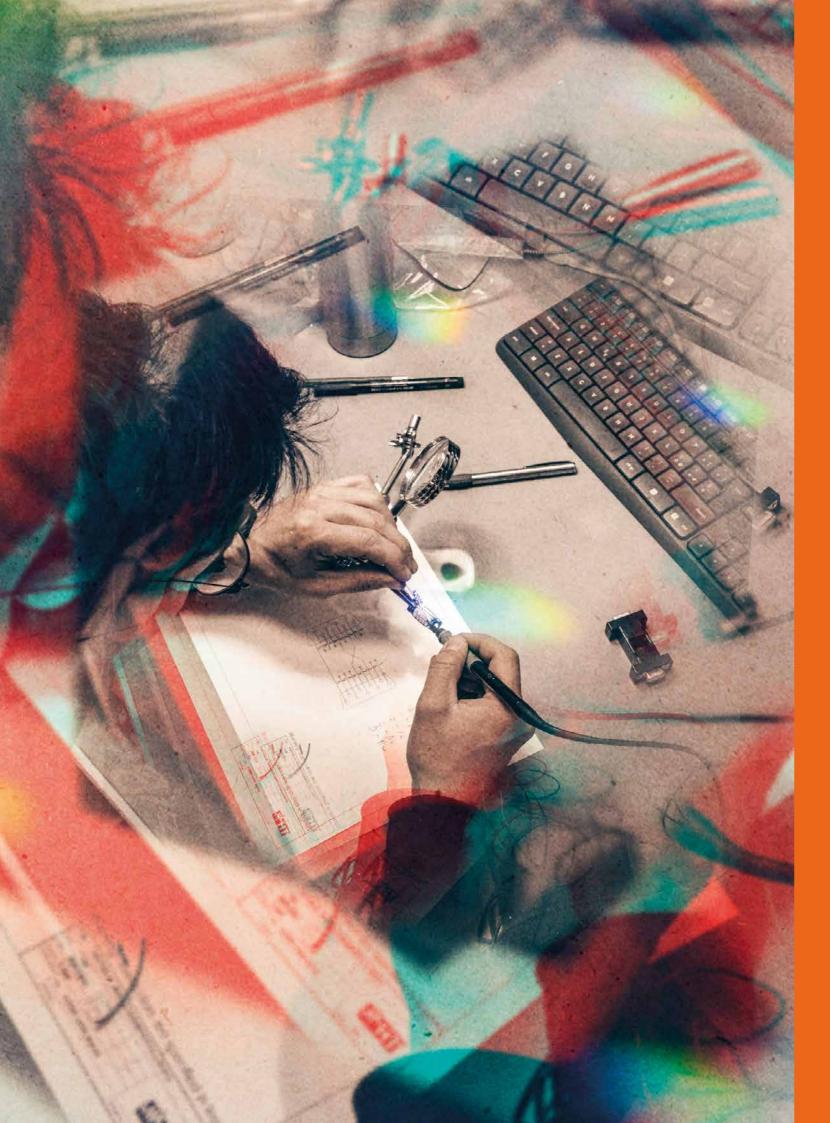


GENERAL CATALOGUE 2024







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.

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

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





Accredited laboratory **LAT174** by TRESCAL MS at HT-Italia headquarters





Safety first

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:

TYPE OF MEASUREMENT



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

Protected electronic devices, measurements on circuits not derived from mains



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

Household appliances, portable tools and similar devices

APPLICATION



Measurements carried out on installations inside buildings

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



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

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



TRMS, the true root mean square of HT instruments.

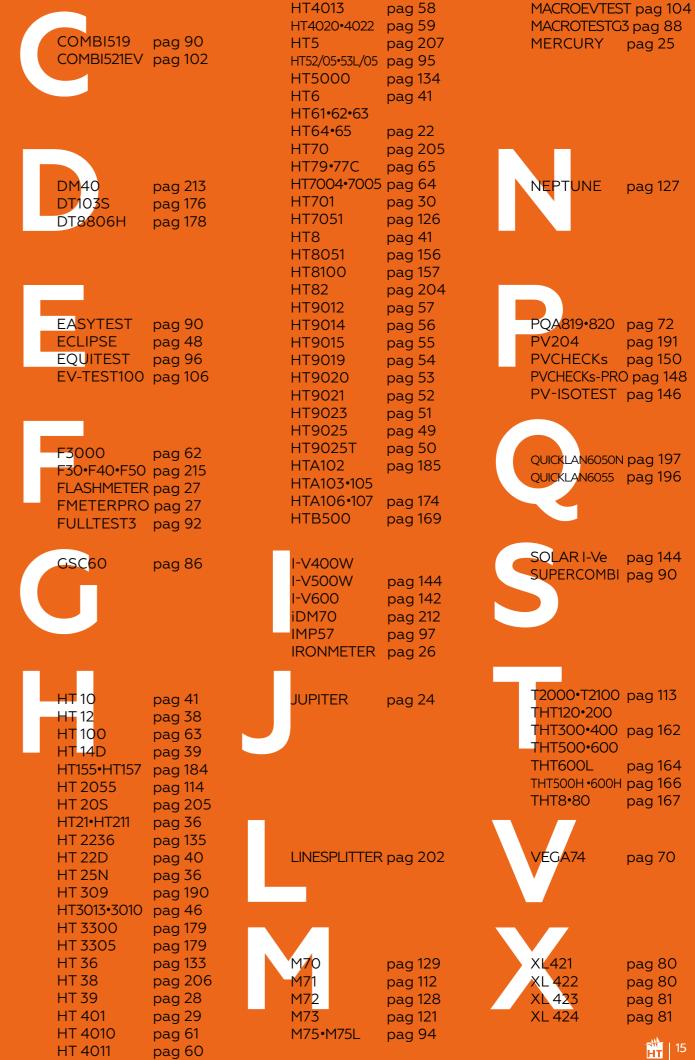
In modern domestic and industrial installations, the use of devices generating socalled "non-linear loads" (e.g. computer networks, variable speed devices, switching suppliers, etc...) is increasing. These loads contribute to the **sometimes remarkable** deformation of the waveform of the signals applied 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.





GENERAL INDEX

PROFESSIONAL TRMS MULTIMETERS	
HT65 · HT64 · HT63 · HT62 · HT61	22
JUPITER · NEPTUNE	24
MERCURY	25
IRONMETER ELACUMETERRO	26
FLASHMETER · FLASHMETERPRO	27
HT39	28
HT401 HT701	29 30
H1701	30
DIGITAL MULTIMETERS	
HT211 · HT21 · HT25N	36
HT12	38
HT14D	39
HT22D	40
HT10 · HT8 · HT6	41
CLAMP METERS	
HT3010 • HT3013	46
ECLIPSE	48
HT9025	49
HT9025T	50
HT9023	51
HT9021	52
HT9020	53
HT9019	54
HT9015	55
HT9014	56
HT9012	57
HT4013	58
HT4022 · HT4020	59
HT4011	60
HT4010	61
F3000	62
HT100	63
HT7004 · HT7005	64
HT79 · HT77C	65
MAING CHALLEY ANALYZEDG	
MAINS QUALITY ANALYZERS	70
VEGA74	70
PQA820 · PQA819 HT9023	72 75
H19025	/5
DATALOGGER	
XL421 · XL422	80
XL423 · XL424	<u>81</u>
MULTIFUNCTIONAL TESTERS	
GSC60	86
MACROTESTG3	88
SUPERCOMBIS · COMBI519 · EASYTEST	90
FULLTEST3	92
M75 · M75L	94
HT52/05 · HT53L/05	95
EQUITEST EQUITEST	96
IMP57	97
TEST OF ELECTRIC VEHICLES RECHARGING STATIONS	
COMBI521EV • EV-TEST100	102
MACROEVTEST • EV-TEST100	104
EV-TEST100	106
EARTH RESISTANCE AND STEP/CONTACT VOLTAGE MEASURING DE	EVICES
M71	112
T2000 · T2100	113
HT2055	114
uk	

RCD AND LOOP TESTERS	
JUPITER JUPITER	120
M73	121
INSULATION AND CONTINUITY MEASURING DEVICES	
HT7051	126
NEPTUNE	127
M72	128
M70	129
BURIED CABLE LOCALIZER AND REVOLUTION COUNTER	
HT36	133
HT-5000	134
HT2236	135
DEVICES FOR THE PHOTOVOLTAIC SECTOR	
I-V600	142
I-V500w·I-V400w·SOLAR I-Ve	144
PV-ISOTEST	146
PVCHECKs-PRO	148
PVCHECKs	150
PROCESS CALIBRATORS	
HT8051	156
HT8100	157
INFRARED THERMAL CAMERAS	
THT120 · THT200 · THT300 · THT400	162
THT500·THT600·THT600L	164
THT500H · THT600H	166
THT8·THT80	167
BORESCOPE	
HTB500	169
THERMOMETERS AND THERMO-ANEMOMETERS	474
HTA107 · HTA106 · HTA105 · HTA103 DT103S	174 176
DT8806H	178
HT3305 · HT3300	179
SOUND LEVEL METERS	104
HT155 · HT157 HTA102	184 185
THAIOZ	185
LIGHT METERS AND SOLAR METERS	
HT309	190
PV204	191
LAN NETWORK TESTERS	
QUICKLAN6055	196
QUICKLAN6050N	197
PHASE DETECTORS, SWITCH DETECTORS AND PHASE SEQUENCE INDICATORS	
LINESPLITTER	202
HT82	204
HT70 · HT20s	205
HT38	206
HT5	207
LASER METERS	
iDM70	212
DM40	213
PROFESSIONAL SCISSORS	
F30P · F40 · F50	215











pag.

pag.



Mercury

pag.

Ironmeter 4



Flashmeter Pag. Flashmeter PRO



HT39

pag.



pag. HT401



HT701





PROFESSIONAL TRMS MULTIMETERS

MAIN MEASUREMENTS

























1	
1	10657
ı	
ı	100
۱	
ì	6 A 6
Į	

MEASUREMENTS	HT65	HT64	HT63	HT62	HT61	JUPITER
TRMS	•	•	•	•	•	•
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		•	•	•	•	
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	•	•	•	•		
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

Built-in LED torch						
		_				
Memory for data saving						
Data logger and graph		•	_	_	_	
Relative measurement	•	•	•	•	•	
Automatic detection of internal functions						
Automatic detection of AC/DC						•
ZERO function						
PEAK function		(1ms)	(1ms)			(1ms)
MIN/MAX/AVG functions		•	MIN/MAX	MIN/MAX	MIN/MAX	MIN/MAX
Data HOLD function	•	•	•	•	•	•
Detection of AC voltage without contact						
Auto power off	•	•	•	•	•	•
Autorange	•	•	•	•	•	•
Bargraph		•	•	•	•	•
Bluetooth function for connection to mobile devices						
IR sensor resolution						
Backlight	•	•	•	•	•	•
Measuring Counts	4000	6000	60,000	6000	6000	9999
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

		No. of Lot	EL ACUMETED.		A Ample	- CONTRACTOR	
NEPTUNE	MERCURY	FLASHMETER	PRO PRO	IRONMETER	HT39	HT701	HT401
•	•	•	•	•	•	•	•
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
•							
-				•	•	•	•
•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•
	•			•	•	•	•
	•			•	•	•	•
	•			•	•		
	•					•	•
•						•	
•							
•							

HR000NEP	HR000MER	HR000011	HR000PRO	HR000005	HR000039	HR000701	HR000401
IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-
420	555	220	325	200	400	630	460
175x85x55	190x75x55	140x80x45	140x80x45	120x85x45	164x82x44	207x95x52	190x94x48
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
	•	•	•	•			
	(micro SD card)					•	
	•				(through SW)		
	•				•	•	
		•	•				
•		•	•				
,			•				
(1ms)	•				•		•
MIN/MAX	MIN/MAX			MIN/MAX	MIN/MAX	•	MIN/MAX
•	•	•	•	•	•	•	
	•	•					
		•	•	•	•	•	
	HTMercury				•	•	
	with APP						
	80 x 80 pxl						
	•			-1000	-000		•
9999	6000	4000	4000	4000	4000	10000	6000
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 600\ CAT III 1000\

ORDER CODE HR000065 **HT65**

ORDER CODE **HR000010 HT64**

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)











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.



Power supply:

Main features

LCD, 4 digits, 4000 counts (HT65) Display: LCD, 4½ digits, 6000 counts (HT61, HT62) LCD, 4½ digits, 60000 counts (HT63)

Colour, TFT 4½ digits, 6000 counts (HT64) 1x9V battery type 6F22 (HT65, HT61,

HT62)

4x1.5V batteries type AAA LR03 (HT63) 1x7.4V rechargeable Li-ION battery

after 15 minutes' idling Auto Power OFF: (HT65, HT61, HT62, HT63)

5min ÷ 60 minutes' idling (HT64) IEC/EN61010-1

Safety: CAT IV 600V - CAT III 1000V

Overvoltage category: Pollution level:

2000m Max operating altitude: 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







1500 VDC * Only for HT65

Functions

Auto Power OFF

	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	-	•	•	•	•
Data logger and graph	-	•	-	-	-
Internal memory	-	•	-	-	-

• • • • •

(AL)	To alaminal	C: -:	±!
\ 7 /	iechnical	Specifica	tions
(7)	Technical	эресіпса	tions

	HT65	HT64	HT63	HT62	HT61
DC VOLTAGE					
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 ÷ 40MΩ	0.1Ω ÷ 60MΩ	0.1Ω ÷ 60MΩ	0.1Ω ÷ 60MΩ	0.1Ω ÷ 60MΩ
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)	

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

•

•

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 ease of use.



PRODUCT DATA SHEET



PRODUCT DATA SHEET

The new models JUPITER and NEPTUNE are

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

ORDER CODE HROOOMER

MERCURY

Professional Multimeter with in-built thermal camera



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.



F3000U

4324-2

AOMCY

BOMCY

BATMCY

PRODUCT DATA SHEET

charging base

Carrying bag

User Manual

Micro SD card 8GB,10x

2 pieces (for F3000U)

ISO calibration report

K-type wire probe + adapter

Provided accessories

C2065	3-wire cable Red, Black and Green with Schu- ko 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**

















Functions

- DC voltage
- AC and AC+DCTRMS voltage
- DC current AC and AC+DCTRMS current
- AC and AC+DCTRMS current by means of standard clamp
- transducers ACTRMS current by means of flexible clamp transducer
- F3000U "Voltsense" for the detection of AC voltage without contact
- Resistance and Continuity test
- Diode, Capacitance,

- Temperature with K-type
- in-built thermal camera
- In-built datalogge Data HOLD
- Relative measurement
- Backlight



Safety:

Frequency

Characteristics

1x7.4V rechargeable Li-ION battery, Power supply: 1200mAh

IEC/EN61010-1

CAT IV 600V CAT III 1000V Overvoltage

IP65

category:

Insulation: double insulation

Pollution level: Mechanical protection index:

2000m Max operating altitude:

Size (LxWxH): Weight (batteries

included):

approx 555g

190x75x55mm

- probe Infrared temperature with
- MIN/MAX/PEAK
- Bargraph
- Input protective fuses Auto Power OFF



Optional accessories

Provided accessories

Spare battery Li-ION 7.4V 1500mAh

Alkaline battery type AAA IEC LR03,

Flexible clamp with full scale 30/300/3000A AC

Pair of banana leads red/black with 2/4mm tip

Multiplug power supply for MERCURY with re-













IRONMETER

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.



SEE PRODUCT DATA SHEET IRONMETER



Functions

2x1.5V batteries type AAA IEC LR03 Power supply:

Safety: IEC/EN61010-1 CAT III 600V Overvoltage category:

Main features

double insulation Insulation:

Pollution level:

Max operating altitude:

4 LCD, 4000 counts, decimal sign and Display:

Protection fuses: Yes

120x65x45mm Size (LxWxH):

Weight (batteries included):



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**

- > TRMS measurements
- AC/DC voltage
- > AC/DC current
- Resistance/Continuity Test
- Detection of AC voltage without contact
- Frequency
- › Capacity, Diode test
- Duty cycle
- > In-built LED illuminator
- Autorange
- Backlight
- > Auto Power Off





ORDER CODE HR000011 **FLASHMETER**

ORDER CODE HR000PRO **FLASHMETERPRO**

TRMS multimeters with total Autorange



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 FLASHMETER**



SEE PRODUCT **DATA SHEET FLASHMETERPRO**

Main features

2x1.5V batteries type AAA IEC LR03 Power supply:

Safety: IEC/EN61010-1

CAT IV 600V (Voltage), CAT III 600V (Current) Overvoltage category:

Insulation: double insulation

Pollution level:

Max operating altitude: 2000m

4 LCD, 4000 counts, Display: decimal sign and point

140x75x40mm Size (LxWxH):

Weight

(with batteries):



Provided accessories

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

Clamp transducer F100 (FLASHMETERPRO)



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES



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	•	•

→ TRMS





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.



