

Dream bigger

GO STOP



Catalogue 2024



GENERAL CATALOGUE 2024









We've been tracing lines of success for 40 years.

It's been 40 years.

40 years since HT moved its first ambitious steps into the world of electronic devices.

Decades of constant commitment for a recurring and unchanged satisfaction, of innovations and investments, always supporting transformations and targeted and defined goals. Decades of renovations, even risky and courageous, of sacrifices and equally shared responsibilities, from the company's top management to the most trusted collaborators, who certainly deserve our applause and gratitude.

To look to the future with enthusiasm, however, HT cannot consider this important milestone other than as a substantial stage of the journey undertaken, a new point from which to start again to face the new challenges created by today's multicolored scenario with the same stubbornness, persistence and passion.

Forty years in which the many encouraging faces, reliable partners and indispensable relationships have followed one another and have characterized the most significant moments in the history of HT, and which have always allowed it to observe the market with that entrepreneurial foresight, attention to the customer and trust in the founding values, typical of those who want to live every story as a protagonist. A culture of planning and doing that has allowed weaving and tracing exciting parables and winning paths over time. This has allowed HT to trace lines of undeniable success.







An office, **the beating heart of HT**, a point of reference for every **commercial strategy**, the starting point for every creation, with the task of supporting ideas and **making** them innovative and highly performing tools. A constantly burning fire that fuels a continuously evolving reality, a present that is always the future too.

Our headquarters





HT has been internally designing and building all the equipment intended for mains verification and analysis for over 25 years and is therefore able to guarantee a highly qualified level of technical support. To provide an increasingly quick service that meets the customer's expectations, thanks to an agreement with TRESCAL, it now hosts its own detached air-conditioned laboratory for the release of calibration reports according to standard ISO 9001 and accredited certificates (ACCREDIA) according to standard ISO/IEC 17025.



MANAGERS

Building the future since 1983.

The care and attention for things done well, a wealth of experience accumulated over the years, an innate sense for innovation, a project for a future cultivated day by day, have made HT one of the most important and representative companies in the market of measuring instruments intended for electrical tests, a fundamental point of reference for those who, over time, have wanted or had to approach this world and for those who, from this world, have demanded the best.

Latest-generation technologies, cutting-edge infrastructures, unique skills in the sector, people, a team, the backbone which, year after year, has guaranteed success and which has allowed continuous growth on a global level, from every point of view.

Making know-how available, governing it and transforming it into exclusive and highly performing tools, satisfying every specific need, has been the challenge that has accompanied HT for over 40 years, and the way it has faced changes, to invest in the skills and trust of an increasingly demanding and advanced target.

The way to be the **added value** of a constantly evolving reality.

Certifications











Further to carrying out their function, devices for electric measurement must focus on the **operator's safety** as a basic requirement as regards **protection** from instant overvoltage which may generate because of the presence of complex charging networks, short circuits, atmospheric charges, etc.

In this respect, international standard IEC 61010-1 harmonized in Europe with EN **61010-1** has devised precise rules which electric devices used for measurements in LV (<1000VAC) must comply with. Four "Overvoltage Categories" were created, which define the protection level against voltage spikes of each device according to the distance from the power supply source.

Devices in the highest category need a higher internal protection as they can operate near the power supply source. A short description is outlined below:

CAT

Measurements carried out on circuits not directly connected to the distribution mains

TYPE OF MEASUREMENT



Measurements carried out on circuits directly connected to the low-voltage installation

CAT

Measurements carried out on installations inside buildings



Measurements carried out on a source of a low-voltage installation

APPLICATION

Protected electronic devices, measurements on circuits not derived from mains

Household appliances, portable tools and similar devices

Distribution panels, wirings, switches, sockets in fixed installations, electric motors, industrial devices

Electricity meters, measurements on primary overcurrent protection devices, ripple control units.

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TRMS, the true root mean square of HT instruments.

In modern domestic and industrial installations, the use of devices generating socalled "**non-linear loads**" (e.g. computer networks, variable speed devices, switching suppliers, etc...) is increasing. These loads contribute to the **sometimes remarkable deformation of the waveform of the signals applied to it**, taking it further and further from the traditional sinusoidal waveform typical of "linear" loads (consisting in resistors, inductance or capacity). Normal measuring devices (multimeters and clamp meters) for measuring alternating voltage and current of an "**average-value**" type allow for precise measurements **only on sinusoidal waveforms of signals, hence on linear loads**.

To measure non-linear loads, the generation of **harmonic components** which cause the **distortion of the waveform** of the signal, makes the use of **TRMS (True Root Mean Square) devices** necessary, since the average-value devices, taking only the value of the fundamental frequency of 50Hz into consideration, may bring to **even remarkable errors** of value reading.

Further to the **TRMS** value of the fundamental frequency, TRMS devices also provide the **TRMS value of the whole waveform, including harmonic components**, within the bandwidth they are designed for. Therefore, when measuring the same quantity with devices of both types, the obtained values will be identical only if the waveform of the signal is purely sinusoidal. In case of distorted waveforms, instead, **TRMS** devices always provide higher values than those measured by corresponding average-value devices.

Therefore, the use of **TRMS** measuring devices is essential when carrying out measuring and maintenance operations on industrial electric systems, in order to obtain **reliable reading values** of the measured quantities.

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MULTIMETERS

PROFESSIONAL TRMS

PROFESSIONAL TRMS MULTIMETERS	2300	277	203	2525	N SS	203
MAIN MEASUREMENTS		::::				
TRMS	HT65	HT64	HT63	HT62	HT61	JUPITER
			•		•	
Voltage measuring range	1000VAC / 1500VDC	1000V	1000V	1000V	1000V	690V
Voltage	AC/DC	AC+DC	AC+DC	AC/DC	AC/DC	AC+DC
Measuring range of Current with leads		10A	10A	10A	10A	
Input for external current transducer		٠	•	٠	•	
Measurable Current	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC
AC/DC voltage with low impedance (LoZ)	•	•	•	•	•	•
Voltage/Current harmonics + THD%						•
Reading 4-20mA%		•	•			
Frequency	•	•	•	•	•	•
Resistance	•	•	•	•	•	•
Continuity with buzzer	•	•	•	•	•	•
Capacitance	•	٠	•	•		
Diode test	•	•	•	•	•	
Duty Cycle (%)	•	•	•	•	•	
Temperature with K-type probe	•	•	•	•		

ELECTRIC SAFETY MEASUREMENTS

Insulation measurement (50,100,250,500,1000VDC)			
Phase sequence			•
Test of general RCDs type A/F and AC			•
L-L,L-N,L-PE, RA loop impedance			•
Continuity of protective conductors with 200mA			

ADDITIONAL CHARACTERISTICS

Overvoltage category	CAT IV 600V CAT III 1000V	CAT IV 600V	CAT IV 600V	CAT IV 600V	CAT IV 600V	CAT IV 600V CAT III 690V
Measuring Counts	4000	6000	60,000	6000	6000	9999
Backlight	•	•	•	•	•	•
IR sensor resolution						
Bluetooth function for connection to mobile devices						
Bargraph		•	•	•	•	•
Autorange	•	•	•	•	•	•
Auto power off	•	•	•	•	•	•
Detection of AC voltage without contact						
Data HOLD function	•	•	•	•	•	•
MIN/MAX/AVG functions		•	MIN/MAX	MIN/MAX	MIN/MAX	MIN/MAX
PEAK function		🔴 (1ms)	🔴 (1ms)			🔴 (1ms)
ZERO function						
Automatic detection of AC/DC						•
Automatic detection of internal functions						
Relative measurement	•	•	•	•	•	
Data logger and graph		•				
Memory for data saving		•				
Built-in LED torch						
Power supply	1x 9V 6F22	1x7.4V rechargeable Li- ION battery,	4x 1.5V AAA	1x 9V 6F22	1x 9V 6F22	4x 1.5V AAA
Size in mm (L x W x H)	175x85x55	175x85x55	175x85x55	175x85x55	175x85x55	175x85x55
Weight in grams	360	400	400	400	400	420
Safety	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1
ORDER CODE	HR000065	HR000010	HR000001	HR000002	HR000003	HROOJUPI



	MERCURY	FLASHMETER	FLASHMETER PRO	IRONMETER	HT39	нт701	HT401
٠	•	•	•	•	•	•	•
1000V	1000V	600V	600V	600V	1000V	1000V	1000V
AC+DC	AC+DC	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC+DC
				10A	10A	400mA	10A
			•				
AC/DC	AC/DC		AC/DC	AC/DC	AC/DC	AC/DC	AC+DC
•							AC
•							
•			•		•		
	•				•		•
	•			•	•		
	•					•	•

•			•	
٠				
٠				

CAT IV 600V CAT III 1000V	CAT IV 600V CAT III 1000V	CAT IV 600V	CAT IV 600V CAT III 600V	CAT III 600V	CAT IV 600V CAT III 1000V	CAT IV 600V CAT III 1000V	CAT IV 600V CAT III 1000V
9999	6000	4000	4000	4000	4000	10000	6000
•	•	•	•	•	•	•	•
	80 x 80 pxl						
	with APP HTMercury						
•	•				•	•	•
•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•
	•	•	•				•
•	•	•	•	•	•	•	•
MIN/MAX	MIN/MAX			MIN/MAX	MIN/MAX	•	MIN/MAX
🔴 (1ms)	•				•		•
			•				
•		•	•				
		•	•				
	•				•	•	
	•				(through SW)		
	(micro SD card)					•	
	•	•	•	•			
4x 1.5V AAA	1x7.4V rechargeable Li- ION battery,	2x 1.5V AAA	2x 1.5V AAA	2x 1.5V AAA	1x 9V 6F22	4x 1.5V AA	1x 9V 6F22
175x85x55	190x75x55	140x80x45	140x80x45	120x85x45	164x82x44	207x95x52	190x94x48
420	555	220	325	200	400	630	460
IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-
HROOONEP	HROOOMER	HR000011	HR000PRO	HR000005	HR000039	HR000701	HR000401

ORDER CODE HR000065 **HT65**



ORDER CODE HR000001 **HT63**

ORDER CODE HR000002 **HT62**

ORDER CODE HR000003 **HT61**

Series of professional digital multimeters in CAT IV with Datalogger and Graph function (HT64)



Data logger and graph

Internal memory

Auto Power OFF



Display:	LCD, 4 digits, 4000 counts (HT65) LCD, 4½ digits, 6000 counts (HT61, HT62) LCD, 4½ digits, 60000 counts (HT63) Colour, TFT 4½ digits, 6000 counts (HT64)
Power supply:	1x9V battery type 6F22 (HT65, HT61, HT62) 4x1.5V batteries type AAA LR03 (HT63) 1x7.4V rechargeable Li-ION battery (HT64)
Auto Power OFF:	after 15 minutes' idling (HT65, HT61, HT62, HT63) 5min ÷ 60 minutes' idling (HT64)
Safety:	IEC/EN61010-1
Overvoltage category:	CAT IV 600V - CAT III 1000V
Pollution level:	2
Max operating altitude:	2000m
Size (LxWxH)	175x85x55mm
Weight (batteries included):	approx 400g

Provided accessories

4324-2	Pair of test leads with 2/4mm tip			
TK101	K-type wire probe (HT65, HT62, HT63, HT64)			
T10	Adapter for K-type probe			
A64	Power supply + adapter (HT64)			
ISO calibration report				
	Batteries Transport bag and User manual			



U Functio	ons				
	HT65	HT64	HT63	HT62	HT61
TRMS measurements	•	•		•	•
Colour display	-	•	-	-	-
AC/DC voltage	•	•	•	•	•
AC/DC voltage with low impedance (LoZ)	•	•	•	•	•
AC/DC current with external transducer	•	•	•	-	-
AC/DC current with leads	-	•	•	•	•
Resistance/ Continuity test	•	•	•	•	•
Frequency	•	•	•	•	•
Capacitance	•	•		•	-
Duty cycle	•	•	•	•	-
Diode test	•	•	•	•	•
Temperature with K-type probe	•	•	•	•	-
Reading 4-20mA%	-	•	•	-	-
Data HOLD	•	•	•	•	•
MAX/MIN/AVG	-	•	Max/Min	Max/Min	Max/Min
PEAK	-	🛑 1ms	🖲 1ms	-	-
Relative measurement	•	•	•	•	•
Autorange	•	•	•	•	•
Backlight	•	•	•	•	•
Bargraph	-	•	•	•	•

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\smile	HT65	HT64	HT63	HT62	HT61
DC VOLTAGE					1
Measuring range:	0.1mV ÷ 1500V	0.1mV ÷ 1000V	0.1mV ÷ 1000V	0.1mV ÷ 1000V	0.1mV ÷ 1000V
Basic accuracy:	±(1.2%reading+4digits)	±(0.1%reading+5digits)	±(0.9%reading+5digits)	±(1.0%reading+2digits)	±(1.0%reading+2digits)
AC VOLTAGE					
Measuring range:	1mV ÷ 1000V	0.1mV ÷ 1000V	0.1mV ÷ 1000V	1mV ÷ 1000V	1mV ÷ 1000V
Basic accuracy:	±(1.2%reading+10digits)	±(0.9%reading+5digits)	±(1.0%reading+5digits)	±(1.0%reading+8digits)	±(1.0%reading+8digits)
DC CURRENT					
Measuring range:	0.30A ÷ 1000A (with clamp)	0.1µA ÷ 10A	0.1µA ÷ 10A	0.1µA ÷ 10A	0.1µA ÷ 10A
Basic accuracy:	±(1.5%reading+6digits)	±(0.9%reading+5digits)	±(1.5%reading+5digits)	±(1.0%reading+3digits)	±(1.0%reading+3digits)
AC CURRENT					
Measuring range:	0.30A ÷ 3000A (with clamp)	0.1µA ÷ 10A	0.1µA ÷ 10A	0.1µA ÷ 10A	0.1µA ÷ 10A
Basic accuracy:	±(2.5%reading+10digits)	±(1.2%reading+5digits)	±(2.5%reading+5digits)	±(1.5%reading+3digits)	±(1.5%reading+3digits)
RESISTANCE AND	CONTINUITY TEST				
Measuring range:	0.1Ω ÷ 40ΜΩ	0.1Ω ÷ 60ΜΩ	0.1Ω ÷ 60ΜΩ	0.1Ω ÷ 60ΜΩ	0.1Ω ÷ 60ΜΩ
Basic accuracy:	±(1.0%reading+2digits)	±(0.8%reading+5digits)	±(1.2%reading+5digits)	±(1.0%reading+4digits)	±(1.0%reading+4digits)
Buzzer:	<50Ω	<25Ω	<35Ω	<100Ω	<100Ω
FREQUENCY					
Measuring range:	0.001Hz ÷ 10MHz	0.001Hz ÷ 1MHz	0.001Hz ÷ 1MHz	0.001Hz ÷ 1MHz	0.001Hz ÷ 1MHz
Basic accuracy:	±(1.2%reading+3digits)	±(0.09%reading+5digits)	±(1.0%reading+2digits)	±(0.1%reading+1digit)	±(0.1%reading+2digits)
CAPACITANCE					
Measuring range:	0.01nF ÷ 40mF	0.01nF ÷ 6mF	0.01nF ÷ 6mF	0.01nF ÷ 1000µF	-
Basic accuracy:	±(3.0%reading+5digits)	±(1.2%reading+8digits)	±(2.5%reading+10digits)	±(3.5%reading+4digits)	-
Duty Cycle					
Measuring range:	0.5% ÷ 99.9%	0.1% ÷ 99.9%	20% ÷ 80%	0.1% ÷ 99.9%	0.1% ÷ 99.9%
Basic accuracy:	±(1.2%reading+2digits)	±(1.2%reading+2digits)	±(1.0%reading+5digits)	±(1.2%reading+2digits)	±(1.2%reading+2digits)
TEMPERATURE WI	TH K-TYPE PROBE				
Measuring range:	-20°C ÷ 760°C	-40°C ÷ 1350°C	-40°C ÷ 760°C	-45°C ÷ 750°C	-
Basic accuracy:	±(3.0%reading + 5°C)	±(1.0%reading + 3°C)	±(2.0%reading + 3°C)	±(3.5%reading + 5°C)	-

→ TRMS

The new series of HT's professional multimeters is the result of an important research work carried out among the most demanding users of this type of equipment, i.e. laboratories where the choice of a measuring instrument is conditioned by strict tests regarding precision, reliability and safety of measurements, even under extreme conditions. Therefore, this is a complete series of multimeters all capable of carrying out TRMS measurements, all made in CAT IV at 600V, with an autorange function available on all models and with the possibility of a backlit display. The design is extremely modern and attractive but, at the same time, ergonomic, to offer the best possible ease of use. Extremely defined display also in colour for the top model HT64. Model HT65 also stands out among the others, since it is made unique by its ability to measure DC voltage up to 1500V. The table summarizes all the characteristics that distinguish and give value to this innovative series of professional tools.

ORDER CODE HROOJUPI JUPITER

Functions

DC / AC / AC+DC TRMS voltage with low

with optional standard clamp transducer

AC TRMS current up to 3000A with optional

Automatic recognition of AC and DC quantities

Current/voltage harmonics up to the 25th and THD% calculation

MULTIMETER SECTION

impedance (LoZ)

DC / AC, AC+DC TRMS voltage

DC / AC / AC+DC TRMS current

flexible clamp transducer F3000U

Inrush current (Dynamic INRUSH - DIRC)

Resistance and continuity with buzzer

ELECTRIC VERIFICATION SECTION

Loop impedance L-L, L-N and calculation of assumed short-circuit current with resolution 0.1Ω

Measurement of tripping time on Standard

RCDs type A, AC and F (30mA,100mA, 300mA) Measurement of tripping current on Standard RCDs type A/F, AC (30mA)

Insulation with test voltage 50,100, 250, 500, 1000V and calculation of PI / DAR

Continuity of protective conductors with 200mA

Current and voltage frequency

9999 measuring spots

Bargraph function

Auto-Power-Off function

Overall earth resistance L-PE without RCD tripping

Phase sequence with 1 terminal

MAX/MIN/PEAK/HOLD functions

ORDER CODE HROOONEP NEPTUNE

Professional instruments for electric safety verifications according to standard IEC/EN61010-1 and advanced multimeter functions



JUPITER

NEPTUNE

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The new models JUPITER and NEPTUNE are innovative instruments that, further to being used as powerful multimeters for TRMS measurements, allow carrying out electric safety tests: RCD, Ra, Loop (JUPITER), Insulation and continuity (NEPTUNE), according to standard **IEC/EN61010-1**. They belong to CAT IV 600V, with autorange function available in all models, as well as the **backlit display**. The design is extremely modern and attractive but, at the same time, ergonomic, to offer the best possible ease of use.



SEE PRODUCT DATA SHEET NEPTUNE

Provi	ded accessories
C2065	3-wire cable Red, Black and Green with Schuko plug (JUPITER)
4324-2	Pair of banana leads red/black with 2/4mm tip
YABAT0001HT0	Alkaline battery type AAA IEC LR03 1.5V, 4 pieces
YABRS0002HT0	Carrying bag
YAMUM0066HT0	User manual on CD-ROM
YAMUM0065HT0	Quick user guide

ISO calibration report

Optional accessories

+

SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**



ORDER CODE HROOOMER MERCURY

Professional Multimeter with in-built thermal camera

Functions

AC and AC+DC TRMS voltage

AC and AC+DC TRMS current

AC and AC+DC TRMS current

by means of standard clamp

ACTRMS current by means of

"Voltsense" for the detection

of AC voltage without contact

Resistance and Continuity test

flexible clamp transducer

Diode, Capacitance,

Power supply:

Overvoltage

Pollution level:

Max operating

Size (LxWxH):

Mechanical

altitude:

included):

category: Insulation:

Safety:

DC voltage

DC current

transducers

F3000U

Frequency





Temperature with K-type

Infrared temperature with

in-built thermal camera

Relative measurement

Input protective fuses

In-built datalogge

MIN/MAX/PEAK

Auto Power OFF

Data HOLD

Bargraph

Backlight

probe

Model **MERCURY** is a digital **TRMS** multimeter which mainly measures AC/DC voltage up to 1000V and AC/DC currents up to 10A. Among its important functions, this device features mode **AC+DC**, which is used to also detect direct components possibly overlapping the alternate signal, and measurement of currents with the use of standard and flexible clamp transducers* (accessory F3000U) directly connected to it. A thermal camera with resolution 80x80pxl is also built in the device in order to allow for a possible simultaneous reading of electric and thermal values of the item to be tested. MERCURY is also provided with a Data Logger function which allows it to perform and save recordings of every parameter which can be measured by the device and graphically display the trend of the values. The device allows saving pictures in BMP format on a provided micro SD card, and also has a **Bluetooth** function to connect to mobile devices (tablets/smartphones) through the dedicated APP HTMercury, to create reports to share measured results.



Provided accessories

3000U	Flexible clamp with full scale 30/300/3000A AC
324-2	Pair of banana leads red/black with 2/4mm tip
ATMCY	Spare battery Li-ION 7.4V 1500mAh
OMCY	Multiplug power supply for MERCURY with re- charging base
	Micro SD card 8GB,10x
OMCY	Carrying bag
	Alkaline battery type AAA IEC LR03, 2 pieces (for F3000U)
	K-type wire probe + adapter
	User Manual
	ISO calibration report

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES











ORDER CODE HR000005

TRMS multimeter with built-in LED torch



IRONMETER is the true tester for construction sites, realized with a **very sturdy structure** capable of resisting every shock, ready to rise again after any fall (**even from a height of 3 m**) and keep working with the very same precision and reliability. It is provided with all of the typical functions of everyday use, but also features **an in-built LED torch** to illuminate poorly lit environments, when necessary.



Functions

> Resistance/Continuity Test

> Detection of AC voltage without contact

> TRMS measurements

> Capacity, Diode test

> In-built LED illuminator

> AC/DC voltage

> AC/DC current

> Frequency

> Duty cycle

> Autorange

> Backlight

> Auto Power Off

 (\mathbf{I})

1 Main features

Power supply:	2x1.5V batteries type AAA IEC LR03
Safety:	IEC/EN61010-1
Overvoltage category:	CAT III 600V
Insulation:	double insulation
Pollution level:	2
Max operating altitude:	2000m
Display:	4 LCD, 4000 counts, decimal sign and point
Protection fuses:	Yes
Size (LxWxH):	120x65x45mm
Weight (batteries included):	200g

Provided accessories

4324-2 Pair of test leads with 2/4mm tip Batteries Carrying bag User Manual

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



FLASHMETER F

TRMS multimeters with total Autorange

ORDER CODE HR000011



Main features

reatures

Safety:

2x1.5V batteries type AAA IEC LR03 IEC/EN61010-1 CAT IV 600V (Voltage), CAT III 600V (Current)

double insulation

Pollution level:

Overvoltage category:

Max operating altitude: 2000m

2

Display:

Size (LxWxH):

Insulation:

Power supply:

splay:

140x75x40mm

220g

4 LCD, 4000 counts,

decimal sign and point

Weight (with batteries):

Provided accessories

4324-2 Pair of test leads with 2/4mm tip Batteries Carrying bag User Manual ISO calibration report (FLASHMETERPRO)







SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

ORDER CODE HROOOPRO

FLASHMETER, according to the quantity present at the input, **automatically switches** between voltage and resistance measurement.

The new **FLASHMETERPRO**, in addition to the standard model, is capable of measuring the **AC/DC voltage** with **open clamp jaws** up to a maximum of **100A**.







SEE PRODUCT DATA SHEET FLASHMETERPRO



Functions

	FLASHMETER	FLASHMETER PRO
TRMS measurements	•	•
Automatic selection of measurements	•	•
AC/DC voltage	•	•
AC/DC current	-	(with clamp F100)
Resistance/Continuity test	•	•
Detection of AC voltage without contact	•	•
In-built LED illuminator	•	•
Auto HOLD function	•	•
ZERO function		•
Autorange	•	•
Backlight	•	•
Auto Power OFF	•	•





ORDER CODE HR000039 **HT39**

TRMS multimeter 4000 counts with serial interface RS-232



HT39 is a professional TRMS multimeter which mainly measures AC/DC voltage and AC/DC current in total Autorange, further to Peak values, useful in industrial verifications. The device is also provided with serial interface RS-232 for PC connection and real-time display of the quantities to be measured. Under these conditions it is possible (through optional dedicated software) to activate and save recordings of the parameters, with programmable sampling period.

HT39 is designed to reach category CAT III 1000V and CAT IV 600V and is provided with a fuse with high breaking capacity on the current input.



Functions

- > DC/AC TRMS voltage
- > DC/AC TRMS current
- > Resistance and Continuity test
- > Frequency, Diode and Capacitance test
- > Data HOLD, MAX/MIN, Relative measurement
- > RS-232 Interface
- > Automatic/Manual Range
- > Backlight, Bargraph
- > Auto Power OFF



Power supply:	1x9V battery type 6F22
Safety:	IEC/EN61010-1
Overvoltage category:	CAT IV 600V, CAT III 1000V
Insulation:	double insulation
Pollution level:	2
Max operating altitude:	2000m
Display:	4 LCD, 4000 counts, decimal sign and point
Protection fuses:	Yes
Size (LxWxH):	164 x 82 x 44 mm
Weight (batteries included):	400g

Ç. **Provided accessories**

Pair of test leads Batteries Protective case with support User Manual

+ **Optional accessories**



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



ORDER CODE HR000401 **HT401**

Professional Multimeter for AC+DC TRMS measurement



- > AC voltage measurement with low impedance "LoZ"
- "VoltSense" for AC voltage detection without contact Resistance and Continuity test
- Frequency

Functions

DC/AC TRMS voltage

DC/AC TRMS current

> AC + DC measurements

- Diode test
- **Capacitance**
- Temperature with K-type probe
- Data HOLD, MAX/MIN/PEAK
- **Relative measurement**
- > Automatic/Manual Range
- Backlight, Bargraph
- > Auto Power OFF

Characteristics

Display: Power supply: **Battery life:** Auto Power OFF: Safety: Overvoltage category: Insulation: Pollution level: Max height: Size (LxWxH): Weight (batteries included):

LCD, 4 digits, 6000 counts 1x9V alkaline battery type 6F22 150 hours after 20 minutes' idling IEC/EN61010-1 CAT III 1000V, CAT IV 600V

Double insulation

2 2000m 190x94x48mm 460a

Professional digital multimeter in **TRMS** with 6000 counts display which mainly carries out AC/ DC voltage and AC/DC current measurements. Among the many functions of the device there are the AC+DC mode, used to consider also continuous components possibly overlapping the alternate signal and AC voltage measurements in conditions of low impedance (LoZ) in order to reduce the influences when measuring between adjacent conductors.



SEE PRODUCT DATA SHEET HT401



Provided accessories

413-2	Pair of test leads
K101	K-type wire probe
10	Adapter for K-type probes
	Protective case, battery and user manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

→ TRMS



PROFESSIONAL TRMS MULTIMETERS

ORDER CODE HR000701 HT701

Professional Multimeter with insulation measurement up to 1000V



Professional **TRMS** multimeter with **10.000** measuring spots and measurement of insulation resistance with selectable test voltage among the values **50, 100, 250, 500, 1000VDC**. HT701 is capable of saving measured results in its internal memory and has been designed in compliance with safety standard IEC/EN61010-1 in CAT III 1000V and **CAT IV 600V** with double protective insulation.



SEE PRODUCT DATA SHEET HT701



- > DC/AC TRMS voltage
- > DC/AC TRMS current
- Insulation with test voltage up to 1000VDC
- > Resistance and Continuity test
- > Frequency
- > Diode test
- > Capacitance
- > Temperature with K-type probe
- > Internal memory for measured data saving
- > Data HOLD, MAX/MIN, Relative Measurement
- > Automatic/Manual Range
- > Backlight, Bargraph
- > Auto Power OFF

1 Characteristics

Display: Power supply:

Auto Power OFF: Safety: Insulation: **Pollution level:** Max height: Size (LxWxH): Weight (batteries included):

LCD, 10000 counts 4x1.5V alkaline batteries type AA LR6 after 20 minutes' idling IEC/EN61010-1, IEC/EN61557-1-2 Overvoltage category: CAT III 1000V, CAT IV 600V double insulation 2 2000m 207x95x52mm 630g



Provided accessories

4413-2	Pair of test leads
YAAMK0001HT0	Pair of alligator clips
PR701	Probe for insulation measurement
TK101	K-type wire probe
T10	Adapter for K-type probes
	Belt with magnetic terminal
	Protective case, battery and user manual

(+**Optional accessories**



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES









DIGITAL MULTIMETERS



DIGITAL MULTIMETERS

MAIN MEASUREMENTS

AC voltage on VFD (downstream inverters)

TRMS

Voltage

Current

Frequency

Resistance

Capacitance

Duty Cycle (%)

Phase sequence

Built-in LED torch

Diode test

Voltage measuring range

Current measuring range

Continuity with buzzer

Temperature with K-type probe

AC voltage with 1 terminal

Test lamps with internal gas

AC voltage with low impedance (LoZ)



600V

AC/DC

10A with leads

AC/DC

ullet

ullet

628

HT21

600V

AC/DC

•

ullet



600V

AC/DC

10A with leads

DC

 \bullet



600V

AC/DC

10A with leads

AC/DC







HT14D	HT12	нт10	HT8	НТ6		
500V	600V	1000V	690V	690V		
AC/DC	AC/DC	AC/DC	AC/DC	AC/DC		
200mA with leads	60A with transducer					
DC	AC/DC					
•	•	•				
•	•	•	•	•		
•			•	•		
		•				
		•	•	•		
		•	•	•		
		•	•	•		
CAT III 300V CAT II 600V	CAT III 300V CAT II 600V	CAT III 1000V CAT II 600V	CAT IV 600V CAT III 690V	CAT IV 600V CAT III 690V		
2000	3400	1999	6900	LED indications		
		•				
	•	•				
		•		•		
•	•	•	•	•		
1x 12V MS21/MN21	2x 1.5V AAA	2x 1.5V AAA	2x 1.5V AA	2x 1.5V AA		
105x50x25	128x87x24	270x70x30	255x60x35	255x60x35		
100	210	290	170	170		
IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1		
HR00014D	HR000012	HR00010P	HR000008	HR000006		

ADDITIONAL CHARACTERISTICS

Overvoltage category:	CAT III 600V	CAT III 600V	CAT III 600V	CAT III 600V
Measuring spots	4000	4000	2000	4000
Backlight	•	•	•	•
Bargraph				
Autorange	•	•		•
Auto power off	•	•		•
Data HOLD function	•	•	•	•
MIN/MAX function	•			
PEAK function				
Relative measurement		•		
Power supply	2x 1.5V AAA	1x 9V 6F22	1x 9V 6F22	2x 1.5V AAA
Size in mm (L x W x H)	138x68x37	138x68x37	150x70x48	150x75x45
Weight in grams	235	210	255	205
Safety	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1
ORDER CODE code	HR000211	HR000021	HR00025N	HR00022D

500V	600V	1000V	690V	690V
AC/DC	AC/DC	AC/DC	AC/DC	AC/DC
200mA with leads	60A with transducer			
DC	AC/DC			
•	•	•		
•		•	•	•
٠			•	٠
		•		
		•	•	٠
		•	•	•
		•	•	•
		•	•	•
CAT III 300V CAT II 600V	CAT III 300V CAT II 600V	• CAT III 1000V CAT II 600V	CAT IV 600V CAT III 690V	CAT IV 600V CAT III 690V
CAT III 300V CAT II 600V 2000	CAT III 300V CAT II 600V 3400	• CAT III 1000V CAT II 600V 1999	• CAT IV 600V CAT III 690V 6900	CAT IV 600V CAT III 690V LED indications
CAT II 600V	CAT II 600V	CAT II 600V	CAT III 690V	CAT III 690V LED
CAT II 600V	CAT II 600V	CAT II 600V 1999	CAT III 690V	CAT III 690V LED
CAT II 600V	CAT II 600V	CAT II 600V 1999	CAT III 690V	CAT III 690V LED
CAT II 600V	CAT II 600V	CAT II 600V 1999	CAT III 690V	CAT III 690V LED
CAT II 600V	CAT II 600V	CAT II 600V 1999	CAT III 690V	CAT III 690V LED
CAT II 600V 2000	CAT II 600V	CAT II 600V 1999	CAT III 690V	CAT III 690V LED
CAT II 600V 2000	CAT II 600V 3400 • • • • • •	CAT II 600V 1999 • • •	CAT III 690V 6900 •	CAT III 690V LED indications
CAT II 600V 2000	CAT II 600V	CAT II 600V 1999	CAT III 690V	CAT III 690V LED
CAT II 600V 2000 • 1x 12V	CAT II 600V 3400 • • • • • •	CAT II 600V 1999 • • •	CAT III 690V 6900 •	CAT III 690V LED indications
CAT II 600V 2000 • 1x 12V MS21/MN21	CAT II 600V 3400 • • • • • • • • • • • • • • • • • •	CAT II 600V 1999 • • • • • • • • • • • • • • • • •	CAT III 690V 6900 • • 2x 1.5V AA	CAT III 690V LED indications
CAT II 600V 2000 • 1x 12V MS21/MN21 105x50x25	CAT II 600V 3400	CAT II 600V 1999 • • • • 2x 1.5V AAA 270x70x30	CAT III 690V 6900 • • 2x 1.5V AA 255x60x35	CAT III 690V LED indications • • 2x 1.5V AA 255x60x35

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ORDER CODE HR000211 **HT211**

ORDER CODE HR000021 **HT21**

ORDER CODE HR00025N **HT25N**

Compact digital multimeters in CAT III







	HT211	HT21	HT25N
TRMS	•		
AC / DC voltage	•	•	•
AC / DC current	•		•
Resistance / Continuity test	•	•	•
Frequency	•	•	
Capacitance	•	•	
Diode test	•	•	•
Duty Cycle	•	•	
Temperature with K-type probe	•		
Battery test 1.5V/9V			•
Data HOLD	•	•	•
Relative measurement	•	•	
Backlight	•	•	•
Auto Power OFF	•	•	•



Characteristics CD 3½ digits, 2000 dots (HT25N) Displa

nspiay.	4-digit LCD display, 4000 dots, dec sign and point (HT21) 3¼-digit LCD display, 4000 dots plu decimal sign and point (HT211).
ower supply:	1x9V batteries type IEC 6F22 (HT21, HT25N)
	2x1.5V batteries type AAA IEC LR03 (HT211)
Auto Power OFF:	after 15 minutes' idling (HT211) after 30 minutes' idling (HT21)
afety:	IEC/EN 61010-1
Overvoltage category:	CAT III 600V
Pollution level:	2
nsulation:	double insulation
ize (LxWxH):	145x70x60mm
Veight (batteries included):	210g (HT21, HT211), 255g (HT25N)



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

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Models HT21, HT211 and HT25N are compact digital multimeters capable of carrying out mainly measurements of **AC/DC voltage** up to 600V and AC\DC Current up to 10A (HT211) with complementary functions of **Resistance**, **Continuity** test, Diode test and 9V and 1.5V alkaline battery test. These devices have been designed in compliance with safety standard IEC/EN61010-1 with double protective insulation in CAT III 600V.





