES

Standard	Code
Pair of test leads	KIT4000A
Carrying bag	
Battery	
User manual	



NEW

HT4010
HP004010