Pair of test leads

Protective case with support

Batteries

User Manual

SEE PRODUCT DATA SHEET

Provided accessories

Optional accessories

SCAN THE QR CODE

OPTIONAL ACCESSORIES

TO DISCOVER ALL



- > 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



Safety:

Main features

1x9V battery type 6F22 Power supply:

IEC/EN61010-1

CAT IV 600V, CAT III 1000V Overvoltage category:

double insulation Insulation:

Pollution level:

Max operating altitude: 2000m

4 LCD, 4000 counts. Display: decimal sign and point

Protection fuses:

Size (LxWxH): 164 x 82 x 44 mm Weight (batteries

400g included):

→ TRMS

ORDER CODE HR000401

HT401

Professional Multimeter for AC+DC TRMS measurement



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.



PRODUCT DATA SHEET

Functions

- DC/AC TRMS voltage
- DC/AC TRMS current
- AC + DC measurements
- AC voltage measurement with low impedance "LoZ"
- "VoltSense" for AC voltage detection without contact
- Resistance and Continuity test
- Frequency
- Diode test
- Capacitance
- Temperature with K-type probe
- Data HOLD, MAX/MIN/PEAK
- Relative measurement
- > Automatic/Manual Range
- Backlight, Bargraph
- Auto Power OFF



Display: LCD, 4 digits, 6000 counts 1x9V alkaline battery type 6F22 Power supply:

150 hours Battery life:

after 20 minutes' idling **Auto Power OFF:** IEC/EN61010-1 Safety: CAT III 1000V, CAT IV 600V

Overvoltage category:

Insulation: Pollution level: Max height:

Double insulation 2000m

190x94x48mm Size (LxWxH): Weight (batteries 460a

included):

Provided accessories

4413-2	Pair of test leads
TK101	K-type wire probe
T10	Adapter for K-type probes
	Protective case, battery and user manual



Optional accessories









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



Characteristics

Display: LCD, 10000 counts

Power supply: 4x1.5V alkaline batteries type AA

after 20 minutes' idling **Auto Power OFF:**

IEC/EN61010-1, IEC/EN61557-1-2 Safety: Overvoltage category: CAT III 1000V, CAT IV 600V

double insulation Insulation:

Pollution level:

2000m Max height: Size (LxWxH): 207x95x52mm Weight (batteries

included):

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

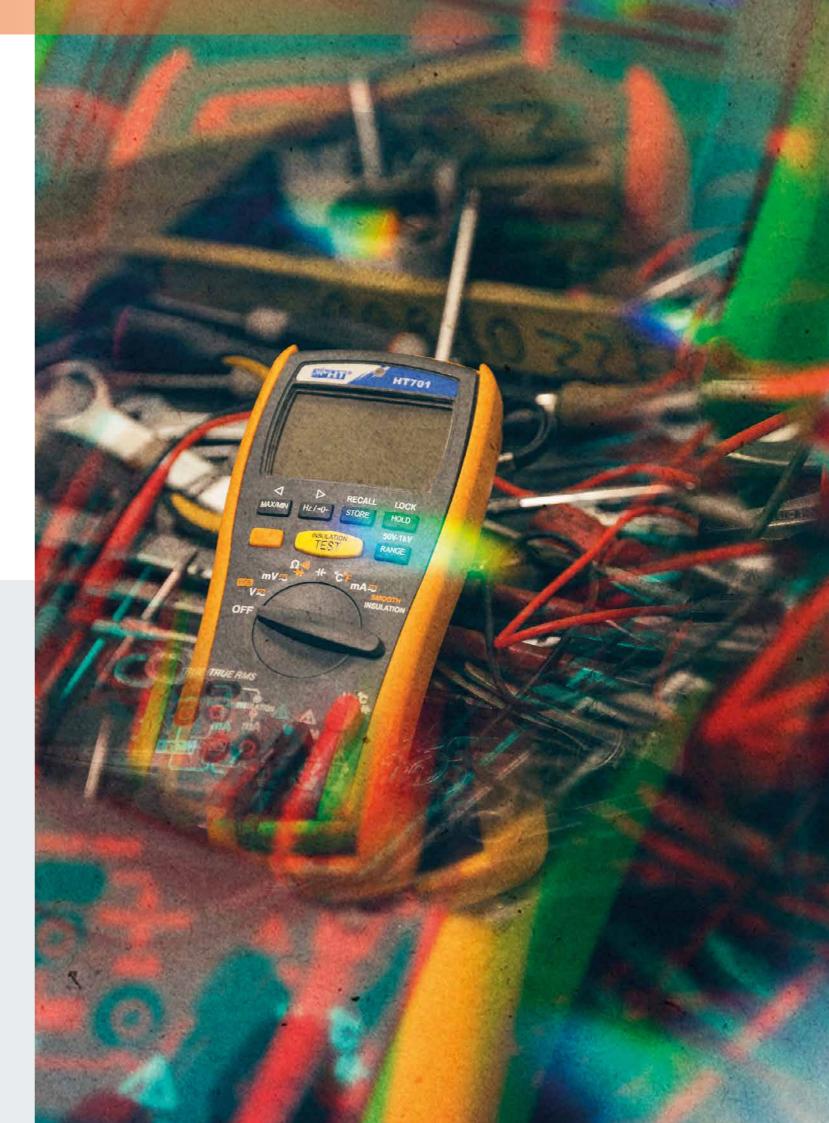


Optional accessories













DIGITAL MULTIMETERS





















3

MAIN MEASUREMENTS	HT211	HT21	HT25N	HT22D
TRMS	•			•
Voltage measuring range	600V	600V	600V	600V
Voltage	AC/DC	AC/DC	AC/DC	AC/DC
AC voltage on VFD (downstream inverters)				•
Current measuring range	10A with leads		10A with leads	10A with leads
Current	AC/DC		DC	AC/DC
Frequency	•	•		•
Resistance	•	•	•	•
Continuity with buzzer	•	•	•	•
Capacitance	•	•		•
Diode test	•	•	•	•
Duty Cycle (%)	•	•		•
Temperature with K-type probe	•			
AC voltage with low impedance (LoZ)				
AC voltage with 1 terminal				
Phase sequence				
Test lamps with internal gas				
Built-in LED torch				

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

HT14D	HT12	HT10	НТ8	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	2×1.5V 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-
HR00014D	HR000012	HR00010P	HR000008	HR000006

ORDER CODE HR000021

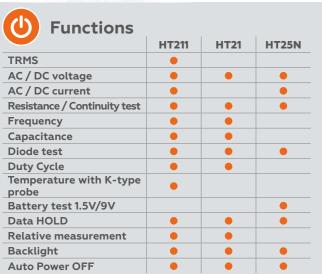
ORDER CODE HR00025N HT25N

Compact digital multimeters in CAT III











Power supply:

Characteristics

Display:

LCD 3½ digits, 2000 dots (HT25N) 4-digit LCD display, 4000 dots, decimal sign and point (HT21) 3¾-digit LCD display, 4000 dots plus decimal sign and point (HT211). 1x9V batteries type IEC 6F22 (HT21,

2x1.5V batteries type AAA IEC LR03 (HT211)

after 15 minutes' idling (HT211) after 30 minutes' idling (HT21) Auto Power OFF:

IEC/EN 61010-1 Safety: Overvoltage category: CAT III 600V

Pollution level: Insulation: double insulation Size (LxWxH): 145x70x60mm

Weight (batteries included): 210g (HT21, HT211), 255g (HT25N)



Provided accessories

4324-2	Pair of test leads with 2/4mm tip
TK101	K-type wire probe (HT211)
T10	Adapter for K-type probes
	Carrying bag (HT21, HT211)



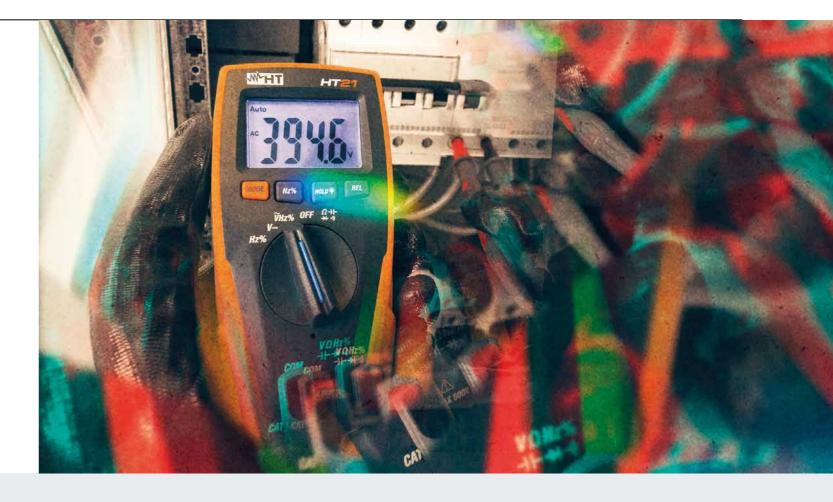
Optional accessories

Batteries and user manual



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES







SEE PRODUCT DATA SHEET OF HT211



SEE PRODUCT DATA SHEET OF HT21



SEE PRODUCT DATA SHEET OF HT25N

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.

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.

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.



PRODUCT DATA SHEET





- 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



Characteristics

Display: Power supply: **Auto Power OFF:** Safety:

Overvoltage category:

Pollution level: Insulation:

Size (LxWxH): Weight (batteries

included):

LCD, 33/4 digits, 3400 counts

2x1.5V battery type AAA LR03 after 10 minutes' idling IEC/EN 61010-1

CAT III 300V, CAT II 600V

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



Model HT14D 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



Provided accessories

KIT4000A Measuring leads with 2mm tip

Batteries and user manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES







LCD, 31/2 digits, 2000 counts Display:

1x 12V batteries type MS21/MN21 Power supply: IEC/EN61010-1 Safety:

double insulation Insulation:

Pollution level:

Functions

Resistance and Continuity test

DC/AC voltage

9V battery test

DC current

Diode test

Data HOLD

105x50x25mm Size (LxWxH): Weight (batteries 100g

included):

нт

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.



PRODUCT DATA SHEET



- **TRMS**
- AC/DC Voltage
- AC/DC Current
- VFD function on TRMS AC
- Resistance
- Continuity with buzzer
- Frequency Duty cycle %
- Capacity
- Diode Test
- HOLD Data
- Backlight
- Automatic/manual range
- > Auto power off



Specifications

Display: Power supply: **Auto Power OFF:** after 15 minutes of non-use

Safety: CAT III 600V Overvoltage category:

Level of pollution:

Insulation: Dimensions (LxWxH):

Weight (with batteries):

4 digit LCD, 4000 pixels

2x1.5 V batteries type AAA LR03

IEC/EN 61010-1

double insulation 150x75x45mm

205g

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

ORDER CODE HR000006

HT6

2-pole multifunction tester with in-built LED torch





DC/AC voltage

terminal

buzzer

Diode test

Display:

Safety:

Power supply:

Pollution level:

Size (LxWxH):

Weight (batteries

Insulation:

included):

Overvoltage category:

Display LCD

AC voltage with 1

impedance (LoZ)

Phase sequence

AC voltage with low

Continuity test with

LED indications and

sound notifications

Integrated torch

Resistance measurement

Characteristics

PRODUCT **DATA SHEET**

Functions



HT8

HT6

LCD, 4 digits, 6900 counts (HT8)

2x1.5V battery type AAA LR03

(HT8), IEC/EN61243-3:2010

IEC/EN61243-3:2014 (HT10)

255x60x35mm (HT6,HT8)

270x70x30mm (HT10)

double insulation

170g (HT6,HT8) 290g (HT10)

LCD, 31/2 digits, 1999 counts (HT10)

IEC/EN61010-1, IEC/EN61010-2-030

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

PRODUCT DATA SHEET

HT10

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).



PRODUCT DATA SHEET



Provided accessories

Protection cap for lead, 2 pieces

Adapter 4mm for lead, 2 pieces

Mobile lead (HT6,HT8) PR9

Carrying bag for (HT10)

Batteries and user manual



Optional accessories













CLAMP METERS



	H I 9019	H I 9014	H19012	H14011	H I 4010	F3000	H1100	H1/004	H13010	H I 3013
MAIN MEASUREMENTS					AC					
TRMS	•	•				•	•	•	•	•
Current measuring range:	1000A	600A	600A	400A	600A	3000A	200A	300A	400A	400A
Current	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC/DC
Leakage current										
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		•		•					•	•
Resistance and continuity test with buzzer	•	•	•	•	•		•		•	•
Capacitance		•		•						•
Diode test		•	•	•	•		•		•	•
Duty Cycle (%)		•		•						•
Temperature with K-type probe		•		•						•
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%										
Inrush current measurement (INRUSH)										

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	•	•	•		•	•	•	•	•	•
Bargraph	•	•								
Autorange	•	•	•	•	•	•	•	•	•	•
Auto power off	•	•	•	•	•	•	•	•	•	•
Detection of AC voltage without contact	•	•	•	•	•		•	•	•	•
Data HOLD function	•	•	•	•	•	•	•	•	•	•
MIN/MAX function	•	•	MAX		MAX				•	•
AVG function (AVERAGE)										
PEAK function	•	•								
Relative measurement (ZERO)		•		•						•
Low-pass filter for harmonic reduction	ı									
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	HP030000	HP000100	HP007004	HP003010	HP003013



HT9025T	HT9025	HT9021	HT9015	HT4013	HT7005	HT9023	HT9020	HT4022	HT4020	HT79	HT77C
		AC/	DC			PC	WER AND	HARMON	ICS	LEA	KAGE
•	•	•	•		•	•	•	•	•	•	•
1000A	1000A	1000A	600A	400A	400A	1000A	1000A	400A	400A	100μA ÷ 10A DC 100μA ÷ 20A AC	
AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC+DC	AC+DC	AC	AC	AC/DC	AC
										AC/DC	AC
1000V AC 1500V DC	1000V AC 1500V DC	1000V	1000V	600V		1000V AC 1500V DC					
AC+DC	AC+DC	AC/DC	AC/DC	AC/DC		AC+DC	AC+DC	AC/DC	AC/DC	AC/DC	
•	•	•	•	•		•	•	•	•		
	•	•		•		•		•	•	•	
	•	•		•							
•	•	•	•	•							
•	•	•	•	•							
•	•	•	•	•							
						•	•	•	•		
• AC+DC	• AC+DC										
•	•										
						•	•*	•*	•*		HTLeakage
						•	•*	•*	•*		
						•	•*	•*	•*		
						•	•*	•*	•*		
						•	•*	•*			
•	•				•	Dynamic INRUSH	Dynamic INRUSH				

C/ 010-1	442 IEC/ EN61010-1	285 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
	442	285	203	140	720					
)5		005	205	140	420	420	280	280	262	500
00x50	252x88x44	215x74x43	200x66x37	160x55x30	252x88x44	252x88x44	205x64x39	205x64x39	206x76x34	230x100x2
ON tery	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
etooth					WiFi					Bluetoot
					•	•				
					•					
										•
	•	•	•		•	•			•	
	•	•			•	•	•	•		
	_	•			•	•			•	_
		_	•	•	_	_	_	•	•	•
	•	•	•	•		•	•	•	•	
	•	•		•	•	•	•	•	•	•
		-		_	_			_		
			4000							6000
										40mm 6000
	000V mm 000	1000V CAT III 1000V		1000V CAT III 1000V CAT III 1000V CAT III 600V CAT III 60	1000V CAT III 1000V CAT III 1000V CAT III 600V CAT III 300V CAT III 300V CAT III 1000V CAT III 600V CAT III 300V CAT III 300V CAT III 600V CAT III 300V CAT III 600V CAT III 600V CAT III 300V CAT III 600V CAT III 600V CAT III 300V CAT III 600V CAT III 6	10000V CAT III 1000V CAT III 1	10000V CAT III 1000V CAT III 1	10000V CAT III 1000V CAT III 1	1000V CAT 1000V CAT	10000

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.