SEE PRODUCT DATA SHEET OF HT25N

They are provided with a wide LCD backlight display and each function can be selected through its relevant switch. A further function of this device is Data HOLD to freeze data on the display and REL for relative measurements. HT211 also offers the possibility of measuring temperature with the provided K-type probe, but also with the optional TK1xx probes.

ORDER CODE HR000012 **HT12**

Pocket digital multimeter with in-built AC/DC 60A clamp meter

Model HT12 is a super compact digital multimeter capable o carrying out measurements of Voltage up to 600V, AC/DC current up to 60A with inbuilt clamp sensor and complementary functions of Resistance, Continuity test and Frequency. This device has been designed in compliance with safety standard IEC/EN61010-1 with double protective insulation in CAT III 300V, CAT II 600V. Further functions are **Data HOLD** to freeze data on the display and the Auto Power OFF function after 10 minutes' idling, in order to preserve the internal battery. The device is housed in a protective case which is also used to rewind the test leads.





- > DC/AC voltage
- > DC/AC current with in-built clamp sensor
- > Resistance and continuity test with buzzer
- Current and voltage frequency
- > Data HOLD
- > Automatic / manual selection of measuring range > Auto Power OFF



Display: Power supply: **Auto Power OFF:** Safety: Overvoltage category: Pollution level: Insulation: Size (LxWxH): Weight (batteries included):

38 | НT

LCD, 3¾ digits, 3400 counts 2x1.5V battery type AAA LR03 after 10 minutes' idling IEC/EN 61010-1 CAT III 300V, CAT II 600V 2 double insulation 128x87x24mm 210g



Provided accessories

Anti-shock protection shell

Integrated measuring leads and clamp meter Batteries and user manual

+ **Optional accessories**



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



ORDER CODE HR00014D HT14D

Pocket digital tester



Characteristics

Functions

Resistance and Continuity test

Display: Power supply: Safety: Insulation: Pollution level: Size (LxWxH): Weight (batteries included):

DC/AC voltage

9V battery test

DC current

Diode test

Data HOLD

LCD, 3½ digits, 2000 counts 1x 12V batteries type MS21/MN21 IEC/EN61010-1 double insulation 2

105x50x25mm 100g

ModelHT14D is a **compact** digital multimeter capable of carrying out mainly measurements of AC/DC voltage up to 500V and DC current up to 200mA with complementary functions of Resistance, Diode and 9V alkaline battery test. This device has been designed in compliance with safety standard IEC/EN61010-1 with double protective insulation in CAT III 300V. HT14D is provided with a wide LCD display and each function may be selected through its relevant switch. A further function of this device is Data HOLD to freeze data on the display.



SEE PRODUCT DATA SHEET HT14D



KIT4000A Measuring leads with 2mm tip Batteries and user manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



НТ 39

ORDER CODE HR00022D HT22D

TRMS digital multimeter with VFD function



The HT22D model is a TRMS digital multimeter for measurements of DC/AC TRMS Voltage up to 600V, DC/AC TRMS Current up to 10A, Resistance, Continuity Test, Frequency, Duty Cycle, Capacity, and Diode Test in accordance with the IEC/EN61010-1 safety standard with measurement category CAT III 600V. The instrument has an innovative VFD (Variable Frequency Driver) function for precise measurements of AC voltage even downstream of variable frequency regulators (Inverters). There is also the Data HOLD function, a large backlit display and an Auto Power OFF function for automatic shutdown in case of inactivity.



Supplied accessories BOEC95 4324-2 Professional red/black 2/4mm 90° tips Batteries and user manual **Optional accessories**



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



ORDER CODE HR000010 **HT10**

ORDER CODE HR000008 HT8

2-pole multifunction tester with in-built LED torch







HT8

HT6

HT8

HT10

2x1.5V battery type AAA LR03 IEC/EN61010-1, IEC/EN61010-2-030 (HT8), IEC/EN61243-3:2010 IEC/EN61243-3:2014 (HT10)

CAT IV 600V - CAT III 690V (HT6,HT8) CAT IV 600V - CAT III 1000V (HT10) Overvoltage category:

HT10

DC/AC voltage

terminal

buzzer

Diode test

Display:

Safety:

Power supply:

Display LCD

Integrated torch

AC voltage with 1

impedance (LoZ)

Phase sequence

Functions

Pollution level: Insulation:

Size (LxWxH):

255x60x35mm (HT6,HT8) 270x70x30mm (HT10) 170g (HT6,HT8) 290g (HT10)

double insulation

2

Weight (batteries included):

4 digit LCD, 4000 pixels 2x1.5 V batteries type AAA LR03 after 15 minutes of non-use IEC/EN 61010-1 CAT III 600V 2 double insulation 150x75x45mm

205g

40 нт

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> TRMS

> AC/DC Voltage

AC/DC Current

Resistance

> Frequency

Capacity

Diode Test

HOLD Data

> Auto power off

Backlight

Display:

Safety:

Insulation:

Power supply:

Auto Power OFF:

Level of pollution:

Overvoltage category:

Dimensions (LxWxH):

Weight (with batteries):

Duty cycle %

VFD function on TRMS AC

> Automatic/manual range

Specifications

Continuity with buzzer

Functions

ORDER CODE HR000006 HT6

Devices HT6, HT8 and HT10 are designed to carry out the basic measurements of a digital tester in a practical, quick and functional way thanks to their narrow and long structure, which allows carrying out measurements in any operating conditions. HT8 and HT10 carry out measurements of AC/DC voltage, Continuity tests with buzzer, Diode tests and Phase sequence tests with LED indications and display reading. HT6 carries out measurements of AC/DC voltage, Continuity tests with buzzer, Diode tests and Phase sequence with LED indication. These devices are provided with a white LED torch for use in poorly lit environments and complies with the safety requirements of standards IEC/EN61243-3, IEC/EN61243-3 (HT10) IEC/EN61010-1 and IEC/61010-2-030 in CAT IV 600V, CAT III 690V (HT6, HT8) and CAT IV 600V, CAT III 1000V (HT10).

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SEE PRODUCT DATA SHEET HT6

	Provided accessories
	Protection cap for lead, 2 pieces
	Adapter 4mm for lead, 2 pieces
R9	Mobile lead (HT6,HT8)
	Carrying bag for (HT10)
	Batteries and user manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



НТ 41









CLAMP METERS						P		R		
	нт9019	НТ9014	Ш НТ9012	HT4011	600 HT4010	F 3000	HT100	Н Т7004	HT3010	HT3013
MAIN MEASUREMENTS					AC					
TRMS	•	٠				٠	•	•	•	٠
Current measuring range:	1000A	600A	600A	400A	600A	3000A	200A	300A	400A	400A
Current Leakage current	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC/DC
Voltage measuring range	1000V	1000V	1000V	600V	600V		1000V		600V	600V
Voltage	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC		AC/DC		AC/DC	AC/DC
Frequency		٠		٠					٠	•
Resistance and continuity test with buzzer	•	٠	٠	٠	•		•		٠	•
Capacitance		٠		٠						•
Diode test		٠	٠	٠	•		•		•	•
Duty Cycle (%)		•		۲						•
Temperature with K-type probe		٠		٠						•
Phase sequence and phase concordance										
Automatic detection of internal functions							•			
AC/DC current with external clamp transducers										
AC voltage with low impedance (LoZ)										
Mains analysis										
AC/DC voltage, current measurement/recording										
Meas./Rec. of AC and DC power										
Meas./Rec. of AC and DC energy										
Meas./Rec. of Cosphi, PF										
Meas./Rec. of U/I harmonics + THD%										

ADDITIONAL CHARACTERISTICS

Overvoltage category:	CAT IV 600V CAT III 1000V	CAT IV 600V CAT III 1000V	CAT IV 600V CAT III 1000V	CAT III 600V	CAT III 600V	CAT IV 600V CAT III 1000V	CAT IV 600V CAT III 1000V	, CAT III 300V	CAT III 600V	CAT III 600V
Maximum diameter for clamp	45mm	30mm	30mm	30mm	30mm	110mm	16mm	20mm	30mm	30mm
Display counts	6000	6000	2000	4000	2000	3000	10000	4000	2000	6000
Backlight	•	٠	٠		٠	٠	٠	٠	٠	•
Bargraph	•	٠								
Autorange	•	٠	•	•	•	•	•	•	•	•
Auto power off	•	٠	٠	٠	٠	٠	٠	٠	٠	٠
Detection of AC voltage without contact	•	٠	•	•	•		•	•	•	•
Data HOLD function	•	٠	•	•	•	•	•	•	•	•
MIN/MAX function	•	٠	MAX		MAX				•	•
AVG function (AVERAGE)										
PEAK function	•	٠								
Relative measurement (ZERO)		٠		•						•
Low-pass filter for harmonic reduction	1									
Thermal camera										
Colour display										
VFD function										
Recording of electric parameters over time										
Memory for data saving										
PC / Smartphone or Tablet interface										
Power supply	1x 9V 6F22	1x 9V 6F22	1x 9V 6F22	2x 1.5V AAA	1x 9V 6F22	2x 1.5V AAA	2x 1.5V AAA	2x 1.5V AAA	3x 1.5V AAA	3x 1.5V AAA
Size in mm (L x W x H)	252x88x44	215x74x43	215x74x43	200x66x37	197x70x40	280x120x25	193x54x31	160x55x30	220x81x42	220x81x42
Weight in grams (batteries included)	402	285	285	205	180	170	280	140	320	320
Reference standard for safety	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1
ORDER CODE	HP009019	HP009014	HP009012	HP004011	HP004010	нрозоооо	HP000100	HP007004	HP003010	HP003013

1000A 1000A 1000A 600A 400A 400A 1000A AC/DC AC/DC AC/DC AC/DC AC/DC AC/DC AC+DC 1000V AC 1500V DC 1500V DC 1000V AC 1500V DC 1000V 1000V 600V AC+DC AC+DC AC/DC AC/DC AC/DC AC+DC ٠ ٠

AC/DC

AC+DC	AC+DC										
•	•										
						•	•*	•*	•*		HTLeakag APP
						•	•*	•*	•*		AFF
						•	•*	•*	•*		
						•	•*	•*	•*		
						•	•*	•*			
•	٠				•	 Dynamic INRUSH 	 Dynamic INRUSH 				
		CAT IV 600V CAT III 1000V		CAT III 600V	CAT III 300V	CAT IV 600V CAT III 1000V	CAT IV 600V CAT III 1000V	CAT III 600V	CAT III 600V	CAT IV 300V	CAT III 600\
40mm	40mm	45mm	30mm	30mm	20mm	45mm	45mm	30mm	30mm	23mm	40mm
6000	6000	6000	6000	4000	4000	9999	9999	10000	10000	5000	6000
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Bluetooth	Bluetooth					WiFi					Bluetoot
Li-ION battery	Li-ION battery	1x 9V 6F22	1x 9V 6F22	2x 1.5V AAA	2x 1.5V AAA	2x 1.5V AAA	2x 1.5V AAA	2x 1.5V AAA	2x 1.5V AAA	2x 1.5V AAA	2x 1.5V AA
280x100x50	280x100x50	252x88x44	215x74x43	200x66x37	160x55x30	252x88x44	252x88x44	205x64x39	205x64x39	206x76x34	230x100x2
505	505	442	285	205	140	420	420	280	280	262	500
IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	IEC/ EN61010-1	EN61010-1 EN61557- 13-16
	HB000025	HP009021	HD000015	HD004017	HD007005	HB000027	HB000000	HB004022	40004020	HB000070	HB000770

500



ORDER CODE HP003010 **HT3010**

ORDER CODE HP003013 HT3013

TRMS 400A clamp meters with AC voltage detector without contact



The professional clamp meters HT3010 and HT3013 perform TRMS measurements of AC current up to 400A (HT3010), AC/DC current up to 400A (HT3013), AC/DC voltage up to 600V, Frequency tests, Resistance tests, Continuity tests, Diode tests, Capacitance tests (HT3013), and measurements of Temperature with K-type probe (HT3013) and Duty Cycle (HT3013). Each instrument complies with standard IEC/EN61010-1 in **CAT III 600V** and is provided with display backlight and auto power off function in order to spare the charge of the internal batteries.



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Display:

SEE 0.20 PRODUCT DATA SHEET HT3013

(し) **Functions** HT3013 HT3010 **TRMS** measurements DC/AC voltage AC current DC current Frequency with test leads and clamp • jaws Duty cycle (%) Resistance / Continuity test • Diode test • Capacitance Temperature with K-type probe • Data HOLD MAX/MIN • • Relative measurement (ZERO) • • Autorange Backlight • Auto Power OFF •

Provided accessories

KIT4000A	Pair of test leads
TK101	K-type wire probe (HT3013)
T10	Adapter for K-type probe (HT3013)
	Carrying bag
	Batteries
	User Manual

Characteristics

Conversion type: Power supply: Auto Power OFF: Safety: Overvoltage category: CAT III 600V Pollution level: Insulation: Max height: Clamp jaw internal diameter: Weight (batteries includ- 320g ed): Size (LxWxH): Weight (batteries includ- approx 280g ed):

LCD 4 digits, 6000 counts (HT3013) LCD 31/2 digits, 2000 counts (HT3010) TRMS 3x1.5V batteries type AAA LR03 after 15 minutes' idling IEC/EN 61010-1

2 double insulation 2000m 30mm 220x81x42mm



→ TRMS

SCAN THE OR CODE TO DISCOVER ALL



CAT III 600V

OPTIONAL ACCESSORIES



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MHIMHT

CLAMP METERS

ORDER CODE HPOOOECL **ECLIPSE**

AC/DC TRMS 1000A CAT IV clamp meter with infrared temperature measurement and measurement of DC voltage up to 1500V



ECLIPSE has been designed to measure AC/DC current up to 1000A, DC voltage up to 1500V and AC voltage up to 1000V in **TRMS** reaching CAT IV 600V and CAT III 1000V in compliance with safety standard IEC/EN61010-1. The clamp is provided with a display with 6000 measuring counts with backlight and bargraph to allow for a simple reading even in poorly lit environments. ECLIPSE also measures Resistance, Frequency, Capacitance and Temperature with K-type probe and infrared temperature with built-in IR Camera. The Bluetooth connection allows for the transfer of the saved snapshots by means of the dedicated App HTMercury.

Provided accessories

K-type wire probe

Carrying bag

CAT IV 600V

CAT III 1000V

Pair of leads with 2/4mm tip

Adapter for K-type wire probe

Li-ION rechargeable battery, 2 pieces

Battery charger power supply + recharging base

SEE PRODUCT DATA SHEET ECLIPSE



- > TRMS measurements
- DC voltage up to 1500V
- AC voltage up to 1000V
- AC+DC voltage
- AC voltage with low
- impedance (LoZ)
- DC/AC current up to 1000A
- Inrush current (INRUSH) DC/AC current with external
- clamp transducers
- Resistance and Continuity test
- "Voltsense" for AC voltage detection

Characteristics

Display: Conversion type: Power supply:

- **Auto Power OFF:** Clamp jaw internal diameter: 40mm Internal memory: **Bluetooth connection** Safety: Overvoltage category: Insulation: **Pollution level:** Size (LxWxH): Weight (batteries included):
- colour TFT 6000 dots TRMS 1x7.4V rechargeable Li-ION batterv after 15÷60 minutes' idling max 128 snapshots/16 recordings BLE 4.0 IEC/EN61010-1 CAT IV 600V - CAT III 1000V double insulation 2 280x100x50mm

505a

Frequency with clamp jaws 4324-2 T10 Capacitance / Duty cycle / TK101

Diode test Temperature with K-type probe

and leads

- . Built-in infrared thermal camera (80x80pxl)
- Autorange / Data HOLD /
- MAX/MIN / PEAK (<1ms) **Relative measurements**
- DataLogger function
- **Backlight and Bargraph**
- Auto Power OFF
- User manual, ISO calibration report ÷

BAT64

A0EC95

BOEC95

→ TRMS



SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**





ORDER CODE HP009025

HT9025





WHT

- Frequency with clamp jaws and leads Capacitance / Duty cycle /
- Diode test Temperature with K-type probe
- Autorange / Data HOLD / MAX/MIN / PEAK (<1ms)
- Relative measurements DataLogger function
- **Backlight and Bargraph**
- Auto Power OFF
- test "Voltsense" for AC voltage detection

Resistance and Continuity

DC/AC current up to 1000A

DC/AC current with external

Inrush current (INRUSH)

Characteristics

Functions

TRMS measurements

AC voltage with low

impedance (LoZ)

clamp transducers

AC/DC voltage

DC voltage up to 1500V

AC voltage up to 1000V

Display: **Conversion type:** Power supply: Auto Power OFF: Clamp jaw internal diameter: Internal memory: **Bluetooth connection** Safety: Overvoltage category: Insulation: **Pollution level:** 2 Size (LxWxH): Weight (batteries included): 505g

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HT9025 has been designed to measure AC/DC current up to 1000A, DC voltage up to 1500V and AC voltage up to 1000V in **TRMS** reaching CAT IV 600V and CAT III 1000V in compliance with safety standard IEC/EN61010-1. The clamp is provided with a display with 6000 measuring counts with backlight and bargraph to allow for a simple reading even in poorly lit environments. HT9025 also measures Resistance, Frequency, Capacitance and Temperature with K-type probe. The Bluetooth connection allows for the transfer of the saved snapshots by means of the dedicated App HTMercury.



SEE PRODUCT DATA SHEET HT9025

Provided accessories

4324-2	Pair of leads with 2/4mm tip
Г10	Adapter for K-type wire probe
TK101	K-type wire probe
BAT64	Rechargeable Li-ION battery
AOEC95	Battery charger power supply + recharging base
BOEC95	Carrying bag
	User manual, ISO calibration report



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES





НŤТ | 49 ORDER CODE HP09025T HT9025T

AC/DC TRMS 1000A current clamp with integrated thermal imager 120 x 120 pxl

IEW

WHT 27.5 A

(\mathbf{I}) **Functions**

- TRMS
- Current measurement range 1000A
- AC, DC, AC+DC Current
- AC, DC, AC+DC Voltage
- > Thermal imaging camera with resolution 120x120pxl
- Leakage current with optional current clamp
- Frequency
- Resistance and continuity test
- Capacity
- Diode Test
- Duty cycle %
- Temperature with K type probe Inrush current measurement
- (INRUSH)

- Backlight Bargraph Autorange
- Auto power off
- AC voltage detection
- contactless
- Data HOLD Function
- MIN/MAX/PEAK Function
- **Relative Measurement**
- clamp transducers
- AC, DC, AC+DC Voltage with
- low impedance (LoZ)
- VFD function on AC voltage



Display:	TFT colour 6000 points
Conversion Type:	TRMS
Power supply:	1x7.4V Li-ION rechargeable ba
Auto Power OFF:	after 15÷60 minutes of non-u
Toroid internal diameter:	40mm
Internal memory:	max 128 snapshots/16 adjustr
Bluetooth Connection	BLE 4.0
Safety:	IEC/EN61010-1
Measurement category:	CATIV 600V - CATIII 1000V - CA
Insulation:	double insulation
Level of pollution:	2
Dimensions (LxWxH):	280x100x50mm
Weight (batteries included):	505 g

Datalogger and graphics AC, DC, AC+DC current with

attery

ments

T || 1500VDC

TRMS

with **backlight** and **bargraph** such as to take simple readings even in poorly lit environments. HT9025T also performs Resistance, Frequency, Capacitance and Temperature measurements with K probe and infra-red temperature with integrated thermal imager. The Bluetooth connection enables the transfer of snapshots saved using the **dedicated** HTMercury APP The instrument has an innovative VFD (Variable Frequency Driver) function for precise measurements of AC voltage even downstream of variable frequency regulators (Inverters)

HT9025T combines the features of a professional

current clamp with those of a 120 x 120pxl thermal

imager. It is designed for the measurement of AC/

DC Current up to 1000A, DC Voltage up to 1500V

and AC Voltage up to 1000V in TRMS in reaching CAT IV 600V and CAT III 1000V in accordance with

the IEC/EN61010-1 safety standard. The clamp is

equipped with a 6000 measurement point display



Provided accessories

4324-2	Pair of tips with 2/4mm tip
T10	K-wire probe adapter
TK101	K type wire probe
BAT64	Rechargeable battery Li-ION (2 pieces)
AOEC95	Battery charger + charging base
BOEC95	Transport bag
	User manual, ISO calibration report

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**

VFD ON

→ TRMS



ORDER CODE HP009023 HT9023

Professional clamp meter for measuring power/ harmonics with WIFI connection





DC, AC + DC TRMS current

- up to 1000A
- DC voltage up to 1500V AC, AC+DCTRMS voltage
- up to 1000V
- Resistance and Continuity test > "Voltsense" for AC voltage
- detection Frequency with clamp jaws and
- leads
- > Phase sequence / Phase
- concordance with 1 terminal Measurement/recording of DC
- power and energy
- Measurement/recording of active, reactive, apparent power in single-phase systems
- Measurement/Recording of active, reactive power in singlephase systems

Characteristics

Display: Conversion type: Power supply: **Duration:** Internal memory: PC interface: Clamp jaw internal diameter: Safety: Overvoltage category: Insulation: Pollution level: Size (LxWxH): Weight (batteries included): Measurement/Recording of

systems

THD%

(Dynamic INRUSH)

programmable PI

Autorange

Data HOLD

Backlight

MAX/MIN/AVG

PEAK (1ms), ZERO

Android/iOS devices

Auto Power OFF

Data logger function with

power factor in single-phase

Measurement/Recording of

voltage/current harmonics up



COMPATIBLE WITH APP H1 ANALYSIS 2

HT9023 has been designed to measure AC current, DC AC+DC up to 1000A in TRMS reaching CAT IV 600V and CAT III 1000V in compliance with safety standard IEC/EN61010-1. The clamp also measures DC voltage up to 1500V, AC, AC+DC voltage up to 1000V, Active, Reactive, Apparent Power, Power factor, Energy, voltage/current harmonic analysis up to the 25th with THD% calculation in balanced single-phase and three-phase systems. It is also possible to carry out the phase sequence test with 1 terminal. The instrument also detects the events linked to motor starting currents (Dynamic INRUSH) and allows recording each measured electric parameter over time, with the possibility of transferring data via WiFi to Android/iOS devices through the App HTAnalysis 2. The clamp is provided with a wide graphic dot-matrix screen (128x128pxl) with backlight, in order to allow reading data even in poorly lit environments, and it is provided with an auto power off function to preserve its internal battery.



ORDER CODE HP009021 **HT9021**

AC/DC TRMS CAT IV 600V clamp meter with temperature measurement



HT9021 has been designed to measure AC/DC current up to 1000A in TRMS, reaching CAT IV 600V and CAT III 1000V in compliance with safety standard IEC/EN61010-1. The clamp is provided with a display with 6000 measuring counts with **backlight** and **bargraph** to allow for a simple reading even in poorly lit environments. HT9021 also carries out measurements of voltage up to 1000V, Resistance, Frequency, Capacitance and Temperature with K-type probe.

Provided accessories

K-type wire probe

Carrying bag

Optional accessories

Pair of leads with 2/4mm tip

Batteries and user manual

SCAN THE QR CODE

OPTIONAL ACCESSORIES

TO DISCOVER ALL

Adapter for K-type wire probe





- > TRMS measurements
- AC/DC voltage: (1000V)
- AC/DC current: (1000A)
- Resistance and Continuity test
- "Voltsense" for AC voltage detection
- Frequency with clamp jaws
- and leads Capacitance, Duty cycle, Diode test
- probe . Autorange, Data HC
- MAX/MIN, PEAK (<10ms)
- **Relative measurements**
- Backlight, Bargraph
- Auto Power OFF

> Temperature with K-type

	T10
OLD	TK101

4324-2

BRS0000NN0

YA-

+

Characteristics

Display:
Conversion type:
Power supply:
Auto Power OFF:
Max diameter of clamp:
Safety:
Overvoltage category:
Insulation:
Pollution level:
Size (LxWxH):
Weight (batteries include

LCD, 4 digits, 6000 counts TRMS 1x9V battery type IEC6F22 after 15 minutes' idling 45mm IEC/EN61010-1 CAT IV 600V - CAT III 1000V double insulation 2 252x88x42mm ed): 420g



70

ORDER CODE HP009020 **HT9020**

Professional clamp meter with power/harmonic measurement



- **Functions**
- DC, AC + DC TRMS current up to 1000A
- DC, AC + DC TRMS voltage
- up to 1000V
- Frequency with leads

- Resistance and Continuity
- Measurement of DC power and energy
- reactive and apparent power on single-phase systems

Characteristics

Display: Power supply: **Duration**: Safety: Insulation: **Pollution level:** Overvoltage category:

Max diameter of cable: Size (LxWxH): Weight (batteries included):

dotmatrix 128x128pxl with backlight 2x1.5V batteries type AAA > 150ore IEC/EN61010-1 Double insulation

Measurement of active,

Measurement of power

Measurement of voltage/

Motor starting (INRUSH)

Data HOLD, MAX/MIN/

current detection

Auto Power OFF

Autorange

Backlight

CREST

current harmonics up to the

25th and THD% calculation

systems

reactive power in single-phase

factor in single-phase systems

CAT IV 600V to earth, max 1000V between inputs 45mm 252x88x44mm 0.42kg



and with clamp jaws Phase sequence / Phase conformity

test

The power clamp meter HT9020 has been designed for measuring DC, AC+DC TRMS current up to 1000A to obtain CAT IV 600V in compliance with standard IEC/EN61010-1. It also measures Active, Reactive, Apparent Power, Energy, voltage/ current harmonic analysis up to the 25th with THD% in balanced single-phase or three-phase systems. They also allow testing phase sequence and concordance with the 1-terminal measuring method. It is also possible to detect and record the events linked to motor starting (INRUSH) currents. The clamp is provided with a wide graphic dot-matrix screen (128x128pxl) with backlight, in order to allow reading data even in poorly lit environments, and it is also provided with an auto power off function to preserve its internal battery.



Provided accessories

AAMK0000HT0	Pair of test leads
AAMK0001HT0	Pair of alligator clips
ABRS0000NNO	Carrying bag
	Batteries
	ISO calibration report
	Quick user guide

+

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

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→ TRMS



VNAMIO

ORDER CODE HP009019 **HT9019**

Professional clamp meter AC 1000A TRMS, CAT IV 600V



Professional clamp meter HT9019 has been designed to measure AC current up to 1000A and AC/DC voltage up to 1000V in TRMS reaching CAT IV 600V according to standard IEC/EN61010-1. The clamp is provided with a wide display with 6000 measuring counts, backlight and analogue **bargraph** to allow for a simple reading even in poorly lit environments. Clamp HT9019 is also provided with the auto power off function to preserve its own battery.





CAT III 1000V

ORDER CODE HP009015 **HT9015**

AC/DC TRMS 600A CAT IV clamp meter with temperature measurement





- Frequency with clamp jaws and leads
- Duty cycle

Resistance and Continuity test

"Voltsense" for AC voltage detection

Functions

Diode test

Capacitance

- > Temperature with K-type probe > Autorange
- Data HOLD

> TRMS measurements

AC/DC voltage: (1000V)

AC/DC current: (600A)

- MAX/MIN
- PEAK (<10ms)

Display:

diameter:

Insulation:

Pollution level:

Safety:

Conversion type:

Auto Power OFF:

Clamp jaw internal

Overvoltage category:

Power supply:

- Relative measurements
- Backlight and Bargraph > Auto Power OFF



LCD, 4 digits, 6000 counts TRMS 1x9V battery type IEC6F22 after 15 minutes' idling 30mm IEC/EN61010-1

210x75x45mm

Size (LxWxH): Weight (batteries included): 400g

CAT IV 600V - CAT III 1000V double insulation 2









Autorange Data HOLD

MAX/MIN

Bargraph

Backlight

7

Display:

diameter:

Insulation:

included):

Pollution level:

Size (LxWxH):

Weight (batteries

Safety:

Conversion type:

Auto Power OFF:

Clamp jaw internal

Overvoltage category:

Power supply:

> AutoPowerOFF

Functions

> TRMS measurements

AC current up to 1000A

> PEAK CURRENT (<10ms)

> AC/DC voltage up to 1000V

Resistance and Continuity test

Voltsense" for AC voltage detection

Characteristics

LCD, 4 digits, 6000 counts TRMS 1x9V batteries type IEC 6F22 after 15 minutes' idling 45mm IEC/EN61010-1 CAT IV 600V - CAT III 1000V double insulation 2

420g

252x88x44mm

HT9015 has been designed to measure AC/ DC current up to 600A and AC/DC voltage up to 1000V in TRMS reaching CAT III 1000V in compliance with safety standard IEC/EN61010-1. The clamp is provided with a display with 6000 counts with backlight and bargraph to allow for a simple reading even in poorly lit environments. HT9015 also measures Resistance, Frequency, Capacitance and Temperature with K-type probe.