PRODUCT DATA SHEET



SEE PRODUCT DATA SHEET

Functions		
T directions	HT3010	HT3013
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



Characteristics

LCD 4 digits, 6000 counts (HT3013) LCD 31/2 digits, 2000 counts (HT3010) Display:

Conversion type:

3x1.5V batteries type AAA LR03 Power supply:

Auto Power OFF: after 15 minutes' idling Safety: IEC/EN 61010-1 Overvoltage category: CAT III 600V

Pollution level:

Insulation: double insulation

Max height: 2000m Clamp jaw internal di-30mm ameter:

Weight (batteries includ- 320g

Size (LxWxH): 220x81x42mm Weight (batteries includ- approx 280g

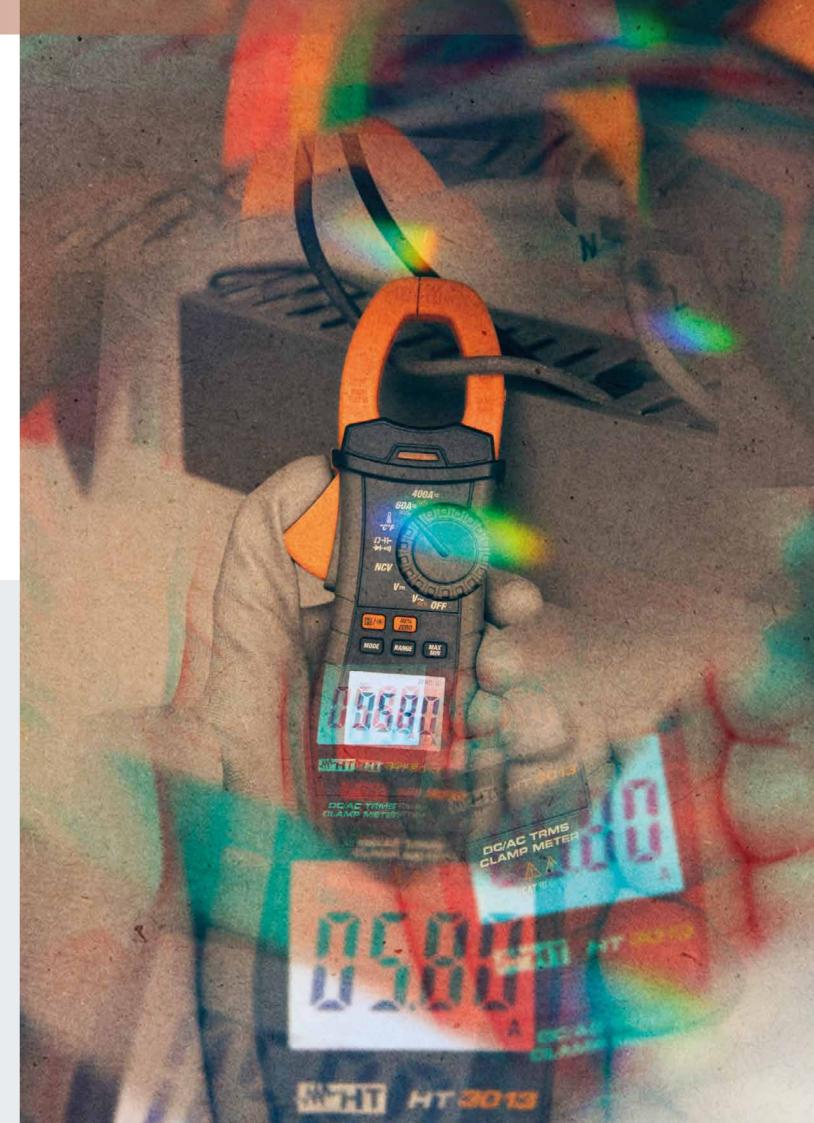


Optional accessories









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.



PRODUCT DATA SHEET

ORDER CODE HP009025

HT9025

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



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.

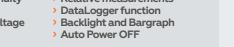


PRODUCT DATA SHEET

Functions

- 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
- "Voltsense" for AC voltage detection

- Frequency with clamp jaws and leads
- Capacitance / Duty cycle / Diode test
- Temperature with K-type probe
- Built-in infrared thermal camera (80x80pxl)
- Autorange / Data HOLD / MAX/MIN / PEAK (<1ms)
- Relative measurements





Characteristics

Display: colour TFT 6000 dots Conversion type: TRMS 1x7.4V rechargeable Li-ION Power supply:

batterv **Auto Power OFF:** after 15÷60 minutes' idling

Clamp jaw internal diameter: 40mm max 128 snapshots/16 recordings Internal memory:

Bluetooth connection BLE 4.0 IEC/EN61010-1 Safety:

CAT IV 600V - CAT III 1000V Overvoltage category: Insulation: double insulation

Pollution level:

280x100x50mm Size (LxWxH):

Weight (batteries included):

Provided accessories

4324-2	Pair of leads with 2/4mm tip
T10	Adapter for K-type wire probe
TK101	K-type wire probe
BAT64	Li-ION rechargeable battery, 2 pieces
A0EC95	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**







- TRMS measurements
- AC voltage with low
- DC/AC current up to 1000A
- clamp transducers

- **Functions**
- DC voltage up to 1500V AC voltage up to 1000V
- AC/DC voltage
- impedance (LoZ)
- Inrush current (INRUSH)
- DC/AC current with external
- **Resistance and Continuity**
- "Voltsense" for AC voltage detection

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



Characteristics

Display: Conversion type: Power supply: **Auto Power OFF:**

Clamp jaw internal diameter: Internal memory:

Bluetooth connection Safety:

Overvoltage category: Insulation:

Pollution level: Size (LxWxH):

TRMS

colour TFT 6000 dots

1x7.4V rechargeable Li-ION battery, after 15÷60 minutes' idling

max 128 snapshots/16 recordings

BLE 4.0 IEC/EN61010-1

CAT IV 600V - CAT III 1000V

double insulation

280x100x50mm

Weight (batteries included): 505g



Provided accessories

4324-2	Pair of leads with 2/4mm tip
T10	Adapter for K-type wire probe
TK101	K-type wire probe
BAT64	Rechargeable Li-ION battery
A0EC95	Battery charger power supply + recharging base
BOEC95	Carrying bag
	User manual, ISO calibration report



Optional accessories







ORDER CODE HP09025T HT9025T

AC/DC TRMS 1000A current clamp with integrated



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 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).

Provided accessories

K-wire probe adapter

K type wire probe

Transport bag

Optional accessories

CAT III 1000 V

Pair of tips with 2/4mm tip

Rechargeable battery Li-ION (2 pieces)

Battery charger + charging base

User manual ISO calibration report

SCAN THE QR CODE

OPTIONAL ACCESSORIES

VFD ON

→ TRMS

TO DISCOVER ALL



4324-2

T10

TK101

BAT64

A0EC95

B0EC95

→ TRMS

SEE THE **PRODUCT** DATASHEET

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



Characteristics

Display: **Conversion Type:** Power supply:

Auto Power OFF: Toroid internal diameter: Internal memory:

Bluetooth Connection Safety:

Measurement category: Insulation:

Level of pollution:

Dimensions (LxWxH): Weight (batteries included): 505 g

TFT colour 6000 points TRMS

1x7.4V Li-ION rechargeable battery after 15÷60 minutes of non-use

max 128 snapshots/16 adjustments

BLE 4.0 IEC/EN61010-1

CATIV 600V - CATIII 1000V - CATII 1500VDC

double insulation

280x100x50mm

ORDER CODE HP009023 **HT9023**



Professional clamp meter for measuring power/ harmonics with WIFI connection



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 HTA nalysis 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.



DATA SHEET HT9023



SEE

- DC, AC + DCTRMS 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
- > 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

- Measurement/Recording of power factor in single-phase systems
- Measurement/Recording of voltage/current harmonics up to the 25th and calculation of THD%
- Motor starting current detection (Dynamic INRUSH)
- Data logger function with
- programmable PI Autorange
- Data HOLD
- MAX/MIN/AVG
- PEAK (1ms), ZERO
- Backlight
- WiFi for connection to PC and Android/iOS devices
- Auto Power OFF



Display: Conversion type Power supply: **Duration:** PC interface:

Internal memory: 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

2MBytes (approx. 5g @IP=1min) WiFi

IEC/EN61010-1

CAT IV 600V - CAT III 1000V double insulation

252x88x44mm 420a



Provided accessories

YAAMK0000HT0	Pair of test leads
YAAMK0001HT0	Pair of alligator clips
YABRS0000NN0	Carrying bag
	Batteries
	ISO calibration report
	Quick user guide



Optional accessories

















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.



PRODUCT **DATA SHEET**

Functions

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

Characteristics

Display: TRMS Conversion type:

Power supply: **Auto Power OFF:** after 15 minutes' idling

Max diameter of clamp: 45mm

Safety: Overvoltage category:

Insulation:

Size (LxWxH): Weight (batteries included): 420g

LCD, 4 digits, 6000 counts

1x9V battery type IEC6F22

IEC/EN61010-1

CAT IV 600V - CAT III 1000V double insulation

Pollution level:

252x88x42mm

Provided accessories

4324-2	Pair of leads with 2/4mm tip
T10	Adapter for K-type wire probe
TK101	K-type wire probe
YA- BRS0000NN0	Carrying bag

Batteries and user manual



Optional accessories



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





ORDER CODE HP009020

HT9020

Professional clamp meter with power/harmonic measurement



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.



PRODUCT DATA SHEET

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

Provided accessories

YAAMK0000HT0	Pair of test leads
YAAMK0001HT0	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**







Characteristics

dotmatrix 128x128pxl with backlight Display: 2x1.5V batteries type AAA Power supply: **Duration:** > 150 ore IEC/EN61010-1 Safety: Double insulation Insulation: Pollution level: CAT IV 600V to earth, Overvoltage category:

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

Functions

DC, AC + DCTRMS current

DC, AC + DCTRMS voltage

Frequency with leads

and with clamp jaws

Resistance and Continuity

Measurement of DC power

Measurement of active,

on single-phase systems

reactive and apparent power

Phase sequence /

Phase conformity

up to 1000A

up to 1000V

and energy

max 1000V between inputs 45mm

252x88x44mm 0.42kg

HT

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



PRODUCT DATA SHEET

Functions

- TRMS measurements
- AC current up to 1000A
- AC/DC voltage up to 1000V Resistance and Continuity test
- "Voltsense" for AC voltage detection
- Autorange
- Data HOLD MAX/MIN
- PEAK CURRENT (<10ms)
- Bargraph
- Backlight AutoPowerOFF



Characteristics

Display: Conversion type: Power supply: **Auto Power OFF:** Clamp jaw internal

diameter: Safety: Overvoltage category: Insulation: Pollution level: Size (LxWxH):

Weight (batteries

included):

after 15 minutes' idling 45mm IEC/EN61010-1 CAT IV 600V - CAT III 1000V

LCD, 4 digits, 6000 counts

1x9V batteries type IEC 6F22

double insulation

TRMS

252x88x44mm 420g

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.



Provided accessories

4324-2	Pair of leads with 2/4mm tip
YA- BRS0000NN0	Carrying bag
	Batteries and user manual



Optional accessories



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

→ TRMS



ORDER CODE **HP009015**

HT9015

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



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.



PRODUCT DATA SHEET



Provided 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 bag



Optional accessories



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











Functions

Resistance and Continuity test

> Temperature with K-type probe

"Voltsense" for AC voltage detection

Frequency with clamp jaws and leads

> TRMS measurements

Capacitance

Duty cycle

Diode test

Autorange Data HOLD

MAX/MIN PEAK (<10ms)

AC/DC voltage: (1000V)

AC/DC current: (600A)

Relative measurements

Backlight and Bargraph

Auto Power OFF

Display: LCD, 4 digits, 6000 counts

Conversion type: TRMS 1x9V battery type IEC6F22 Power supply: **Auto Power OFF:** after 15 minutes' idling 30mm

Clamp jaw internal

IEC/EN61010-1 Safety: CAT IV 600V - CAT III 1000V Overvoltage category:

double insulation Insulation:

Pollution level:

210x75x45mm Size (LxWxH): Weight (batteries included): 400g

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.



SEE PRODUCT DATA SHEET

ORDER CODE **HP009012** HT9012

Professional clamp meter AC 600A, CAT IV 600V



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.



SEE PRODUCT DATA SHEET

Provided 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 bag



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES





Characteristics

Functions

"Voltsense" sensor

AutoPowerOFF

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,

Measurements in TRMS, DC/AC voltage, AC current

LCD, 4 digits, 6000 counts Display: Conversion type: TRMS 1x9V battery type IEC 622 Power supply: after 30 minutes' idling **Auto Power OFF:**

Clamp jaw internal diameter:

Safety: CAT IV 600V - CAT III 1000V Overvoltage category:

30mm

IEC/EN61010-1

210x75x45mm Size (LxWxH): Weight (batteries included): 400g

CAT III 1000V



Functions

- > DC/AC voltage
- › AC current
- Resistance/Continuity test
- "Voltsense" sensor
- Diode test) Data HOLD
- MAX function
- Backlight
- AutoPowerOFF



Characteristics

LCD, 31/2 digits, 2000 counts Display: Conversion type: average value

1x9V battery type IEC 622 Power supply:

after 30 minutes' idling AutoPowerOFF: 30mm Clamp jaw internal

diameter:

IEC/EN61010-1 Safety: Measurement category: CAT IV 600V 210x75x45mm Size (LxWxH):

Weight (batteries included):

400g



Provided accessories

4324-2

Pair of leads with 2/4mm tip

Battery

User manual and Carrying bag



Optional accessories





HT4013

Clamp meter AC/DC 400A



Functions

> Temperature with K-type probe

"Voltsense" for AC voltage detection

Resistance and continuity test with buzzer Frequency with leads, Capacitance, Diode test

> Autorange, Data HOLD, MAX/MIN/Relative

Characteristics

LCD, 4 digits, 4000 counts

after 30 minutes' idling

LR03

30mm

205g

IEC/EN61010-1

double insulation

200x66x37mm

CAT III 600V

2x1.5V alkaline batteries type AAA

> AC/DC current up to 400A

DC/AC voltage up to 600V

Duty Cycle (%)

measurement

Display: Conversion type:

clamp:

Safety:

Power supply:

Auto Power OFF:

Max diameter of

Measurement category:

Size (LxWxH):

Weight (batteries

Insulation: Pollution level:

included):

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.



SEE PRODUCT DATA SHEET

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 bag



Optional accessories



SCAN THE QR CODE



Clamp meter HT4013 has been designed to measure

Provided accessories

TO DISCOVER ALL **OPTIONAL ACCESSORIES**

ORDER CODE **HP004022** HT4022

ORDER CODE HP004020 HT4020

Clamp meter AC TRMS 400A with power/harmonic measurement



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, Cosq, 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.



PRODUCT DATA SHEET



PRODUCT DATA SHEET

	HT4022	HT4020
DC/AC TRMS voltage	•	•
AC TRMS current	•	•
Resistance and Continuity test	•	•
Frequency with test leads and clamp jaws	•	•
Active, Reactive, Apparent power	•	•
Active, Reactive, Apparent energy	•	•
Power factor and $Cos \Phi$	•	•
Harmonics V/ I up to the 25th and THD%	•	
Phase sequence with 1 terminal	•	•
Autorange	•	•
Data HOLD	•	•
MAX/MIN/AVG/PEAK	•	•
Backlight	•	•
AutoPowerOFF	•	•

Functions



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	



Characteristics

LCD, 4 digits, 10000 counts Display: TRMS, 64 samples in 20ms Conversion type: Power supply: 2x1.5V batteries type AAA LR03

Auto Power OFF: after 5 minutes' idling Safety: IEC/EN 61010-1 CAT III 600V Overvoltage category:

Pollution level:

Insulation: double insulation

2000m Max height: Clamp jaw internal diameter: 205x64x39mm Size (LxWxH):

approx 280g Weight (batteries included):



Optional accessories







HT4011

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.



SEE PRODUCT **DATA SHEET**

Functions

- > 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



Characteristics

Display: LCD, 4 digits, 4000 counts

average value Conversion type:

2x1.5V batteries type AAA Power supply: I R03

after 30 minutes' idling **Auto Power OFF:**

Max diameter of clamp: 30mm

Safety: IEC/EN61010-1 CAT III 600V Overvoltage category:

double insulation Insulation:

Pollution level:

Size (LxWxH): 200x66x37mm

Weight (batteries included):

Provided 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 bag







ORDER CODE **HP004010 HT4010**

Clamp meter AC 600A

AC/DC voltage up to 600V

Resistance / Continuity test

Diode test

Backlight Auto Power OFF

Display:

diameter:

Insulation:

Pollution level: Max height:

Size (LxWxH): Weight (batteries

included):

Safety:

Conversion type:

Auto Power OFF:

Clamp jaw internal

Overvoltage category:

Power supply:

MAX

Data HOLD

Detection of AC voltage without contact

Characteristics

LCD, 3½ digits, 2000 counts

1x9V battery type 6F22

after 15 minutes' idling

average value

EC/EN 61010-1

double insulation

CAT III 600V

2000m 197x70x40mm

180g



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.