SEE PRODUCT DATA SHEET HT9015



Provided accessories

4324-2	Pair of leads with 2/4mm tip
Г10	Adapter for K-type wire probe
TK101	K-type wire probe
	Battery, User manual and Carrying bag



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES





ORDER CODE HP009014 **HT9014**

Professional clamp meter AC 600A TRMS, CAT IV 600V



Professional clamp meter HT9014 has been designed to measure AC current up to 600A and AC/DC voltage up to 1000V TRMS to reach CAT IV 600V and CAT III 1000V in compliance with standard IEC/EN61010-1. The clamp is provided with a wide backlight display with 6000 counts and an auto power off function to preserve its battery.





Battery, User manual and Carrying bag



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**



CAT IV CAT III 1000V

ORDER CODE HP009012 **HT9012**

Professional clamp meter AC 600A, CAT IV 600V







Characteristics

Display: **Conversion type:** Power supply: AutoPowerOFF: Clamp jaw internal diameter:

Functions

Resistance/Continuity test

> DC/AC voltage

"Voltsense" sensor

> AC current

Diode test

) Data HOLD

Backlight

MAX function

> AutoPowerOFF

Measurement category: CAT IV 600V

Size (LxWxH): Weight (batteries included):

Safety:

LCD, 31/2 digits, 2000 counts average value 1x9V battery type IEC 622 after 30 minutes' idling

210x75x45mm 400g

IEC/EN61010-1 CAT III 1000V

30mm

LCD, 4 digits, 6000 counts TRMS 1x9V battery type IEC 622 after 30 minutes' idling

30mm

IEC/EN61010-1 CAT IV 600V - CAT III 1000V 210x75x45mm Weight (batteries included): 400a

75

Functions

Voltsense" sensor

AutoPowerOFF

Display:

diameter:

Safety:

Conversion type:

Auto Power OFF:

Clamp jaw internal

Overvoltage category:

Power supply:

Size (LxWxH):

Capacitance, Duty Cycle

PEAK CURRENT (<10ms)

Resistance/Continuity test, Frequency

Autorange, Data HOLD, MAX/MIN

> Diode test, Temperature with K-type probe

> Relative measurement, Bargraph, Backlight,

Characteristics

> Measurements in TRMS, DC/AC voltage, AC current

Professional clamp meter HT9012 has been designed to measure AC current up to 600A and AC/DC voltage up to 1000V to reach CAT IV 600V and CAT III 1000V in compliance with standard IEC/EN61010-1. The clamp is provided with a wide backlit display with 2000 counts and an auto power off function to preserve its battery.





4324-2

Pair of leads with 2/4mm tip

Battery

User manual and Carrying bag



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



ORDER CODE HP004013 **HT4013**

Clamp meter AC/DC 400A



Clamp meter HT4013 has been designed to measure AC/DC current up to 400A and AC/DC voltage up to 600V to reach CAT III 600V in compliance with standard IEC/EN61010-1. The clamp is provided with an internal sensor to detect AC voltage also without contact, through a red LED turning on. This model also carries out measurements of Resistance, Continuity Test, Frequency, Capacitance, Diode test, Duty Cycle and Temperature with K-type probe. The clamp is also provided with the auto power off function to preserve its own battery.



Pro	vided accessories
4324-2	Pair of leads with 2/4mm tip
T10	Adapter for K-type wire probe
TK101	K-type wire probe
	Battery, User manual and Carrying ba

+ **Optional accessories**

SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

9 CAT IV 600V

ORDER CODE HP004022 HT4022

Functions

Resistance and Continuity test

Frequency with test leads and

Active, Reactive, Apparent

Harmonics V/ I up to the 25th

Phase sequence with 1 terminal

Power factor and $Cos \Psi$

MAX/MIN/AVG/PEAK

Active, Reactive, Apparent power

DC/AC TRMS voltage

AC TRMS current

clamp jaws

energy

and THD%

Autorange

Data HOLD

Backlight

AutoPowerOFF

ORDER CODE HP004020 HT4020

Clamp meter AC TRMS 400A with power/harmonic measurement



HT4022 HT4020

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Provided accessories

4413-2	Pair of test leads
YAAMK0001HT0	Pair of alligator clips
B80	Carrying bag
	Rubber cap for test lead
	ISO calibration report
	Batteries and user manual



- > AC/DC current up to 400A
- > DC/AC voltage up to 600V
- > "Voltsense" for AC voltage detection
- > Resistance and continuity test with buzzer Frequency with leads, Capacitance, Diode test
- > Duty Cycle (%)
- > Temperature with K-type probe
- > Autorange, Data HOLD, MAX/MIN/Relative measurement



Display: **Conversion type:** Power supply:

Auto Power OFF: Max diameter of clamp: Safety: Measurement category: Insulation: Pollution level: Size (LxWxH): Weight (batteries included):

LCD, 4 digits, 4000 counts RMS 2x1.5V alkaline batteries type AAA LR03 after 30 minutes' idling 30mm IEC/EN61010-1 CAT III 600V

double insulation 2 200x66x37mm 205g

58 нт Professional clamp meters HT4020 and HT4022 carry out measurements in TRMS of AC current up to 400A, AC/DC voltage up to 600V, Frequency, Resistance, Continuity test, Active, Reactive, Apparent Power, Cos^q, Energy for balanced single-phase and/or three-phase systems, further to the detection of phase sequence by 1-terminal method. Model HT4022 also carries out the absolute/percentage measurement of harmonic components of voltage and current with calculation of THD%. Each instrument complies with standard IEC/EN61010-1 in CAT III 600V and is the ideal solution for troubleshooting typical problems in industrial environments such as nonlinear loads, frequency-controlled motors.



SEE PRODUCT DATA SHEET HT4022



PRODUCT DATA SHEET HT4020



Characteristics

Display: **Conversion type:** Power supply: Auto Power OFF: Safety: Overvoltage category: Pollution level: Insulation: Max height: Clamp jaw internal diameter: Size (LxWxH): Weight (batteries included):

LCD, 4 digits, 10000 counts TRMS, 64 samples in 20ms 2x1.5V batteries type AAA LR03 after 5 minutes' idling IEC/EN 61010-1 CAT III 600V 2 double insulation 2000m 30mm 205x64x39mm approx 280g



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES





ORDER CODE HP004011

Clamp meter AC 400A



Clamp meter HT4011 has been designed to measure AC current up to 400A and AC/DC voltage up to 600V to reach CAT III 600V in compliance with standard IEC/EN61010-1. The clamp is provided with an internal sensor to detect AC voltage also without contact, through a red LED turning on. HT4011 also carries out measurements of Resistance, Continuity Test, Frequency, Capacitance, Diode test, Duty Cycle and Temperature with K-type probe. The clamp is also provided with the auto power off function to preserve its own battery.



- > AC current up to 400A
- > DC/AC voltage up to 600V
- > "Voltsense" for AC voltage detection
- > Resistance and continuity test with buzzer
- > Frequency with leads, Capacitance, Diode test
- > Duty Cycle (%)
- Temperature with K-type probe
 Autorange, Data HOLD, MAX/MIN/Relative
- measurement



Display:	LCD, 4 digits, 4000 counts
Conversion type:	average value
Power supply:	2x1.5V batteries type AAA LR03
Auto Power OFF:	after 30 minutes' idling
Max diameter of clamp:	30mm
Safety:	IEC/EN61010-1
Overvoltage category:	CAT III 600V
Insulation:	double insulation
Pollution level:	2
Size (LxWxH):	200x66x37mm
Weight (batteries included):	205g

 Provided accessories

 4324-2
 Pair of leads with 2/4mm tip

 T10
 Adapter for K-type wire probe

	States and States
TK101	K-type wire probe
	Battery, User manual and Carrying bag

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

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order code **HP004010**

Clamp meter AC 600A



- AC current up to 600A
- AC/DC voltage up to 600V

Functions

- > Detection of AC voltage without contact
- > Resistance / Continuity test
- > Diode test
- Data HOLD
 MAX
- Backlight
- Auto Power OFF



Display: Conversion type: Power supply: Auto Power OFF: Clamp jaw internal diameter: Safety: Overvoltage category: Insulation: Pollution level: Max height: Size (LxWxH): Weight (batteries included): LCD, 3½ digits, 2000 counts average value 1x9V battery type 6F22 after 15 minutes' idling 30mm Clamp meter HT4010 can carry out measurements of **AC current up to 600A** and **AC/DC voltage**, **Resistance**, **Continuity** and **Diode test**. The device is provided with an internal sensor capable o detecting, through a LED turning on and a buzzer sounding, the presence of AC voltage in a spot without contact. This device complies with standard **IEC/EN61010-1** in **CAT III 600V** and it is the ideal solution for measurements to be carried out both in domestic and in industrial environments.





Provided accessories

4324-2 Pair of leads with 2/4mm tip Carrying bag, battery and user manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



нт 61

ORDER CODE HP030000 **F3000**

Clamp meter with flexible jaws AC 3000A



Professional clamp meter F3000 has been designed to measure AC current up to 3000A in TRMS in total autorange to reach CAT IV 600V, CAT III 1000V according to standard IEC/EN61010-1. The clamp is provided with innovative **flexible jaws** capable of reaching a maximum diameter of 110mm and allowing for an easy reading in any condition. The clamp is provided with a wide display with **3000** counts, Data HOLD function and backlight to allow for a simple reading even in poorly lit environments. The clamp is also provided with the auto power off function to preserve its own battery.

Functions

- > TRMS measurements
- > AC TRMS current up to 3000A
- > Flexible jaws with big diameter
- > Autorange
- > Data HOLD
- > MAX/MIN

> Backlight > Auto Power OFF



Display:	LCD, 4 digits, 3000 counts
Conversion type:	TRMS
Power supply:	2x1.5V alkaline batteries typ LR03
Auto Power OFF:	after 20 minutes' idling
Max diameter of cla	mp: 110mm
Safety:	IEC/EN61010-1
Overvoltage catego	ory: CAT IV 600V - CAT III 1000V
Insulation:	double insulation
Pollution level:	2
Size (LxWxH):	280x120x25mm
Weight (batteries included):	170g

e AAA







SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

→ TRMS CAT IV CAT III 1000V

ORDER CODE HP000100 **HT100**

Fork clamp meter AC 200A



- Continuity test with buzzer

AC TRMS current up to 200A

DC/AC TRMS voltage up to 1000V

"Voltsense" for AC voltage detection

Functions

Diode test > Autorange

Resistance

- > Autorecognition function
- Data HOLD

> TRMS measurements

- Backlight
- > Auto Power OFF



Display: LCD, 4 digits, 10000 counts, backlit TRMS Conversion type: 2x1.5V alkaline batteries type AAA Power supply: LR03 Auto Power OFF: after 20 minutes' idling Max diameter of clamp: 16mm IEC/EN61010-1 Safety: CAT IV 600V, CAT III 600V Overvoltage category: double insulation Insulation: Pollution level: 2 193x54x31mm Size (LxWxH): Weight (batteries 280g included):

62 | НŤ Professional clamp meter HT100 is provided with automatic recognition of functions, for measuring AC current up to 200A and AC/DC voltage up to 1000V in TRMS to reach CAT IV 600V and **CAT III 1000V** in compliance with standard **IEC/** EN61010-1. The clamp is provided with "open" jaws, with a wide display with 9999 counts, "Voltsense" phase detector function, Data HOLD and **backlight** to allow for a simple reading even in poorly lit environments. HT100 also carries out measurements of Resistance, Continuity test and Diode test. The clamp is also provided with the auto power off function to preserve its own battery.



SEE PRODUCT DATA SHEET HT100



4413-2

Pair of test leads

Batteries and user manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES





ORDER CODE HP007004 HT7004

ORDER CODE HP007005 HT7005

Pocket clamp meters for AC TRMS current up to 400A with measurement of inrush currents.



Clamp meter HT7005 can measure DC and ACTRMS current up to **400A** in Autorange, in compliance with IEC/EN61010-1, CAT III 300V further to measuring the inrush current of electric motors with a response time of 100ms. Model HT 7004 can measure only AC TRMS current up to 300A. Both devices are provided with Data HOLD function and Auto Power Off function, in order to preserve the internal battery when not in use. Thanks to its extremely small size, these models are very practical and they are the ideal solution for simple measurements in the most common domestic and industrial environments.





Provided accessories

Soft transport bag Batteries

User Manual

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Optional accessories



SCAN THE QR CODE TO DISCOVER ALL



OPTIONAL ACCESSORIES

M-→ TRMS

INRUSH

ORDER CODE HP000079 **HT79**

ORDER CODE HP00077C **T77C**

Clamp meters for measuring leakage current







Soft transport bag Batteries and user manual

Pair of test leads (HT79)



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

75 **Functions**

	HT7004	HT7005
AC TRMS current	•	•
DC current		•
Inrush current (INRUSH)		•
AC voltage detection without contact	•	•
Autorange	•	•
Data HOLD	•	•
ZERO function (zeroing)	-	•
Backlight	•	•
Auto Power OFF	•	•

Characteristics

Power supply: Safety: **Overvoltage category:** Insulation: **Pollution level:** Max operating altitude: Display: Max cable diameter 20mm Size (LxWxH): Weight (batteries 140g included):

2x1.5V batteries type AAA LR03 IEC/EN61010-1 CAT III 300V double insulation 2000m 3¾ LCD, 4000 dots, decimal sign and point 155x60x25mm

Models HT77C and HT79 are clamp meters designed for an accurate measurement of very low values of AC and DC currents (DC only for HT79) and, therefore, they are mainly employed in detecting and defining leakage currents in domestic and industrial electric systems, which typically cause the RCDs' tripping. HT77C, in particular, complies with standards IEC/EN61557-13 and IEC/ EN61557-16, which provide for a measurement protected against external disturbances. It is also provided with a built-in low-pass filter to eliminate harmonic components. Model HT79 also allows measuring **AC/DC voltage** and performing resistance/continuity tests. HT77C is also provided with Bluetooth connection for managing a datalogger function in combination with the APP HTLeakage.







SEE PRODUCT DATA SHEET HT77C

LCD 4 digits, 5000 counts (HT79) TRMS 2x1.5V batteries type AAA LR03 (HT79) 2x1.5V batteries type AA LR06 (HT77C) IEC/EN 61010-1 CAT III 600V (HT77C)

CAT IV 300V (HT79) double insulation

2000m

40mm (HT77C) 23mm (HT79) after 20 minutes' idling (HT77C) after 30 minutes' idling (HT79) 230x30x24mm (HT77C) 206x76x34mm (HT79) 500g (HT77C) 262g (HT79)











MAINS ANALYZERS



MAINS QUALITY ANALYZERS



		• • •	•	
MAIN MEASUREMENTS		MAINS QUAL	ITY ANALYSIS	
AC/DC voltage in single-phase/three-phase systems	•	•	•	Single-phase
AC/DC current in single-phase/three-phase systems	•	•	•	Single-phase
Cosphi, Power Factor	•	•	•	Single-phase
Voltage unbalance (NEG%, ZERO%)	•	•		
Active, reactive, apparent power/energy and DC power	•	•	•	•
Voltage and current harmonics up to the 49th with calculation of THD%	•	•	Only THD	• 25ª
Voltage anomalies (dips, peaks) with a resolution of 20ms (@ 50Hz)	•	•		
Electric motor starting current (INRUSH)	minimum duration of the event 320ms			 minimum duration of the event 1ms
Phase sequence	•	•	•	•
Neutral current	•	•		•
Recording of temperature and humidity	• **			
Recording of illuminance values LUX	• ***			
Recording of leakage current	****			
MEMORY AND RECORDING				
Max number of simultaneously recorded parameters	600	383	44	60
Recording with selectable integration period	2s-30min	5s-60min	5s-60min	1s-15min
Indicative memory duration (in days @ PI=10min @ max number of parameters)	28 days	30 days	153 days	50 days
Internal memory capacity	8MB	8MB	8MB	2MB
Saving instant sampled values	•	• *	• *	•*
REAL-TIME DISPLAY				
Summary table of main parameters	•	• *	• *	• *
Voltage/current waveforms	•	• *	• *	• *
Tables or histograms of Harmonics and THD%	•	• *	• *	• *
Voltage/current vector diagram	•	• *	• *	• *
ADDITIONAL CHARACTERISTICS				
Overvoltage category:	CAT IV 300V	CAT IV 300V	CAT IV 300V	CAT IV 600V CAT III 1000V
Touchscreen colour display	•			
Power supply and rechargeable battery recharging	•	Auto power supplied	Auto power supplied	
Auto power off	•	•	•	•
Provided PC interface with software for Windows	WiFi/USB	WiFi/USB	WiFi/USB	WiFi
Context help active on each screen	•			
Size (LxWxH) (mm)	235x165x75	245x210x110	245x210x110	252x88x44
Weight in kg (batteries included)	1	1.5	1.5	0.5
Reference standard for mains quality	IEC/EN61000-4-30 Class B	IEC/EN61000-4-30 Class B	IEC/EN61000-4-30 Class B	IEC/EN61000-4-30 Class B
Reference standard for safety	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1
ORDER CODE	HV000740	HV000820	HV000819	HP009023

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By using software TOPVIEW
 (**) with optional probe HT53L/05
 (***) with optional probe HT52/05
 (****) by means of optional clamp transducer HT96U

PQA820	PQA819	НТ9023
	ITY ANALYSIS	
MAINS QUAL	TTANALISIS	
•	•	Single-phase
•	•	Single-phase
•	•	Single-phase
•		
•	•	•
•	Only THD	● 25ª
•		
		 minimum duration of the event 1ms
•	•	•
		•



Three-phase mains analyzer



U Functions Mains analysis

- > 9 types of electric systems available
- DC/AC TRMS voltage in single-/three-phase systems up to 600V
- DC/AC TRMS current in single-/three-phase systems up to 3000A
- > Active, Reactive and Apparent Power/Energy
- > Cosphi and Power Factor
- > Voltage, Current, DC Power
- > Measurement of neutral current
- > Voltage dips and peaks on 20ms @50hz
- > Voltage unbalance (NEG%, ZERO%)
- > Voltage/current waveforms
- > Histograms of voltage/current harmonics and THD%
- > Voltage/current vector diagram
- > Periodical recording with selectable between 2s and
- 30min
- Max number of simultaneously selectable quantities 600
 Voltage/current harmonic analysis up to the 49th
- Calculation and recording of voltage/current THD%
- Indication of recording duration
- Description of looks as surrout
- > Recording of leakage current

VEGA74 is a single-phase/three-phase mains analyzer capable of acquiring and recording simultaneously 600 electric parameters. The use of VEGA74 is simple and intuitive, thanks to the interface with colour touchscreen display with icon structure. VEGA74 is ideal for troubleshooting problems deriving from a poor mains quality, voltage anomalies, harmonics and high energy consumption which can become much more harmful and complex phenomena to keep under control if neglected for too long. Measurements carried out can be transferred to a PC with USB or WiFi connection via the dedicated management software in order to analyze the data and create print reports.





- > Recording of temperature and humidity
- > Recording of illuminance values LUX

Batteries always charged.

The new **VEGA74** is so compact that we had to develop a brand new technology for its power supply and charging system. You just need to connect VEGA74 to power supply and the batteries will charge. If you have no time for recharge, just replace them with common AA batteries and resume working immediately.



Provid

Provided accessories

HTFLEX33E	Flex clamp 3000A, diameter 174mm, 4 pieces
KIT799	Set of 4 cables e 4 alligator clips
PT400	Touch-screen pen
VA500	Rigid transport case for device and acces- sories
YABAT0003000	1.2V NiMH AA rechargeable battery, 6 pieces
A0061	100/440Vac 50/60Hz - 15 Vdc power supply
C2006	Optical/USB cable
	Quick user guide

ISO calibration report





Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

нт 71
ORDER CODE HV000820 **PQA820**



Three-phase and single-phase mains analyzers





- > AC TRMS voltage in single-phase/threephase systems
- > AC TRMS current in single-phase/threephase systems
- Active, Reactive and **Apparent Power/Energy**
- > Cosphi and Power Factor Voltage, Current, DC
- Power Neutral current (PQA820
- only) > Voltage dips and peaks current with resolution
- 10ms (PQA820 only) Voltage unbalance (NEG%, ZERO%) (PQA820
- only) Measurements using external TA and TV
- > Voltage/current waveforms
- > Histograms of voltage/ current harmonics and THD%
- > Voltage/current vector diagram

- > Periodical recording with selectable PI
- Maximum number of simultaneously recorded
- quantities PQA820: 383 PQA819: 44 Voltage and current
- harmonic analysis up to the 49th
- Calculation and recording of voltage/current THD%
- duration
- Indication of recording
 - Mechanical protection:

Safety:

Power supply:

External power

Recording period:

PC interface:

supply:

- **Reference standards:** Operating temperature: **Operating humidity:**
- Storage temperature: <80%RH Storage humidity: Size: 235x165x75mm Weight (battery approx 0.7kg included):

Characteristics rechargeable Li-ION battery 100 ÷ 415V, 50/60Hz > 30 days (@ PI = 10min) (PQA820) **Recording duration** > 230 days (@ PI =15min) (PQA819) 5, 10, 30s, 1, 2, 5, 10, 15, 60min) USB 2.0 and Wi-Fi IEC/EN61010-1, double insulation IP65 (closed case)

Overvoltage category: CAT IV 300V, max 415V between inputs EN50160 0 ÷ 40°C <80%RH -10 ÷ 60°C

PQA820 e PQA819 are the innovative proposal by HT to easily analyze all involved components on a threephase or single-phase electric system.

When designing them, HT has taken particular care of three aspects: setting, the operating or storage environment and data transfer.

- PQA820 and PQA819 do not need to be set. They simply need to be connected, started and they respectively record 383 and 44 quantities simultaneously.
- They are provided with a comfortable **IP65** case, which allows working **in any kind of environment**.
- · When recording has finished, thanks to the WI-Fi **connection**, the devices are capable of transferring all data onto a tablet, smartphone or PC.

Further to the Wi-Fi connection, PQA devices are provided with USB connection for transferring data via cable to the PC through the provided TopView software

They do not need any batteries since they are auto **power-supplied** from the mains they are analyzing. The internal battery is automatically recharged by the input voltage and will provide the necessary energy to go on recording in case power supply is interrupted.

To make the most of the technology used by PQA820 and PQA819, we recommend using the Htanalysis 2 App (available for free download on AppStore and Google Play) on a tablet or smart phone.

Provided accessories			
KITMPPACW	Set of 4 measuring cables		
KITMPPACC	Set of 4 alligator clips		
606-IECN	Adapters with magnetic terminal (4x)		
HTFLEX33L	Flex 1000A AC clamp, 174mm (4x)		
C2007	USB cable		
BORSA2051	Carrying bag for accessories		
	Quick user guide		
	ISO calibration report		

Here are some of the functions of HTanalysis:

• Display of measured data on high-definition screen. • Possibility of "scrolling" through a determined waveform and immediately detecting its critical "moments": it will be sufficient to "touch" a certain spot of the screen in which the measured signal is proposed to immediately obtain all the necessary information to understand what happened in that spot and in that particular moment!

PQA820 and PQA819 respectively record 383 and 44 guantities which can be recalled and dragged onto the screen to be compared between each other; for example, if you are displaying the trend of voltages and you want to check for the possible presence of harmonic distortion, it will be sufficient to scroll through the list of recorded measures and drag the one relevant to harmonics to the screen.

The same can be done for all other quantities: **power**, cosphi, current, energy, etc.

Everything can then be shared on $\ensuremath{\text{HT Cloud}}$, the web database created by HT to archive recordings and share them quickly with anyone around the world.



HTAnalysis^{**}



HT | 73

PQA819 HT9023 PQA820 GSC60

With **HTANALYSIS™**



Voltage and current waveform



Current and voltage harmonics.



Voltage and current vector diagram.



1. Click on the arrow next to the desired value.



Zoom on a voltage and current drop.





ORDER CODE HP009023 **HT9023**

Professional clamp meter for measuring power/ harmonics with WIFI connection



test > "Voltsense" for AC voltage detection

- > Frequency with clamp jaws and leads
- > Phase sequence /
- Phase concordance with 1 terminal
- > Measurement/recording of

DC power and energy > Measurement/recording of active, reactive, apparent

power in single-phase systems > Measurement/Recording of active, reactive power in singlephase systems



Display: Conversion type: Power supply: **Duration**: Internal memory: PC interface: Clamp jaw internal diameter: Safety: Overvoltage category: Insulation: Pollution level: Size (LxWxH): Weight (batteries included):

dotmatrix 128x128pxl with backlight TRMS 2x1.5V batteries type AAA LR03 > 40ore 2MBytes (approx. 5g @IP=1min) WiFi 45mm IEC/EN61010-1 CAT IV 600V - CAT III 1000V double insulation 252x88x44mm 420g

Motor starting current

programmable PI

MAX/MIN/AVG

PEAK (1ms), ZERO

Android/iOS devices

Auto Power OFF

Autorange Data HOLD

Backlight

detection (Dynamic INRUSH) > Data logger function with



HT9023 has been designed to measure AC current, DC AC+DC up to 1000A in TRMS reaching CAT IV 600V and CAT III 1000V in compliance with safety standard IEC/EN61010-1. The clamp also measures DC voltage up to 1500V, AC, AC+DC voltage up to 1000V, Active, Reactive, Apparent Power, Power factor, Energy, voltage/current harmonic analysis up to the 25th with THD% calculation in balanced single-phase and three-phase systems. It is also possible to carry out the phase sequence test with 1 terminal. The instrument also detects the events linked to motor starting currents (Dynamic INRUSH) and allows recording each measured electric parameter over time, with the possibility of transferring data via WiFi to Android/iOS devices through the HTAnalysis 2 App or onto PC through the TOPVIEW software. The clamp is provided with a wide graphic dot-matrix screen (128x128pxl) with backlight, in order to allow reading data even in poorly lit environments, and it is provided with an auto power off function to preserve its internal battery.

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Provided accessories

YAAMKOOOOHTO	Pair of test leads
YAAMKOOO1HTO	Pair of alligator clips
YABRS0000NN0	Carrying bag
	Batteries
	ISO calibration report
	Quick user guide

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



HTAnalysis¹











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_423	
_424	



DATALOGGER



DATALOGGER



	XL421	XL422	XL423	XL424	
MAIN MEASUREMENTS	DATA LOGGERS				
TRMS	٠	•	•	•	
AC voltage in single-phase/three-phase systems			Single-phase	Single-phase / three- phase	
AC current in single-phase/three-phase systems	• Single-phase	Single-phase / three- phase			

MEMORY AND RECORDING

Max number of simultaneously selectable parameters	1	3	1	3
Recording with selectable integration period	1s, 6s, 30s, 1min, 5min			
Indicative memory duration (single-/three- phase in days @ PI=5min)	455	455 / 1820*	455	455 / 1820*
Internal memory capacity	1MB	1MB	1MB	1MB

ADDITIONAL CHARACTERISTICS

Protection rating	IP65	IP65	IP65	IP65
Overvoltage category:	CAT IV 600V CAT III 1000V			
Power supply	2x batteries AA	2x batteries AA	2x batteries AA	2x batteries AA
Provided PC interface with software for Windows	•	•	•	•
Size (LxWxH) (mm)	120x80x43	120x80x43	120x80x43	120x80x43
Weight (batteries included):	500g	500g	500g	500g
Reference standard for safety	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1
ORDER CODE	HV000421	HV000422	HV000423	HV000424

ORDER CODE HV000421 XL421



TRMS single-phase and three-phase current data logger



Functions

- > TRMS single-phase current measurement (XL421)
- > TRMS three-phase current measurement (XL422)
- Measuring range: 1 ÷ 2500A AC
- Accuracy: ±(1.0%reading+1 digit)
- > Resolution: 1A
- Operating frequency: 50±6Hz, 60±6Hz
- Bandwidth: 3200Hz
- Sampling frequency: 64 spots in 20ms
- > Integration Period: 1s, 6s, 30s, 60s, 5min
- Memory capacity: 1Mbyte
- Serial interface: RS-232
- > Integration period... .Duration in days: 1s
 - 5 (XL421) 1.5 (XL422) 34 (XL421) 8 (XL422) 6s

170 (XL421) 42 (XL422) 30s

- 60s 364* (XL421) 91 (XL422) 1820* (XL421) 455* (XL422) 5min
- > Front panel indication: LED diodes
- Power supply: 2x1.5V batteries type AA LR6
- > Battery life: >6months (with loaded batteries)
- Safety: IEC/EN 61010-1
- Overvoltage category: CAT IV 600V (to earth)
- Insulation: Double insulation
- > Pollution level: 2
- Mechanical protection index: IP65
- Max height: 2000m
- Max diameter of flexible clamps: 174mm
- Size (LxWxH): mm 120x80x43
- > Weight (batteries included): approx. 0.5kg *according to battery duration

XL421 and L422 are **Data Loggers** capable of measuring and recording the the true root mean square (TRMS) values of Current up to 2500A AC in, according to the model, single-phase or three-phase electric systems for different applications (evaluation of load currents, rated powers of transformers, etc.). The devices have a comfortable mobile structure with built-in flex clamp jaws which allow surrounding also a big-sized cable or bar. Thanks to a an advanced memory management algorithm it is possible to monitor a system even for a long time. The devices start recording with a **sampling** period which can be selected through software among 1, 6, 30 and 60 seconds and, when memory is almost full, the previously recorded values are "resampled" according to the subsequent value of the sampling period, thus freeing part of the memory; the devices then go on recording new values, using the new measuring interval. In this way, it is possible to keep the device recording up to **approximately 1 year** according to the model. Each recording is kept stored in the internal memory and can be downloaded and managed by PC always through a dedicated software. A special adhesive strap is also provided with the devices, which makes it possible to place them in any place in the installation where measuring is needed. The high protection rating (IP65) makes these devices fully reliable also under extreme operating conditions.

Provided accessories

/ELCRO	Adhesive strap 50x70mm
2004	Serial cable
30RSA 2000	Carrying bag (XL421)
BORSA75	Carrying bag (XL422)
	Batteries

User Manual

Optional accessories

CAT IV



V

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В

В

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→ TRMS

SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



ORDER CODE HV000424 **XL424**



PRODUCT DATA SHEET XL423

PRODUCT DATA SHEET XL424

Functions

- TRMS single-phase voltage measurement (XL423)
- > AC TRMS three-phase voltage measurement (XL424)
- Measuring range: 0 ÷ 600VAC Accuracy: ±(1.0%reading+1 digit)
- Resolution: 0.1V
- Operating frequency: 50±6Hz, 60±6Hz
- Bandwidth: 3200Hz
- Sampling frequency: 64 spots in 20ms
- > Integration Period: 1s, 6s, 30s, 60s, 5min
- Memory capacity: 1Mbyte
- Serial interface: RS-232

Integration period.....Duration in days: 5 (XL423) 1.5 (XL424) 1s. .34 (XL423) 8 (XL424) 6s. . 170 (XL423) 42 (XL424) 30s.

- 60s... .364* (XL423) 91 (XL424)
- 5min 1820* (XL423) 455* (XL424)
- Front panel indications: LED diodes > Power supply: 2x1.5V batteries type AA LR6
- Battery life: >6months (with loaded batteries)
- Safety: IEC/EN 61010-1
- Overvoltage category: CAT IV 600V (to earth)
- Insulation: Double insulation
- > Pollution level: 2
- Mechanical protection index: IP65
- Max height: 2000m
- Size (LxWxH): mm 120x80x43
- Weight (batteries included): approx. 0.5kg *according to battery duration

XL423 and XL424 are Data Loggers capable of measuring and recording the true root mean square (TRMS) value of Voltage up to 600V AC in, according to the model, in **single-phase** or **three-phase** electric systems, for different applications (evaluation of mains voltage, load unbalance, etc.). The devices have a comfortable mobile structure with built-in flex clamp jaws which allow surrounding also a big-sized cable or bar. Thanks to a an advanced memory management algorithm it is possible to monitor a system even for a long time. The devices start recording with a **sampling** period which can be selected through software among 1, 6, 30 and 60 seconds and, when memory is almost full, the previously recorded values are "resampled" according to the subsequent value of the sampling period, thus freeing part of the memory; the devices then go on recording new values, using the new measuring interval. In this way, it is possible to keep the device recording up to approximately 1 year according to the model. Each recording is kept stored in the internal memory and can be downloaded and managed by PC always through a dedicated software. A special adhesive strap is also provided with the devices, which makes it possible to place them in any place in the installation where measuring is needed. The high protection rating (IP65) makes these devices fully reliable also under extreme operating conditions.