SEE PRODUCT DATA SHEET



Provided accessories

4324-2

Pair of leads with 2/4mm tip

Carrying bag, battery and user manual

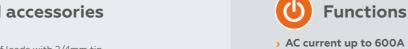


Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES





TK101	K-type wire probe
T10	Adapter for K-type wire probe
4324-2	Pair of leads with 2/4mm tip



Optional accessories





F3000

Clamp meter with flexible jaws AC 3000A



Professional clamp meter F3000 has been designed function to preserve its own battery.



PRODUCT

Functions

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



Characteristics

Display: LCD, 4 digits, 3000 counts

Conversion type:

2x1.5V alkaline batteries type AAA Power supply:

LR03

after 20 minutes' idling **Auto Power OFF:**

Max diameter of clamp: 110mm

Safety: IEC/EN61010-1

CAT IV 600V - CAT III 1000V Overvoltage category:

double insulation Insulation:

Pollution level:

Size (LxWxH): 280x120x25mm

Weight (batteries 170g

included):

CAT III 1000V

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



DATA SHEET

Provided accessories

Batteries

Carrying bag

User Manual



Optional accessories



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





ORDER CODE **HP000100**

HT100

Fork clamp meter AC 200A



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.



PRODUCT DATA SHEET

Provided accessories

Pair of test leads

Batteries and user manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES





Functions

AC TRMS current up to 200A

Continuity test with buzzer

› Autorecognition function

DC/AC TRMS voltage up to 1000V

"Voltsense" for AC voltage detection

Characteristics

TRMS

LCD, 4 digits, 10000 counts, backlit

2x1.5V alkaline batteries type AAA

after 20 minutes' idling

CAT IV 600V, CAT III 600V

IEC/EN61010-1

double insulation

193x54x31mm

280g

TRMS measurements

Resistance

Diode test

Autorange

Backlight

Display:

Safety:

Insulation:

included):

Pollution level:

Size (LxWxH): Weight (batteries

Data HOLD

> Auto Power OFF

Conversion type:

Auto Power OFF:

Overvoltage category:

Max diameter of clamp: 16mm

Power supply:

HT7005

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



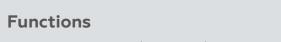
Clamp meter HT7005 can measure DC and ACTRMS current up to 400A in Autorange, in compliance with IEC/EN61010-1, CAT III 300V further to measuring the inrush current of electric motors with a response time of 100ms. Model HT 7004 can measure only AC TRMS current up to 300A. Both devices are provided with 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.



PRODUCT DATA SHEET



PRODUCT DATA SHEET



	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

2x1.5V batteries type AAA LR03 Power supply: Safety: IEC/EN61010-1 CAT III 300V Overvoltage category:

double insulation Insulation: Pollution level:

2000m Max operating altitude:

Display:

decimal sign and point

Max cable diameter Size (LxWxH): 155x60x25mm Weight (batteries 140g

included):

3¾ LCD, 4000 dots,

HT79

ORDER CODE HP000079

ORDER CODE **HP00077C**

Clamp meters for measuring leakage current



HT77C

HT79

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.



PRODUCT DATA SHEET



PRODUCT **DATA SHEET**

Provided accessories

Soft transport bag

User Manual

→ TRMS



Optional accessories



M-

INRUSH

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

Provided accessories

Pair of test leads (HT79) Soft transport bag

Functions

TRMS measurements DC/AC voltage

DC current

AC current

Resistance /

Data HOLD

Auto HOLD

Peak HOLD

Autorange

Backlight

MAX/MIN

Auto Power OFF

(ZERO)

Continuity test

Low-pass filter

Relative measurement

Batteries and user manual



Optional accessories



Characteristics

LCD 4 digits, 6000 counts (HT77C) Display: LCD 4 digits, 5000 counts (HT79)

Conversion type

TRMS 2x1.5V batteries type AAA LR03 (HT79) 2x1.5V batteries type AA LR06 (HT77C) Power supply:

IEC/EN 61010-1

double insulation

Safety:

CAT III 600V (HT77C) Overvoltage category: CAT IV 300V (HT79)

Insulation:

Pollution level:

Max operating altitude: 2000m

Max cable diameter: 40mm (HT77C)

23mm (HT79)

after 20 minutes' idling (HT77C) **Auto Power OFF:**

Size (LxWxH): 230x30x24mm (HT77C)

206x76x34mm (HT79)

after 30 minutes' idling (HT79)

500g (HT77C) 262g (HT79) Weight (batteries included):













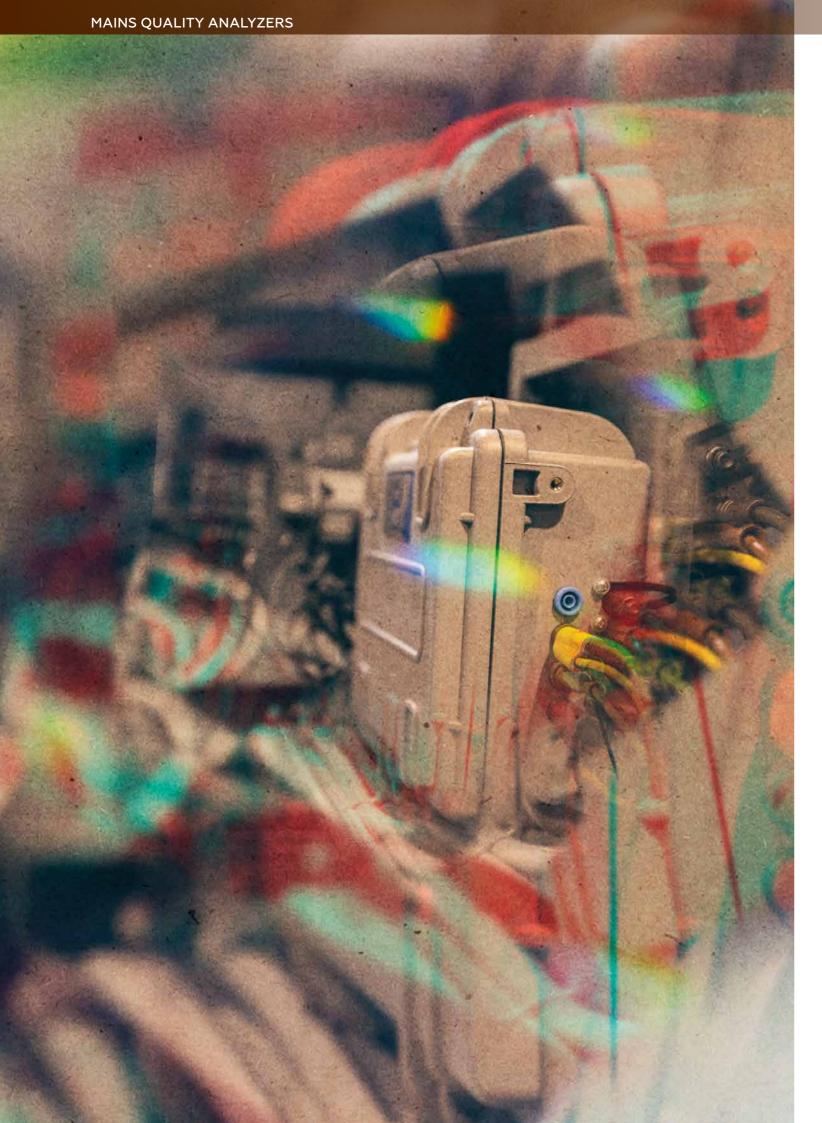






pag. HT9023 **75**





MAINS QUALITY ANALYZERS









				7.60
	VEGA74	PQA820	PQA819	HT9023
MAIN MEASUREMENTS		MAINS QUALI	TY 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	•	• *	• *	• *

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

1 1.5 1.5 0.5 Weight in kg (batteries included) IEC/EN61000-4-30 | IEC/EN61000-4-30 | IEC/EN61000-4-30 | IEC/EN61000-4-30 | Class B | Class B Reference standard for mains quality IEC/EN61010-1 IEC/EN61010-1 Reference standard for safety IEC/EN61010-1 IEC/EN61010-1 ORDER CODE HV000740 HV000820 HV000819 HP009023

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

VEGA74

Three-phase mains analyzer



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.



PRODUCT DATA SHEET



> 9 types of electric systems available

Mains analysis

Functions

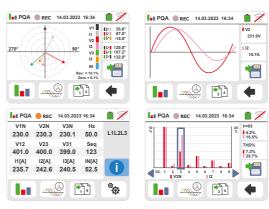
- > DC/AC TRMS voltage in single-/three-phase systems up to 600V
- > DC/AC TRMS current in single-/three-phase systems up to 3000A
- Active, Reactive and Apparent Power/Energy
- Cosphi and Power Factor
- > Voltage, Current, DC Power
- Measurement of neutral current
- Voltage dips and peaks on 20ms @50hz
- 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
- 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
- Recording of leakage current



- > 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.







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 accessories		
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



ORDER CODE HV000820 **PQA820**

ORDER CODE HV000819 **PQA819**

Three-phase and single-phase mains analyzers



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

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.

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 quantities 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 $\operatorname{\textbf{HT}}$ Cloud, the web database created by HT to archive recordings and **share them** quickly with anyone around the world.



- > 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
- Voltage/current vector diagram



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%
- Indication of recording duration



Characteristics

Power supply: rechargeable Li-ION battery

External power 100 ÷ 415V, 50/60Hz

supply:

Recording duration > 230 days (@ PI =15min) (PQA819)

Recording period:

PC interface: Safety:

Mechanical

protection:

Reference standards:

Operating

temperature:

Operating humidity: Storage temperature:

Storage humidity: Size:

Weight (battery

235x165x75mm

> 30 days (@ PI = 10min) (PQA820)

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

EN50160

 $0 \div 40^{\circ}C$

<80%RH

-10 ÷ 60°C

<80%RH

included):

approx 0.7kg



Provided accessories

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



Optional accessories

















PQA819 HT9023 PQA820 GSC60

With **HTANALYSIS™**



Voltage and current waveforms



Voltage and current vector diagram.



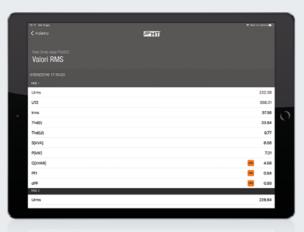
1. Click on the arrow next to the desired value.



Current and voltage harmonics.



Zoom on a voltage and current drop.



2. It switches to harmonic values in real-time

ORDER CODE **HP009023**

HT9023

Professional clamp meter for measuring power/ harmonics with WIFI connection



SEE PRODUCT DATA SHEET 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.



Display:

Duration:

Safety:

Insulation:

Pollution level:

Size (LxWxH):

Conversion type:

Internal memory:

Clamp jaw internal diameter:

Weight (batteries included):

Overvoltage category:

Power supply:

PC interface:

Functions

- DC, AC + DC TRMS current up to 1000A
- DC voltage up to 1500V AC, AC+DC TRMS 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

- Measurement/Recording of power factor in single-phase systems
- Measurement/Recording of voltage/current harmonics up to the 25th and calculation of THD%
- Motor starting current detection (Dynamic INRUSH)

 Data logger function with programmable PI
- Autorange
- Data HOLD MAX/MIN/AVG
- PEAK (1ms), ZERO
- Backlight

TRMS

> 40ore

WiFi

45mm

420g

IEC/EN61010-1

double insulation

252x88x44mm

WiFi for connection to PC and Android/iOS devices

dotmatrix 128x128pxl with backlight

2x1.5V batteries type AAA LR03

2MBytes (approx. 5g @IP=1min)

CAT IV 600V - CAT III 1000V

Auto Power OFF



Provided accessories

YAAMK0000HT0	Pair of test leads
YAAMK0001HT0	Pair of alligator clips
YABRS0000NN0	Carrying bag
	Batteries
	ISO calibration report
	Quick user guide



Optional accessories

























DATALOGGER









		Control of the Contro		1
	XL421	XL422	XL423	XL424
MAIN MEASUREMENTS		DATA LO	OGGERS	
TRMS	•	•	•	•
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	1s, 6s, 30s, 1min, 5min	1s, 6s, 30s, 1min, 5min	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	CAT IV 600V CAT III 1000V	CAT IV 600V CAT III 1000V	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

XL421

ORDER CODE HV000422

TRMS single-phase and three-phase current data logger







PRODUCT DATA SHEET



PRODUCT **DATA SHEET** XL421 and L422 are **Data Loggers** capable of measuring for different applications (evaluation of load currents, jaws which allow surrounding also a big-sized cable or is almost full, the previously recorded values are "re-

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 rated powers of transformers, etc.). The devices have a comfortable mobile structure with built-in flex clamp 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 sampled" 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 ORDER CODE HV000423

XL423

ORDER CODE HV000424

XL424

TRMS single-phase and three-phase voltage data logger







PRODUCT DATA SHEET



PRODUCT DATA SHEET

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.



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: 5 (XL421) 1.5 (XL422) 1s 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



Provided accessories

fully reliable also under extreme operating conditions.

VELCRO	Adhesive strap 50x70mm
C2004	Serial cable
BORSA 2000	Carrying bag (XL421)
BORSA75	Carrying bag (XL422)
	Batteries



Optional accessories

User Manual



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







- 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) .34 (XL423) 8 (XL424) 6s. . 170 (XL423) 42 (XL424) 30s. .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



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**

→ TRMS











MULTIFUNCTIONAL TESTERS













		1000	
神 色 と	ě.	報告のこ	
.00=	200	-868	
NET A	17		

	MACROTEST G3	MACROTEST G2	MACROTEST G1	GSC60
ELECTRIC SAFETY MEASUREMENTS	E	LECTRIC VERIFICATI	ONS MAINS ANALY	SES
TRMS	•	•	•	•
Insulation with voltage 50, 100, 250, 500, 1000VDC	•	•		•
Continuity of protective conductors with 200mA	•	•	•	•
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= 1AB, B+= 300mADD= 6mA			A,F, AC= 1AB, B+= 300mA
Tripping current of RCDs type AC, A, F, B, B+ , DD and Standard, Selective and Selective CCIDs	A,F, AC= 1AB, B+= 300mADD= 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	•	•	•	•
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 Ω)	*			•*
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 ANALYSIS				
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 inpu
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	•	•	•	•
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

HV005036

HV005038

HV005037

HV000060

HV0000G2

HV000519

HV000100

HV000075

HV00075L

HROOJUPI

HROONEPK

COMBI G2	COMBI 519	EASYTEST	M75	M75L	JUPITER	NEPTUNE	FULLTEST3
	RIFICATIONS MAI	NS ANALYSES	ELEC1	TRIC VERIFICATION	ONS TRMS MULTI		ELECTRIC BOARDS
•	•	•	•	•	•	•	AND MACHINES
		•	250V, 500V	250V, 500V			
		•	- 230 V, 300 V	• 230 V, 300 V			
	•	•					
A,F, AC= 1AB, B+= 300mADD= 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
• ***							
•	•	•	•	•	•		•
•	•	•			•		•
*	• *						•
		•					
	•	•	•	•	•		
			•				
•	•	•	•	•	•	•	
•			•	•	•	•	
							•
•							

• *****							
• (1)							
• (1)							
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 by the user
•							
•							
•	•	•					
•	•	•					USB
•	_	•					
	000	_	0.40	0.40	47		100
222x162x57	222x162x57	222x162x57	240x100x45	240x100x45	175x85x55	175x85x55	400x300x170
1.2kg IEC/EN61010-1	1.2kg IEC/EN61010-1	1.2kg IEC/EN61010-1	450g IEC/EN61010-1	450g IEC/EN61010-1	420g IEC/EN61010-1	420g IEC/EN61010-1	15kg IEC/EN61010-1
ILC/ LINGIUIU-I	ILC/ENGIUIU-I	ILC/ ENGIUIU-I	ILC/ENGIUIU-I	ILC/ EINOIUIU-I	ILC/ ENGIUIU-I	ILC/ ENGIOTO-1	ILC/ ENGIUIU-I

ORDER CODE

HV000003

GSC60

A unique instrument for mains analysis and verification of electric safety



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.



WATCH THE VIDEO TUTORIAL



PRODUCT DATA SHEET GSC60

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 m Ω) 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
- 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

Functions of Mains analysis

- 9 types of electric systems available
- > TRMS voltage in single-/three-phase systems up to
- 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**, guickly set the measuring parameters and press key GO. Here it is: HTOS™, 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.



Example of display of V-I harmonics









Example of display Real-time phasors



Example of display Recording made (evident voltage interruptions)





HTFLEX33E	Flex clamp 3000A, diameter 174mm, 4 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 accessories
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
	ISO calibration report



Optional accessories



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







ΜΩ4

MACROTESTG3

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



- 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.



WATCH THE VIDEO TUTORIAL



SEE PRODUCT DATA SHEET MACROTESTG3 MacrotestG3 is a revolutionary device.

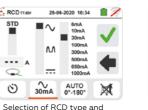
Its TFT colour **touch-screen** display allows using this device in a completely new manner. **MacrotestG3 makes available on its display all possible variables to obtain a perfect measurement;** your task will only be to "**touch**" what you really want to measure: simply leave the rest to Macrotest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

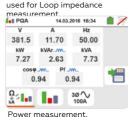
Cutting-edge management of measurement with indication, at the end of each safety test, **of compliance or non-compliance with requirements** with simple symbols **OK** or **NOT OK**.

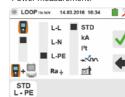


Selection of RCD type and tripping current.



Zeroloop: compensation of the resistance of the test cables used for Loop impedance





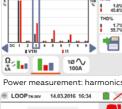
Advanced Loop.



Selection of test voltage and minimum



Autosequence: automatic sequence of measurements of Overall earth resistance, RCD test and Insulation I.-P.F. N.-P.F. II. PQA 14.03.2016 16.34 1.05.7%



ISC 38.7 kA

Z 0.01 Ω

KA
-L 30kA

Advanced Loop: negative result of interruption power test



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

(i

Display:

Characteristics

Power supply: 6x1.2V rechargeable batteries type AA

NiMH

or 6x1.5 type AA alkaline **Battery life:** > 550 test (alkaline)

attery life: > 550 test (atkaline)

Resistive touch screen, colour LCD, resolution 320x240 pxl

Memory: 999 locations, 3 levels of markers

<80%RH

PC interface: optical/USB and WiFi

Safety: IEC/EN61010-1, double insulation

Operating humidity: <80%RHOperating $0 \div 40^{\circ}C$

temperature:
Storage humidity:

Storage -10 ÷ 60°C

temperature:

temperature

CAT IV 300V, max 415V between inputs

Overvoltage category:
Pollution level:

el: 2

Reference IEC/EN61557-1-2-3-4-5-6 Standards

Size (LxWxH): Weight (batteries

included):

1.2kg

225 x 165 x 75 mm



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





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

Multifunction instruments for safety verification of electric systems





PRODUCT **DATA SHEET** COMBI519



SEE PRODUCT **DATA SHEET** EASYTEST

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

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:

- 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.

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	(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		



Common characteristics

6x1.5V alkaline batteries type AA IEC Power supply:

LR06 or 6 x1.2V rechargeable NiMH

batteries type AA

> 500 test (alkaline) Battery life:

COG black/white graphic LCD, Display:

320x240pxl

999 locations, 3 levels of markers Memory:

optical/USB and WiFi PC interface:

Safety: IEC/EN61010-1,IEC/EN61010-2-030, IEC/EN61010-2-033 IEC/EN61010-2-

034, IEC/EN61557-1, double insulation

Operating humidity:

0°C ÷ 40°C Operating temperature:

<80%RH Storage humidity:

-10°C ÷ 60°C Storage

temperature: Overvoltage

CAT IV 300V, max 415V between inputs

category:

Pollution level:

IEC/EN61557-1-2-3-4-5-6 Standard standards:

1.2kg

225 x 165 x 75 mm Size (LxWxH):

Weight (batteries

included):



Provided accessories

UNIVERSALKITCOMBI	Set of 3 cables + 3 alligator clips + 3 leads
C2033X	3-terminal cable with Schuko plug
BORSA75	Soft carrying bag
C2006	Cable for PC connection
SP-0500	Shoulder strap kit with pre-perforated sheaths
	ISO calibration report
	Quick user guide



Optional accessories





FULLTEST3

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



- 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,
- Insulation resistance with test voltage up to 1000V
- > Verification of **residual voltage** on capacitive
- > 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.



WATCH THE VIDEO TUTORIAL FULL TEST



SEE PRODUCT DATA SHEET FULLTEST3

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.





RPE 4-WIRE Ω

Z LOOP

4-wire continuity test





Measurement of insulation resistance. Measurement of overall earth resistance





Dielectric strength test.

Residual voltage measurement.

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
- > 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

Characteristics

207V ÷ 253V / 50-60Hz Power supply: **Protection:** with fuses, at input

LCD colour "touch-screen" display Display:

internal, 999 locations Memory:

USB (PC, pen drive, printers, etc.) PC interface:

and Bluetooth

Mechanical protection:

Pollution level:

IEC/EN61010-1 Safety: EN50191

IEC/EN61557-1-2-3-4-13-14 IEC/EN60204-1 Considered standards:

IEC/EN61439-1 IEC/EN60335-1

CAT III 300V (safety test) CAT III 300V (functional test) Overvoltage category:

400x300x170mm Size (LxWxH):

Weight: 15kg



Provided accessories

	Integrated power supply cable	
2317-IECIV-200-R	Test cable 2.5mm², 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 0.75mm², 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	









Optional accessories





M75

ORDER CODE HV00075L

M75L

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



SEE PRODUCT DATA SHEET M75L 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.

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.



SEE PRODUCT DATA SHEET HT52/05

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.



SEE PRODUCT DATA SHEET HT53L/05



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

94 |

- Overvoltage category: CATIII 550V
- Power supply: batteries type AA 4x1.5V
- Size (LxWxH): 240x100x45 mm
- > Weight (batteries included): approx. 450g



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
	Ouick user guide



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES





? Characteristics

AIR TEMPERATURE

- 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



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



ORDER CODE HV000EQT **EQUITEST**

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.

ORDER CODE HAIMPOO1

IMP57

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



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\Omega)** 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.



Characteristics

Continuity of protective and equipo-Type of measurement:

0.0010 Measurement resolution:

Test current: >10A AC (max resistance of measuring cables 0.7Ω)

4< Vo < 24V AC

Open-circuit voltage:

4 terminals Measuring time:

after at least 20 consecutive tests Overtemperature:

Safety Standards:

in compliance with standards IEC/ EN61439-1, IEC/EN60204-1, IEC/

Overvoltage category:

CAT III 300V to earth and between

mains 230V/240V ±10%, 50/60Hz or Power supply: 110V ±10%, 50/60Hz

max 70W (@230V, 300mA) (@110V, Power consumption:

Time-Leg 250V/1A (5x20mm)

Protection fuse: Indications of internal states:

two-colour LED

210 x 115 x 60 mm

Size:

(L x W x H):

Weight (with inbuilt cable):

1Kg



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 instrument	
	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



Characteristics

Type of measurement: Measurement

Loop impedance P-N, P-P, P-PE and calculation of short-circuit current 0.1mΩ (Zloop); 400kA (Ipsc)

resolution: Test current:

approx. 200A Frequency range: 50Hz ± 5% Size (LxWxH):

4.1kg

Weight:

340x300x150mm

Compatible instruments:

MACROTESTG3 MACROEVTEST COMBIG2 GSC60 COMBI519 COMBI521 FULLTEST3



Provided accessories

C7000	Couple of cables, 3m, with alligator clips	
C2001	Serial optical / RS-232 cable	
B80 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**

96











SAFETY TEST OF ELECTRIC VEHICLES RECHARGING STATIONS





MAIN MEASUREMENTS	COMBI521EV	MACROEVTEST
Compatibility with EV-TEST100 for verifications on electric vehicles rechargin stations	9	•
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	• A/F, AC up to 1A, B/B+ up to 300mA, DD=6mA, no delayed	• A/F, AC up to 1A, B/B+ up to 300mA, DD=6mA
Tripping current of RCDs type A/F, AC B/B+, DD, Standard	• A/F, AC =1A, B/B+=300mA, DD=6mA	• A/F, AC =1A, B/B+=300mA, DD=6mA
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 (0.1mΩ)	• ***	***
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	• (real time) (1)	• (real time) (1)
Measurement of Cosphi, Power Factor	• (real time) (1)	(real time) (1)
Measurement of environmental parameters (Lux/Temp) through optional feelers	• (real time)	• (real time)
U/I harmonics up to the 49th+THD% + Voltage anomalies (dips, peaks)	49th no anomalies (real time) (1)	49th no anomalies (real time) (1)
ORDER CODE	HV0521EV	HV5036EV

^{*} with optional accessory EQUITEST *** with optional accessory IMP57

^{**} with optional accessory T2100

**** with optional accessory 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



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.



PRODUCT DATA SHEET COMBI521EV

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
- 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

Characteristics of EV-TEST 100

Connector IEC62196-2 Type 2 (7 poles,

Voltage: L1-L2-L3-N-PE: Max 415V 50/60Hz, CAT III 300V

Input voltage: Max 415V~ phase-phase, CAT III 300V,

50Hz/60Hz ±5%

CP signal: Communication protocol PWM 12V

External load: L-N-PE: 240V 50/60Hz, CAT III 300V, max 10A~

Recharging station: Cases A, B, C - Charging mode 2 and 3 -

External load output protection: Fuse FF 10A/250V, 5x20mm

three-phase)

CE directive: Low voltage directive LVD 2014/35/EU and

Measurement category: CAT III 300V, Double insulation

Directive EMC 2014/30/EU

Operating temperature interval: 0°C ÷ 40°C

Operating relative humidity interval: <80%RH



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



Characteristics of COMBI521

6x1.5V alkaline batteries type AA IEC Power supply: LR06 or 6 x1.2V rechargeable NiMH

batteries type AA

Battery life: > 500 test (alkaline)

COG black/white graphic LCD, Display: 320x240pxl

999 locations, 3 levels of markers

optical/USB and WiFi PC interface:

Safety:

Memory:

IEC/EN61010-1,IEC/EN61010-2-030, IEC/EN61010-2-033 IEC/EN61010-2 034, IEC/EN61557-1, double insulation

Operating humidity:

Operating

temperature:

humidity:

<80%RH Storage

Storage

temperature:

-10°C ÷ 60°C

<80%RH

0°C ÷ 40°C

Overvoltage category:

CAT IV 300V, max 415V between inputs

Pollution level:

IEC/EN61557-1-2-3-4-5-6 Reference IFC/FN61010-1 Standards: Size (LxWxH): 225 x 165 x 75 mm

Weight (batteries

Maximum operating height: 2000m

Safety: IEC EN 61010-1

Pollution level: 2

AUTO EVSE **TESTING**



Provided accessories

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 instrument
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**



1.2kg





ORDER CODE HV5036EV

MACROEVTEST

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



EV-TEST 100

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.



WATCH THE VIDEO TUTORIAL **MACROEVTEST**



PRODUCT DATA SHEET MACROEVTEST

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
- Vehicle not present (status A)
- Vehicle present but not charging (status B)
- Verification of mechanical interlock of the plug
- 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

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
- > 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,
- 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

Characteristics of MACROEVTEST

6x1.2V rechargeable batteries type AA Power supply:

or 6x1.5 type AA alkaline

> 550 test (alkaline) Battery life:

Resistive touch screen, colour LCD, Display: resolution 320x240 pxl

Memory: 999 locations, 3 levels of markers

PC interface: optical/USB and WiFi

IEC/EN61010-1, double insulation Safety: <80%RH

0°C ÷ 40°C

-10°C ÷ 60°C

<80%RH

Operating

Operating humidity:

temperature:

Storage humidity:

Storage

temperature:

CAT IV 300V, max 415V between inputs

Overvoltage category:

Pollution level:

IEC/EN61557-1-2-3-4-5-6-7 Reference IEC/EN61010-1 standards:

1.2kg

Size (LxWxH): 225 x 165 x 75 mm

Weight (batteries included):

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

Measurement category: CAT III 300V, Double insulation

Maximum operating height: 2000m



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









ORDER CODE HA0EV100

EV-TEST 100

Adapter for the verification of electric vehicles recharging stations



- > Suitable for recharging stations with recharging
- > 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
- 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,
- Verification of compliance of recharging stations to standards IEC 61851-1 and IEC 60364-7-722.

Compatible instruments:

MACROEVTEST, COMBI521EV



PRODUCT DATA SHEET



- 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
- > 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.



Characteristics

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

CE directive: Low voltage directive LVD 2014/35/EU

IEC EN 61010-2014/35/EU (LVD) and Directive EMC 2014/30/EU

Operating temperature interval: $0^{\circ}\text{C} \div 40^{\circ}\text{C}$ Operating relative humidity interval: $<\!80\%RH$ Pollution level: 2

Overvoltage category: CAT III 300V

Maximum operating height: 2000m



Provided accessories

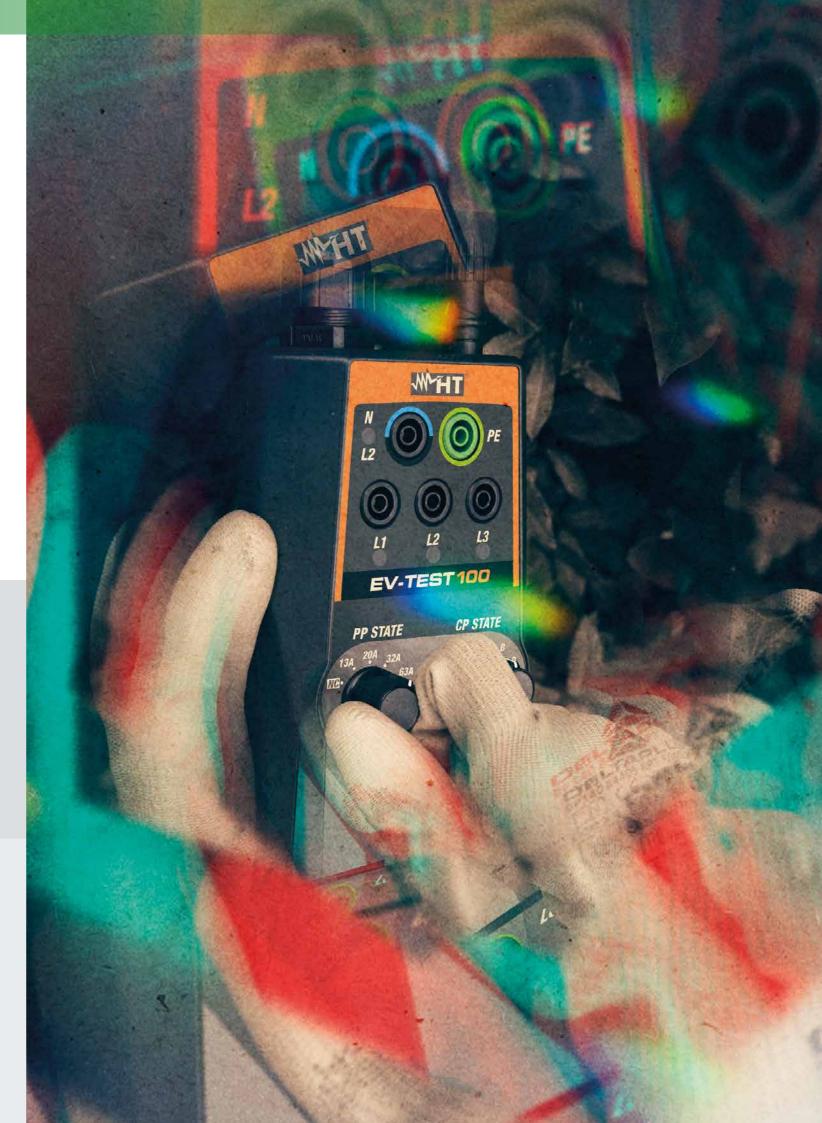
VA508 Hard carrying case C100EV Connection cable to the verification instrument



User Manual

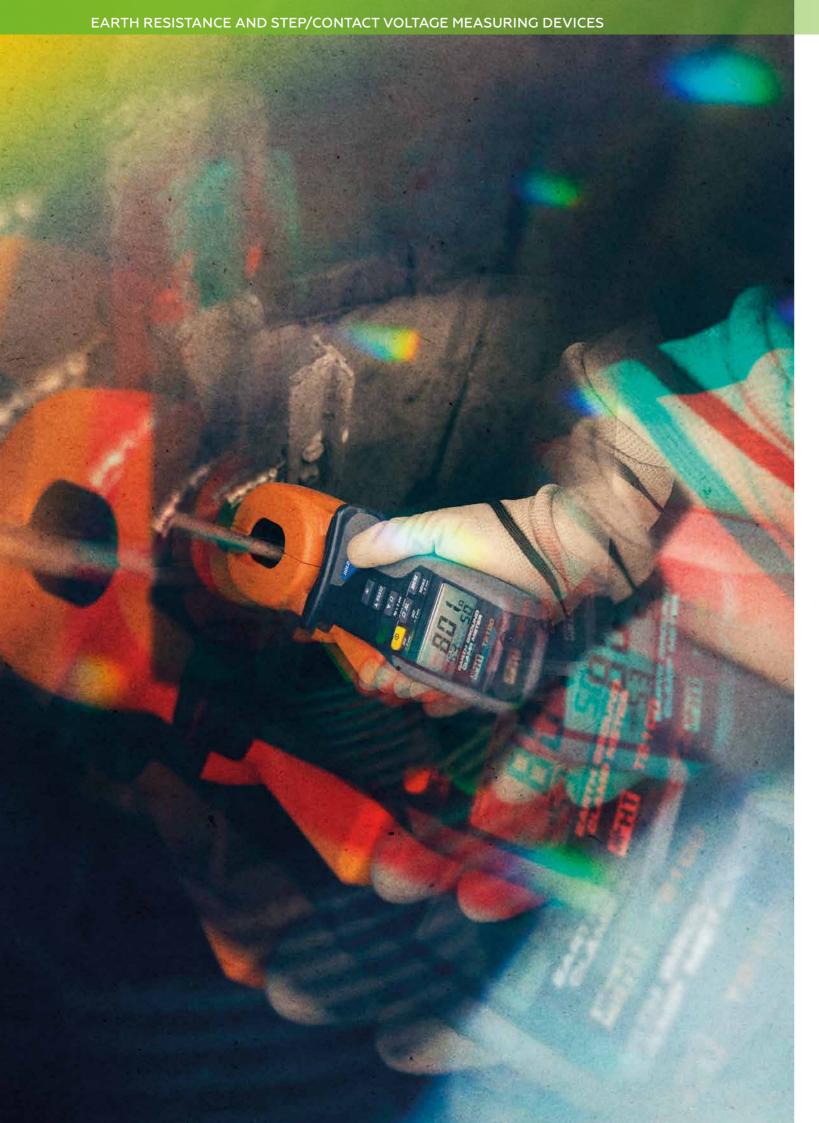
Optional accessories











EARTH RESISTANCE AND STEP/CONTACT VOLTAGE MEASURING DEVICES







M71

T2000 - T2100

HT2055

MAIN MEASUREMENTS	REMENTS EARTH RESISTANCE		STEP/CONTACT VOLTAGE	
TRMS	•	•	•	
Measuring range	50ΚΩ	1.2ΚΩ	200Ω	
Earth resistance by 2- and 3-wire method	•		•	
Ground resistivity by 4-wire method			•	
Compensation of disturbance voltages	•		•	
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	•		•	
LCD display	•	•	•	
Backlight		•	•	
AutoPowerOFF	•	•	•	
Help on line on the display			•	
Internal memory for measured data saving		•	•	
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	

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 ($50k\Omega$) 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.