Provided accessories

KITXL424C	Set of 4 alligator clips
VELCRO	Adhesive strap 50x70mm
C2004	Serial cable
BORSA2000	Carrying bag
	Batteries and user manual

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES















pag. MacroTestG3





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COMBI519 EASYTEST



pag.



FULLTEST3

pag.

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MULTIFUNCTIONAL TESTERS

MULTIFUNCTIONAL TESTERS



ELECTRIC SAFETY MEASUREMENTS	ELECTRIC VERIFICATIONS MAINS ANALYSES			
TRMS	•	•	•	•
Insulation with voltage 50, 100, 250, 500, 1000VDC	•	•		•
Continuity of protective conductors with 200mA	•	•	٠	•
Continuity of protective conductors with 200mA up to 10A with optional accessory EQUITEST				
Tripping time of RCDs type AC, A, F, B, B+ DD and Standard, Selective and Delayed CCIDs	 A,F, AC= 1A B, B+= 300mA DD= 6mA 			 A,F, AC= 1A B, B+= 300mA
Tripping current of RCDs type AC, A, F, B, B+ , DD and Standard, Selective and Selective CCIDs	 A,F, AC= 1A B, B+= 300mA DD= 6mA 			● A,F, AC= 1A B, B+= 300mA
Tripping time and current of RCDs with separate clamp jaws type B, B+, A, F, AC Standard, Selective and Delayed up to 10A	• ***			•***
Overall earth resistance with no residual current protection tripping	•			• ***
Earth resistance by 4 wires earth resistance method	•	•	٠	•
Resistance of the single earth rods with clamp	• **	• **	• **	• **
Ground resistivity by 4-wire method	•	•	٠	•
Loop/Line impedance, Phase-Phase, Phase-Neutral, Phase-PE	•			•
Loop/Line impedance Phase-Phase, Phase-Neutral, Phase-PE with high resolution (0.1m $\Omega)$	• *			• *
Measurement of percentage voltage drop on the line	•			•
Contact voltage	•			•
Full test on cable mapping of LAN networks with RJ45				
Phase sequence	•			•
Leakage current with optional clamp meter (accessory HT96U)	•			•
Dielectric strength with test voltage up to 5100V AC				
Measurement of discharge time of internal capacitances				
Measurement of Polarization Index (PI) and Dielectric Absorption Ratio (DAR)				
Safety test of electric car recharging stations (EVSE)	Updatable (CAT IV only)			

MAINS A	NALYSIS
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Measurement of Voltage, Current, Active, Reactive, Apparent Power	• (1)	• (1)	(3) with Recording
Measurement of Cosphi, Power Factor	• (1)	• (1)	(3) with Recording
U/I harmonics up to the 49th +THD% + Voltage anomalies	25th no anomalies	• 25th no anomalies	(3) with Recording

ADDITIONAL CHARACTERISTICS

Overvoltage category:	CAT IV 300V	CAT IV 300V	CAT IV 300V	CAT IV 300V to earth max 600 between inputs
DC/AC TRMS voltage and current, Frequency, Resistance, Continuity with buzzer				
Automatic test	(Ra, RCD, MΩ)			
Measurement of environmental parameters (°C,°F, %RH, Lux)	•			with Recording
Test with remote lead PR400	•	۲	•	•
Help on line on the display	•	•	•	•
Internal memory for measured data saving	•	•	•	•
Optical/USB serial port for PC connection	•	•	•	•
Built-in WiFi connection and compatibility with app HTANALYSIS 2	•	•	•	•
Size (LxWxH) (mm)	222x162x57	222x162x57	222x162x57	222x162x57
Weight (batteries included):	1.2kg	1.2kg	1.2kg	1.2kg
Reference standard for safety	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1
ORDER CODE	HV005036	HV005038	HV005037	HV000060

COMBI G2	COMBI 519	EASYTEST	M75	M75L	JUPITER		FULLTEST3
	RIFICATIONS MAI			-	ONS TRMS MULTIN	-	ELECTRIC BOARDS AND MACHINES
•	•	•	•	•	•	•	•
٠	•	•	0 250V, 500V	0 250V, 500V		٠	•
•	•	•	•	•			•
	•	•					
 A,F, AC= 1A B, B+= 300mA DD= 6mA 	 A,F, AC=1A B, B+=300mA DD=6mA CCID=5.20mA 	A,F, AC=1A	A = 30mA AC = 300mA only standard	A = 30mA AC = 300mA only standard	 only general A,AC,F up to 300mA 		● A,F, AC=1A B,B+=300mA
 A,F, AC= 1A B, B+= 300mA DD= 6mA 	 A,F, AC=1A B, B+=300mA DD=6mA CCID=5.20mA 	● A,F, AC=1A	A = 30mA AC = 30mA only standard	• A = 30mA AC = 30mA only standard	only general A/F,AC 30mA		● A,F,AC =1A B,B+=300mA
• ***							
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• (1)					
• (1)					
0 25th			25th no anomalies	25th no anomalies	

CAT IV 300V			CAT III 550V	CAT III 550V	CAT IV 600V CAT III 690V	CAT IV 600V CAT III 1000V	CAT III 300V CAT III 300V
			•	•	•	•	
 (Ra, RCD, MΩ) 	(Ra, RCD, MΩ)	(Ra, RCD, MΩ)	(Ra, RCD, MΩ)	(Ra, RCD, MΩ)			Programmable b the user
•							
٠							
٠							
۲	•	•					•
•	•	•					• USB
•	•	•					
222x162x57	222x162x57	222x162x57	240x100x45	240x100x45	175x85x55	175x85x55	400x300x170
1.2kg	1.2kg	1.2kg	450g	450g	420g	420g	15kg
IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1
HV0000G2	HV000519	HV000100	HV000075	HV00075L	HROOJUPI	HROONEPK	HV000003

ORDER CODE HV000060

A unique instrument for mains analysis and verification of electric safety



U Functions of Electric safety

- > Insulation with test voltage 50, 100, 250, 500, 1000VDC
- > Continuity of protective conductors with 200mA
- > Earth resistance by Voltamperometric method
- > Resistance of the earth rods with clamp
- > Ground resistivity by 4-wire method
- > Overall earth resistance with no residual current protection tripping
- > Line/Loop, Phase-Phase, Phase-Neutral, Phase-PE impedance
- Line/Loop, Phase-Phase, Phase-Neutral, Phase-PE impedance with high resolution (0.1 mΩ) with optional accessory IMP57
- > Assumed short-circuit current
- > Contact voltage
- > Tripping time of Standard, Selective and Delayed RCDs
- > Test current type A/F, AC max 1A and type B/B+ max 300mA.
- Test on RCDs with separate clamp jaws up to 10A
- > RCD tripping current (Ramp test)
- > Phase sequence
- > Measurement of percentage voltage drop on the lines
- > Test with remote switch probe PR400
- Leakage current (with optional clamp HT96U)
- > Help on line on the display
- > Internal memory for measured data saving
- > Optical/USB serial port for PC connection
- > Built-in WiFi communication interface

GSC60 is the only device which can perform the verification of electric safety according to IEC/EN IEC/EN61010-1 and the analysis of single-phase/ three-phase mains and electric consumption. IT has been designed to make the safety of electric systems visible, understandable and assessable in a simple and quick way. Thanks to the new operating system HTOS[™] 2.0, once measurement is complete, the operator receives from the device a message OK -NOT OK which communicates whether the part of the tested system is compliant and, therefore, safe. The user interface, totally renewed in HTOS[™], allows setting and carrying out measurements in a few simple steps. All recorded data are **saved** and, for each kind of test, it is possible to create folders and subfolders and, with the virtual keyboard, add comments and notes. But, even better, through the FREE APP HTAnalysis 2, compatible with iOS and Android, the measurements carried out can be transferred via Wi-Fi onto a smartphone or tablet and, thanks to this function, it is possible to attach a picture, a video or a voice note to every measurement. GSC60 is also a **three-phase** mains and electric consumption analyzer which is unique thanks to the APP HTAnalysis 2.





5 Functions of Mains analysis

- > 9 types of electric systems available
- TRMS voltage in single-/three-phase systems up to 600V
- AC TRMS current in single-/three-phase systems up to 3000A
- > Active, Reactive and Apparent Power/Energy
- Cosphi and Power Factor
- Voltage, Current, DC Power
- > Measurement of neutral current
- > Voltage dips and peaks on 20ms @50hz
- Voltage unbalance (NEG%, ZERO%)
- Measurements using external TA and TV
- Voltage/current waveforms
- > Histograms of voltage/current harmonics and THD%
- Voltage/current vector diagram
- Periodical recording with selectable PI
- > Max number of simultaneously selectable quantities 632
- Voltage/current harmonic analysis up to the 49th
- > Calculation and recording of voltage/current THD%
- Indication of recording duration

Connected to the whole world.

Thanks to the in-built WiFi connection, exporting data and connecting to App **HTANALYSIS™** is possible in a few simple steps. You can consult your own measurements, upload them onto **HTCloud™** or send them via e-mail. Your team will always be connected with you.

Batteries always charged.

The new **GSC60** is so compact that we had to develop a brand new technology for its power supply and charging system. You just need to connect GSC60 to power supply and the batteries will charge. If you have no time for recharge, just replace them with common AA batteries and resume working immediately.

HTOS[™] checks the power.

From the Home page, access measurement through the **touch-screen display**, quickly set the measuring parameters and press key GO. Here it is: **HT**OS[™], conceived and developed to always be of help. With the results **OK** () and **NOT OK** () and the **Help OnLine**, it will immediately become your best partner without wasting your time.

Provided accessories

(

HTFLEX33E	pieces
C2033X	Cable with 3-terminal Shuko plug
UNIVERSALKITG3	Set of 4 cables, 4 alligator clips, 3 leads
KITTERRNE	Bag with 4 cables + 4 metal probes
PR400	Remote lead for test activation
PT400	Touch-screen pen
VA500	Rigid transport case for device and acces- sories
YABAT0003000	1.2V NiMH AA rechargeable battery, 6 pieces
A0060	100/230Vac 50/60Hz - 15 Vdc power supply
SP-0500	Set for slinging the instrument over one's shoulder
C2006	Optical/USB C2006 cable
RCDX10	Accessory for industrial RCDs up to 10A
	Quick user guide

Elox clamp 3000A diamotor 174mm 4

ISO calibration report







Example of display of V-I harmonics



Example of display of V-I Waveforms





Example of display Real-time phasors



Example of display Recording made (evident voltage interruptions)







Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



ORDER CODE HV005036 **MACROTESTG3**

Advanced multifunction instrument for checking the safety of domestic and industrial electric systems (IEC/EN61557-1).



Functions

- AUTO test (overall earth resistance test, RCD tests, insulation tests) on the outlets to be tested
- > Insulation with test voltage 50, 100, 250, 500, 1000VDC
- Continuity of protective conductors with 200mA
- Earth resistance by Voltamperometric method
- Resistance of the earth rods with clamp
- Ground resistivity by 4-wire method
- > Overall earth resistance with no residual current protection tripping
- Line/Loop, Phase-Phase, Phase-Neutral, Phase-PE impedance
- > Line/Loop impedance, Phase-Phase, Phase-Neutral, Phase-PE with high resolution (0.1 m Ω)
- > ZEROLOOP function for a compensation of the resistance of the test cables used for Loop measurement.
- > Assumed short-circuit current
- Contact voltage
- > Tripping time of General, Selective and Delayed RCDs
- > Test current type A/F, AC max 1A and type B/B+ max 300mA.
- > Test on RCDs with separate clamp jaws up to 10A
- RCD tripping current (Ramp test)
- > Measurement in AUTOMATIC sequence of Overall earth resistance, RCD test, Insulation (AUTOTEST)
- Phase sequence
- > Measurement of percentage voltage drop on the lines > Measurement with use of remote switch probe (with
- optional accessory PR400) > Leakage current (with optional clamp HT96U)
- Measurement of electric parameters (V, I, W, VAR, VA, Wh, cosphi)
- > Harmonic analysis V, I and THD%
- > Help on line on the display
- > Internal memory for measured data saving
- Optical/USB serial port for PC connection
- Built-in WiFi communication interface

- > All verifications on electric safety provided for by standards IEC/EN IEC/EN61557-1.
- Advanced Loop Verification of magnetothermal protections, fuses and cable sizes.
- > Earth resistance by Voltamperometric method with 2 or 3 spots in TT, TN and IT systems, measurement of overall earth resistance and with clamp meter T2100 (optional). Ground resistivity
- > Measurement of electric parameters in in singlephase installations (V, A, W, VAR, VA, PF)
- > Test of RCDs type A/F, AC, B/B+ up to 1A and type DD, also with separate clamp jaws with test current up to 10A (with optional accessory RCDX10).
- > Measurement of insulation resistance.
- > Measurement in AUTOMATIC sequence of Overall earth resistance, RCD test, Insulation
- > Measurement of **continuity** of protective conductors.
- > Verification of phase sequence (SEQ) and leakage currents.
- > Measurement of environmental parameters with external feelers.

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SEE

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PRODUCT
DATA SHEET
MACROTESTG3
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Characteristics
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6x1.2V rechargeable batteries type AA Power supply: NiMH or 6x1.5 type AA alkaline > 550 test (alkaline) **Batterv life:** Resistive touch screen, colour LCD, Display: resolution 320x240 pxl 999 locations, 3 levels of markers Memory: optical/USB and WiFi PC interface: IEC/EN61010-1, double insulation Safety: <80%RH Operating humidity: 0 ÷ 40°C Operating temperature: <80%RH Storage humidity: -10 ÷ 60°C Storage temperature: Overvoltage CAT IV 300V, max 415V between inputs category: **Pollution level:** 2 IEC/EN61557-1-2-3-4-5-6 Reference Standards Size (LxWxH): 225 x 165 x 75 mm Weight (batteries 1.2kg included):

MacrotestG3 is a revolutionary device.

Its TFT colour **touch-screen** display allows using this device in a completely new manner. MacrotestG3 makes available on its display all possible variables to obtain a perfect measurement; your task will only be to "touch" what you really want to measure: simply leave the rest to Macrotest G3's micro-processor!

The device complies with **all requirements as regards**

the safety of electric systems: test of RCDs type A, AC also up to 1000 mA and type B; insulation, continuity, earth resistance tests (this also with the aid of optional clamp T2100).

With the appropriate programming guided by the touch-screen system, this device can test the interruption power, tripping currents, I2t relevant to magneto-thermal switches (MCB) with curves B, C, D, K and fuses type gG and aM!

The device can be used with external feelers for measuring environmental parameters such as air temperature/humidity, illuminance (Lux) further to measuring leakage currents, cosphi, power and harmonics, Loop/Line impedance and calculating the assumed short-circuit current with high resolution (0.1mOhm) in TN systems with use of optional accessory IMP57.

Cutting-edge management of measurement with indication, at the end of each safety test, of compliance or non-compliance with requirements with simple symbols **OK** or **NOT OK**.

Provided accessories		
C2033X	Cable with 3-terminal Shuko plug	
UNIVERSALKITG3	Set of 4 cables, 4 alligator clips, 3 leads	
KITTERRNE	Bag with 4 cables + 4 metal probes	
PR400	Remote lead for test activation	
PT400	Touch-screen pen	
VA507	Rigid transport case	
YABAT0003000	1.2V NiMH AA rechargeable battery, 6 pieces	
YABAT0004001	Battery charger for 6 batteries type AA/ AAA	
C2006	Optical/USB cable	
ZEROLOOP	Accessory for zeroing the cable in Loop measurement	
	Quick user guide	
	ISO calibration report	









Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

HT 89

ORDER CODE HV000519 ORDER CODE HV000100 **EASYTEST COMBI519**

Multifunction instruments for safety verification of electric systems







Three instruments resulting from the latest HT production and intended for Electrical Safety Verification in compliance with standard IEC 60364, made with latest-generation electronic components and therefore capable of guaranteeing these products a very long life. This also ensures the possibility of intervention by HT technicians to make changes and take measures in the future, aimed at constantly improving the quality of measurements and checks.

All tests for the verification of electric systems in compliance with IEC 60364 and so Overall Earth Resistance measurements, tests on A/F, AC, DD and CCID RCDs (EASYTEST only A/F and AC RCDs - SUPERCOMBIs and COMBI519 also B and B+ RCDs) up to a rated current of 1A, Insulation up to 1000V, Continuity, short circuit currents, verification of test sequence and verification of magnetothermal protections and fuses.

Common element to all HT instruments:

Power supply:

Battery life:

Display:

Memory:

Safety:

Operating temperature:

Storage temperature:

Overvoltage category: Pollution level:

Standard

standards:

Size (LxWxH):

Weight (batteries included):

PC interface:

Operating humidity:

Storage humidity:

- > The AUTO function: by selecting this function and only setting the value of RCD current, the instruments connected to a power outlet carry out tests of overall earth resistance, tests on RCDs and insulation tests.
- Results with the indication of compliance or non-compliance with the standards with simple symbols OK or NOT OK.

320x240pxl

<80%RH

<80%RH

-10°C ÷ 60°C

IEC/EN61010-1

1.2kg

0°C ÷ 40°C

Great versatility and a wide range of uses for the flagship instrument of this series, the COMBI521, capable of carrying out a guided sequence of verification tests on an EVSE station, thanks to the optional EV-TEST100 adapter, and connecting to the App HT Analysis 2 via the in-built WiFi connection, to perform measurements of electrical parameters in single-phase installations (V, A, W, VAR, VA, PF) and measurements of environmental parameters via external probes (HT52/05 and HT53L/05).

Functions

	COMBI519	EASYTEST
Insulation resistance	• 50, 100, 250, 500, 1000 VDC	50, 100, 250, 500, 1000 VDC
Measurement of Polarization Index (PI) and Dielectric Absorption Ratio (DAR)	•	•
Continuity of protective conductors with 200mA	•	•
Continuity of protective conductors with 10A	***	• ***
Tripping time and current of RCDs in auto/ramp/manual mode	A/F, AC, B/B+, DD, Standard, Selective CCIDs	A/F, AC, DD, Standard, Selective CCIDs
Rated current RCDs (mA)	6, 10, 30, 100, 300, 500, 650, 1000	6, 10, 30, 100, 300, 500 650, 1000
Measurement of line impedance and assumed short-circuit current	•	•
Verification of magnetothermal protections and fuses	•	•
Measurement of overall earth resistance through the socket-outlet	•	•
Voltage drop	•	•
Phase sequence	•	•
Automatic tests in a sequence	e (Ra, RCD, MOhm)	🛑 (Ra, RCD, MOhm)
Polarity tests	•	•
Multimeter function	•	•
Measurement of environmental parameters through optional feelers		
Automatic sequence of tests on EVSE stations		
Leakage currents		
Real-time measurement of electrical mains parameters in single-phase systems		
Backlit display	•	•
Memory	(999 saved)	(999 saved)
PC connection	(optical/USB)	(optical/USB)
WiFi connection		

* with optional clamp HT96U ** with optional accessory EV-TEST100 *** with optional accessory EQUITEST

Provided accessories Common characteristics 6x1.5V alkaline batteries type AA IEC U LR06 or 6 x1.2V rechargeable NiMH batteries type AA C > 500 test (alkaline) В COG black/white graphic LCD, С 999 locations, 3 levels of markers S optical/USB and WiFi IEC/EN61010-1,IEC/EN61010-2-030, IEC/EN61010-2-033 IEC/EN61010-2-034, IEC/EN61557-1, double insulation **Optional accessories** 0%0 SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES CAT IV 300V, max 415V between inputs 78 IEC/EN61557-1-2-3-4-5-6 225 x 165 x 75 mm

INIVERSALKITCOMBI	Set of 3 cables + 3 alligator clips + 3 leads
2033X	3-terminal cable with Schuko plug
ORSA75	Soft carrying bag
2006	Cable for PC connection
P-0500	Shoulder strap kit with pre-perforated sheaths
	ISO calibration report
	Quick user guide







НТ 91

ORDER CODE HV000003 **FULLTEST3**

Multifunction device for safety tests on electric boards and machines in compliance with IEC/EN60204-1 and IEC/EN61439-1



Functions

- > Continuity of protective circuit with 200mA
- > Continuity of protective circuit with I>10A, V<12V
- > Continuity of protective circuit with I>25A, V<12V
- > Insulation with test voltages 100, 250, 500, 1000VDC > Dielectric strength with voltage programmable from
- 250V to 5100VAC > Discharge time/residual voltage on plugs and internal
- circuits > Absorbed/leaked current and power at plug of machines
- > Tripping time and current of RCDs type A/F, AC, B/B+ Standard and Selective up to 1000mA
- Contact voltage
- > Line/Loop impedance and Ipsc calculation
- > Line/Loop impedance with high resolution (with optional accessory IMP57)
- > Overall earth resistance without RCD tripping
- > Leakage current (with optional accessory HT96U)
- > Phase sequence
- > Timer and limit thresholds selectable through programmable ramps

> Verification of dielectric strength with test voltage up to 5100V in compliance with the prescriptions of new standard IEC/EN61439-1

> Verification of protection against indirect contact in compliance with standard IEC/EN60204-1

> Continuity of protective conductors (test current 200mA ÷ 25A)

- > Verification of RCD tripping (RCD AC, A/F, B/B+) up to 1A
- > Measurement of **Overall Earth Resistance**

> Verification of coordination of magnetothermal protections (MCB curves B, C, D, K) and fuses (gG, aM)

- > Insulation resistance with test voltage up to 1000V
- > Verification of **residual voltage** on capacitive elements
- > Measurement of **leakage current** in the outlet and through clamp (HT96U, optional)
- > Functional test through outlet (power, current)
- > Phase sequence
- > Tests in an automatic sequence: possibility to program a sequence of tests with automatic start up to a maximum of 8.



Power su

Protectio

Display:

Memory:

PC interfa

Mechanic

protectio

Pollution

Safety:

Consider

standard

Overvolta

category:

Size (LxW Weight:



Characteristics

pply:	207V ÷ 253V / 50-60Hz
n:	with fuses, at input
	LCD colour "touch-screen" display
	internal, 999 locations
ace:	USB (PC, pen drive, printers, etc.) and Bluetooth [™]
al n:	IP40
level:	2
	IEC/EN61010-1 EN50191
ed s:	IEC/EN61557-1-2-3-4-13-14 IEC/EN60204-1 IEC/EN61439-1 IEC/EN60335-1 EN50106
age :	CAT III 300V (safety test) CAT III 300V (functional test)
VxH):	400x300x170mm
	15kg

HT offers a cutting-edge device to carry out all measurements required by the new laws as regards tests to be performed on electric boards and machines IEC/EN60204-1 and IEC/EN61439-1.

Further to measurements of protective conductors' continuity, insulation and dielectric strength, FULLTEST3 is capable of carrying out tests on RCDs

type A, AC and B, Standard, Selective and Delayed, measurements of Line/Loop impedance also with high resolution $0.1m\Omega$ (with optional accessory IMP57), measurement of overall earth resistance with no RCD tripping and leakage current with clamp transducer. It can also carry out test on interruption power, protection tripping, I2t tests relevant to magneto-thermal switches in curve B, C, D, K and fuses type gG and aM. The instrument is also provided with a "touch-screen" colour display and **3 USB ports** for connection to PC, USB pen drive, USB printers and possible bar code readers.



	Integrated power supply cable
2317-IECIV-200-R	Test cable 2.5mm ² , 2m, red, 2 pieces
2310-IECIV- 200-B	Test cable 0.75mm², 2m, blue
2310-IECIV-200-V	Test cable 0.75mm², 2m, green
2310-IECIV- 200-N	Test cable 0.75mm ² , 2m, black, 2 pieces
C2033X	Cable with 3-terminal Shuko plug
FT3HVPRB1	1 cable banana-alligator + 1 cable banana-lead 2mt HV
404-IECN	Measuring lead CAT III, 3 pieces
5004-IECN	Alligator clip, 4 pieces
C2007	USB cable
FT3BRSN	Carrying bag for accessories.
	ISO calibration report
	Quick user guide





Rpe 2-WIRE Ω 0.37	RCDt/0.5IAN ms >300
Im: 26.3 A	UUN: 232V ULIPE: 228V UC: 12V
TIMER 1.50Ω 25A 0.5Ω 2-wire continuity test.	AC 300mA to sum POS Test on RCDs.
Rpe 4-wire Ω 0.374	Z LOOP Ω 0.75
Im: 26.3 A	U: 228 V IPSC: 306.7 A ΜΕΑS LIM LOOP 0.76Ω
4-wire continuity test.	Measurement of Loop impedance.
Riso MΩ 65.0	RA Ω 163527 122.7 U: 228V IPSC: 1.9A
MODE Umix LM Timer 500V 1.0MΩ Measurement of insulation resistance.	Measurement of overall earth resistance.
	Ures V 24.3
IREAL: 2mA IAPP: 4mA	U: 117V tres: 0.6s
TIMER 3.25kV APP 5mA	LIN EXT

Dielectric strength test.

Residual voltage measurement.

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

> HT 93

ORDER CODE HV000075 M75



Safety verification instruments in compliance with standard IEC/EN IEC/EN 61010-1 with TRMS multimeter and LAN RJ-45 network cable mapping (M75 only).



SEE PRODUCT DATA SHEET äΨ. M75

SEE PRODUCT DATA SHEET M75L

Functions

- > Continuity of protective conductors with 200mA
- > Insulation with 250,500VDC
- Tripping time on Standard RCDs type AC (up to 300mA) and type to (300mA)
- > Tripping current on Standard RCDs type AC and A (30mA)
- > Overall earth resistance with no residual current protection tripping
- > AUTO function (overall earth resistance test, RCD tests, insulation tests) on the outlet to be tested

> Phase sequence with 1 and 2 terminals

- > Full test on cable mapping of LAN networks with RJ45 (M75 only)
- > DC/AC TRMS voltage
- > DC/AC TRMS current
- Resistance and Continuity test
- > Data HOLD, MAX/MIN/AVG
- > Measurement of voltage and current PEAK
- > Measurement of leakage currents (with optional clamp HT96U)
- Safety: IEC/EN61010-1
- > Overvoltage category: CATIII 550V
- > Power supply: batteries type AA 4x1.5V
- > Size (LxWxH): 240x100x45 mm
- > Weight (batteries included): approx. 450g

M75 is the mobile device par excellence!

HT suggests operators who mainly work on domestic installations to **ALWAYS** have M75 at hand. Here's the reason why: it is very easy to use, very small in size and it fully automatically carries out all necessary tests to establish COMPLIANCE (and hence ensure SAFETY) of a domestic electric system.

ALWAYS using it before starting working on an already existing system the operator does not know well, and ALWAYS using it at the end of the job, will guarantee the necessary safety to both operators and users of the electric systems!

Thanks to its **small size**, this instrument offers many operating opportunities. M75 is used for testing the safety of electric systems, so for measuring overall earth resistance, testing RCDs type A and AC, insulation and continuity.

In order to make it versatile and fully functional for any kind of end user, the instrument has been provided with the innovative AUTO function: by selecting this function and only setting the value of RCD current, M75, connected to a power outlet, carries out tests of overall earth resistance, RCD tests and insulation tests in a sequence. At the end of the tests, the instrument shows all results with the indication of compliance or non-compliance with the standards with simple symbols **OK** or **NOT OK**.

This innovative product also offers the following functions: TRMS multimeter for AC/DC voltage, AC/DC current (with external clamp), Resistance measurement, Test on LAN network cables, Test of phase sequence with a single lead

Provided accessories

KIT0075	Set of 2 cables with leads + 2 alligator clips
C2075	2-terminal cable with Schuko plug
HT4003	Standard 400A/1V clamp
CH1	Remote unit LAN#1 (M75 only)
CH2	Remote unit LAN #2 (M75 only)
YAAMS0000000	(3x) patch cable LAN RJ45 (M75 only)
BORSA75	Carrying bag
	Quick user guide

Optional accessories



+

→ TRMS

SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**

ORDER CODE HN005205 HT52/05

Feeler for measuring air temperature/humidity

> Accessory HT52/05 accessory is a probe transducer that allows the measurement of air temperature and humidity in combination with analyzers/recording instruments or precision multimeters capable of accepting input signals with a minimum resolution of 1mV. The probe has a selector for selecting temperature measurements in °C/°F and relative humidity. The measurement is carried out and transformed into an electric signal proportional to the physical value measured. Model HT52/05 is supplied with a dedicated HT type output connector that can be used with measuring instruments such as GSC60 or COMBI521 or MACROTESTG3.



Characteristics

AIR TEMPERATURE

-1076_870 -176_870 -176_1077 -176_1077

- > Measuring range: -20°C÷60°C, 4°F÷140°F
- > Accuracy: ±0.7°C, ±1.4°F
- > Type of sensor: capacitive

RELATIVE HUMIDITY

- > Measuring range: 0%÷100%RH
- > Accuracy: ±3%reading at 25°C
- > Type of sensor: capacitive

94

ORDER CODE HN053L05 HT53L/05

Probe for measuring illuminance (Lux) of white sources and LEDs



Accessory HT53L/05 is a probe transducer that allows the measurement of the illuminance of standard white and colour sources (LEDs) up to 20.000 Lux, in combination with analyzers/ recording instruments or precision multimeters capable of accepting input signals with a minimum resolution of 1mV. The probe has a practical selector for turning it on and selecting the various ranges. Measurement is carried out and transformed into an electric signal proportional to the physical value measured. Model HT53L/05 is supplied with a dedicated HT type output connector that can be used with measuring instruments such as GSC60 or COMBI521 or MACROTESTG3.



Characteristics

> Sensor type: silicon photodiode > Ranges: 20Lux / 2kLux / 20kLux > Resolution: 0.01Lux (20Lux), 1Lux (2kLux, 20kLux) > Response time: <100ms > Output signal: 1mVDC/0.01Lux (20Lux), 1mVDC/1Lux (20Lux), 1mVDC/10Lux (20kLux) > Accuracy: ±(5%reading+5mV), Class AA referred to white source with colour temp. 2856K

HT 95



Accessory for measuring Continuity up to 10A



EQUITEST is designed to carry out the continuity measurement of protection and equipotential conductors with test current >10A AC in combination with verification instruments (MASTER unit) EASYTEST, COMBI519, COMBI521, MACROTESTG3 and GSC60 of the HT family. This accessory uses the measuring method with 4 terminals which allows the self-compensation of the resistance of the test cables and therefore their extension without the need to perform any preliminary calibration.

Provided accessories

C7051	Power supply cable 230V with plug Schuko-Europlug
C7000	Pair of measuring cables, 3m with in-built alligator clips
C2050	Connection cable to HT master instruments
	ISO calibration report
BORSA75	Carrying bag
	User Manual

-**Optional accessories**

1066-IECN	connector for extension cables with 4mm banana connector, black
1066-IECR	connector for extension cables with 4mm 4mm banana connector, red
C7000/05	pair of measuring cables, 5m with in-built alligator clips
C7000/10	pair of measuring cables, 10m with in-built alligator clips
KITKELVIN	pair of 2 cables with 4 banana connectors and in-built leads

ORDER CODE HAIMPOO1 **IMP57**

Accessory for measuring Loop impedance with high resolution and assumed short-circuit current up to 400kA



Characteristics

Type of

measurement:

Measurement

resolution:

Test current:

Frequency range:

Size (LxWxH):

MACROTESTG3

MACROEVTEST

COMBIG2

COMBI519 COMBI521 FULLTEST3

GSC60

Weight:

Loop impedance P-N, P-P, P-PE

0.1mΩ (Zloop); 400kA (Ipsc)

approx. 200A

340x300x150mm

50Hz ± 5%

4.1kg

Compatible instruments:

and calculation of short-circuit current

C7 C2 B



Characteristics Continuity of protective and equipo-Type of

built cable):

measurement:	tential conductors
Measurement resolution:	0.001Ω
Test current:	>10A AC (max resistance of measuring cables 0.7Ω)
Open-circuit voltage:	4< Vo < 24V AC
Measuring time:	4 terminals
Overtemperature:	after at least 20 consecutive tests
Safety Standards:	in compliance with standards IEC/ EN61439-1, IEC/EN60204-1, IEC/ EN62305-3
Overvoltage category:	CAT III 300V to earth and between inputs
Power supply:	mains 230V/240V ±10%, 50/60Hz or 110V ±10%, 50/60Hz
Power consumption:	max 70W (@230V, 300mA) (@110V, 600mA)
Protection fuse:	Time-Leg 250V/1A (5x20mm)
Indications of internal states:	two-colour LED
Size: (L x W x H):	210 x 115 x 60 mm
Weight (with in-	1Kg

IMP57 is an optional accessory to measure Loop/Line fault loop impedance and calculating the assumed short-circuit current.

IMP57 can be used together with the devices of series GSC, SIRIUS, Combi and Macrotest Gx further to ZG47, Fulltest3 and Speed418. The high generated test current (approx. 200A) allows carrying out measurements with high resolution (0.1m Ω) and, therefore, obtaining correct and precise results, even near MT/BT transformer cabinets (TN systems) and, in general, carrying out measurements in which the devices' basic resolution is not sufficient to guarantee correct measurements of assumed short-circuit currents according to the project's theoretical data. L'IMP57 is provided with a comfortable and resistant case structure, it has no display and can be interfaced through serial RS232 to Master devices in order to read the results. 4-terminal measurement allows not considering the effect of the provided cables' resistance and, hence, no preliminary calibrations are necessary.

Provided accessories

7000	Couple of cables, 3m, with alligator clips
2001	Serial optical / RS-232 cable
80	Carrying bag for accessories
	ISO9000 calibration certificate
	User manual on CD-ROM
	CD-ROM with Firmware undate

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

НТ 97





SAFETY TEST OF ELECTRIC VEHICLES RECHARGING STATIONS



SAFETY TEST OF ELECTRIC VEHICLES RECHARGING STATIONS

MAIN MEASUREMENTS
Compatibility with EV-TEST100 for verifications on electric vehicles recharging stations
WiFi and compatibility with App HT Analysis
Internal memory and PC connection through Software TOPVIEW
Insulation with voltage 50, 100, 250, 500, 1000VDC
Continuity of protective conductors with 200mA
Continuity of protective conductors with 10A
Tripping time of RCDs type B/B+, A/F, AC, DD Standard, Selective and Delayed
Tripping current of RCDs type A/F, AC B/B+, DD, Standard
Tripping time and current of RCDs with separate clamp jaws type B/B+, A/F, AC Standard, Selective and Delayed up to 10A
Overall earth resistance with no residual current protection tripping
Earth resistance by Voltamperometric method
Resistance of the single earth rods with clamp
Ground resistivity by 4-wire method
Loop/Line impedance, Phase-Phase, Phase-Neutral, Phase-PE
Loop/Line impedance, Phase-Phase, Phase-Neutral, Phase-PE with high resolution ($0.1m\Omega)$
Measurement of percentage voltage drop on the line
Contact voltage
Phase sequenc e
Leakage current with optional clamp meter
Measurement of Voltage, Current, Active, Reactive, Apparent Power
Measurement of Cosphi, Power Factor
Measurement of environmental parameters (Lux/Temp) through optional feelers
U/I harmonics up to the 49th+THD% + Voltage anomalies (dips, peaks)
ORDER CODE

* with optional accessory EQUITEST *** with optional accessory IMP57 ** with optional accessory T2100 **** with optional accessory RCDX10



y RCDX10 (1) = Single-phase

ORDER CODE HV0521EV COMBI521EV

Tool for the safety verification of electric vehicles charging stations, of domestic and industrial systems, and single-phase system analysis



Functions of COMBI521

- > AUTOMATIC test (Ra, RCD, Insulation) in sequence
- > Continuity of protective conductors with 200mA > Continuity of protective conductors with 10A with optional accessory EQUITEST
- > Insulation test up to 1000V
- > Polarity tests
- > RCD tests type A/F, AC, B/B+, DD Standard and Selective
- > Measurement of line impedance and assumed short-circuit current
- > Verification of magnetothermal protections and fuses
- > Multimeter function for measuring: Frequency, VL-N, VL-PE, VN-PE
- > Phase sequence
- > Voltage drop
- > Leakage current (with optional clamp HT96U)
- > Mains analysis
- > Measurement of environmental parameters
- > Internal memory and PC connection
- > Wi-Fi connection to Android and iOS smartphones and tablets

EV-TEST 100

Accessory for the safety verification of electric car charging stations

COMBI521EV is the new instrument for the verification and check of recharging stations of electric cars (EVSE) in compliance with standards IEC/EN 61851-1 and IEC/EN60364-7-722, and for safety tests in domestic and industrial environments according to IEC/EN 61010-1. COMBI521 is **connected** through the provided C100EV cable to EV-TEST100, which is connected, through an in-built cable provided with type2 plug, to a recharging station. EV-TEST100 can simulate the presence of an electric car being recharged and, at the same time, communicate with COMBI521. To correctly perform all tests, all you need to do is following the guided procedure created by HT. Before each test, COMBI521EV indicates how the cables must precisely be connected and, at the end of measurement, further to the detected values, it provides evaluations of the tests' outcomes, if compatible or not for the recharging station's safety, indicated by a green or red thumb symbol.



Characteristics of COMBI521

Power supply:	6x1.5V alkaline batteries type AA IEC LR06 or 6 x1.2V rechargeable NiMH batteries type AA
Battery life:	> 500 test (alkaline)
Display:	COG black/white graphic LCD, 320x240pxl
Memory:	999 locations, 3 levels of markers
PC interface:	optical/USB and WiFi
Safety:	IEC/EN61010-1,IEC/EN61010-2-030, IEC/EN61010-2-033 IEC/EN61010-2- 034, IEC/EN61557-1, double insulation
Operating humidity:	<80%RH
Operating temperature:	0°C ÷ 40°C
Storage humidity:	<80%RH
Storage temperature:	-10°C ÷ 60°C
Overvoltage category:	CAT IV 300V, max 415V between inputs
Pollution level:	2
Reference Standards:	IEC/EN61557-1-2-3-4-5-6 IEC/EN61010-1
Size (LxWxH):	225 x 165 x 75 mm
Weight (batteries included):	1.2kg

Tests in automatic sequence on EVSE

- > Test of output voltage value from the column
- > Continuity test of the recharging station's protection conductor
- > Insulation test of recharging station
- > Verification in a sequence of the statuses of the recharging station
- Vehicle not present (status A)
- Vehicle present but not charging (status B)
- Verification of mechanical interlock of the plug (status B)
- Vehicle present and charging (status C) - Simulation of a fault on the protection conductor (Fault PE)
- Simulation of the fault on the CP signal (Fault E).
- > Measurement of overall earth resistance
- > Verification of the RCDs' tripping (test of RCDs type A, B and DD 6mA)
- > Result OK and NOT OK on any single verification and on the overall outcome of the automatic sequence







EV-TEST100	Adapter for verification of EVSE stations
C2033X	Cable with 3-terminal Shuko plug
UNIVERSALKITCOMBI	Set of 3 cables, 3 alligator clips, 3 leads
ZEROLOOP	Accessory for zeroing the cable in Loop measurement
C2006	Cable for PC connection
C100EV	Connection cable to the verification instru- ment
BORSA2051	Carrying bag
SP-5100	Set of straps for slinging the instrument over one's shoulder
	ISO calibration report



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

> HT 103

ORDER CODE HV5036EV **MACROEVTEST**

EV-TEST 100

Tool for the safety verification of electric vehicles charging stations, of domestic and industrial systems, and single-phase system analysis



Functions MACROEVTEST

- > AUTO test (overall earth resistance test, RCD tests, insulation tests) on the outlets to be tested
- > Insulation with test voltage 50, 100, 250, 500, 1000VDC
- Continuity of protective conductors with 200mA
- > Continuity of protective conductors with 10A with optional accessory EQUITEST
- Earth resistance by voltammetric method
- > Resistance of the earth rods with clamp
- > Ground resistivity by 4-wire method
- > Overall earth resistance with no residual current protection tripping
- > Line/Loop, Phase-Phase, Phase-Neutral, Phase-PE impedance > Line/Loop, Phase-Phase, Phase-Neutral, Phase-PE impedance with high resolution (0.1 m Ω) with optional accessory IMP57
- Assumed short-circuit current
- > Tripping time of Standard, Selective and Delayed RCDs
- > Test current type A, AC, F max 1A and type DD 6mA
- > Test on RCDs with separate clamp jaws up to 10A
- RCD tripping current (Ramp test)
- Phase sequence
- > Measurement of percentage voltage drop on the lines
- > Measurement with use of remote switch probe (with optional accessory PR400)
- Leakage current (with optional clamp HT96U)
- Measurement of electric parameters (V, I, W, VAR, VA, Wh, cosphi)
- Harmonic analysis V, I and THD%
- > Help on line on the display
- > Internal memory for measured data saving
- > Optical/USB serial port for PC connection Built-in WiFi communication interface

Accessory for the safety verification of electric car charging stations

MACROEVTEST, the instrument for verification and checks on recharging stations for electric cars (EVSE) in compliance with standards IEC/EN 61851-1 and IEC/EN60364-7-722, and for safety tests in private and industrial environments IEC/EN 61010-1. MACROEVTEST is **connected** through the provided C100EV cable to EV-TEST100, which is connected, through an in-built cable provided with type2 plug, to a recharging station. EV-TEST100 can simulate the presence of a car being recharged and, at the same time, dialogues with MACROEVTEST thanks to the new display with touch screen system. To correctly perform all tests, all you need to do is following the GUIDED PROCEDURE created by HT. Before each test, MACROEVTEST indicates how the cables must precisely be connected and, at the end of measurement, further to the detected values, it provides evaluations of the tests' outcomes, if compatible or not for the recharging station's safety, indicated by a green or red thumb symbol.







Characteristics of MACROEVTEST

Power supply: Battery life:	6x1.2V rechargeable batteries type AA NiMH or 6x1.5 type AA alkaline > 550 test (alkaline)
Battery the.	х У
Display:	Resistive touch screen, colour LCD, resolution 320x240 pxl
Memory:	999 locations, 3 levels of markers
PC interface:	optical/USB and WiFi
Safety:	IEC/EN61010-1, double insulation
Operating humidity:	<80%RH
Operating temperature:	0°C ÷ 40°C
Storage humidity:	<80%RH
Storage temperature:	-10°C ÷ 60°C
Overvoltage category:	CAT IV 300V, max 415V between inputs
Pollution level:	2
Reference standards:	IEC/EN61557-1-2-3-4-5-6-7 IEC/EN61010-1
Size (LxWxH):	225 x 165 x 75 mm
Weight (batteries included):	1.2kg

Tests in automatic sequence on EVSE

- > Test of output voltage value from the station
- > Continuity test of the recharging station's protection conductor
- > Insulation test of recharging station
- > Verification in a sequence of the statuses of the recharging station
- Vehicle not present (status A)
- Vehicle present but not charging (status B)
- Verification of mechanical interlock of the plug (status B)
- Vehicle present and charging (status C)
- Simulation of a fault on the protection conductor (Fault PE)
- Simulation of the fault on the CP signal (Fault E).
- > Measurement of overall earth resistance
- > Verification of the RCDs' tripping (test of RCDs type A, B and B 6ma)
- > Result OK and NOT OK on any single verification and on the overall outcome of the automatic sequence

Characteristics of EV-TEST 100 Voltage: L1-L2-L3-N-PE: Max 415V 50/60Hz, CAT III 300V External load: L-N-PE: 240V 50/60Hz, CAT III 300V, max 10A~ **CP signal:** Communication protocol PWM 12V Input voltage: Max 415V~ phase-phase, CAT III 300V, 50Hz/60Hz ±5%, Recharging station: Cases A, B, C - Charging mode 2 and 3 -Connector IEC62196-2 Type 2 (7 poles, three-phase) External load output protection: Fuse FF 10A/250V, 5x20mm CE directive: Low voltage directive LVD 2014/35/EU and Directive EMC 2014/30/EU Safety: IEC EN 61010-1 **Operating temperature interval:** 0°C ÷ 40°C Operating relative humidity interval: <80%RH Pollution level: 2 Measurement category: CAT III 300V, Double insulation Maximum operating height: 2000m



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Provided accessories

EV-TEST100	Adapter for verification of EVSE stations
C2033X	Cable with 3-terminal Shuko plug
UNIVERSALKITG3	Set of 4 cables, 4 alligator clips, 3 leads
KITTERRNE	Bag with 4 cables + 4 metal probes
PR400	Remote lead for test activation
PT400	Touch-screen pen
RCDX10	Accessory for RCD tests with separate clamp jaws
YABAT0003000	1.2V NiMH AA rechargeable battery, 6 pieces
YABAT0004001	Battery charger for 6 batteries type AA/ AAA
C2006	Optical/USB cable
ZEROLOOP	Accessory for zeroing the cable in Loop measurement
C100EV	Connection cable to the verification instrument
VA507	Hard carrying case
SP-5100	Set of straps for slinging the instrument over one's shoulder
	Quick user guide
	ISO calibration report



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**

> HT 105

ORDER CODE HAOEV100 EV-TEST 100

Adapter for the verification of electric vehicles recharging stations



- U Functions
- Simulation of the type of cable connected: Not connected, 13A, 20A, 32A, 63A
- > Control pilot (CP): A, B, C, D
- > Simulation of the vehicle status:
 - Status Description
 - A : Vehicle not connected
 - B : Vehicle not connected, not ready for recharge C : Vehicle not connected, ready for recharge,
- ventilation not requested
- D : Vehicle not connected, ready for recharge, ventilation requested
- > Simulation of interrupted protective conductor (fault PE)
- > Simulation of short-circuited diode (fault E)
- > Simulation of vehicle with Control Pilot (CP status)
- Simulation of the cable's range with Proximity Pilot (PP status)
- > Simulation of the earthing's fault (fault PE)
- > Simulation of error on Control pilot signal (Fault E)
- > Indication of phase presence via three LEDs
- Connection terminals for the connection to an external load, for the verification of the correct operation of the recharging station's energy counter
- Verification of compliance of recharging stations with standards IEC 61851-1 and IEC 60364-7-722.

- Suitable for recharging stations with recharging mode 2 and 3
- > Simulation of vehicle with Control Pilot (CP status)
- Simulation of the cable's range with Proximity Pilot (PP status)
- > Simulation of the earthing's fault (fault PE)
- Simulation of error on Control pilot signal (Fault E)
- > Indication of phase presence via three LEDs
- Connection terminals for the connection to an external load, in order to verify the correct operation of the recharging station's energy counter
- Measuring leads L1-L2-L3-N-PE to connect HT verification instruments and carry out safety and functional tests (such as, for example RPE, RCD, ISO)
- Verification of compliance of recharging stations to standards IEC 61851-1 and IEC 60364-7-722.

Compatible instruments: MACROEVTEST, COMBI521EV





- Voltage: L1-L2-L3-N-PE: Max 415V 50/60Hz, CAT III 300V External load: L-N-PE: 240V 50/60Hz, CAT III 300V, max 10A-CP signal: Communication protocol PWM 12V Input voltage: Max 415V~ phase-phase, CAT III 300V, (50Hz, 60Hz)
- +/->% Recharging station: Cases A, B, C - Charging modes 2 and 3 - Connector IEC 62196-2 Type 2 (7 three-phase poles) External load output protection: Fuse FF 10A/250V, 5x20mm
- External load output protection: Fuse FF 10A/250V, 5x20mm CE directive: Low voltage directive LVD 2014/35/EU Safety: IEC EN 61010-2014/35/EU (LVD) and Directive EMC
- 2014/30/EU Operating temperature interval: 0°C ÷ 40°C Operating relative humidity interval: <80%RH Pollution level: 2 Overvoltage category: CAT III 300V Double insulation
- Maximum operating height: 2000m



- VA508 Hard carrying case
- **C100EV** Connection cable to the verification instrument

User Manual

+

Optional accessories



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EARTH RESISTANCE AND STEP/CONTACT VOLTAGE MEASURING DEVICES



EARTH RESISTANCE AND STEP/CONTACT VOLTAGE MEASURING DEVICES



M71

MAIN MEASUREMENTS	EARTH RESISTANCE		STEP/CONTACT VOLTAGE
TRMS	•	•	•
Measuring range	50ΚΩ	1.2ΚΩ	200Ω
Earth resistance by 2- and 3-wire method	٠		٠
Ground resistivity by 4-wire method			٠
Compensation of disturbance voltages	٠		٠
Compensation of test cables	•		•
Direct measurement on earth probes		•	
Measurement of leakage current on earth systems		T2000 only	
Measurement of step/contact voltage			•
ADDITIONAL CHARACTERISTICS			
Measurement category:	CAT III 240V	CAT IV 300V CAT III 600V	CAT IV 50V
Detection of disturbance currents on measurement	٠		٠
LCD display	٠	•	٠
Backlight		•	٠
AutoPowerOFF	٠	•	٠
Help on line on the display			٠
Internal memory for measured data saving		•	٠
Optical/USB serial port for PC connection			RS-232/USB
Size (LxWxH) (mm)	240x100x45	293x105x54	230x115x103
Weight in kg (batteries included)	0.6	1.1	30.8
Reference standard for safety	IEC/EN61010-1	IEC/EN61010-1 IEC/EN61557-5	IEC/EN61010-1 EN50522
ORDER CODE	HV000071	HP002000 (T2000) HP002100 (T2100)	HN002055

T2000 - T2100	HT2055
ISTANCE	STEP/CONTACT VOLTAGE
۲	•
1.2ΚΩ	200Ω
	•
	•
	•
	•
•	
T2000 only	
	•

ORDER CODE HV000071 M71

Instrument for measuring earth resistance



M71 has been developed to measure earth resistance with 2 wires and 3 wires by voltamperometric method in compliance with standard IEC/EN 61010-1.

This device allows carrying out measurements with a wide measuring range (50k Ω) and an efficient internal automatic compensation of the disturbance effects found on the installations, and it is provided with an **ergonomic design** with electronic function selector for quickly carrying out the tests.

The 2-wire method allows carrying out earth measurement by taking advantage of appropriate external masses as a reference (metal surfaces, tubes, neutral conductor, etc.), which is particularly useful in private environments where, because of logistic problems, it is not possible to use the 3-wire method.



Functions

- Earth measurement with 2 terminals
- > Earth measurement with 3 terminals
- > Measuring range: 0.01Ω -50kΩ
- > Compensation of disturbance voltages
- > Compensation of test cables



Power supply:	batteries type AA
Display:	LCD display
Pollution level:	2
Safety:	IEC/EN61010-1
Overvoltage category:	CAT III 240V
Size (LxWxH):	240x100x45mm
Weight (batteries included):	630g

4x1.5V





Provided accessories

Set of 3 cables + 3 alligator clips + 2 metal **KIT0071** probes SP-6085 Carrying bag Quick user guide

ISO calibration report



070 SCAN THE QR CODE TO DISCOVER ALL

OPTIONAL ACCESSORIES



ORDER CODE HP002100 **T2100**

Clamp meters for measuring earth resistance directly on earth rods and measuring leakage current up to 20A AC



Direct measurement on earth probes without any cable Measurement of leakage current on earth systems Setting of alarm thresholds on measurements

- Storage of measured results
- Detection of disturbance currents on measurement
- Data HOLD, Backlight, Auto Power OFF
- Maximum diameter for clamp 31mm (bars 48x31mm)
- Serial interface RS-232 for connection to devices of the Macrotest series (T2100 only)



Functions

interruption

(T2000 only)

Power supply:

Pollution level:

Overvoltage category:

Size (LxWxH):

included):

Memory: Display:

Safety:

batteries type AA 4x1.5V
99 locations
LCD 4-digit display + decimal point, backlit
2
IEC/EN61010-1, IEC/EN61010-2-032, IEC/EN61557-5
CAT III 600V, CAT IV 300V to earth

293x105x54mm

Weight (batteries 1120g



T2000 e T2100 are professional clamp meters specially developed to evaluate resistance of earth rods with no need to disconnect any part of the system. The inner part of the device is made of 2 jaws, one for current reading and the other for voltage generation. The voltage jaws generate a potential (E) on the loop during resistance (R) measurement. A current (I) is consequently generated on the loop and is measured by the current jaws. Based on the value of parameters E and I, the instrument displays the resistance R value calculated as their ratio. The value measured by the device can be used in case the single rods do not influence each other. T2000 also measures AC current up to 20A and leakage current with resolution 0.1mA.

This instrument complies with standard IEC/ EN61010-1 in CAT III 600V, CAT IV 300V and it is the ideal solution for measurements to be carried out both in domestic and in industrial environments.











Provided accessories

	Resistive test loops (1 Ω , 5 Ω , 10 Ω)
	Batteries
	User Manual
	ISO calibration report
2100	Connection cable Hypertac / Jack 3.5mm RS-232 (T2100 only)
	Hard carrying case

Hard carrying case





SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



НŤТ | 113

ORDER CODE HN002055 HT2055

Step/contact voltage meter up to 50A



HT2055 consists of a power unit and a voltmetric unit necessary for carrying out step and contact voltage measurements in typical MV industrial electrical installations (TN systems, transformer cabins) with a rated test current of up to 50A (the real value of the test current generated by the instrument is determined by the resistance of the earth circuit being tested). The two units, synchronized in time and current are capable of providing the correct value of step and contact voltages consistently with the real current values measured by the power unit, **automatically** taking into consideration the disturbance effects **on mains frequency** found on the measured circuit thanks to the use of an in-built DSP filter. In this case, step/ contact voltage measurement can be carried out by one single operator. The instrument also measures earth resistance and ground resistivity by the classical voltamperometric method. These measurements can be saved in the internal memory of the Volt-amperometric unit and downloaded onto the PC through the provided dedicated software.



Characteristics

Power unit

- > Power supply: 110/230V AC, 50/60Hz
- > Output power: 900VA
- > Output current: max 55A
- > Test frequency: 55Hz
- > Voltage measurement: 0.1÷999V
- > Resolution: 0.1÷1V
- > Basic accuracy: ±2%reading
- > Display: LCD 240x128 dots + backlight
- > Memory: 2000 locations
- > Communication interface: RS-232
- > Overvoltage category: CAT III 300V
- > Protection: fuse T 6.3A/250V
- > Pollution level: 2
- > Mechanical protection: IP40 (closed case)
- > Size (LxWxH): 335x335x160mm
- > Weight: 28kg

Voltmetric unit

- > Voltage measurement: 0.1÷999V
- > Resolution: 0.1÷1V
- > Resistance measurement: 0,001÷99.99Ω
- **>** Resolution: 0.01Ω
- > Basic accuracy: ±2%reading
-) Input impedance: Selectable $1k\Omega/1M\Omega$
- > Display: LCD 240x128 dots + backlight
- > Memory: 2000 locations
- > Communication interface: RS-232/USB
- > Power supply: 6x1.2V rechargeable batteries type AA
- > Pollution level: 2
- > Mechanical protection: IP40
- > Size (LxWxH): 230x115x103mm
- > Weight: 1.3kg



	Provided	accessories
_/		

	Power supply cable of power unit
PC55SND	Set of 2 metal plates (200x100mm)
	Current metal probe
	Voltage metal probe
PC55REL	Cable 10mm ² with winder and alligator clip, 50m
	Cable 10mm ² with alligator clip, 10m
PC55MBK	Black measuring cable, 3m, with industrial plugs, 2 pcs.
PC55GRE	Green measuring cable, 10m
PC55BLK	Black measuring cable, 1.5m
PC55RED	Red measuring cable, 50m
PC55MRE	Red connection cable with alligator clip, 1m
5004-IECN	Alligator clip, 4 pieces
	Cable RS-232
C2007	USB cable
	Soft transport bag, 2 pieces
	Strap for slinging the device over one's shoul- der
	6 x 1.2V rechargeable batteries NiMH type AA
	External power supply
TERAVIEW	Windows software on CD-ROM
	User manual and ISO calibration report

Voltmetric unit



Black measuring cable, 3m, with industrial plugs, 2 pieces

PC55MBK

Black measuring cable, 3m, with industrial plugs, 2 pcs. For further information on optional accessories, please contact HT.



Optional accessories



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нт | 115





RCD AND LOOP TESTERS



RCD AND LOOP TESTERS



MAIN MEASUREMENTS	LOOP/RCD		
TRMS	•	•	
Measuring range of verifiable RCD rated currents	30,100,300mA	30,30x5,100,300mA	
Tripping time of RCDs type A, AC, F Standard and Selective	only Standard	A = 30mA AC = 300mA only standard	
Ramp test for tipping current of RCDs type A, AC Standard	only 30mA	A = 30mA AC = 30mA	
Overall earth resistance with no residual current protection tripping	•	٠	
Loop/Line impedance, Phase-Phase, Phase-Neutral, Phase-PE	•		
Contact voltage	•	•	
Leakage current with optional clamp	•	•	
ADDITIONAL FUNCTIONS			
DC/AC TRMS voltage and current	AC+DC, LoZ function	٠	
Phase sequence	•	•	
Frequency	•	•	
Resistance	•	•	
Continuity with buzzer	•	•	
Data HOLD, MAX/MIN/AVG	MAX/MIN	•	
Measurement of voltage and current PEAK	•	•	
Measurement of Voltage/Current harmonics + THD%	•		
ADDITIONAL CHARACTERISTICS			
Overvoltage category:	CAT IV 600V CAT III 690V	CAT III 550V	
Size (LxWxH) (mm)	175x85x55	240x100x45	
Weight (batteries included):	420g	450g	
Reference standard for safety	IEC/EN61010-1	IEC/EN61010-1	
ORDER CODE	HROOJUPI	HV000073	





JUPITER

M73

ORDER CODE **HROOJUPI**

Professional instrument for electric safety verifications according to standard IEC/EN 61010-1 and advanced multimeter functions



JUPITER is an innovative instrument which, further to being used as a **powerful multimeter** for TRMS measurements, allows performing **electric safety tests (RCD, Ra, Loop)** according to **standard IEC/ EN 61010-1**.

The instrument belongs to CAT IV at 600V, with **autorange** function available on all models and possibility of backlit display. The design is extremely modern and attractive but, at the same time, **ergonomic, to offer the best possible ease of use**.





Multimeter section

- DC / AC, AC+DC TRMS voltage
- DC / AC / AC+DC TRMS voltage with low impedance (LoZ)
 DC / AC / AC+DC TRMS current with standard clamp
- transducer
- > AC TRMS current up to 3000A with flexible clamp transducer F3000U
- > Automatic recognition of AC and DC quantities
- Resistance and continuity test with buzzer
- Current and voltage frequency
- MAX/MIN/PEAK/HOLD functions
- 9999 measuring spots
- Auto-Power-Off function
- Bargraph function

Bargraph function

Electric verification section

- > Overall earth resistance L-PE without RCD tripping
- > Loop impedance L-L, L-N and calculation of assumed short-
- circuit current Measurement of tripping time on Standard RCDs type A, AC, F
- (30mA,100mA, 300mA)
- Measurement of tripping current on Standard RCDs type A and AC (30mA)
- > Phase sequence with 1 terminal
- Section Mains analysis
- > Inrush current (Dynamic INRUSH DIRC)
- > Current/voltage harmonics up to the 25th and THD% calculation



C20653-wire cable Red, Black and Green with
Schuko plug4324-2Pair of banana leads red/black
with 2/4mm tipYABAT0001HT0Alkaline battery type AAA IEC LR031.5V, 4
piecesYABRS0002HT0Carrying bagYAMUM0065HT0Quick user guide

Provided accessories

ISO calibration report

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES order code HV000073

Multifunction instrument for measurements of overall earth resistance and tests on RCDs



Functions and characteristics

- > Tripping time of Standard RCDs type A, AC with currents 30,30x5,100,300mA
- Tripping current of Standard RCDs type A, AC with current 30mA
- > Overall earth resistance without RCD tripping
- Assumed short-circuit current
- > Phase sequence
- > DC/AC TRMS voltage
- > DC/AC TRMS current
- > Resistance and Continuity test
- > Data HOLD, MAX/MIN/AVG
- Measurement of voltage and current PEAK
- Measurement of leakage currents (with optional clamp HT96U)
- > Safety: IEC/EN61010-1
- > Overvoltage category: CAT III 550V
- > Power supply with batteries type AA: 4x1.5V
- > Size (LxWxH): 240x100x45mm
- > Weight (batteries included): 450g

The accessories provided may vary according to the country. *Adapter NOCANBA necessary M73 has been developed for operators who mainly work on domestic installations.

M73 is very easy to use, it is **very small size** and it carries out all necessary tests to establish COMPLIANCE (and hence ensure SAFETY) of a domestic electric system.

By always using it before starting working on an already existing system (which the operator therefore does not know well) and at the end of the job, this device will guarantee the necessary safety to both operators and users of the electric systems! Thanks to its small size, this device offers **many operating opportunities**

M73 is also used to test the safety of electric system; it is therefore capable of measuring **Overall earth resistance**, carrying out **tests on RCDs type A and AC and measuring Insulation and Continuity**.

At the end of the tests, the instrument shows all results with the indication of compliance or non-compliance with the standards with **simple symbols OK** or **NOT OK**.

20 191	SEE PRODUCT DATA SHEET M73
19-16	M73

Provided accessories

КІТО075	Set of 2 cables with leads + 2 alligator clips
C2075	2-wire cable with Schuko plug
BORSA2000	Carrying bag
	ISO calibration report
	Ouick user quide

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

→ TRMS

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HT | 121















INSULATION AND CONTINUITY MEASURING DEVICES

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INSULATION AND CONTINUITY MEASURING DEVICES



HT7051 NEPTUNE

MAIN MEASUREMENTS		INSULATION	CONTINUITY	
TRMS		•	•	
DC test voltage measuring range	100V ÷ 5kV	50,100,250, 500.1000V	250 / 500V	250, 500, 1000V
Insulation resistance measuring range	0.01MΩ ÷ 9.99TΩ	0.1kΩ ÷ 1999MΩ	0.01MΩ ÷ 999MΩ	0.001MΩ ÷ 4000MΩ
Dielectric strength in DC				
Continuity of protective conductors with 200mA		٠	•	•
ADDITIONAL FUNCTIONS				
Test with programmable ramp	• steps of 25VDC			
Programmable test timer	• 5s ÷ 100min	• 15s ÷ 10min		• 2s ÷ 1min
Setting of measurement limit value	•	٠		
Measurement of polarization index P.I.	•	•		
Measurement of dielectric absorption ratio D.A.R.	•	٠		
Measurement of dielectric discharge ratio D.D.				
Measurement of discharge capacity	•			
Automatic discharge of target	•	•	•	•
DC/AC voltage measurement	● 600V	●1000V	● 600V	• 600V
Measurement of resistance and continuity with buzzer		٠	•	•
Measurement of phase sequence		•	•	
ADDITIONAL CHARACTERISTICS				

Measurement category:	CAT IV 600V	CAT IV 600V	CAT III 550V	CAT III 550V
Backlight	•	•		•
Autocalibration of measuring leads		•	•	•
Guard terminal	•			
Internal memory for saving results	•			
Recalling on the display the saved results	•			
RS232/optical/USB interface for transferring data onto the PC	•			
Power supply with rechargeable battery from mains	•			
AutoPowerOFF	•	•	•	•
Power supply	Rechargeable NiMH	4x 1.5V AAA	4x 1.5V AA	4x 1.5V AA
Size in mm (LxWxH)	360 x 310 x 195	175 x 85x 55	240 x 100 x 45	240 x 100 x 45
Weight (batteries included):	3.5kg	4.20kg	450g	450g
Safety	IEC/EN61010-1 IEC/EN61557-1-2	IEC/EN61010-1 IEC/EN61557-1-2	IEC/EN61010-1	IEC/EN61010-1
ORDER CODE	HV007051	HROOONEP	HV000072	HV000070





ORDER CODE HV007051 **HT7051**

Professional insulation meter with programmable test voltage up to 5kV



Functions and characteristics

- > Insulation with test voltage from 100V to 5kVDC
- Measuring range up to 10TΩ
- > Measurement with fixed test voltages
- > 3 test ramps, programmable in time and voltage
- > SMOOTH function for steady measurement results
- > Measurement of dielectric discharge current
- > Measurement of polarization index (P.I.)
- > Measurement of dielectric absorption ratio (D.A.R.)
- > Measurement of discharge capacity
- > DC/AC TRMS voltage up to 600V
- > Rechargeable internal NiMH battery
- > GUARD terminal
- > Automatic discharge of target
- > Display: Custom LCD with backlight and bargraph
- > External supply: mains 220-240V, 50/60Hz, 20VA
- > Internal supply: rechargeable internal NiMH battery
- > Protection fuse: T 200mA H 250V
- > Battery life: >1000 tests (@ 5kV on 5MΩ)
- > AutoPowerOFF: after 5 minutes' idling
- > Internal memory: 700 locations
- > Serial interface: RS-232 optically insulated
- > Safety: IEC/EN61010-1, IEC/EN61557-1
- > Insulation: double insulation
- > Pollution level: 2
- Mechanical protection: IP53 (closed case)
- Overvoltage category: CAT IV 600 (to earth),
- > Size (LxWxH) and weight: 360x310x195 mm, approx. 3.5kg

HT7051 has been developed to measure insulation resistance with test voltage programmable up to 5kVDC and measuring range up to 10TΩ which makes it very useful in any industrial application (tests on electric machines, power transformers, electric cables, electric boards, generic devices, etc.) within Low Voltage. The device allows carrying out tests in **FIX** (with fixed test voltage), **ADJUST** (with programmable test voltage) and RAMP mode (with programmable test voltage and application time with selection of 3 available ramp types) which define a kind of operation suitable for any situation. Measurement of parameters such as **Polarization** Index (PI) and Dielectric Absorption Ratio (DAR) are duration tests which allow defining the quality of an insulating material. HT7051 is supplied with a rechargeable NiMH battery with in-built battery charger, which allows for a remarkable duration when carrying out measurements, it is provided with internal memory for saving measurements and it is also possible to connect it to the PC to download the measured results. The whole structure has been inserted into a comfortable and resistant transport case, solid and safe for "on-site" use.