PRODUCT **DATA SHEET** ORDER CODE **HP002000**

T2000

ORDER CODE HP002100

T2100

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



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.



PRODUCT **DATA SHEET**



PRODUCT **DATA SHEET** T2100

Functions

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



Characteristics

Power supply: batteries type AA 4x1.5V

Display: LCD display

Pollution level:

Safety: IEC/EN61010-1 Overvoltage CAT III 240V category: Size (LxWxH):

Weight (batteries included):

630g

240x100x45mm



Provided accessories

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



Optional accessories



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



Characteristics

Data HOLD, Backlight, Auto Power OFF

batteries type AA 4x1.5V Power supply:

Memory: 99 locations

Functions

Storage of measured results

Macrotest series (T2100 only)

(T2000 only)

Display: LCD 4-digit display + decimal point, backlit

Direct measurement on earth probes without any cable

Measurement of leakage current on earth systems

Detection of disturbance currents on measurement

Maximum diameter for clamp 31mm (bars 48x31mm) Serial interface RS-232 for connection to devices of the

Setting of alarm thresholds on measurements

Pollution level:

IEC/EN61010-1, IEC/EN61010-2-032, Safety: IEC/EN61557-5

1120g

CAT III 600V, CAT IV 300V to earth Overvoltage

category: 293x105x54mm Size (LxWxH):

Weight (batteries

included):



Provided accessories

	Resistive test loops (1 Ω , 5 Ω , 10 Ω)	
	Batteries	
	User Manual	
	ISO calibration report	
C2100	Connection cable Hypertac / Jack 3.5mm RS-232 (T2100 only)	
	Hard carrying case	



Optional accessories









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.





Voltmetric unit



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



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



accessories

Provided accessories

	Power supply cable of power unit
PC55SND	Set of 2 metal plates (200x100mm)
	Current metal probe
	Voltage metal probe
PC55REL	Cable 10mm² with winder and alligator clip, 50m
	Cable 10mm² 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

PC55MBK

Black measuring cable, 3m, with industrial

For further information on optional accessories, please contact HT.



Optional accessories

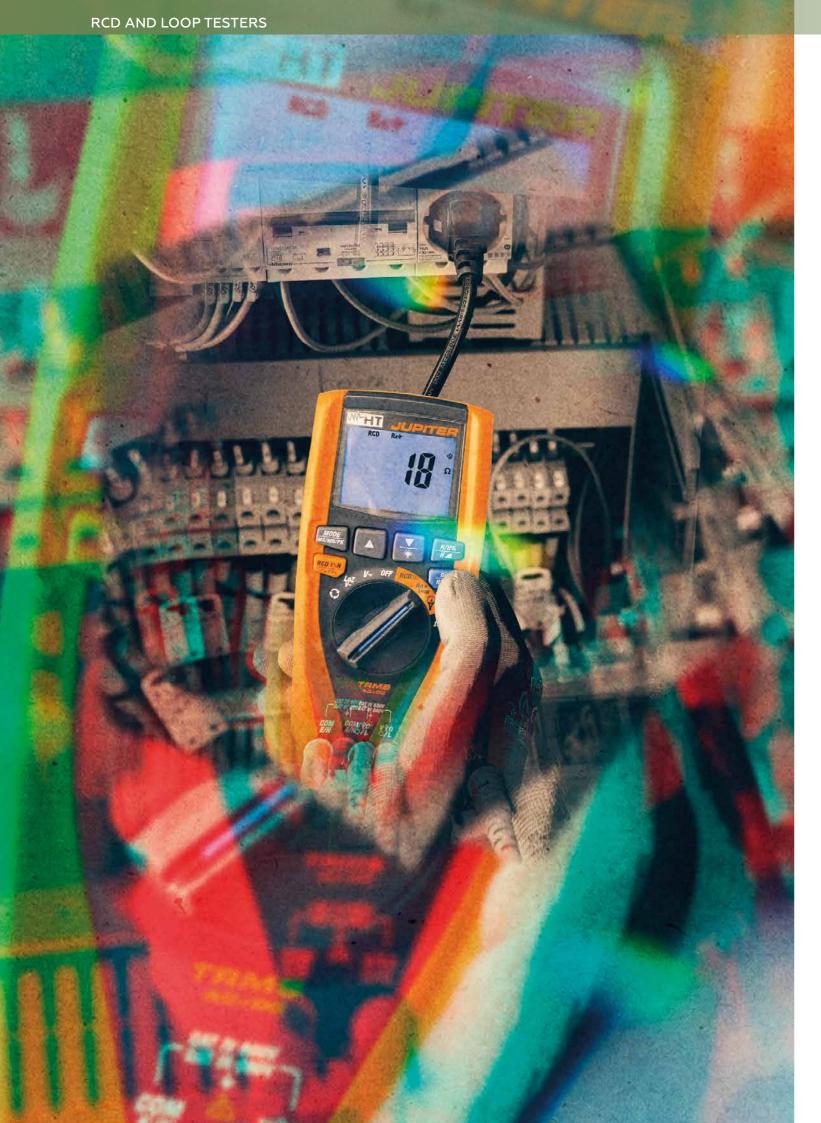












RCD AND LOOP TESTERS





JUPITER

M73

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	•	•	
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	•	
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	

ORDER CODE HROOJUPI

JUPITER

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.



M73

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



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.



SEE PRODUCT DATA SHEET



Functions and characteristics

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
- 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

Electric verification section

- Overall earth resistance L-PE without RCD tripping
- Loop impedance L-L, L-N and calculation of assumed shortcircuit 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

690 V H/H%

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





LoZ

THD% MΩ4

AUTO

RANGE



Provided accessories

C2065	3-wire cable Red, Black and Green with Schuko plug
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
YAMUM0065HT0	Quick user guide



Optional accessories

ISO calibration report



SEE PRODUCT

DATA SHEET

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



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



Provided accessories

KIT0075	Set of 2 cables with leads + 2 alligator clips
C2075	2-wire cable with Schuko plug
BORSA2000	Carrying bag
	ISO calibration report



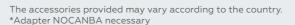
Optional accessories

Quick user guide











HT7051

pag. **126**

[999 [999]

pag. 127 NEPTUNE



pag. 128







INSULATION AND CONTINUITY MEASURING DEVICES











HT7051

NEPTUNE

M72

M70

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		•	•	•
ADDITIONAL FUNCTIONS				
Test with programmable ramp	steps of 25VDC			
Programmable test timer	● 5s ÷ 100min	● 15s ÷ 10min		2s ÷ 1min
Setting of measurement limit value	•	•		
Measurement of polarization index P.I.	•	•		
Measurement of dielectric absorption ratio D.A.R.	•	•		
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		•	•	•
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	HR000NEP	HV000072	HV000070

HT7051

Professional insulation meter with programmable test voltage up to 5kV



HT7051 has been developed to measure insulation resistance with test voltage programmable up to 5kVDC and measuring range up to $10T\Omega$ 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.



PRODUCT DATA SHEET

ORDER CODE HVOOONEP

NEPTUNE

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



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.



PRODUCT DATA SHEET

Functions and characteristics

- Insulation with test voltage from 100V to 5kVDC
- Measuring range up to $10T\Omega$
- 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/ACTRMS 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 $5M\Omega$)
- > 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



Provided accessories

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



Optional accessories



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



Functions and characteristics

Multimeter section

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

Electric verification section

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



Provided accessories

4324-2	Pair of banana leads red/black with 2/4mm tip	
	Pair of Red/Black alligator clips	
YABAT0001HT0	Alkaline battery type AAA IEC LR03 1.5V, 4 pieces	
YABRS0002HT0	Carrying bag	
YAMUM0065HT0	Quick user guide	
	ISO calibration report	



Optional accessories



SCAN THE OR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES





LoZ

1000 V



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).



SEE PRODUCT DATA SHEET

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



Provided accessories

KIT0075	Set of 2 cables with leads + 2 alligator clips
BORSA2000	Carrying bag
	ISO calibration report

Quick user guide



Optional accessories



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



→ TRMS

ORDER CODE HV000070

M70

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



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 200 mA 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.



PRODUCT DATA SHEET

Functions and characteristics

- Insulation with test voltage 250, 500, 1000VDC
- \rightarrow Measuring range up to $4G\Omega$
- Automatic discharge of target
- > LOCK function for measurements in a continuous mode
- > Insulation with timer programmable from 2 to 60s
- > Continuity of protective conductors with 200mA
- › Autocalibration of measuring leads
- > AC/DC voltage up to 600V
- Resistance and continuity test with buzzer
- Wide display with backlight
- AutoPowerOFF
- > Display with backlight: LCD, 4 digits, 10000 count
- > Power supply: 4x1.5V batteries type AA
- › AutoPowerOFF: after 15 minutes' idling
- > Safety: IEC/EN61010-1
- Overvoltage category: CAT III 550V
- > Size (LxWxH): 240x100x45 mm
- > Weight (batteries included): 450g



Provided accessories

KIT0070	Set of 2 cables + 2 alligator clips + 1 lead	
BORSA2000	Carrying bag	
	Batteries	
	CE declaration of conformity	

User Manual



Optional accessories

















BURIED CABLE LOCALIZER AND REVOLUTION COUNTER







HT2236

HT36

	CABLE LOCALIZER	REVOLUTION COUNTER	ITEM DETECTOR
Localization of buried metal parts	•	-	(max depth 30mm)
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	•	-	-
Localization of wood beams and metal items	-	-	(minimum dim. 30mmx30mm)
Localization of buried cables with AC voltage	•	-	• (max depth 50mm)
Bar graph of the search signal	•	-	•
Measurement of speed of rotating parts in RPMs (rev/min) with and without contact	-	•	-
Events counter	-	•	-
Laser pointer	-	•	-
MAX / MIN / HOLD	-	•	-
AutoPowerOFF	-	•	•
ORDER CODE code	HN500000	HA002236	HR000036

ORDER CODE **HR000036**

HT36

Portable item detector



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.



SEE PRODUCT DATA SHEET



Functions

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



Characteristics

min 30x30mm Size of conductive items: Depth of conductive items: max 18mm Diameter of metal items: max 25mm Depth of metal items: max 30mm Cables with AC voltage: 90V ÷ 250V / 50-60Hz

Depth of cables with AC voltage: max 50mm

AutoPowerOFF: after 30s 1x9V battery type Power supply:

Size (LxWxH): 155x72x28 mm Weight (batteries included): approx 203g



Provided accessories

Battery

User Manual



Optional accessories





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.



Metal probe

SEE PRODUCT **DATA SHEET**

Transmitter TX5000 and receiver RX5000

Set of measuring cables with alligator clips

Batteries for transmitter and receiver, carrying bag

Provided accessories

Optional accessories

SCAN THE QR CODE

OPTIONAL ACCESSORIES

TO DISCOVER ALL



- > 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

Signal frequency:

0.1W / 0.5W Transmission power: 33kHz

Mechanical protection: IP56 (dust and water)

6x1.5V batteries type IEC LR20 Power supply:

260 x 140 x 255 mm Size (LxWxH):

Weight (batteries included): 1.7 kg

Receiver RX5000

15kHz ÷ 23kHz, 50/60Hz (electric Frequency range:

0.3m ÷ 7m Depth range:

IP56 (dust and water) Mechanical protection:

10x1.5V batteries type AA IEC LR6 Power supply:

600 x 252 x 99 mm Size (LxWxH):

Weight (batteries included): 2.5 kg ORDER CODE HA002236

HT2236

Mobile digital revolution counter with inbuilt laser pointer



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.



SEE PRODUCT DATA SHEET



Functions

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



Characteristics

Meas. range of speed without contact: 2 ÷ 200000 rev/min Meas. range of speed with contact: 2 ÷ 20000 rev/min Resolution: 0,001 ÷ 1rev/min ±0.05% reading or ±1rev/min Accuracy:

Measuring range of revolution

counter:

Response time: Distance from target: Display: AutoPowerOFF: Power supply:

Size (LxWxH): Weight (batteries included): 0 ÷ 200000

0.5s (>60 rev/min) 50 ÷ 2500mm

LCD, 5 digits after 30min 1x9V alkaline battery

type IEC 6F22 160x60x42 mm

approx 160a

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





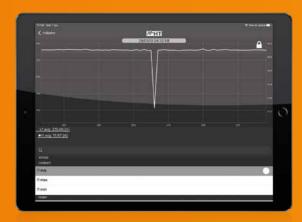
HTANALYSIS 2

HTANALYSIS™ 2

Download HTANALYSISTM and share your measurements with your colleagues at any time and anywhere in the world via HTCLOUDTM, the personal space that HT has created for you. By uploading the measurements to HTCLOUDTM 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





Electric safety

















INSTRUMENTS FOR THE PHOTOVOLTAIC SECTOR















PHOTOVOLIAIC	
SYSTEM	
MAINTENANCE	
AND FEELCIENCY	,

PHOTOVOLTAIC	I-V600	I-
SYSTEM MAINTENANCE AND EFFICIENCY		
Measurement of the I-V curve on single-sided PV modules and strings	•	
Measurement of the I-V curve on single-sided and double-sided modules	•	

I-V500W

I-V400W

N	PV-ISC

PV-ISOTEST

SOLAR I-VE

PV-CHECKs PVCHECKs-PRO

MAINTENANCE AND EFFICIENCY MAINTENANCE							
Measurement of the I-V curve on single-sided PV modules and strings	•	•	•			•	
Measurement of the I-V curve on single-sided and double-sided modules	•						
Automatic measurement with Autostart mode (**)		•	•			•	
Rapid IVCK test for Voc and Isc measurement on PV modules and strings	•	•	•				• (Sing
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					•		
Insulation of PV modules/strings/fields with test voltages 250, 500, 1000V DC					•		
DC side efficiency of photovoltaic field						•	
GFL function for troubleshooting on strings					•		
Use of SOLAR-02 remote unit with RF (Radio Frequency) connection		•	•			•	
Use of SOLARO3 remote unit with Bluetooth connection	•						
Irradiance measurement with reference solar cell	•	•	•			•	
Measurement of cell and ambient temperature	• (***)	•	•			•	

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	•	•	•
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

		MAINTENANCE ANI	DEFFICIENCY
	•		
	•		
		(Single-sided and Double-sided)	•
	•		
	1500V/15A (*)	1500V / 40A solo Isc-Voc	1000V / 15A solo Isc-Voc
	1000VDC / 265VAC		
•		•	•
•		•	•
	•		•
•		•	
	•		•
		•	
	•	•	•
	•	• (***)	•
CAT III 1500V DC CAT III 1000V AC	CAT II 1000V DC CAT III 300V AC	CAT III 1500V DC CAT III 1000V AC	CAT II 1000V DC CAT III 300V AC
•	•	•	•
999 measurements	250 I-V curves 99 tests	999 measurements	999 measurement
Optics/USB	Optics/USB and Wi-Fi	Optics/USB and Wi-Fi	Optics/USB
	Max 30 modules	Max 64 modules	Max 30 modules
•	•	•	•
•	•	•	•
6x1.5V AA 6x1.2V AA NiMH	6x1.5V AA 6x1.2V AA NiMH	6x1.5V AA 6x1.2V AA NiMH	6x1.5V AA 6x1.2V AA NiMH
235x165x75	235x165x75	235x165x75	235x165x75
1.2kg	1.2kg	1.2kg	1.2kg
IEC/EN61010-1	IEC/EN61010-1 IEC/EN60891	IEC/EN61010-1	IEC/EN61010-1
	IEC/EN60904-5		
	IEC/EN62446	IEC/EN62446	IEC/EN62446
IEC/EN61557-2-4		IEC/EN61557-2-4	IEC/EN61557-2-4
HVOPVISO	HV000IVE	HVOOPVPR	HV00PVCS

^(*) Max current 10A(@1500V), 15A (@1000V) (**) With optional accessory KITKELVIN (***) With remote unit SOLAR03

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.