Provided accessories

KIT14000	Set of 3 cables with alligator clips + 2 ca- bles with leads
C7051	Power supply cable Europlug-Schuko with no earthing
BORSA2000	Transport bag for accessories
C232NG1	Cable RS-232
	ISO calibration report
	LL. M I

User Manual

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**



ORDER CODE HVOOONEP **NEPTUNE**

Professional instrument for electric safety verifications according to standard IEC/EN 61010-1 and advanced multimeter functions



Electric verification section

- > Insulation with test voltage 50,100,250,500,1000VDC and calculation of parameters PI and DAR
- Continuity of protective conductors with 200mA

Section Mains analysis

- > Inrush current (Dynamic INRUSH DIRC)
- > Current/voltage harmonics up to the 25th and THD% calculation



> Input of low-impedance voltage (LoZ) > DC / AC / AC+DC TRMS current with

> DC / AC, AC+DC TRMS voltage

optional standard clamp transducer > AC TRMS current up to 3000A with flexible clamp transducer F3000U

Functions and characteristics

- > Automatic recognition of AC and DC quantities
- Resistance and continuity test with buzzer
- > Current and voltage frequency
- > MAX/MIN/PEAK/HOLD functions
- > 9999 measuring spots

Multimeter section

- > Auto-Power-Off function
- Bargraph function

- Measuring range 8: 0.1kΩ 2GΩ
- > Phase sequence with 1 terminal



NEPTUNE is an innovative instrument which, further to being used as a powerful multimeter for TRMS measurements, allows performing electric safety tests (Insulation and continuity) according to standard IEC/EN 61010-1. It belongs to CAT IV at 600V, with autorange function and backlit display. The design is extremely modern and attractive but, at the same time, ergonomic, to offer the best possible ease of use.







324-2	Pair of banana leads red/black with 2/4mm tip
	Pair of Red/Black alligator clips
ABAT0001HT0	Alkaline battery type AAA IEC LR03 1.5V, 4 pieces
ABRS0002HT0	Carrying bag
AMUM0065HT0 Quick user guide	
	ISO calibration report

Optional accessories



SCAN THE OR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES





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НŤ | 127

ORDER CODE HV000072 **M72**

Combined instrument for insulation and continuity measurement of protective conductors, and multimeter functions



M72 is mainly dedicated to measuring Insulation resistance and Continuity of protective and equipotential conductors with 200mA in electric installations, typically domestic. Further to these measurements, M72 has many **additional functions** such as measurement of phase sequence with 1 terminal, measurement of leakage currents with optional clamp transducer and a powerful multimeter function for measuring voltage and current in true root mean square value (TRMS)



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Functions and characteristics

- > Continuity of protective conductors with 200mA
- > Insulation with 250, 500VDC
- > Insulation measuring range $0.01M\Omega 2G\Omega$
- > Automatic discharge of target
- > Autocalibration of measuring leads
- > Phase sequence
- > DC/AC TRMS voltage
- > DC/AC TRMS current
- > Resistance and Continuity test
- > Data HOLD, MAX/MIN/AVG
- > Measurement of voltage and current PEAK
- > Measurement of leakage currents (with optional clamp HT96U)
- > Safety: IEC/EN61010-1
- > Overvoltage category: CAT III 550V
- > Power supply: 4 x 1.5V batt. type AA
- > Size (LxWxH): 240x100x45 mm
- > Weight (batteries included): 450g



KIT0075 Set of 2 cables with leads + 2 alligator clips

10110070	
BORSA2000	Carrying bag

ISO calibration report
Quick user guide

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**

ORDER CODE HV000070 **M70**

Combined instrument for insulation and continuity measurement of protective and equipotential conductors



Functions and characteristics





> AutoPowerOFF

> Autocalibration of measuring leads

> Measuring range up to $4G\Omega$

> AC/DC voltage up to 600V

> Wide display with backlight

> Automatic discharge of target

> Display with backlight: LCD, 4 digits, 10000 count

> Insulation with test voltage 250, 500, 1000VDC

> LOCK function for measurements in a continuous mode

> Insulation with timer programmable from 2 to 60s

> Continuity of protective conductors with 200mA

> Power supply: 4x1.5V batteries type AA > AutoPowerOFF: after 15 minutes' idling

> Resistance and continuity test with buzzer

- > Safety: IEC/EN61010-1
- > Overvoltage category: CAT III 550V
- > Size (LxWxH): 240x100x45 mm
- > Weight (batteries included): 450g



128 нт M70 is a mobile device dedicated to measuring Insulation resistance with test voltage up to 1000VDC and Continuity of protective and equipotential conductors with a current of 200mA in domestic and industrial electric installations. Thanks to the LOCK function, insulation measurement can be carried out in a continuous manner over time, thus testing the insulation of the target with a duration test. It carries out measurement with a timer, programmable from 2 to 60s.



SEE PRODUCT DATA SHEET M70

Provided accessories

IT0070	Set of 2 cables + 2 alligator clips + 1 lead
ORSA2000	Carrying bag
	Batteries
	CE declaration of conformity
	User Manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



HT 129







BURIED CABLE LOCALIZER AND REVOLUTION COUNTER



BURIED CABLE LOCALIZER AND **REVOLUTION COUNTER**

Localization of buried metal parts

Inductive pairing with 33kHz signal

Selectable transmission power

Intermittent or continuous signal

Automatic depth measurement

Bar graph of the search signal

Events counter

Laser pointer

AutoPowerOFF

MAX / MIN / HOLD

ORDER CODE code

(rev/min) with and without contact

Passive search mode without transmitter

Manual or automatic setting of sensitivity

Localization of wood beams and metal items

Localization of buried cables with AC voltage

Measurement of speed of rotating parts in RPMs

Headset socket for noisy environments

Direct 33kHz pairing with external accessories

via antenna



CABLE LOCALIZER

-

-

-

-

-

-

HN500000



REVOLUTION COUNTER

-

-

-

-

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HA002236



ITEM DETECTOR

(max depth 30mm)

-

-

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-

-• (minimum dim.

30mmx30mm)

(max depth 50mm)

-

-

-

-

HR000036

ORDER CODE HR000036	
HT36	

Portable item detector



- > Detection of presence of hidden wood beams
- > Detection of presence of hidden metal and conductive items
- > Detection of presence of hidden cables with AC voltage
- > Buzzer and analog bargraph
- > AutoPowerOFF



Functions

Size of conductive items:	min 30x30mm
Depth of conductive items:	max 18mm
Diameter of metal items:	max 25mm
Depth of metal items:	max 30mm
Cables with AC voltage:	90V ÷ 250V / 50-60
Depth of cables with AC volta	age: max 50mm
AutoPowerOFF:	after 30s
Power supply:	1x9V battery type IEC6F22
Size (LxWxH):	155x72x28 mm

Weight (batteries included):



HT36 is capable of detecting the presence of wood beams and conductive items, metal items and cables with AC voltage hidden inside walls and roofs, and other common materials. The instrument gives out a sound and shows a signal on the display after identifying the border of the item, in order to easily detect its central position.







Battery User Manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

ORDER CODE HN500000 **HT-5000**

Professional localizer of buried cables and metal tubes



HT-5000 is a Transmitter and a Receiver which make use of the principle of propagation of the electromagnetic field on an object crossed by a signal, duly generated with different types of pairings. It is mainly used to localize metal tubes or **buried cables**.



Functions

- > Inductive pairing with 33kHz signal via antenna
- Direct 33kHz pairing with external accessories
- > Selectable transmission power
- > Intermittent or continuous signal
- > Passive search mode without transmitter
- > Automatic depth measurement
- Manual or automatic setting of sensitivity

> Headset socket for noisy environments

Characteristics

Transmitter TX5000

Transmission power:	0.1W / 0.5W
Signal frequency:	33kHz
Mechanical protection:	IP56 (dust and water)
Power supply:	6x1.5V batteries type IEC LR20
Size (LxWxH):	260 x 140 x 255 mm
Weight (batteries included):	1.7 kg
Receiver RX5000	
Frequency range:	15kHz ÷ 23kHz, 50/60Hz (electric mains)
Depth range:	0.3m ÷ 7m
Mechanical protection:	IP56 (dust and water)
Power supply:	10x1.5V batteries type AA IEC LR6
Size (LxWxH):	600 x 252 x 99 mm
Weight (batteries included):	2.5 kg

Provided accessories

Transmitter TX5000 and receiver RX5000

Set of measuring cables with alligator clips

Metal probe

Batteries for transmitter and receiver, carrying bag and user manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**



Mobile digital revolution counter with inbuilt laser pointer



- Measurement of speed of rotating parts in:
- RPM (rev/min) with and without contact
- REV Revolution counter with and without contact - HZ Revolution frequency with and without contact (rev/s)
- M/M Meters per minute with contact
- I/M Inches per minute with contact
- F/M Feet per minute with contact

Functions

- Y/M Yards per minute with contact
- M Measurement of length in meters
- FT Measurement of length in feet
- Yd Measurement of length in Yards
- Saving of 40 values > HOLD function

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- MIN, MAX, AVG measurement
- Display backlight
- > Laser pointer Class 2

Characteristics

Meas. range of speed without contact Meas. range of speed with contact: Resolution: Accuracy:	ct: 2 ÷ 200000 rev/min 2 ÷ 20000 rev/min 0,001 ÷ 1rev/min ±0.05% reading or ±1rev/min
Measuring range of revolution counter:	0 ÷ 200000
Response time:	0.5s (>60 rev/min)
Distance from target:	50 ÷ 2500mm
Display:	LCD, 5 digits
AutoPowerOFF:	after 30min
Power supply: Size (LxWxH):	1x9V alkaline battery type IEC 6F22 160x60x42 mm
Weight (batteries included):	approx 160g

134 |

HT2236 is a digital revolution counter for measuring the speed of rotating mechanical parts (discs, drive shafts, etc...) both with and without contact, making use of a light beam transmitted and reflected by the target.



Provided accessories

Mechanical adapter for protection ring

Rotating rubber protection ring

Rubber terminals in different shapes

Reflecting band

Carrying bag

Battery

User Manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

HT 135



HTANALYSIS[™] 2

Download HTANALYSIS[™] and share your measurements with your colleagues at any time and anywhere in the world via HTCLOUD[™], the personal space that HT has created for you. By uploading the measurements to HTCLOUD[™] you will immediately find them on the TOPVIEW software, directly on your PC. You will discover how network analysis, I-v curve measurement and electrical safety verification have never been so simple and immediate.

Mains analysis



I-V curve and much more

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Electric safety

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	Tripping Time x1.2 - 180*		>000 ms 👪	
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	Tripping Time x5 - 190*		28 ms 🖬	
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	VLM		250 V	
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PVCHECKs-PRO



PVCHECKs





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INSTRUMENTS FOR PHOTOVOLTAIC INSTALLATIONS

INSTRUMENTS FOR THE PHOTOVOLTAIC SECTOR

PHOTOVOLTAIC



I-V600



I-V500W







SOLAR I-VE

CAT II 1000V DC CAT III 300V AC

250 I-V curves 99 tests

Optics/USB and Wi-Fi

Max 30 modules

•

6x1.5V AA

6x1.2V AA NiMH

235x165x75

1.2kg

IEC/EN61010-1

IEC/EN60891 IEC/EN60904-5 IEC/EN62446

HVOOOIVE



I-V400W

PV-ISOTEST

CAT III 1500V DC CAT III 1000V AC

999 measurements

Optics/USB

6x1.5V AA

6x1.2V AA NiMH

235x165x75

1.2kg

IEC/EN61010-1

IEC/EN61557-2-4

HVOPVISO

SYSTEM	I-V600	I-V500W	I-V400W		PV-ISOTEST	SOLAR I-VE		
MAINTENANCE AND EFFICIENCY	MAINTENANCE							
Measurement of the I-V curve on single-sided PV modules and strings	٠	٠	٠			•		
Measurement of the I-V curve on single-sided and double-sided modules	٠							
Automatic measurement with Autostart mode (**)		•	•			•		
Rapid IVCK test for Voc and Isc measurement on PV modules and strings	٠	٠	٠				• (
Testing of single-phase, single-string PV systems (1 MPPT)						•		
I-V / Isc-Voc curve measurement range	1500V/40A	1500V/15A (*)	1000V/15A			1500V/15A (*)		
PV testing measurement range						1000VDC / 265VAC		
Continuity of protection conductors with 200mA					۲			
Insulation of PV modules/strings/fields with test voltages 250, 500, 1000V DC					٠			
DC side efficiency of photovoltaic field						•		
GFL function for troubleshooting on strings					•			
Use of SOLAR-02 remote unit with RF (Radio Frequency) connection		٠	•			•		
Use of SOLAR03 remote unit with Bluetooth connection	•							
Irradiance measurement with reference solar cell	•	•	•			•		
Measurement of cell and ambient temperature	• (***)	•	•			•		

ADDITIONAL SPECIFICATIONS

Measurement category	CAT III 1500V DC	CAT II 1000V DC CAT III 300V AC	CAT II 1000V DC CAT III 300V AC
Backlit LCD display		•	•
TFT colour touch-screen display	(Display rotation)		
Internal memory capacity	9999 measurements	250 I-V curves 999 IVCK tests	250 I-V curves 999 IVCK tests
PC interface	USB-C and WiFi	Optics/USB and Wi-Fi	Optics/USB and Wi-Fi
PV modules internal database	Approximately 63,000	Max 30 modules	Max 30 modules
Auto power off	٠	۲	•
Online help on display	•	•	•
Internal power supply	8x1.5V AA 8x1.2VAA NiMH	6x1.5V AA 6x1.2V AA NiMH	6x1.5V AA 6x1.2V AA NiMH
External power supply	Battery charger power supply unit		
Dimensions (LxWxH) (mm)	336x300x132	235x165x75	235x165x75
Weight in kg (batteries included)	5.5kg	1.2kg	1.2kg
Safety reference standards	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1
I-V curve reference standards	IEC/EN60891 IEC/EN60904	IEC/EN60891 IEC/EN60904	IEC/EN60891 IEC/EN60904
IVCK test reference standards	IEC/EN62446	IEC/EN62446	IEC/EN62446
MΩ, RPE reference standards			
ORDER CODE	HV0IV600	HV00500W	HV00400W

(*) Max current 10A(@1500V), 15A (@1000V) (**) With optional accessory KITKELVIN

(***) With remote unit SOLAR03





PVCHECKs-PRO

PV-CHECKs

MAINTENANCE AND EFFICIENCY (Single-sided and Double-sided) 1500V / 40A solo Isc-Voc 1500V / 40A solo Isc-Voc • (***) CAT III 1500V DC CAT III 1000V AC CAT II 1000V DC CAT III 300V AC 999 measurements 999 measurements Optics/USB and Wi-Fi Optics/USB Max 64 modules Max 30 modules 6x1.5V AA 6x1.5V AA 6x1.2V AA NiMH 6x1.2V AA NiMH 235x165x75 235x165x75 1.2kg 1.2kg IEC/EN61010-1 IEC/EN61010-1 IEC/EN62446 IEC/EN62446 IEC/EN61557-2-4 IEC/EN61557-2-4 HV00PVPR **HV00PVCS**

ORDER CODE HVOIV600 I-V600

Advanced instrument for measurement of the I-V Curve up to 1500V/40A



I-V600 enables the field detection of the I-V Curve and of the main characteristic parameters of both a single module and strings of modules for PV installations up to a maximum of 1500V and 40A. For measurement of the I-V Curve, I-V600 manages an internal database of the modules which can be updated at any time by the user and the comparison between the data detected and the nominal ones means being immediately able to determine whether the string or module respects the efficiency parameters declared by the manufacturer. Detection of the I-V Curve can also be achieved by decentralising the irradiation and temperature measurements using the SOLAR03 remote unit using the Bluetooth connection with the Master unit. Also for I-V600, the display of Curve IV on the display at the end of the test is a very clear indication of whether or not it conforms to the specifications declared by the panel manufacturer.



(U) **Functions**

I-V600

- Detection of the I-V curve on single-sided and double-sided PV modules and strings 1500V/40A
- No-load voltage Voc on PV modules and strings 1500V
- Short circuit current Isc on PV modules and strings 40A
- IVCK rapid test for Voc and Isc measurement on 1500V/40A PV modules and strings
- Use of SOLAR03 remote unit with Bluetooth connection
- Direct frontal irradiation measurement with reference solar cell with SOLAR03 remote unit
- Albedo measurement (back radiation) with two reference solar cells with SOLAR03 remote unit
- Cell and ambient temperature measurement with SOLAR03 remote unit
- Powered by alkaline or rechargeable AA batteries
- Mains power supply unit/battery charger





SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES






ORDER CODE HV00400W I-V400w

ORDER CODE HVOOOIVE **SOLAR I-Ve**

I-V Curve Tracers for maintenance and troubleshooting of photovoltaic systems















(U) **Functions**

	I-V400W	I-V500W	SOLAR I-VE
MAINTENANCE OF PHOTOVOLI	TAIC SYST	EM	
Measurement of PV module/ string output voltage	1000V	1500V	1500V
Measurement of PV module/ string output current	15A	15A**	15A
Resolution (spots) of I-V curve in Standard or Capacitive mode	128	128	128
Measurement of Voc-Isc- Pmax-Vmpp-Impp-Fill Factor	•	•	•
Measurement of cell temperature through external feeler	•	•	•
Measurement of Irradiation [W/m²] through reference cell	•	•	•
Measurement of DC and rated power at module/string output	•	•	•
Detection of I-V curve through remote unit SOLAR-02	•	•	•
Measurement of resistance of series Rs of panels	• Max/ Min	• Max/ Min	• Max/ Min
Direct comparison with reference conditions (STC - 1000W/m², 25°C)	•	•	•
Test result OK / NO	•	•	•
Internal database for managing up to 30 PV modules (30.000 modules by software)	•	•	•

	I-V400W	I-V500W	SOLAR I-VE
Internal memory for data saving	•	•	•
Recalling measured data on the display	•	•	•
Optical/USB interface for data transfer onto the PC	•	•	•
Built-in WiFi communication interface	•	•	•
Help on line on the display	•	•	•
EFFICIENCY MEASUREMENTS SYSTEM	OF TH	Е РНОТС	VOLTAIC
DC/AC TRMS single-phase voltage			•
DC/AC TRMS single-phase current			•
Single-phase DC power / AC active power			•
Solar irradiation [W/m ²] with reference cell HT304N			•
Panel and environmental temperature through probes			•
Remote unit SOLAR02 with RF connection			•
Display of environmental data in real time			•
Use of compensation relationships Cells/ Environment on Pdc			•
Parameter recording of a PV system with 5s to 60min programmable IP.			•

- > Measurement of the I-V curve of one or more modules or of one whole string up to 1500V/15A**
- > Measurement of open-circuit voltage and short-circuit current Voc/Isc up to 1500V/15A**
- > Database of 30.000 selectable photovoltaic modules > Automatic measurement of more strings in AutoSequence[™]* mode
- > Compatible with the App HTAnalysis™ via WiFi

I-V400w allows field detection of Curve I-V and of the main characteristic parameters both of a single module and of strings of modules for PV installations up to a maximum of 1000V and 15A.

For measuring the I-V curve, I-V400w manages an internal database of the modules, which can be updated at any time by the user, and a comparison between the measured data with the rated values allows immediately evaluating whether the string or the module fulfills the efficiency parameters declared by the manufacturer.

The I-V curve can be measured also by decentralizing measurements of irradiation and temperature by using the optional remote unit SOLAR02, using the radio frequency connection (RF) to the master unit.

Also for V400w, the data shown on the display at the end of the test of the I-V curve provide a clear indication about compliance with the specifications declared by the panel manufacturer.

* Optional set of leads KIT KELVIN necessary. ** Only I-V500w and SOLAR I-Ve (max current @1500V=10A, max current @1000V=15A).

Pro	vided accessories
SOLAR02	Remote RF unit for Irradiation and Temperature (SOLAR I-Ve)
KITGSC4	Set of 4 banana cables 4mm + 4 alligator clips
KITPVMC3	Set of 2 adapters with compatible connectors MC3
KITPVMC4	Set of 2 adapters with compatible connectors MC4
НТ4005К	Standard 200AC/1V clamp, diameter 40mm (SOLAR I-Ve)
HT4004	Standard DC 10-100A/1V clamp, diameter 32mm (SOLAR I-Ve)
HT304N	Reference cell for irradiation measurement
PT300N	PT1000 feeler for cell/environmental tempera- ture (SOLAR I-Ve)
M304	Mechanical inclinometer
C2006	Optical/USB cable
SP-5100	Sheaths to use the instrument with free hands (SOLAR I-Ve and I-V500w)
VA500	Transport case
	ISO calibration report
	Ouick user quide

Quick user guide

12/06/09 15:34:26 T 42A V Graph @ STC - OK Selection I-V Result of Curve I-V: OK
12 / 06 / 09 15 : 34 : 26 Lype : SHARP 115-GS A Pmox = 115 Voc = 58.60 V Vmpp = 44.50 Isc = 3.26 Impp = 2.59 Toll = 5 % Selection DB Manual insertion of a module
12/06/09 15:34:26 Voc 56.3 V Vmpp 40.9 V Impp 2.97 A Isc 3.37 A Pmox 121 W Ff 0.64 % Dpmox 5.5 % C-OK Selection I-V



I-V curve and power curve



List with measured results.



e I-V: OK Comparison between foreseen cell deterioration and measured value.

General Menu



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

INPLITS



* 1000V for IV400w

ORDER CODE HVOPVISO **PV-ISOTEST**

Multifunction instrument for electrical safety testing and troubleshooting of photovoltaic systems up to 1500V DC



PV-ISOTEST is a true innovation, since it is capable of measuring the insulation of a module, string or of an entire photovoltaic field **up to 1500V DC** in compliance with standard IEC/EN62446. Thanks to the new GFL (Ground Found Locator) function, the instrument provides the precise position of a possible single fault of low insulation found on a string of the PV system due, for example, to water or humidity infiltrations.

- > Insulation measurement up to 1500VDC
- > Localization of the faulty module on a string through the new GFL function
- > Continuity of protective conductors with 200mA



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SEE PRODUCT
DATA SHEET
      PV-ISOTEST
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Functions

- > Continuity of protective conductors with test current 200mA
- > Insulation measurement with test voltage 250,500,1000,1500VDC
- > Measurement of DC voltage up to 1500V
- > Measurement of AC TRMS voltage up to 1000V
- > Insulation in DUAL and TIMER modes
- > GFL function to localize faults on a string
- > Calculation of parameters PI (Polarization Index) and DAR (Dielectric Absorption Ratio) on measurements
- > Result for every measurement OK/NOT OK
- > Compliance with standards IEC/EN61557-2-4
- > Internal memory and USB output for PC connection
- > Help on line on the display



Internal memory:	Max 999 tests
PC interface:	optical/USB
Safety:	IEC/EN61010-1
Safety of accessories:	IEC/EN61010-031
Measurements:	IEC/EN62446-1
Insulation:	Double insulation
Pollution level:	2
Overvoltage category:	CAT III 1500VDC, CAT III 10 Max 1500VDC, 1000VAC b inputs
Size:	235x165x75mm
Weight (batteries	1.2kg

Weic included):

Characteristics LCD, 128x128pxl, with backlight 6x1.5V alkaline batteries type AA LR06 6x1.2V rechargeable NiMH batteries









Provided accessories

KITGSC4	Set of 4 cables + 4 alligator clips
KITPCMC4	Set of 2 adapters with connectors MC4
C2006	Optical/USB cable
VA507	Carrying bag
SP-5100	Set of shoulder straps
	ISO calibration report
	Quick user guide



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4		

ΟΚ DUAL 1500V 1.00MΩ					
VPN 1480V		VPE -750V		VNE 748V	
	Rp	10.1	MΩ		
Riso	20		19.8		MO
Vtest	1555		1553		v
MΩ	(+)	0 - 0	(-)		

verification of DUAL insulation direct outcome: OK

MΩ	05/1	0 - 0	8:12		-
	(+)		(-)		
Vtest	1		1552		V
Riso	0.01		>100		MΩ
	Rp	0.01	MΩ		
VPN		VPE		VNE	
1009V		0V		-1009\	1
	NO	то	к		
DUAL	1500	V 1.	00 MΩ		
MODO	Vtes	t	Lim		

verification of DUAL insulation direct outcome: NOT OK



GFL (fault locator) function



Optional accessories



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ORDER CODE HVOOPVPR **PVCHECKs-PRO**

Advanced tool to check electrical safety and for troubleshooting in a photovoltaic system





PVCHECKs-PRO

(し) **Functions**

- > Continuity of the protection conductors with 200mA test current
- > No-load voltage Voc on PV modules and strings 1500V
- > Short circuit current lsc on PV modules and strings 40A
- Insulation of strings/PV fields with test voltages 250, 500, 1000, 1500VDC
- > Use of SOLAR03 remote unit with Bluetooth connection
- Direct frontal irradiation measurement with reference solar cell with SOLAR03 remote unit
- Cell and ambient temperature measurement with SOLAR03 remote unit
- > P.I. polarisation index measurement
- > Dielectric absorption ratio D.A.R
- > GFL function to locate the position of the fault in the string

Specifications

Display:
Power supply:
Auto power off:
Internal memory:
PC interface:
Safety:
Accessories safety:
Measurements:
Insulation:
Level of pollution:
Overvoltage category:
Dimensions:

LCD custom 240x240pxl, with backlight 6x1.5V alkaline batteries type LR6, AA after 5 minutes of non-use Max 999 test optics/USB and Wi-Fi IEC/EN61010-1 IEC/EN61010-031 IEC/EN62446, IEC/EN61557-2-4 Double insulation 2 CAT III 1000VAC, CAT III 1500VDC to ground Max 1000VAC, 1500VDC between inputs 235x165x75mm

The **PVCHECKs-PRO** multifunction tool allows rapid and safe execution of the electrical safety checks required for a **PV system** (DC side) and the **functional** control of no-load voltage (Voc) and short-circuit current (Isc) of the modules/strings that form parts of the system itself in accordance with the IEC/ EN62446 standard. In the verification of electrical safety, PVCHECKs-PRO represents a true innovation as with the **DUAL function** it is able to **perform the** insulation measurement of a module, of a string or of an entire photovoltaic field without the need to use **an external switch** to short the positive and negative terminals. PVCHECKs-PRO also allows verification of the functionality of the connections and strings of a photovoltaic field in accordance with the provisions of IEC/EN62446 by measuring the no-load voltage and the short-circuit current at operating conditions (OPC) and referred to STC (via the irradiance measurement also with the use of the optional accessories SOLAR03 and HT305) providing an immediate outcome relating to the measurement just performed both in absolute terms and by comparison with the strings previously tested.

Supplied accessories

KIT4PRO15	Set of 4 jack cables 4mm + 4 crocodile clips Black/Red/Green/Blue
KITPCMC4150	Set of 2 adapters with PV4 compatible connec- tors and 4mm male jack, 3m (red and black)
SP-5100	Set of straps for shoulder instrument use
C2006	Optics/USB connection cable
YABAT0003000	Rechargeable battery type AA NiMH, 1.2V (6 pc)
YABAT0004001	External battery charger
YAMUM0083HT0	Quick start guide
VA507	Rigid carrying case
	ISO calibration report

Complete user manual and management software available online

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



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Weight (batteries included): 1.2kg 148 | 📅



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ORDER CODE HVOOPVCS **PVCHECKs**

Multifunction device for commissioning tests on photovoltaic systems



◙∷: 0.1

(\mathbf{l}) **Functions**

PRODUCT

DATA SHEET **PVCHECKs**

Maintenance of photovoltaic system

- > Continuity of protective conductors with test current 200mA
- Insulation measurement with test voltage 250, 500 and 1000VDC
- Open-circuit voltage measurement up to 1000V DC
- > Short-circuit current measurement up to 15A DC
- DC voltage DC current DC power measurement
- Measurement of irradiation [W/m2] through reference cell HT304N
- Environmental and photovoltaic module temperature measurement

through PT300N feeler

- > Use of compensation relationships Cells/Environment on Pdc
- > Measurements always compared to the values declared by the module's manufacturer
- > Internal database for managing up to 30 PV modules (30.000 modules by software)
- > Test measurement of string operation
- > Mechanical inclinometer for verifying the correct inclination of sun rays
- > Result for every measurement OK/NOT OK
- > Internal memory and USB output for PC connection
- > Help on line on the display
- > Efficiency measurements of the photovoltaic system
- > Efficiency measurement of the photovoltaic field (DC side)

Automatic test in a sequence of:

Measurement of insulation up to 1000VDC > Open-circuit voltage and short-circuit current Voc/Isc

> Continuity of protective conductors with 200mA

The multifunction instrument PVCHECKs allows quickly and safely carrying out the electric safety tests provided for a PV system (section in DC) and the functional test of modules/ strings the system consists of according to the requirements of Standard CEI 82-25 and relevant reference standards (CEI 64/8 and IEC/EN62446).

When testing safety, PVCHECKs is a real innovation, since it is capable of measuring insulation of a module, string or of a whole photovoltaic field (IEC/EN62446) with no need to use an external switch to short-circuit the positive and negative terminals.

PVCHECK also allows checking the functionality of the connections and of the strings in a photovoltaic field, according to the provisions of standard IEC/EN62446, by measuring the open-circuit voltage and the short-circuit current at operating conditions (OPC) and referred to STC (via the optional measurement of irradiation, also with the use of optional accessories SOLAR02 and HT304N), providing an immediate result as regards the measurement just carried out, both in absolute terms and by comparison with the previously tested strings. Finally, PVCHECKs also allows analyzing the performance of the photovoltaic field (DC) under operating conditions (therefore connected to the inverter) with the use of optional accessories SOLAR02 and HT304N, providing an indication of the generated power and of the performance of the field itself, as required by IEC/ EN62446.