SEE THE PRODUCT DATASHEET

Functions

- 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
 VCK 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
- BMS (Battery Management System) to recover energy from measurements and to recharge batteries
- Powered by alkaline or rechargeable AA batteries
- Mains power supply unit/battery charger
- Power supply from photovoltaic panels via measurement inputs



Supplied accessories

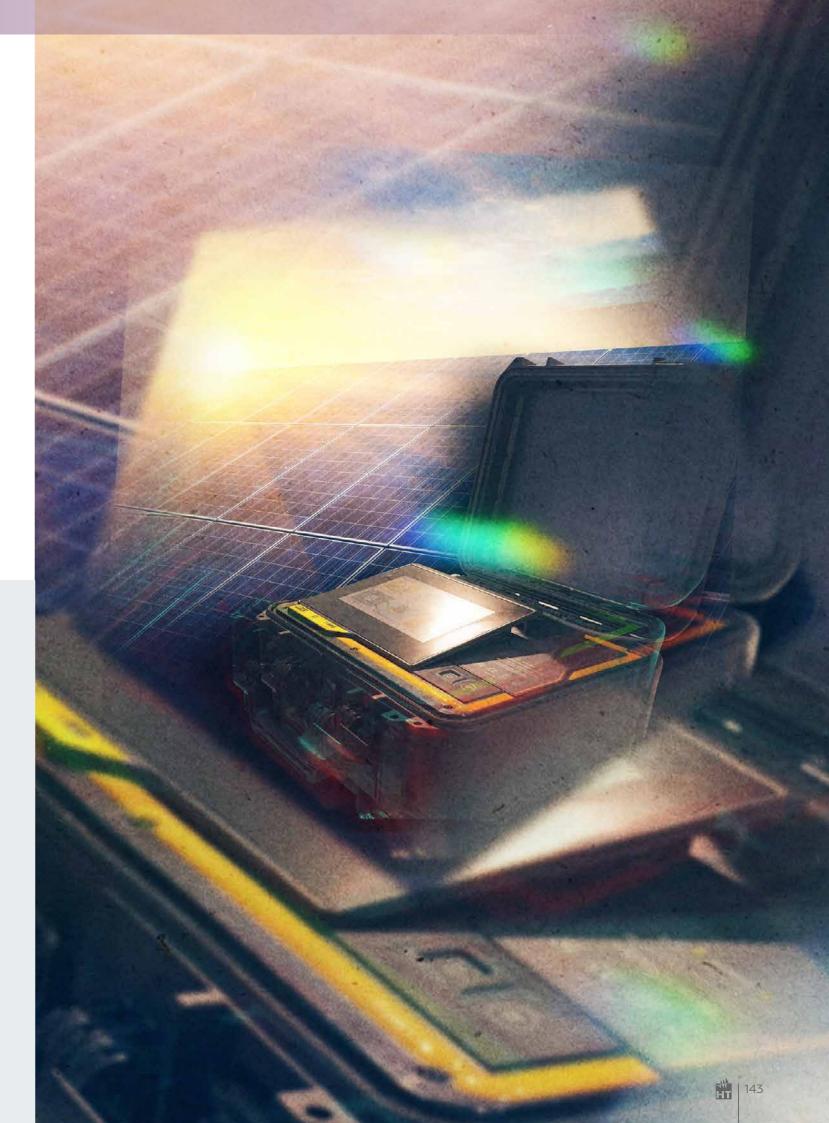
KIT2PRO15	Set of 2 jack-jack cables 3m + 2 crocodile clips (red and black)
KITPVMC4150	Set of 2 adapters with PV4 compatible connector and 4mm male jack, 3m (red and black)
SP-2003	Shoulder strap
CF832	32GB memory card
A0061	Battery charger power supply unit 100-440VAC/15VDC, 50/60Hz
C2010	Connection cable USB A-USB C 1.5mt
SOLAR03	Remote unit with 1 temperature input and 3 irradiation inputs (for HT305)
HT305	Photovoltaic cell to measure solar radiation (with fixing bracket)
PT305	Temperature probe PT1000
M304	Mechanical inclinometer
SP-2002	Strap with magnetic attachment for SOLAR03
YAMUM0084HT0	SOLAR03 user manual
YABAT0003000	Rechargeable battery NiMH, 1.2V, AA (10 pc)
BACKPACK	Temperature probe PT1000
	ISO9000 calibration report
	Quick start guide



Optional accessories







ORDER CODE HV00500W I-V500w

ORDER CODE HV00400W -V400w

ORDER CODE HV000IVE

SOLAR I-Ve

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











SEE PRODUCT **DATA SHEET** I-V500W



SEE PRODUCT DATA SHEET I-V400W



SEE PRODUCT DATA SHEET SOLAR I-Ve

(U) Functions			
	I-V400W	I-V500W	SOLAR I-VE
MAINTENANCE OF PHOTOVOLI	AIC 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	•	•	

	I-V400W	I-V500W	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 РНОТО	VOLTAIC
DC/AC TRMS single-phase voltage			•
DC/AC TRMS single-phase current			•
Single-phase DC power / AC active power			•
Solar irradiation [W/m²] 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.

SOLAR02

KITGSC4

KITPVMC3

KITPVMC4

HT4005K

HT4004

HT304N

PT300N

M304

C2006

SP-5100

VA500

** Only I-V500w and SOLAR I-Ve (max current @1500V=10A, max current @1000V=15A).

Provided accessories

32mm (SOLAR I-Ve)

Mechanical inclinometer

(SOLAR I-Ve and I-V500w)

Optical/USB cable

Transport case ISO calibration report Quick user guide

(SOLAR I-Ve)

Remote RF unit for Irradiation and Temperature

Set of 4 banana cables 4mm + 4 alligator clips Set of 2 adapters with compatible connectors

Set of 2 adapters with compatible connectors

Standard 200AC/1V clamp, diameter 40mm (SOLAR I-Ve)

Standard DC 10-100A/1V clamp, diameter

Reference cell for irradiation measurement

PT1000 feeler for cell/environmental temperature (SOLAR I-Ve)

Sheaths to use the instrument with free hands



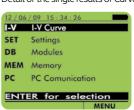
Result of Curve I-V: OK

12 / 06	/ 09	15:34:2	6	
Туре	: S	HARP 11:	5-GS	
A				
Pmax	=	115	W	
Voc	=	58.60	٧	
Vmpp	=	44.50	V	
Isc	=	3.26	Α	
Impp	=	2.59	Α	
Toll-	=	5	%	
•				
Selec	tion		DB	

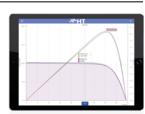
Manual insertion of a module

12 / 06 / 09		
Voc	56.3 V	
Vmpp	40.9 V	
Impp	2.97 A	
Isc	3.37 A	
Pmax	121 W	
FF	0.64 %	
Dpmax	5.5 %	
Results	@ STC	- OK
Selection		I-V

Detail of the single results of Curve I-V: OK



General Menu



I-V curve and power curve



List with measured results.



Comparison between foreseen cell deterioration and measured value.

Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES





144 I

by software)

ORDER CODE HVOOPVCS

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.

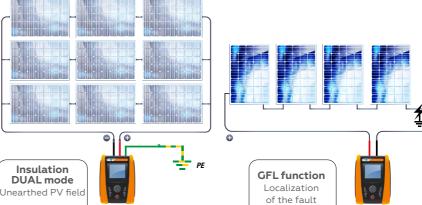
- Insulation measurement up to 1500VDC
- > Localization of the faulty module on a string through the new GFL function
- > Continuity of protective conductors with 200mA

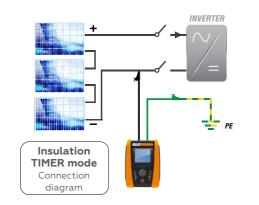


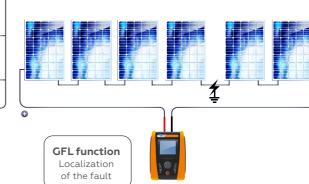
WATCH THE VIDEO **TUTORIAL**

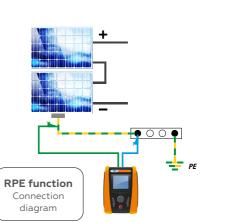


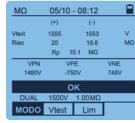
SEE PRODUCT DATA SHEET **PV-ISOTEST**







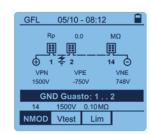




verification of DUAL insulation direct outcome: OK



verification of DUAL insulation direct outcome: NOT OK



GFL (fault locator) function



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

Characteristics

Display: LCD, 128x128pxl, with backlight

6x1.5V alkaline batteries type AA LR06 Power supply:

6x1.2V rechargeable NiMH batteries

type AA

after 5 minutes' idling

IEC/EN61010-031

Auto power off: Max 999 tests Internal memory:

PC interface: optical/USB IEC/EN61010-1 Safety:

Safety of accessories:

IEC/EN62446-1 Measurements: Insulation: Double insulation

Pollution level:

Overvoltage CAT III 1500VDC, CAT III 1000VAC Max 1500VDC, 1000VAC between category:

235x165x75mm Weight (batteries 1.2kg

included):

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





Optional accessories



ORDER CODE **HVOOPVPR**

PVCHECKs-PRO

Advanced tool to check electrical safety and for troubleshooting in a



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.



Functions

DATA SHEET PVCHECKs-PRO

- 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,
- > Use of SOLAR03 remote unit with Bluetooth connection
- Direct frontal irradiation measurement with reference solar cell with SOLARO3 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

LCD custom 240x240pxl, with backlight Display: 6x1.5V alkaline batteries type LR6, AA Power supply:

after 5 minutes of non-use Auto power off:

Max 999 test Internal memory: optics/USB and Wi-Fi PC interface:

IEC/EN61010-1 Safety: IEC/EN61010-031 Accessories safety:

IEC/EN62446, IEC/EN61557-2-4 Measurements:

Double insulation Insulation:

Level of pollution:

Overvoltage category: CAT III 1000VAC, CAT III 1500VDC to ground Max 1000VAC, 1500VDC between inputs

Dimensions: 235x165x75mm

Weight (batteries included): 1.2kg



Supplied accessories

KIT4PRO15	Set of 4 jack cables 4mm + 4 crocodile clips Black/Red/Green/Blue
KITPCMC415O	Set of 2 adapters with PV4 compatible connectors 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 soft-



Optional accessories







ORDER CODE HVOOPVCS

PVCHECKs

Multifunction device for commissioning tests on photovoltaic systems



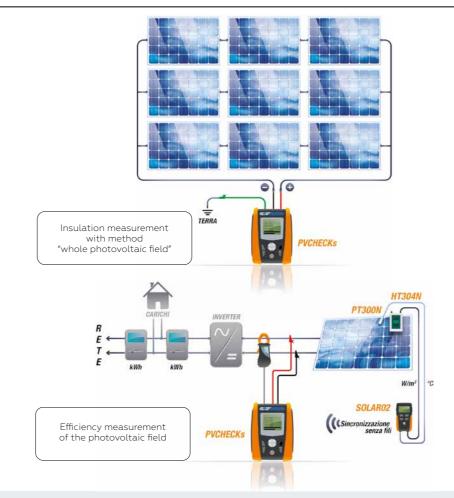
Automatic test in a sequence of:

- 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).

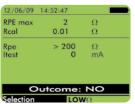
When testing safety, PVCHECKs is a real innovation, since it is capable of measuring insulation of a module, string or of a whole photovoltaic field (IEC/EN62446) with no need to use an external switch to short-circuit the positive and negative terminals.

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.





Continuity test result with 200mA OK



Continuity test result with 200mA NOT OK



Insulation measurement result at 1000V OK



Automatic test sequence result OK



Functions

DATA SHEET **PVCHECKs**

Maintenance of photovoltaic system

- > Continuity of protective conductors with test current 200mA
- Insulation measurement with test voltage 250, 500 and
- 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
- 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
- > 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)

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

Pollution level:

CAT III 1000VDC (to earth) Overvoltage Max 1000V between inputs category:

Size:

Weight (batteries included):

235x165x75mm 1.2kg



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





HT8051

HT8100

CALIBRATION MEASUREMENTS	PROCESS CALI	BRATORS
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 250Ω 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	•	•
Autorange		•
Auto power off	•	•
Data HOLD function		•
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

ORDER CODE HP080510

HT8051

Professional process calibrator



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.



SEE PRODUCT **DATA SHEET**

ORDER CODE HV008100 HT8100

Professional multimeter/process calibrator



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.



PRODUCT DATA SHEET

Functions

- Generation of voltage signal with amplitude up to 10VDC
- Measurement up to 10VDC
- Generation of current signal with amplitude up to 24mA
- 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 $0\% \rightarrow 100\% \rightarrow 0\%$ in 15s
- > (step ramp): Passage from 0% →100% → 0% in steps of 25% with ramps of 5s

Characteristics

Display:

Power supply:

External battery charger:

Duration:

12mA, 500Ω) **Auto Power OFF:** after 20 minutes (adjustable) of idling

IEC/EN61010-1 Safety:

Insulation:

Pollution level:

Overvoltage category: Size (LxWxH):

Weight (battery included): 400g

CAT I 30V

double insulation

5 LCD + secondary display,

230VAC/50Hz - 12VDC

1x7.4V rechargeable Li-ION battery,

approx. 8 hours while generating (@

Provided accessories

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**



Functions

- 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



Provided accessories

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**



Safety:

category:

Insulation:

Max height:

included):

Pollution level:

Characteristics

LCD, 5 digits, 50000 count

Display: Power supply: Battery life:

4x1.5V alkaline batteries type AA LR6 120 hours

after 20 minutes' idling **Auto Power OFF:** IEC/EN61010-1

CAT III 1000V, CAT IV 600V Overvoltage

double insulation

2000m

Size (LxWxH): 207x95x52mm Weight (batteries 630g

→ TRMS

CAT III 1000V



THT120 THT200 THT300 THT400



THT500 THT600 THT600L





THT500H THT600H



THT8 THT80



INFRARED THERMAL **CAMERAS**























	тнт8	ТНТ80	THT120	THT200	ТНТ300	THT400	THT500	THT600	THT600L	тнт500н	
RES	COMP	PACT		ADVA	NCED			PROFESSIONAL		HIGH TEMPE	RATU

MAIN FEATURES	COM	IPACT		ADVA	NCED			PROFESSIONAL		HIGH TEMI	PERATURES
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	5 MP, fixed focus, with LED torch	5 MP, fixed focus, with LED torch	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	±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						spots, hot/cold spot, 3 areas, ntal lines, screening mode			
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	l, arctic, warm iron, fulgurite			
Span mode	-						auto, manual, histogran	1			
Laser pointer	-	-	-	-	-	-	•	•	•	•	•
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	micro USB, Wi-fi, micro SD, micro HDMI	micro USB, Wi-fi, micro SD, micro HDMI	micro USB, Wi-fi, micro SD, micro HDMI	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	270 x 101 x 168 mm	270 x 101 x 168 mm	270 x 101 x 168 mm
ORDER CODE	HN000080	HN008000	HN000120	HN000200	HN000300	HN000400	HN000500	HN000600	HN00600L	HN00500H	HN00600L

ORDER CODE **HN000120 THT120**

ORDER CODE **HN000200 THT200**

ORDER CODE HN000300 **THT300**

ORDER CODE HN000400 **THT400**

Touch-screen thermal cameras, advanced and professional



















SEE PRODUCT DATA SHEET THT400

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.