Characteristics Display: LCD, 128x128pxl, with backlight 6x1.5V alkaline batteries type AA LR06 Power supply: Auto power off: after 5 minutes' idling Internal memory: 256kBytes PC interface: optical/USB IEC/EN61010-1 Safety: IEC/EN61010-031 Safety of accessories: IEC/EN 62446 Measurements: Insulation: Double insulation 2 Pollution level: CAT III 1000VDC (to earth) Overvoltage Max 1000V between inputs category: 235x165x75mm Size: Weight (batteries 1.2kg included):





Provided accessories

HT4004	Standard 10-100A DC clamp, diameter 30mm
KITGSC4	Set of 4 cables + 4 alligator clips
KITPCMC3	Set of 2 adapters with connectors MC3
KITPCMC4	Set of 2 adapters with connectors MC4
C2006	Optical/USB cable
BORSA2051	Carrying bag
	ISO calibration report
	Quick user guide



Optional accessories









PROCESS CALIBRATORS





PROCESS CALIBRATORS



CALIBRATION MEASUREMENTS	PROCESS CALIBRATORS				
TRMS	•	•			
DC 4-20mA current measurement	•	•			
DC 0-10V voltage measurement	•	•			
DC 4-20mA current generation	•	•			
DC 0-10V voltage generation	•				
Measurement of output current of transducers	•	•			
Simulation of an external transducer	•	•			
Loop supply with minimum voltage 24V	•	•			
Generation of selectable ramp	•	•			
Load of 250 Ω for testing HART transducers		•			
MULTIMETER MEASUREMENTS					
AC/DC voltage	MAX 10VDC	•			
AC+DC voltage		•			
AC/DC current	MAX 24mADC	• 1A			
AC+DC current		•			
Resistance and buzzer continuity		•			
Frequency		•			
Diode test		•			
ADDITIONAL CHARACTERISTICS					
Overvoltage category:	CAT IV 600V	CAT IV 600V			
Measuring spots		50,000			
Backlight	•	۲			
Autorange		۲			
Auto power off	•	۲			
Data HOLD function		۲			
MIN/MAX function		•			
AVG function		•			
Relative measurement		•			
Memory for data saving		•			
Power supply	1x7.4/8.4V 600mAh Li-ION	4x1.5V AA			
Size (LxWxH) (mm)	195x92x55	207x95x52			
Weight (batteries included):	400g	630g			
Safety	IEC/EN61010-1	IEC/EN61010-1			
ORDER CODE	HV080510	HV008100			



HT8100

ORDER CODE HP080510 HT8051

Professional process calibrator



75 **Functions**

- Generation of voltage signal with amplitude up to 10VDC
- Measurement up to 10VDC
- Generation of current signal with amplitude up to 24mA DC
- Current measurement up to 24mA DC
- Generation of voltage and current signals with use of 3 selectable ramps
- High-sensitivity adjuster
- Display of current in percentage format (4-20mA)
- Measurement of output current of transducers (Loop)
- Simulation of an external transducer
- Shortcut function keys
- > Power supply with rechargeable Li-ION battery

DC voltage (generated and measured)

- > Measuring range: 0.01mV ÷ 10V
- Resolution: 0.01mV ÷ 0,001V
- Basic accuracy: ±(0.02%reading +4digist)
- > Protection: 30VDC

DC current (generated and measured)

- 0.001mA ÷ 24mA > Measuring range:
- Percentage value: -25% ÷ 125%
- Resolution: 0,001mA
- Basic accuracy: ±(0.02%reading +4digist)
- > Protection: 30mADC

Voltage and current output ramps

- (slow linear ramp): Passage $0\% \rightarrow 100\% \rightarrow 0\%$ in 40s
- (quick linear ramp): Passage 0% →100% → 0% in 15s
-) (step ramp): Passage from $0\% \rightarrow 100\% \rightarrow 0\%$ in steps of 25% with ramps of 5s

HT8051 is a professional digital process calibrator capable of generating and measuring signals of DC voltageand current up to 10V and 24mA respectively, with a very simple setting of values thanks to the innovative adjuster. In measuring and generating current, it is also possible to define a display, also in percentage format, corresponding to the set values 0% = 4mA, 100% = 20mA). The generation of voltage and current signals is also possible by using up to **3 selectable ramps**. This model also allows measuring the current absorbed by external transducers directly supplied by them and simulating the presence of a transducer with adjustable current in its whole measuring range. The device has been designed in compliance with safety standard IEC/EN61010-1 with double protective insulation, and each function can be selected through the appropriate buttons found on the front panel. HT8051 is the ideal solution for typical industrial automation applications and for laboratory activities.





Display: Power supply: External battery charger: Duration:

Auto Power OFF: Safety:

Insulation:

Pollution level:

Overvoltage category: Size (LxWxH): Weight (battery included):

approx. 8 hours while generating (@ 12mA, 500Ω) after 20 minutes (adjustable) of idling IEC/EN61010-1 double insulation 2 CAT I 30V 195x92x55mm 400a

230VAC/50Hz – 12VDC

1x7.4V rechargeable Li-ION battery,



KIT0075 Pair of leads, pair of alligator clips

Protection shell

Rechargeable battery, external power supply

User Manual

Hard carrying case

Optional accessories



SCAN THE OR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**

ORDER CODE HV008100 **HT8100**

Professional multimeter/process calibrator





- > DC/AC TRMS voltage and current
- AC+DC measurements
- > Automatic recognition of AC/DC signals
- Resistance, continuity test, diode test
- Frequency
- DC current generation up to 20mA DC
- Percentage display (0-20mA, 4-20mA)
- Measurement of output current of transducers (Loop)
- Simulation of an external transducer
- Input protective fuses
- Memory for measured data saving
- MAX/MIN/AVG, Data HOLD
- > Relative measurement
- › Automatic/Manual Range
- > Auto Backligt, Auto Power OFF



YAAMK0000HT0	Pair of test leads
YAAMK0001HT0	Pair of alligator clips
	Belt with magnetic terminal
	Protective case, battery and user manual



Optional accessories

SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**

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Model HT8100 is a professional device which groups measurements such as TRMS multimeter and function of process calibrator capable of generating current signals DC 0-20mAand 4-20mA. As a digital multimeter, the device mainly carries out AC/DC voltage and AC/DC current measurements. In its function as a current generator (values can be displayed also in a percentage format) options 0-20mA and 4-20mA are available, with manual and automatic settings of thresholds on the output signal. This instrument also allows measuring the current absorbed by external transducers directly supplied by it and simulating the presence of a transducer with adjustable current in its whole measuring range. HT8100 is capable of saving the results of measurements in its internal memory and has been designed in compliance with safety standard IEC/ EN61010-1 in CAT III 1000V and CAT IV 600V with double protective insulation. Each function can be selected through the appropriate buttons found on the front panel. This device is the ideal solution for typical industrial automation applications.



SEE PRODUCT DATA SHEET HT8100



Characteristics

Display: Power supply: Battery life: Auto Power OFF: Safety: Overvoltage category: Insulation: Pollution level: Max height: Size (LxWxH): Weight (batteries 630g included):

LCD, 5 digits, 50000 count 4x1.5V alkaline batteries type AA LR6 120 hours after 20 minutes' idling IEC/EN61010-1 CAT III 1000V, CAT IV 600V

double insulation 2000m 207x95x52mm



→ TRMS

HT | 157



















INFRARED THERMAL CAMERAS



INFRARED THERMAL CAMERAS



MAIN FEATURES	COM	IPACT		ADVA	NCED		PROFESSIONAL			HIGH TEMPERATURES		
IR Resolution	120x90 pxl	120x90 pxl	120x120 pxl	160x120 pxl	384x288 pxl	640X480 pxl	160x120 pxl	384x288 pxl	384x288 pxl	160x120 pxl	384x288 pxl	
Temperature range	-20°C ÷ 400°C	-20°C ÷ 550°C	-20°C ÷ 650°C	-20°C ÷ 650°C	-20°C ÷ 650°C	-20°C ÷ 550°C	-20°C ÷ 650°C	-20°C ÷ 650°C	-20°C ÷ 650°C	-20°C ÷ 1200°C	-20°C ÷ 1200°C	
Image frequency	25Hz	50Hz	50Hz	50Hz	50Hz	25Hz	50Hz	50Hz	50Hz	50Hz	50Hz	
Thermal sensitivity/NETD	<0.05°C @ 30°C / 50mK	<0.05°C @ 30°C / 50mK	<0.05°C @ 30°C / 50mK	<0.05°C @ 30°C / 50mK	<0.05°C @ 30°C / 50mK	<0.05°C @ 30°C / 50mK	<0.05°C @ 30°C / 50mK	<0.05°C @ 30°C / 50mK	<0.05°C @ 30°C / 50mK	<0.05°C @ 30°C / 50mK	<0.05°C @ 30°C / 50mK	
In-built thermal camera	-	2 MP, fixed focus, with LED torch	2 MP, fixed focus	2 MP, fixed focus	2 MP, fixed focus	2 MP, fixed focus	5 MP, fixed focus, with LED torch					
Picture in Picture function	-	•	•	•	•	•	٠	•	•	•	•	
AutoFusion function	-	•	•	•	•	•	•	•	•	•	•	
Accuracy	±3°C (±5.4°F) or ±3% of reading	±2°C (±3.6°F) or ±2% of reading	±2°C (±3.6°F) or ±2% of reading	±2°C (±3.6°F) or ±2% of reading	±2°C (±3.6°F) or ±2% of reading	±2°C (±3.6°F) or ±2% of reading	±2°C (±3.6°F) or ±2% of reading	±2°C (±3.6°F) or ±2% of reading	±2°C (±3.6°F) or ±2% of reading	±2°C (±3.6°F) or ±2% of reading	±2°C (±3.6°F) or ±2% of reading	
Visual range (FOV) / focus length / Lens	50° x 38° / f 1.13 2.3mm	50° x 37° / f 1.13 2.3mm	15.6° x 15.6° / f 1.0 7.5mm	20.7° x 15.6° / f 1.0 7.5mm	41.5° x 31.1° / f 1.0 9mm	31.9°x25.7° / f 1.0 13.5mm	48.7°x38.6° / f 1.0 9.1mm	17° x 12.7° / f 1.0 22mm	9.8° x 7.3° / f 1.0 38mm	17.3° x 13° / f 1.0 9mm	17° x 12.7° / f 1.0 22mm	
IFOV	7.29mrad	7.3mrad	2.26mrad	2.26mrad	1.89mrad	1.3mrad	1.89mrad	0.77mrad	0.45mrad	1.89mrad	0.77mrad	
Focusing	fixed focus	fixed focus	manual	manual	manual	fixed focus	manual	manual	manual	manual	manual	
Digital zoom	-	1–32x continuous	1–32x continuous	1–32x continuous	1–32x continuous	1–32x continuous	1–32x continuous	1–32x continuous	1–32x continuous	1–32x continuous	1–32x continuous	
Measuring instruments (in real time)	5 spots, central spot, hot/ cold spot, 2 areas, 4 lines	3 spots, central spot, hot/ cold spot, 3 areas, vertical and horizontal lines	spot, 3 areas, vertical none, central spot, 5 spots, not/cold spot, 5 areas,									
Information on measuring areas	max, min, AVG	max, min, AVG	max, min, AVG	max, min, AVG	max, min, AVG	max, min, AVG	max, min, AVG	max, min, AVG	max, min, AVG	max, min, AVG	max, min, AVG	
IR video recording	•	•	•	•	•	•	•	•	•	•	•	
Correction of measurement	-			emissivity, ref	lected temper	rature, environmental	temperature, atmospheric	humidity, temperature comp	ensation, distance compensa	tion		
Colour palette	iron, rainbow, warm white, warm black, medical, arctic, warm iron, fulgurite					iron, rainbow, warm	n white, warm black, medica	al, arctic, warm iron, fulgurite				
Span mode	-						auto, manual, histograr	n				
Laser pointer	-	-	-	-	-	-	٠	•	•	•	•	
Distance meter	-	-	-	-	-	-	•	•	•	•	•	
Built-in LED light	smartphone torch	•	-	-	-	-	•	•	•	•	•	
Internal memory space	smartphone memory	3.4GB	3.4GB	3.4GB	3.4GB	3.4GB	3.4GB	3.4GB	3.4GB	3.4GB	3.4GB	
Notes on thermogram	-	text notes	text notes	text notes	text notes	text notes	text notes, voice notes	text notes, voice notes	text notes, voice notes	text notes, voice notes	text notes, voice notes	
Communication interface	USB type C	USB type C, Wi-fi, micro SD	USB type C, Wi-fi, micro SD	USB type C, Wi-fi, micro SD	USB type C, Wi-fi, micro SD	USB type C, Wi-fi, micro SD	micro USB, Wi-fi, micro SD, micro HDMI					
Display	smartphone display	touch screen	touch screen	touch screen	touch screen	touch screen	touch screen	touch screen	touch screen	touch screen	touch screen	
Battery duration	-	3 hours	4 hours	4 hours	4 hours	4 hours	4 hours	4 hours	4 hours	4 hours	4 hours	
Size (L x W x H):	50 x 30 x 20 mm	133 x 87 x 24 mm	240 x 101 x 110 mm	240 x 101 x 110 mm	240 x 101 x 110 mm	240 x 101 x 110 mm	272 x 100 x 120 mm	270 x 101 x 168 mm				







тнт500н



тнт600н

ORDER CODE HN000120 **THT120**

ORDER CODE HN000200 ORDER CODE HN000300 **THT200**

THT300 THT400

Touch-screen thermal cameras, advanced and professional



ORDER CODE HN000400



Characteristics and Functions

	THT120	THT200	THT300	THT400			
IR Resolution	120x120 pxl	160x120 pxl	384x288 pxl	640x480 pxl			
Temperature range	-20C° ÷ 650°C	-20C° ÷ 650°C	-20C° ÷ 650°C	-20C° ÷ 550°C			
Image frequency	50Hz	50Hz	50Hz	25Hz			
Thermal sensitivity/NETD		<0.05°C @ 30°C / 50mK					
In-built thermal camera	2 MP, fixed focus	2 MP, fixed focus	2 MP, fixed focus	2 MP, fixed focus			
Picture in Picture function	•	•	•	•			
AutoFusion function	•	•	•	•			
Accuracy		±2°C (±3.6°F) o	r ±2% of reading	·			
Field of view (FOV) / focus length / Lens	15.6°x15.6° / f 1.0 / 7.5mm	20.7°x15.6° / f 1.0 / 7.5mm	41.5°x31.1° / f 1.0 / 9mm	31.9°Cx25.7°C / f1.0 /13.5mm			
IFOV	2.26mrad	2.26mrad	1.89mrad	1.3mrad			
Focusing	manual	manual	manual	fixed focus			
Digital zoom		1–32x cc	ntinuous	·			
Measuring instruments (in real time)	none, central spot, 3	spots, hot/cold spot, 3 are	as, vertical and horizontal	lines, screening mode			
Information on measuring areas	max, min, AVG	max, min, AVG	max, min, AVG	max, min, AVG			
IR video recording	•	•	•	•			
Correction of measurement	emissivity, reflected t	emperature, environmental compens	temperature, atmospheric hu ation	umidity, distance			
Colour palette	iron, rainbo	ow, warm white, warm blac	k, medical, arctic, warm irc	on, fulgurite			
Span mode		auto, manua	al, histogram				
Internal memory space	3.4GB	3.4GB	3.4GB	3.4GB			
Notes on thermogram	text notes	text notes	text notes	text notes			
Communication interface	USB type C, Wi-fi, micro SD	USB type C, Wi-fi, micro SD	USB type C, Wi-fi, micro SD	USB type C, Wi-fi, micro SE			
Display	touch screen	touch screen	touch screen	touch screen			
Battery duration	4 hours	4 hours	4 hours	4 hours			
Size (L x W x H):	240 x 101 x 110 mm	240 x 101 x 110 mm	240 x 101 x 110 mm	240 x 101 x 110 mm			

Ventilation, hydraulic, electrical, mechanical and air conditioning systems surround us in every environment, therefore making an effective and constant maintenance necessary. The range of thermal cameras THT400, THT300, THT200 and THT100 is perfect for tracking and solving daily problems of different kinds.

> When working on an HVAC/R system with an appropriate infrared thermal camera, you can quickly find problems, check the system's efficiency or detect a leak. A faster solution of these problems means more safety and less wasted money.

1st photo: thermogram of a radiator acquired with THT300.

> Incorrect sizing of circuits, cables and protections, loosening of terminals, unbalanced loads and many other problems can lead to tragic events in case of a poor maintenance. With a THT series thermal camera it is easy to find the most common electrical problems in a very short time.

2nd photo: thermogram of a power supply acquired with THT300.

> Overheating of some parts of mechanical systems can have many causes, such as overloaded pumps, poor lubrication, hot bearings or misalignments. As a result, the temperature of faulty equipment or systems will rapidly rise until it causes irreversible damage.

3nd photo: thermogram of an electric motor acquired with THT300.

Provided accessories

Soft carrying bag
Rigid transport case (THT400)
Li-ion battery





Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

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ORDER CODE HN000600 **THT600**

ORDER CODE HN00600L THT600L

COMPATIBLE

Touch-screen thermal cameras, advanced and professional







Characteristics and Functions

	THT500	THT600	THT600L		
IR Resolution	160x120 pxl	384x288 pxl	384x288 pxl		
Temperature range	-20°C ÷ 650°C	-20°C ÷ 650°C	-20°C ÷ 650°C		
Image frequency	50Hz	50Hz	50Hz		
Thermal sensitivity/NETD	<0.05°C @ 30°C / 50mK				
In-built thermal camera	5 MP, fixed focus, with LED torch	5 MP, fixed focus, with LED torch	5 MP, fixed focus, with LED torch		
Picture in Picture function	•	•	•		
AutoFusion function	•	•	•		
Accuracy		±2°C (±3.6°F) or ±2% of reading]		
Field of view (FOV) / focus length / Lens	21° x 21° / f 1.0 / 7.5mm	20.7° x 15.6° / f 1.0 / 7.5mm	41.5° x 31.1° / f 1.0 / 9mm		
IFOV	1.89mrad	0.77mrad	0.45mrad		
Focusing	manual	manual	manual		
Digital zoom	1–32x continuous				
Measuring instruments (in real time)	none, central spot, 3 spots, h	ot/cold spot, 3 areas, vertical and ho	rizontal lines, screening mode		
Information on measuring areas	max, min, AVG	max, min, AVG	max, min, AVG		
IR video recording	•	•	•		
Correction of measurement	emissivity, reflected temperatu	re, environmental temperature, atmo compensation	spheric humidity, distance		
Colour palette	iron, rainbow, warm w	vhite, warm black, medical, arcti	ic, warm iron, fulgurite		
Span mode		auto, manual, histogram			
Built-in laser pointer, distance meter and LED light	•	•	•		
Internal memory space	3.4GB	3.4GB	3.4GB		
Notes on thermogram	text notes	text notes, voice notes	text notes		
Communication interface	mic	ro USB, Wi-fi, micro SD, micro H	IDMI		
Display	touch screen	touch screen	touch screen		
Battery duration	4 hours	4 hours	4 hours		
Size (L x W x H):	272 x 100 x 120 mm	272 x 100 x 120 mm	272 x 100 x 120 mm		

When it comes to industrial environments, high-voltage installations, construction and photovoltaic systems, the damage caused by poor maintenance, construction defects or corrosion over time can be serious and very expensive. For this reason, the checks must also be of high quality and professionalism, and this is why our advanced thermal cameras are perfect for these multiple applications.

> Due to oxidation, corrosion or fault of an insulator, the resistance of electrical connections in high-voltage systems will increase to the detriment of efficiency. If this happens, overheating, in the worst cases, can even cause the connections to melt. A thermal camera with the right characteristics is essential to carry out preventive maintenance at a long distance from the target.

1st photo: thermogram of an insulator acquired with THT600L from a long distance.

> Aspects such as air tightness, thermal bridges and windows (primary and secondary nodes) are of fundamental importance in the construction or renovation of a building. Leaks in a building can represent up to 70% of the total energy consumption. Thanks to the most suitable THT thermal camera it is possible to detect even the smallest leakages, thanks to the high thermal sensitivity of 0.05 °C.

 2^{nd} photo: thermogram of the insulation of a building acquired with THT600.

> A thermographic investigation on a photovoltaic system allows the rapid localization of potential defects, such as hot spots, as well as the detection of possible electrical or mechanical faults.

 $\mathbf{3}^{\rm rd}$ photo: thermogram of a photovoltaic panel with two Hot Spots acquired with THT600.



Provided accessories

Hard carrying case	
Multi-plug battery charger	
2x THTBATL	2 Li-ion batteries
Micro USB cable	
HDMI video cable	
Earphones	
Micro SD card 16GB	
THTCBL	Recharging base
Strap	
Quick guide	
ISO test report	





Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

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ORDER CODE HN00500H ORDER CODE HN00600H ТНТ600Н THT500H



Touch-screen thermal cameras, advanced and professional for high temperatures



PRODUCT DATA SHEET THT500H

PRODUCT DATA SHEET **ТНТ600Н**



Characteristics and Functions

	THT500H	THT600H		
IR Resolution	160x120 pxl	384x288 pxl		
Temperature range	-20°C ÷	-1200°C		
Image frequency	50Hz	50Hz		
Thermal sensitivity	<0.05°C @ 30°C / 50mK			
Accuracy	±2°C (±3.6°F) or ±2% of reading			
Field of view (FOV) / focus length / Lens	17.3° x 13° f 1.0/9.0mm	17° x 12.7° f 1.0/22mm		
IFOV	189mrad	0.77mrad		

- In-built camera with 5 MP, fixed focus, LED torch
- Picture in Picture function
- AutoFusion function
- Manual focusing
- > 1-32x continuous digital zoom
- Instruments for measuring (in real time): none, central spot, 3 spots, hot/cold spot, 3 areas, vertical and horizontal lines, screening mode
- Information on measured areas: max, min AVG
- IR video recording
- Correction of measurement: emissivity, reflected temperature, environmental temperature, atmospheric humidity, temperature compensation, distance compensation
- Colour palette: iron, rainbow, warm white, warm black, medical arctic, warm iron, fulgurite
- Span mode: auto, manual, histogram
- Built-in laser pointer, distance meter, LED light
- Internal memory space: 3.4GB
- Notes on thermogram: voice notes, text notes Communication interface: micro USB, Wi-fi, micro SD, micro HDMI
- Touch-screen display
- Battery duration: 4 hours
- Size: 272 x 100 x 120mm



SCAN THE QR CODE TO DISCOVER ALL

When temperatures are high, so are the risks. Thanks to our thermal cameras dedicated to high temperatures, you will no longer have limits in your measurements and, taking advantage of their high definition, you will have total control

- of the work carried out. > In production processes, quality check is most important to have a good result. Production at high temperatures, in particular, requires constant monitoring of workpieces, for example during welding processes, where any micro cracks are invisible to human eyes.
- > Any industrial process that involves the use of materials and fluids at high temperatures must be kept under constant control for the entire duration of the production process. For example, when using molten metals, the temperature and viscosity of the fluid must be optimal at the time of pouring into the mold to ensure a result of the highest quality.

In the photo: thermogram of a welding process of a copper pipe acquired with THT600H.



Provided accessories

Hard carrying case

Multi-plug battery charger	
2x THTBATL	2 Li-ion batteries
Micro USB cable	
HDMI video cable	
Quick guide	
Earphones	
SD CARD 16 GB	
THTCBL	Recharging base
Strap	
ISO test report	

Optional accessories



OPTIONAL ACCESSORIES

ORDER CODE HN008000 THT8

ORDER CODE HN000080 **THT80**

Compact, advanced and professional thermal cameras





Characteristics and Functions

	THT8	THT80
IR Resolution	120x90 pxl	120x90 pxl
Temperature range	-20°C ÷ 400°C	-20°C ÷ 550°C
Image frequency	25Hz	50Hz
Thermal sensitivity	<0.05°C (@ 30°C / 50mK
Accuracy	±3°C (±5.4°F) or ±3% of reading	±2°C (±3.6°F) or ±2% of reading
Field of view (FOV) / focus length / Lens	50° x 38° / f 1.13 2.3mm	50° x 37° / f 1.13 2.3mm
IFOV	7.29mrad	7.3mrad
Picture in Picture function	-	•
AutoFusion function	-	•
Digital zoom	-	1-32x continuous
Measuring instruments in real time	5 spots, central spot, hot/cold spot, 2 areas, 4 lines	3 spots, central spot, hot/cold spot, 3 areas, vertical and horizontal lines
Information on measuring areas	Directly on APP HTSmartCamera	max, min, AVG
Span mode	-	auto, manual, histograr
Built-in LED light	smartphone torch	•
Internal memory space	smartphone memory	3.4GB
Notes on thermogram	-	text notes
Communication interface	USB type C	USB type C, Wi-fi, micro SD
Display	smartphone display	touch screen
Battery duration	-	3 hours
Size (L x W x H):	50 x 30 x 20 mm	133 x 87 x 24 mm



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Small does not mean mediocre. All HT technology is now pocket-sized, to allow you to take your measurements at any time, from the palm of your hand.

> Thermography is the best tool for detecting blocked, broken pipes or other plumbing problems. For example, by observing the flow of hot water, it is possible to locate the occlusion.

> Incorrect sizing of circuits and cables, poor connections, unbalanced loads and many other problems can lead to tragic events in case of poor maintenance. With a THT series thermal camera it is easy to find the most common electrical problems in a very short time.

> Thermal camera THT8 contains all the HT thermographic

technology in its very small size, allowing you to carry out your inspections directly from your smartphone via the dedicated APP HTSmartCamera, with uncommon convenience and quality.

In the photo: thermogram of a clogged siphon acquired with THT80.



> Fixed focus

IR video recording

• Correction of measurement: emissivity, reflected temperature, environmental temperature, atmospheric humidity, temperature compensation, distance compensation (THT80 only)



Transport case





ORDER CODE HN000108 **HTB500**







> Real-time display of the item

- > Waterproof flexible external feeler (IP67) > Built-in white-light LEDs for operations in poorly lit
- Provide the second secon
- > Analog video output (PAL/NTSC)
- > Electronic image zoom

(b)

- Resolution of the internal photo camera: 640x480pxl
 Display: 3.5", TFT colour, 320 x 240pxl
- > Automatic focusing: 5cm ÷ 15cm
- > External feeler length: 1m

Functions

- > External feeler diameter: 6mm
- Adjustment of white light brightness: 10 levels
 Size (L x W x H): 250x100x95mm
- > Weight (without probe): 345g



Model HTB500 is a portable digital borescope which allows carrying out inspections inside parts of objects not physically accessible (typically rotating equipment) and not visible to the naked eye. The instrument uses a waterproof external feeler with 4 LEDs with high brightness and a camera, in order to obtain a high-resolution image on the display.







Flexible external clamp L=1m, D=6mm with accessories

Rechargeable Li-ION battery

USB cable for battery recharge

Carrying bag

User Manual

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



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THERMOMETERS THERMOHYGROMETERS AND THERMO-ANEMOMETERS





MAIN MEASUREMENTS



MAIN MEASUREMENTS								
	HTA103	HTA105	HTA106	HTA107	HT3300	DT8806H	DT103S	HT3305
Distance / infrared spot ratio				8:1	12:1	6:1		20:1
Infrared temperature measuring range					-50 ÷ 380°C -58 ÷ 716°F	32 ÷42.5°(Body) 0÷60°C (Surface)	0 ÷ 50°C 32 ÷ 122°F	-50°C ÷ 1000°C -58°F ÷ 1832°F
Temperature measuring range with K-type probe	-250 ÷ 1372°C -418 ÷ 2502°F							-50°C ÷ 1370°C -58°F ÷ 2498°F
Temperature measurement with K-type probes	• (*)							• (*)
Measurement of volumetric capacity (m3/s) and enthalpy (kW)		•						
Measurement of air relative humidity in %RH		•	•	(and materials)				
Measurement of wind speed in m/s		(hot-wire sensor)						
Measurement of air temperature/ humidity with in-built sensor		•	•	•				
Temperature measurement of dew point and of wet bulb			•	•				
ADDITIONAL CHARACTERIS	STICS				·			
Emissivity adjustment of target				0.95 fixed	0.95 fixed	0.95 fixed	0.95 fixed	0.01 ÷ 1.00
Setting of alarm thresholds on measurements				•	•	•	(preset thresholds)	•
Continuous measurement								
Class 2 integrated laser pointer				•	(Class 2)			(Class 2)
Blue LED built-in illuminators for UV function							LEDs for alarms	
Internal memory for measured data saving				•		•		
Backlight	٠	•	•	•	•	•		•
Autorange	٠	•	•	•	•	•	•	•
Data HOLD	٠	•	•	•	•	•		•
MAX/MIN/AVG	(MAX/ MIN)	(MAX/ MIN)	• (MAX/ MIN)	• (MAX/ MIN)	(MAX/ MIN)			•
Selection of measuring unit	•	•	•	•	°C \ °F	•	°C \ °F	°C∖°F
Low battery indication	٠	•	•	•	•	•	•	•
Auto Power OFF	•	•	•	•	•	•	٠	•
Power supply	1x9V 6F22	1x9V 6F22	1x9V 6F22	1x9V 6F22	1x9V 6F22	2x1.5V AA	3x1.5V AA	2x1.5V AAA
Size in mm (LxWxH)	185x60x40	185x60x40	185x60x40	185x60x40	136x75x40	149x77x43	107x75x57	180x105x55
Weight in grams (batteries included)	180	180	180	180	140	195	120	240
ORDER CODE	HN000103							



ORDER CODE HN000107 **HTA107**

ORDER CODE HN000106 **HTA106**

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SEE PRODUCT DATA SHEET HTA106

ORDER CODE HN000105 **HTA105**

ORDER CODE HN000103 **HTA103**

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HOLD

Multifunction instruments for measuring environmental parameters







0 SHEET HTA107



	HTA107	HTA106	HTA105	HTA103
IR temperature	•			
Temperature with KJT probes				•
Air temperature/ humidity with in- built probe	•	•	•	
Contact humidity	•			
Air speed with hot-wire sensor			•	
Air volumetric flow rate (CMM, CFM)			•	
Dew point temperature	•	•		
Wet bulb temperature		•		
Data HOLD		•	•	•
MAX/MIN	•	•	•	•
Average value			•	
Autorange	•	•	•	•
Backlight	•	•	•	•
Internal memory	•			
Auto Power OFF	•	•	•	•



10.78

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SEE PRODUCT DATA SHEET HTA105



Characteristics

Display: Power supply: Auto Power OFF: Internal memory: Max operating altitude:

LCD, 4 digits (double display) 1x9V battery type 6F22 after 15 minutes' idling Max 20 locations (HTA107) 2000m

The family of instruments HTA10x including models HTA103, HTA105, HTA106 and HTA107 has been designed for measuring environmental parameters such as temperature, humidity and air speed. Model HTA103 (thermometer) allows measuring temperature with the use of JKT thermocouples in the air, with contact and within liquids (with optional probes TK1xx). Model HTA105 (thermo-anemometer) measures air speed with an in-built hot-wire telescopic probe, further to temperature/humidity and air volumetric flow rate. Model HTA106 (thermohygrometer) measures air temperature/humidity with its in-built sensor. Model HTA107 (multifunction (thermohygrometer) allows measuring air humidity and with contact on materials with internal sensors and with provided penetration probe. This instrument also allows measuring infrared temperature and calculating the d temperature difference in order to establish condensation conditions on surfaces. Each model is provided with **display backlight** in order to make readings in poorly lit environments easier.



Provided accessories

Batteries

User Manua	ıl
Rigid case	(HTA105, HTA106, HTA107)
B0EC95	Soft carrying bag (HTA103)
TK101	K-type wire probe



Optional accessories



ORDER CODE DT103S

Infrared thermometer for measuring forehead temperature without contact



DT103S is **an automatic infrared thermometer without contact**, with a measuring distance between 5 and 15 cm.

It is provided with a convenient **wall mounting system** and a **tripod**, a display for reading measured temperatures and **flashing LEDs** to signal possible high temperatures.





- Automatic measurement of forehead temperature without contact
- > Selectable units °C or °F
- > Body, Surface and Counter modes available
- > Alarm LEDs and sounds when measuring
- Auto power OFFAutorange



Provided accessories

Batteries

Power supply with USB cable for mains connection

Screws for wall mounting User Manual



Optional accessories





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ORDER CODE DT8806H **DT8806H**

Infrared thermometer for measuring forehead temperature without contact



ORDER CODE HA003300 HT3300

Ultra-compact infrared thermometers







Functions

- > Accurate measurement of forehead temperature without contact
- > Selectable units °C or °F
- > Selectable Body and Surface mode
- > Acoustic alarm on measurements
- > Saving the last 32 measurements
- > Automatic data saving and Auto power OFF
- > Autorange



Auto Power Off

Display:	LCD with backlight
Resolution	0.1°C (0.1°F)
Auto Power OFF:	after 5 minutes' idling
Size (L x W x H):	149 x 77 x 43mm
Weight (batteries included):	195g

The infrared thermal scanner DT8806H, certified for medical use, has been designed to measure a person's forehead body temperature in an extremely quick and simple manner.



PRODUCT DATA SHEET DT8806H

Ţ **Provided accessories**

Batteries

Fabric bag for transport

User Manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

Medical standards

- > ASTM E1965-1998
- > EN 980: Symbols to be used in labeling medical devices
- > EN 1041: Information provided by the manufacturer
- with medical devices
- > EN 60601-1: Electric medical devices
- Part 1: General safety requirements (IEC: 60601-1: 1998) > EN 60601-1-2: Electric medical devices
- Part 1-2: General requirements for safety Collateral standard
- > Electromagnetic compatibility Requirements and tests (IEC 60601-1-2:2001)



	HT3300	HT3305
Infrared temperature measurement	-50°C÷380°C	-50°C÷1000°C
Built-in laser pointer	•	•
Laser pointer area for an immediate localization of distance/spot	•	•
Automatic HOLD function	•	•
Auto Power OFF	•	•
Distance / Spot ratio D:S	12:1	20:1
Temperature measurement with K-type probe	-	•
Adjustment of emissivity	- (>0.95)	•
Measures in °C/°F	•	•
Data HOLD	•	•
MAX, MIN, AVG functions	•	•
Acoustic alarm for values higher than MAX and lower than MIN	•	•
Backlight	•	•
Auto Power OFF	•	•
Ergonomic and ultra- compact design	•	•

Handy and extremely practical systems for reading infrared temperature with a laser system, providing visual and audio indications every time the measured value changes. Model HT3305 allows measuring temperature with a K-type probe. These models were thought for very quick measurements to detect, with no loss of time, temperature variations.







Class 2





Characteristics

Laser pointer: Display: Power supply:

Auto Power OFF: Size (L x W x H):

Weight (batteries included):

LCD with backlight 1x9V battery type 6F22 **(HT3300)** 2x1.5V batteries type AAA LR03 (HT3305) after 10 seconds' idling 136×75×40mm (HT3300) 180×105×55mm (HT3305) 140g (HT3300), 240g (HT3305)

Provided accessories

Batteries

K-type wire probe (HT3305)

Carrying bag

User Manual



Optional accessories







SOUND LEVEL METERS





SOUND LEVEL METERS



	HT157	HT155	HTA102
		METERS CLASS 1	SOUND LEVEL METER CLASS 2
Noise measuring range	25 ÷ 140dB	25 ÷ 140dB	30 ÷ 130dB
Noise measurement resolution	0.1 ÷ 0.01dB	0.1dB	0.1dB
Frequency range	10kHz ÷ 20kHz	10kHz ÷ 20kHz	31.5kHz ÷ 8kHz
Dynamic range	90dB	90dB	50dB
Measurement of sound pressure level (SPL)	•	•	•
Measurement of equivalent noise levels (Leq)	•	•	
Frequency weighting	A/C/Z	A/C/Z	A/C
ntegration over time	Fast/Slow/Impulse	Fast/Slow/Impulse	Fast/Slow
ntegration with programmable period	•	•	•
Peak measurements (Peak-, Peak+)	•	•	
Display of MAX/MIN values of SPL	•	•	•
Statistic analysis of noise with "A" weighting	•	•	
SPL analysis in 24H	•		
-		•	
Spectrum analysis with octave-band filter (1/1)	• 19Hz ÷ 16kHz		
Spectrum analysis with 1/3 octave-band filter	•		
Mobile calibrator provided	Class 1	Class 1	Class 2
Ianual calibration with trimmer	•	•	•
Precise calibration with internal procedure	•	•	
Pre-polarized "1/2" condenser microphone	•	•	•
AC and DC analogue outputs with 3.5mm jack	AC only	AC only	•
nternal memory for data saving	128	128	•
Recalling of results on the display	•	•	
1ini-USB interface for PC connection	•	•	•
Transfer of saved data onto USB Pen Drive	•	•	
Windows software for saved data analysis	•	•	•
Display	LCD 240 x 160	LCD 240 x 160	LCD 4 digits
Display backlight	•	•	•
Power supply	4x 1.5V AA	4x 1.5V AA	1x 9V
Provided external power supply	٠	•	•
Reference standards	IEC61672 Class 1 IEC61620 Class 1	IEC61672 Class 1	IEC61672 Class 2
Size (LxWxH) (mm)	285x90x39	285x90x39	255x60x40
Weight in grams (batteries included)	500	500	265
ORDER CODE	HN000157	HN000155	HN000102





ORDER CODE HN000155 **HT155**

ORDER CODE HN000157 **HT157**

0

OFF

HT155

HT157

Type 1

25÷140dB

0.0÷10.1dB

> 90dB

•

A/C/Z

F/S/

Impulse

•

.

•

•

(128 groups) (128 groups)

HT155

Type 1

25÷140dB

0.0÷10.1dB

> 90dB

•

A/C/Z

F/S/

Impulse

•

•

•

Digital integrating sound level meters type 1



Functions

Sound level meter category

Noise measurement resolution

Noise measuring range

Measurement of sound

Measurement of equivalent

Peak measurements (Peak-,

Statistic analysis of noise type

Octaveband spectrum analysis

pressure level (SPL)

Frequency weighting

Integration over time

24H analysis of noise

Analogue AC output

USB interface for PC

1/3 octaveband spectrum

1/2 condenser microphone

Internal calibration in Class 1

Interface with USB Pen Drive

Mobile calibrator provided

Internal memory for data

noise levels (Leg)

Peak+)

analysis

saving

нт

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connection

"**A**"

Dynamic range

HT157 and HT155 are mobile integrating sound level meters Type (Class 1) which can be used to monitor the equivalent level of noise (Leq), measure Peak values, check soundproofing levels, acoustic pollution, etc. It is also indicated for certification according to the Leg. Decrees currently in force as regards environmental noise measurements and in working environments. These devices have a wide measuring range (from **25 to 140dB)** and multiple functions such as **statistic** analysis, 24H analysis, integration of Leq over time, which are indispensable elements when measuring. These models also allows carrying out detailed analyses of spectrum components of noise using inbuilt octave-band filters and 1/3 octave-band filters (HT157 only) and they are provided with an internal memory to save data and with a USB interface for transferring data to the PC through dedicated software in a Windows environment with possibility of numerical, graphic and statistic display.

Sound level meters are provided with a practical and resistant case with a mobile calibrator for preliminary checks before each measurement is carried out.





Characteristics

Display:

Reference

standards

Size:

+

LCD, dot-matrix (240x160pxl) with backlight Adapter 100-240VAC/5VDC External power supply: 4x1.5V alkaline batteries type AA LR6 Internal power supply:

> IEC 61672:2002 type1 IEC 61260:1995 type1 (HT157) IEC 60804:1985 type1 IEC 60651:1979 type1DLgs 477/91, 195/06

285x90x3 Weight (batteries included): 500g

Provided accessories

HT151	Mobile calibrator Class 1
	Power supply 100-240VAC/5VDC with USB output
	Mini-USB/USB cable for PC connection
	USB Pen Drive (TRASCEND JF V30/2GB)
	USB cable for connecting the Pen Drive to the device
	Wind protection 60mm
	Windows software for data transfer
	Transport case
	4x1.5V alkaline batteries type A LR06
	User manual, ISO calibration report

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**

ORDER CODE HN000102 **HTA102**

Professional sound level meter type 2 with recording function



- **Functions and characteristics** > Sound level meter category: Type (Class) 2
- > Measuring range: 30 ÷ 130dB
- > Noise measurement resolution: 0.1dB
- > Dynamic range: 50dB
- > Measurement of sound pressure level (SPL)
- > A and C frequency weighting
- Integration over time: Fast / Slow
- Display of MAX / MIN values of SPL
- > Recording of parameters from software
- > 1/2 inch condenser microphone
- > Analogue AC and DC outputs (max 1V)
- > Manual calibration with trimmer
- > Display: LCD, 4 digits
- > Power supply: 1x9V batteries type IEC 6F22
- > Reference standard: IEC 61672 type 2
- > Size (LxWxH): 255x60x40mm
- > Weight (batteries included): 265g

HTA102 is a professional digital precision sound level meter, the ideal solution to carry out common inspection checks on environmental noise, verification of soundproofing levels, acoustic pollution, etc.

This model allows performing real-time measurements of sound pressure level (SPL) with A/C frequency weighting and integration in Fast/ Slow time, and the recording of quantities via PC connection through dedicated software.

Sound level meter HTA102 comes in a practical carrying case with all of the accessories necessary for measurements.



Ç. **Provided accessories**

Wind protection
Screwdriver for manual calibration of sound level meter
Jack for analogue AC/DC outputs
Rigid transport bag
Battery for sound level meter
External power supply 230V AC / 9V DC
User manual for sound level meter
1x9V alkaline battery type IEC 6F22
User Manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

> HT 185







LIGHT METERS AND SOLAR METERS



III III

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LIGHT METERS AND SOLAR METERS



HT309

MAIN MEASUREMENTS	LIGHT METERS	AND SOLAR METERS
Measuring range	0.01÷400klux 0.01÷40kFc	0.1÷1999W/m² 0.1÷634BTU/(ft²*h)
Measurement of illuminance in Lux/Fc	•	
Measurement of LED sources' illuminance	•	
Luminous intensity measurement (Cd)	•	
Solar irradiation measurement W/m² e BTU/ (f²t*h)		•
ADDITIONAL CHARACTERISTICS		
Internal memory for measured data saving	• (Max 99 locations)	
Zeroing	•	•
Manual measuring range		•
Autorange	•	
Data HOLD	•	•
MAX/MIN/AVG	•	No AVG
Backlight	•	•
Selection of measuring unit	•	W/m² - BTU/(ft2*h)
Auto Power OFF	•	•
Reference standard	Class A JIS C 1609:1993, CNS 5519	EMC (2014/30/EU)
Power supply	1x 9V	1x 9V
Size (LxWxH) (mm)	185 x 60 x 40	185 x 60 x 40
Weight (batteries included):	180g	180g
ORDER CODE	HA003090	HA0PV204





PV204

HT | 189

ORDER CODE HA003090 **HT309**

Mobile digital light meter

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Model HT309 is a digital light meter for measuring illuminance up to **400kLux** through a silicon photodiode sensor. This model also allows measuring illuminance of LED sources with various colours by setting the relevant correction factors, measuring luminous intensity (expressed in Candles) and saving results in the internal memory.



Functions and characteristics

- > Illuminance measuring range (Lux/Fc): 0.01÷400kLux; 0.01 ÷ 40kFc
- > Luminous intensity measurement (Cd)
- > Measurement of LED sources' illuminance
- > Basic accuracy: ±3%reading
- > Zeroing: Digital
- > Autorange
- > Spectrum response correction
- > Data HOLD, MAX/MIN: also AVG
- > Internal memory
- > Auto Power OFF
- > Reference standard: Class A JIS C 1609:1993 + CNS 5119



Carrying bag

Battery

User Manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES ORDER CODE HA0PV204 **PV204**

Mobile digital solar meter



Functions and characteristics

- > Measuring range: 0.1÷1999W/m² 0.1÷634BTU/(ft²*h)
- > Resolution: 0.1/1 W/m²; 0.1/1 BTU/(ft²*h)
- > Accuracy: ±10W/m² or ±5%reading (higher value) ±3BTU/(ft²*h) or ±5%reading (higher value)
- > Selection of the measuring unit: W/m² and BTU/(ft^{2*}h)
- > Manual change of scale
- > Data HOLD / MAX/MIN
- > ZERO function for zeroing readings
- > Backlight and Auto Power OFF

PV204 is a digital solar meter for measurements of solar irradiation up to 1999W/m², which can be used as an inspection device, typically in photovoltaic installations.





Provided accessories Ç.

Transport case

Battery

User Manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

HT | 191







LAN NETWORK TESTERS



LAN NETWORK TESTERS



MAIN MEASUREMENTS	QUICKLAN6055	QUICKLAN6050N
Cable mapping on LAN networks	•	•
Test on twisted pair cables RJ45 type UTP, STP and FTP	•	٠
Test on telephone cables with RJ11 connector		٠
Verification on COAX-F cables		٠
Errors of open pairs	٠	•
Errors of short-circuited pairs	٠	•
Errors of exchanged pairs	٠	٠
Errors of inverted pairs	٠	•
Errors of split pairs	٠	•
Generic errors (MISWIRE)	٠	•
Measurement of cable length		•
Cable length measuring range		1÷255m
ADDITIONAL CHARACTERISTICS		
Display indication of error type	۲	•
Test indication OK - NOT OK	•	•
Remote unit recognition	٠	•
AutoPowerOFF	٠	•
Backlight	٠	•
Low battery indication	٠	٠
Power supply	1x 9V	6x 1.5V AAA
Size (LxWxH) (mm)	128 x 67 x 39	156 x 73 x 35
Weight in grams (batteries included)	165	170
ORDER CODE	HV006055	HV006050



QUICKLAN6050N

ORDER CODE HV006055 QUICKLAN6055

Mobile instrument for cable tests in LAN networks



Model QUICKLAN6055 is capable of detecting and indicating on the display the presence of incorrect connections on LAN network cables (exchanged, split, inverted, open, short-circuited pairs, etc., both of type UTP (unshielded) and of type STP (shielded). This instrument **is provided with more** remote units and is capable of recognizing further ones (optional) in order to create an efficient localization action on different spots within a patch panel, carrying out tests very quickly with the aid of a single operator. QUICKLAN6055 is the ideal solution for any installer who needs a simple and efficient device to carry out preliminary checks and verifications on installations of LAN networks (also of PoE type) with connectors of type RJ45.



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Functions

- > Cable mapping in LAN networks
- > Test on twisted pair cables RJ45 type UTP and STP
- > Errors of open pairs
- > Errors of short-circuited pairs
- > Errors of exchanged pairs
- > Errors of inverted pairs
- > Errors of split pairs
- > Generic errors (MISWIRE)
- > Display indication of error type
- > Indication of test passed/failed
- > Remote unit recognition: 8
- > AutoPowerOFF
- > Low battery indication



Protection against voltage (PoE):	max 24V
Size (LxWxH):	190x65x45mm
Weight (battery excluded):	235g
Size of remote unit (LxWxH):	30x25x27mm
Remote unit weight:	13g
Considered standard:	TIA/EIA 568B

CH1, CH2	Remote units #1 and #2
YAAMS0000000	Patch cable STP RJ45-RJ45, 20cm, 3 pieces
	Carrying bag
	User Manual
	Battery

Provided accessories

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**

ORDER CODE HV006050 QUICKLAN6050N

Mobile instrument for cable tests in LAN networks and length measurement



Functions

- > Test of wiring errors on LAN network cables with RJ45 connector in CAT5 and CAT6
- > Test of wiring errors on telephone network cables with **RJ11 connector**
- > Test of wiring errors on COAX cables with F connector
- > Detection of wiring errors on UTP (unshielded) and STP (shielded) cables.
- > Detection of up to 4 RJ45 remote units for multiple tests.
- Measurement of cable length from 10m to 250m
- > Backlight
- > Auto Power OFF



Input connectors Power supply:

Size (LxWxH):

Weight (battery included):

Size of rem. unit (LxWxH):

Remote unit weight:

RJ45, RJ11, COAX F 6x1.5V batteries type AAA LR03 156x73x35mm 170g 72x20x23mm 25g

Model QUICKLAN6050N is capable of detecting and indicating on the display the presence of incorrect connections on LAN networks (crossed, split, inverted, open, short-circuited pairs, etc., both of type UTP (unshielded) and STP (shielded) with connector RJ45, RJ11 and Coax F. The instrument is provided with more, provided remote units and is capable of recognizing further ones (of type RJ45) in order to create an efficient localization action on different spots within a patch panel, carrying out tests very quickly with the aid of a single operator. QUICKLAN6050N also measures the length of the single pairs of the cable.



SEE PRODUCT DATA SHEET QUICKLAN6050N

Provided accessories

T-01	Remote unit RJ45 #1 + 2 patch cables RJ45 STP, 20cm
T-RJX1	Remote unit RJ11/COAX + patch cable RJ11 + patch cable COAXF
	Carrying bag
	Batteries
	User Manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

> HT | 197





PHASE DETECTORS, SWITCH DETECTORS AND PHASE SEQUENCE INDICATORS



PHASE DETECTORS,



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PHASE DETECTORS, SWITCH DETECTORS AND PHASE SEQUENCE INDICATORS						이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이
MAIN MEASUREMENTS	LINESPLITTER	HT82	НТ70	HT20S	HT38	нт5
Measuring range	0÷240VAC 0÷16A 50÷60Hz	40÷600VAC 15÷400Hz	100÷1000VAC 50÷60Hz	100÷1000VAC 50÷60Hz	200÷250VAC 50Hz	60÷250VAC 50÷60Hz
Localization of protection devices					٠	
Detection of AC voltage without contact also on insulating sheaths			•	•		
Indications "R" and "L" on the display to measure phase sequence		٠				
Phase sequence and phase concordance without contact also on insulating sheaths			٠			
LED and sound indications			•	•	•	•
Network voltage (L-N, L-PE, N-PE)	•					
Absorbed phase current	•					
Absorbed phase current multiplied by 10 (for low-power users)	•					
Leakage current on protection conductor	•					
Leakage current measured in differential mode (L-N)	•					
ADDITIONAL MEASUREMENT	ſS					
Test of neon tube internal gas						•
Test of internal gas of compact fluorescent lamps						•
Test of internal gas of energy-saving lamps						•
Test of internal gas of high and low- pressure sodium-vapor lamps						٠
Test of internal gas of halogen lamps						•
Test of internal gas of mercury-vapor lamps						•
Phase detection function with contact for AC voltage 60-250V 50/60Hz						•
Continuity test on non-electronic starters/reactors						•
Diode test						•
ADDITIONAL CHARACTERIST	TICS					
LCD display		٠				
Sound indications with buzzer			•	•	•	•
Practical breast pocket holder			•	•		
Anti-shock protection sheath		٠				
Integrated torch				•		•
SCHUKO plug	•				•	
Overvoltage category	CAT III 240V	CAT III 600V	CAT IV 1000V	CAT IV 1000V	CAT III 250V	CAT III 300V
Reference standard for safety	IEC/EN61010-1, IEC/EN61010- 02-030	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-7
Power supply	240VAC (±10%) 50/60Hz	from mains	2x 1.5V AAA	2x 1.5V AAA	From mains (HT38T) 1X 9V (HT38R)	1X 9V
Size (LxWxH) (mm)	210x60x35mm	130x69x22	160x26x20	160x26x20	95x60x30	255x60x40
Weight in grams	385g	130	48	48	140	170
ORDER CODE	HA000951	HA000156		HR000296		

ORDER CODE HA000951

Conductor splitter



LINESPLITTER is an indispensable accessory every time you need to measure the current/power absorption or leakage current of a single-phase load supplied from socket (max 16A). This accessory separates the active conductors and the protective conductor, thus making the following measuring spots directly accessible to suitable instruments (clamp meters, clamps for measuring leakage currents, wattmetric clamps, mains analyzers):

- > Mains voltage (L-N, L-PE, N-PE)
- > Absorbed phase current
- > Absorbed phase current multiplied by 10
- (for low-power users)
- > Leakage current on protection conductor
- > Leakage current measured in differential mode (L-N)

In particular, the comparison between the readings obtained in the two last measuring spots, also allows evaluating whether the leakage current flows to alternative paths to the protective conductor (e.g.: current leaked in water or in the metal tubes of a boiler, immersion pump, etc.).

240VAC (±10%) 50/60Hz

in-built Schuko plug, length 50cm

in-built Schuko socket

IEC/EN61010-02-030

max 16A

IEC/EN61010-1,

CAT III 240V

385g

210x60x35mm



U Functions

- > Separation of phase conductor L from conductors N and PE on 2-pole and 3-pole cables
- Simple AC voltage measurement (L-N, L-PE, N-PE) through clamps/multimeters
- > Simple AC current measurement through external clamps
- > Current loop x1 for a direct measurement of AC current
- > Current loop x10 for a direct measurement of low AC currents
- > Direct measurement of leakage current on PE cable
- > Indirect measurement of leakage current on L and N cables
- > Use for loads with maximum current absorption 16A

Characteristics

Power supply:

Connection to mains:

Connection to user:

Output current: Safety:

Measurement category:

Size (LxWxH):

Weight (batteries included):



Provided accessories

User Manual



Optional accessories



ORDER CODE HA000156 **HT82**

Phase sequence



HT82 is a mobile device to display the **phase** sequence with 3 terminals in a generic three-phase system. The device provides an "R" indication in case of correct phase sequence or "L" indication in case of incorrect phase sequence.



Provided accessories

Bag and user manual

Optional accessories

Set of 3 cables + 3 alligator clips

SCAN THE QR CODE

TO DISCOVER ALL OPTIONAL ACCESSORIES

KIT82 Kit of 3 cables + 3 alligator clips



KIT82

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Functions

- > Indications "R" and "L" on the display to measure phase seauence
- > Phase sequence: in compliance with IEC/EN61557-7

1 Characteristics

Power supply:	from mains 40V \div 600V / 15-400Hz
Display:	LCD display
Pollution level:	2
Safety:	IEC/EN61010-1
Phase sequence:	IEC/EN61557-7
Measurement category:	CAT III 600V
Size (LxWxH):	130x69x22mm
Weight (batteries included):	130g



ORDER CODE HR000070 **HT70**

ORDER CODE HR000296 HT20s

Pen phase detector with measurement of phase sequence (HT70)



U Functions	HT70	HT20
Detection of presence of AC voltage	•	•
LED and buzzer indications	•	•
Battery check with LED indications	•	•
Measurement of phase sequence	•	
Pocket clip	•	•

AC reference voltage:	100V ÷ 1000V to earth
Frequency:	50/60Hz
Power supply:	2x1.5V alkaline batteries type AAA NEDA24A LR03
Pollution level:	2
Safety:	IEC/EN61010-1
Measurement category:	CAT IV 1000V
Size (LxWxH):	160x26x20mm
Weight (batteries included):	48g
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Provided accessories Batteries and user manual

CAT IV 1000V









HT70 is a practical and innovative pen device capable of carrying out, further to the phase detection function, and phase sequence and phase concordance test with LED indications and buzzer, also on the insulating sheath of the conductors. The result of the test is indicated by the **red LED** (incorrect phase sequence) or the green LED (correct phase sequence) turning on, by simply moving the sensor first on the L1 and then on the L2 phase. HT20s is, instead, the model dedicated only to the search for live cables. This instrument too carries out measurements on the insulating sheath of the cables and, therefore, without direct contact with live parts.







SEE PRODUCT DATA SHEET HT20S

Optional accessories





Step1 - Take HT70 and rest it on the assumed phase L1 of the three-phase system (on the conductor or sheath) for at least 5s and wait for the red LED to flash and the buzzer to sound.



Step3 - If the green LED turns on with steady light, phase sequence is correct. If, however, the red LED flashes, phase sequence is incorrect



Step2 - Now rest and keep HT70 on the assumed phase L2 (on the conductor or sheath) for at least another 5s and wait for the LED to flash together and the buzzer to sound.

ORDER CODE HR000038 **HT38**

Switch detector

HT38 belongs to a category of instruments (not necessarily used for measurements) that make the **job** of all plant engineers **simpler as regards** searching for reference switches in electric lines. The instrument consists of two elements: HT38T which, once inserted into the socket, generates a signal, and a receiver **HT38R** who recognizes the signal and indicates the reference switch with LED indication and **buzzer** sounding.

Characteristics of HT38R

2

Provided accessories

IEC/EN61010-1

IEC/EN61326-1

CAT III 250V

2000m

double insulation



Safety:

EMC:

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Insulation:

Pollution level:

Transmitter HT38T

Receiver HT38R

Battery (receiver)

Carrying bag

User Manual

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Measurement category:

Max operating altitude:

Functions

- > Visual LED indication and acoustic indication with variable tone
- > Localization of protection devices
- > Use in live circuits with a voltage up to 250VAC to earth
- > LED indication of low battery charge
- > Auto power off

Characteristics of HT38T

Power supply:	230VAC, 5
Signal output current:	<20mA
External connection:	in-built Sc
Operating temperature:	0°C ÷ 40°
Operating humidity:	<80%RH
Storage temperature:	0°C ÷ 50°(
Storage humidity:	<95%RH
Size (L x W x H):	95x60x30
Weight:	140g



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НT

VAC, 50Hz
)mA
ouilt Schuko Europlug
C ÷ 40°C (32°F ÷ 104°F)
0%RH
C ÷ 50°C (32°F ÷ 122°F)
i%RH
:60x30mm

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL **OPTIONAL ACCESSORIES**

ORDER CODE HA000138 HT5

Phase detector with internal gas lamp test



- > Operation test of neon lamps with E27 coupling Operation test of sodium-vapor lamps
- > Operation test of halogen lamps > Phase detector function for AC voltage 60-250V

Operation test of neon and fluorescent tubes

- 50/60Hz > Continuity test with buzzer
- > Diode test

Functions

> LED indications and sound notifications > In-built torch



Power supply:	1x9V batteries type IEC 6F22
Safety:	IEC/EN61010-1
Measurement category:	CAT III 300V
Size (LxWxH):	255x60x40mm
Weight (batteries included):	170g





Model HT5 is a practical mobile device for **quickly** carrying out tests on the operation of lowpressure, sodium-vapor and high-pressure internal gas lamps, by simply touching the lamp's surface. Other available characteristics are the Phase detector, Continuity test and Diode test function



SEE PRODUCT DATA SHEET HT5



Provided accessories

Batteries

User Manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

HT 207









LASER METERS

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8046

57520





MAIN MEASUREMENTS	iDM70
Distance measuring range	0,05 ÷70m
Measurement of area and volume	•
Measurement of heights by indirect method of the Pythagorean theorem.	٠
Measurement of tilt and distance	•
Continuous (dynamic) 2-spot and 3-spot measurements	٠
Partial operations (additions/subtractions) with internal memory	•
ADDITIONAL CHARACTERISTICS	
Connection to iOS/Android devices through HTLaserMeter App	٠
Activation of the laser pointer for measurement	•
Setting of measuring reference	•
Setting of timer for measurements	•
Selection of measuring unit	m - ft
Backlight	•
Air bubble level	•
Hole for tripod insertion	•
Activation of buzzer upon key pressing	•
Auto Power OFF	•
Power supply	2x 1.5V AA
Size (LxWxH) (mm)	135x53x30
Weight (batteries included):	160g
ORDER CODE	HA000700



LASER METERS

ORDER CODE HA000700 iDM70

Laser distance meter with a capacity of 70m, inclinometer and Bluetooth interface for the connection to iOS and Android devices



Functions

DATA SHEET iDM70

- Direct measurement of distance from 0.05m to 70m
- Measurement resolution: 0001m
- Measurement of area and volume
- > Measurement of heights by indirect method of the
- Pythagorean theorem
- > Measurement of tilt and distance
- > Continuous (dynamic) 2-spot and 3-spot measurements
- > Activation of the laser pointer for measurements
- > Setting of measuring reference
- > Setting of timer for measurements
- > Selection of the measuring unit in "m" or "ft"
- > Partial operations (additions/subtractions) with internal memory
- > Connection to iOS/Android devices through Bluetooth
- > Air bubble level
- > Hole for tripod insertion
- > Backlight
- > Activation of buzzer upon key pressing
- > Auto Power OFF

Model iDM70 is a professional laser meter designed for $\ensuremath{\text{measuring distances}}$ between two spots in a simple, quick and efficient manner thanks to the in-built laser pointer and to its **small size** which make it a fully mobile device that can be used in any conditions and for any application (construction, electric, do-it-yourself sector, etc.) in which it is necessary to measure a linear length. This device also allows calculating areas and volumes and carrying out the indirect measurement of heights in 2 spots and 3 spots with the use of the **trigonometric method** and the mathematical principle of the Pythagorean theorem. Measurement of the tilt angle with respect to the horizontal line, a timer on measurements and a small air bubble level for a perfect alignment to the targets are among the available functions. Management of simple operations with the internal memory (sums and subtractions) and the presence of the backlight function of the display complete the available functions for the device. The HTLaserMeter App is also available for **free** for **iOS** and Android systems and is capable of connecting in real time to iDM70 and to carry out measurements associated to pictures in order to subsequently trace the lines within it.



Characteristics

Power supply:	2x1.5V alkaline batteries type AA LR06
Duration:	max 8000 measurements
Display:	5-digit LCD display with backlight
Memory:	20 locations + external through App
Interface:	Bluetooth [™] compatible with iOS - Android
Mechanical protection:	IP54
Laser pointer:	class 2 according to IEC/EN60825-1
Size (LxWxH):	135x53x30mm
Weight (batteries included):	160kg

Ç. **Provided** accessories

Carrying bag, battery and user manual

User manual HT LaserMeter APP



SCAN THE OR CODE

TO DISCOVER ALL OPTIONAL ACCESSORIES

ORDER CODE HA004000 **DM40**

Compact laser distance meter with capacity 40m





Functions

- Direct measurement of distance from 0.05m to 40m
- Measurement resolution: 0001m
- Measurement of area and volume
- > Measurement of heights by indirect method of the
- Pythagorean theorem
- > Continuous (dynamic) measurements
- > Activation of the laser pointer for measurements
- > Setting of measuring reference
- > Selection of the measuring unit in "m" or "ft"
- > Partial operations (additions/subtractions) with internal memory
- > Backlight
- > Auto Power OFF



Model DM40 has been designed for measuring distances between two spots in a simple, quick and efficient manner thanks to the in-built laser pointer and to its **small size** which make it a fully mobile device that can be used in any conditions and for any application (construction, electric, doit-yourself sector, etc.) in which it is necessary to measure a linear length. This device also allows calculating areas and volumes and carrying out the indirect measurement of heights with the use of the mathematical principle of the Pythagorean theorem. Management of simple operations with the internal memory (sums and subtractions) and the presence of the backlight function of the display complete the available functions for the device.





Characteristics

2x1.5V alkaline batteries type AAA Power supply: LR03 **Duration:** Display: 20 locations Memory: IP54 Mechanical protection: Laser pointer: 110x48x28mm Size (LxWxH): Weight (batteries

max 5000 measurements 5-digit LCD display with backlight class 2 according to IEC/EN60825-1 135kg

Provided accessories

Carrying bag

included):

Non-slip strap

Batteries

User Manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

H | 213



ORDER CODE HU000743 **F30P** ORDER CODE HU000697 **F40** Professional scissors with integrated crimper function CABLE CUTTER 70mm2 + CRIMPER ORDER CODE HU000741 **F50** Professional scissors with cutter for cables up to 50mm2





- > New design, even more ergonomic > Non-slip grip > Blade in reinforced steel > Universal crimper for crimp terminals between 1 and 6 mm²
- > Case with safety lock





SEE
 PRODUCT
 DATA SHEET
 F40

- > High-quality scissors with rigid case
- > Blade in reinforced stainless steel
- > Blade width 19mm (0.7")
- > Blade thickness 3.5mm (0.1")
- > Blade for cutting cables up to 70 mm2
- > Crimper function for crimp terminals between 1 and 6 mm2, sleeve type
- > Long grip for easy cutting



Blade for cutting cables up to 70 mm²



Crimper function for crimp terminals between 1 and 6 mm², sleeve type



- > Non-slip grip
- > Blade in reinforced steel
- > Universal crimper for crimp terminals between 1 and 6 mm²
- > Case with safety lock
- > Practical hooking system











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