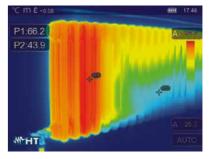
1st photo: thermogram of a radiator acquired with THT300.

> 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.







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) or	r ±2% of reading				
Field of view (FOV) / focus length / Lens	15.6°x15.6° / f1.0 / 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 manual				
Digital zoom		1–32x co	ntinuous				
Measuring instruments (in real time)	none, central spot, 3 s	spots, hot/cold spot, 3 are	as, vertical and horizontal	lines, screening mode			
Information on measuring areas	max, min, AVG	in, AVG max, min, AVG max, min, AVG		max, min, AVG			
IR video recording	•	•	•	•			
Correction of measurement	emissivity, reflected to	emperature, environmental compensa	temperature, atmospheric hu ation	umidity, distance			
Colour palette	iron, rainbo	w, 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	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			



Provided accessories

BRS47	Soft carrying bag
THTCASEM	Rigid transport case (THT400)
Multi-plug battery charger	
THTBATM	Li-ion battery
USB cable type C	
Quick guide	
ISO test report	
16GB Micro SD Card	



Optional accessories



ORDER CODE HN000500 THT500

ORDER CODE HN000600
THT600

ORDER CODE HN00600L
THT600L

Touch-screen thermal cameras, advanced and professional





SEE PRODUCT DATA SHEET THT500







SEE PRODUCT DATA SHEET THT600



SEE PRODUCT DATA SHEET THT600L 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.

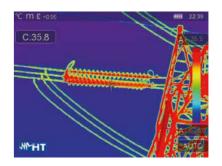
 \hat{I}^{st} photo: thermogram of an insulator acquired with THT600L from a long distance.

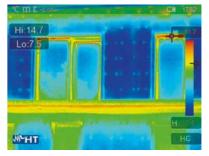
Aspects such as air tightness, thermal bridges and windows (primary and secondary nodes) are of fundamental importance in the construction or renovation of a building. Leaks in a building can represent up to 70% of the total energy consumption. Thanks to the most suitable THT thermal camera it is possible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

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







1

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	1
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 temperatur	re, environmental temperature, atmo compensation	spheric humidity, distance
Colour palette	iron, rainbow, warm w	hite, warm black, medical, arcti	c, 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



Provided accessories

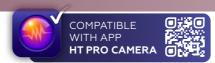
Hard carrying case	
Multi-plug battery	charger
2x THTBATL	2 Li-ion batteries
Micro USB cable	
HDMI video cable	
Earphones	
Micro SD card 16GB	
THTCBL	Recharging base
Strap	
Quick guide	
ISO test report	



Optional accessories



ORDER CODE HN00500H THT500H ORDER CODE HN00600H THT600H



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



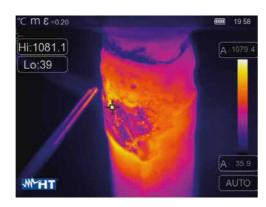




PRODUCT DATA SHEET When temperatures are high, so are the risks. Thanks to our thermal cameras dedicated to high temperatures, you will no longer have limits in your measurements and, taking advantage of their high definition, you will have total control of the work carried out

-) 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

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



Provided accessories

Optional accessories

SCAN THE QR CODE

OPTIONAL ACCESSORIES

TO DISCOVER ALL

2 Li-ion batteries

Recharging base

Hard carrying case

HDMI video cable

2x THTBATL Micro USB cable

Quick guide

Earphones

THTCBL

Strap

SD CARD 16 GB

ISO test report

Multi-plug battery charger

Characteristics and Functions

	THT500H	ТНТ600Н	
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	1.89mrad	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

PRODUCT

DATA SHEET

- 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

ORDER CODE HN000080 THT80

Compact, advanced and professional thermal cameras





SEE PRODUCT DATA SHEET THT80

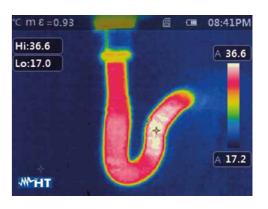


SEE PRODUCT DATA Small does not mean mediocre. All HT technology is now pocket-sized, to allow you to take your measurements at any time, from the palm of your hand.

- > 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.



Size (L x W x H):

Characteristics and Functions

	ІПІО	111100
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, histogram
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

50 x 30 x 20 mm

133 x 87 x 24 mm

- > Fixed focus
- IR video recording
- Correction of measurement: emissivity, reflected temperature, environmental temperature, atmospheric humidity, temperature compensation, distance compensation (THT80 only)



Provided accessories

Transport case

USB cable type C	THT80
Quick guide	THT80
ISO test report	THT80
16GB Micro SD Card	THT80
User manual	THT8



Optional accessories









BORESCOPES

ORDER CODE HN000108 **HTB500**

Professional borescope with built-in highresolution photo camera



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.



SEE PRODUCT DATA SHEET HTB500



- > Real-time display of the item
- Waterproof flexible external feeler (IP67)
- > Built-in white-light LEDs for operations in poorly lit environments
 Image rotation (0° - 180°) on the display
 Li-ION battery rechargeable through USB

- Analog video output (PAL/NTSC)
- > Electronic image zoom
- > Resolution of the internal photo camera: 640x480pxl > Display: 3.5", TFT colour, 320 x 240pxl
- > Automatic focusing: 5cm ÷ 15cm
- > External feeler length: 1m
- > External feeler diameter: 6mm
- Adjustment of white light brightness: 10 levels
 Size (L x W x H): 250x100x95mm
- > Weight (without probe): 345g



Provided accessories

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

320x240 pixel



HTA107, HTA106, HTA105, HTA103 pag. 174



pag. 176



DT8806H



HT3305, HT3300





THERMOMETERS
THERMOHYGROMETERS AND
THERMO-ANEMOMETERS











MAIN MEASUREMENTS

	HTA103	HTA105	HTA106	HTA107	HT3300	DT8806H	DT103S	НТ3305
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	•	•	•	•	•	•		•
Autorange	•	•	•	•	•	•	•	•
Data HOLD	•	•	•	•	•	•		•
MAX/MIN/AVG	• (MAX/ MIN)			•				
Selection of measuring unit	•	•	•	•	°C \ °F	•	°C\°F	°C\°F
Low battery indication	•	•	•	•	•	•	•	•
Auto Power OFF	•	•	•	•	•	•	•	•
Power supply	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	HN000105	HN000106	HN000107	HA003300	DT8806H	DT103S	HA003305

ORDER CODE HN000107 **HTA107**

ORDER CODE **HN000106 HTA106**

ORDER CODE **HN000105 HTA105**

ORDER CODE HN000103 **HTA103**

Multifunction instruments for measuring environmental parameters









PRODUCT DATA SHEET HTA107



SEE PRODUCT DATA SHEET HTA106



SEE PRODUCT DATA SHEET HTA105



SEE PRODUCT DATA SHEET HTA103



	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	•	•	•	•



Characteristics

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

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



Provided accessories

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.

Batteries	

User Manual (HTA105, HTA106, HTA107) Rigid case **B0EC95** Soft carrying bag (HTA103)

TK101

K-type wire probe



Optional accessories



ORDER CODE **DT103S**

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.



SEE PRODUCT DATA SHEET DT103S



- 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 OFF
- Autorange



Provided accessories

Batteries

Power supply with USB cable for mains connection

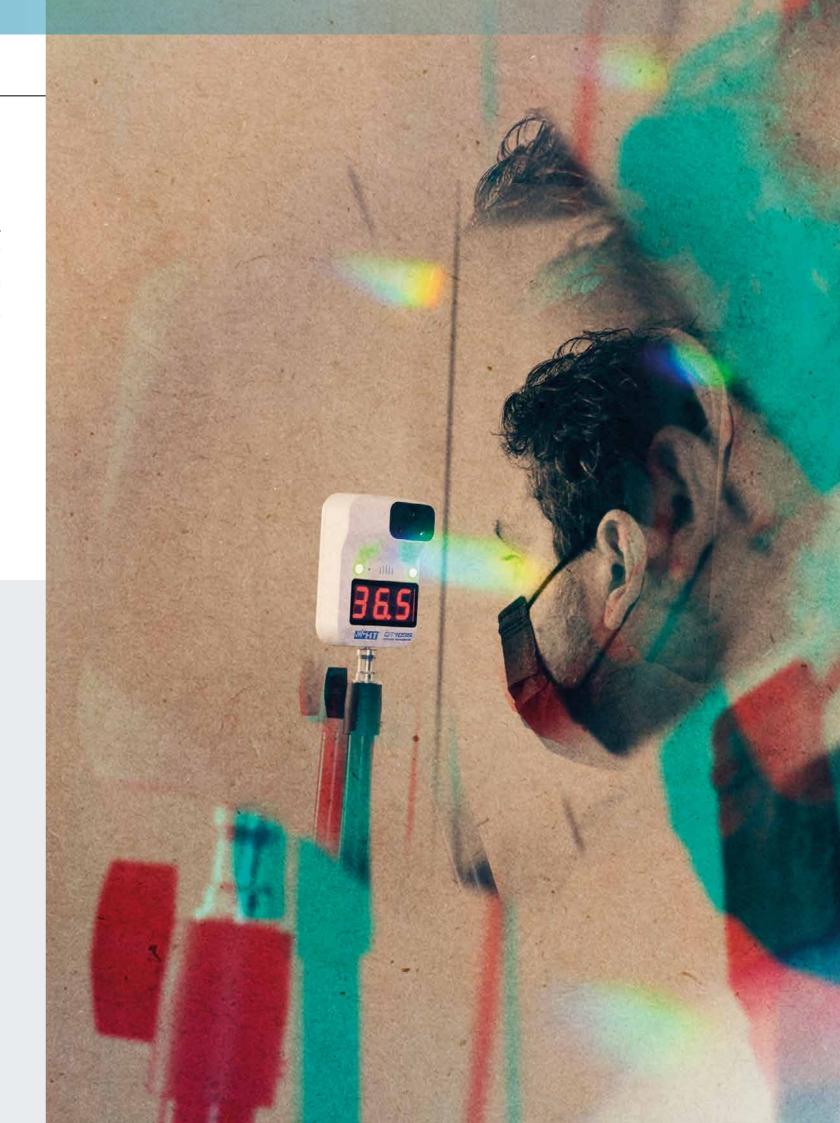
Screws for wall mounting

User Manual



Optional accessories





ORDER CODE DT8806H

DT8806H

Infrared thermometer for measuring forehead temperature without contact



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



- > 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



Characteristics

Auto Power Off

LCD with backlight Display:

0.1°C (0.1°F) Resolution

Auto Power OFF: after 5 minutes' idling Size (L x W x H): 149 x 77 x 43mm

Weight (batteries included):

Provided accessories

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)

ORDER CODE **HA003305** HT3305

ORDER CODE **HA003300** HT3300

Ultra-compact infrared thermometers



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.



PRODUCT DATA SHEET HT3305



PRODUCT DATA SHEET HT3300

Functions

	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	•	•



Characteristics

Laser pointer: Class 2

LCD with backlight Display:

Power supply:

1x9V battery type 6F22 **(HT3300)** 2x1.5V batteries type AAA LR03

(HT3305)

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

after 10 seconds' idling 136×75×40mm (HT3300)

Weight (batteries

180×105×55mm (HT3305) 140g **(HT3300)**, 240g **(HT3305)**



included):

Provided accessories

Batteries

K-type wire probe (HT3305)

Carrying bag

User Manual

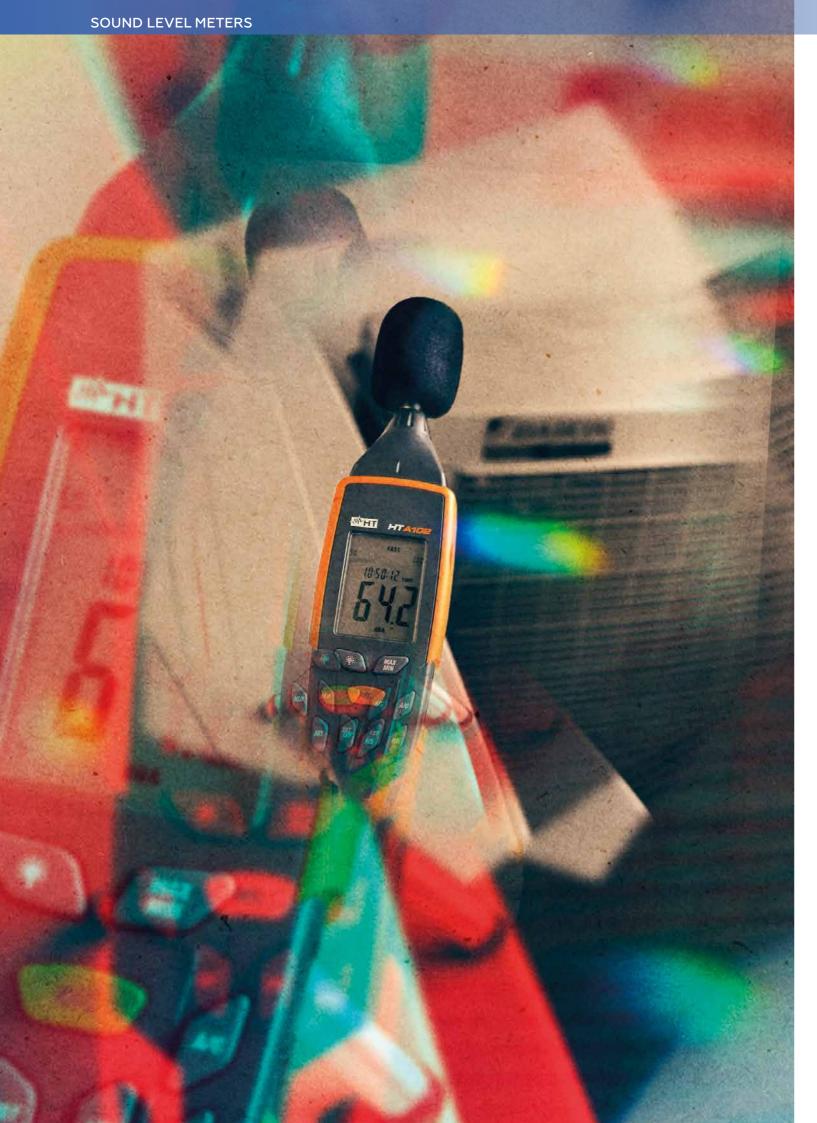


Optional accessories









SOUND LEVEL METERS







HT157

	H1157	H1157 H1155	
	SOUND LEVEL I	SOUND LEVEL METERS 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
Integration over time	Fast/Slow/Impulse	Fast/Slow/Impulse	Fast/Slow
Integration 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
Manual 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	•
Internal memory for data saving	128	128	•
Recalling of results on the display	•	•	
Mini-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	•	•	•
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

Digital integrating sound level meters type 1



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.



SEE PRODUCT DATA SHEET HT155



PRODUCT DATA
SHEET HT157

ORDER CODE HN000102 HTA102

Professional sound level meter type 2 with recording function



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.



SEE PRODUCT DATA SHEET HTA102

U Functions

	HT155	HT157
Sound level meter category	Type 1	Type 1
Noise measuring range	25÷140dB	25÷140dB
Noise measurement resolution	0.0÷10.1dB	0.0÷10.1dB
Dynamic range	> 90dB	> 90dB
Measurement of sound pressure level (SPL)	•	•
Measurement of equivalent noise levels (Leq)	•	•
Frequency weighting	A/C/Z	A/C/Z
Integration over time	F/S/ Impulse	F/S/ Impulse
Peak measurements (Peak-, Peak+)	•	•
Statistic analysis of noise type "A"	•	•
24H analysis of noise	•	•
Octaveband spectrum analysis		•
1/3 octaveband spectrum analysis		•
1/2 condenser microphone	•	•
Analogue AC output	•	•
Internal calibration in Class 1	•	•
Mobile calibrator provided	•	•
Internal memory for data saving	(128 groups)	(128 groups)
Interface with USB Pen Drive	•	•
USB interface for PC connection	•	•



Characteristics

Display:

External power supply: Internal power supply:

Reference standards:

LCD, dot-matrix (240x160pxl) with backlight

Adapter 100-240VAC/5VDC

4x1.5V alkaline batteries type AA LR6

IEC 61672:2002 type1 IEC 61260:1995 type1 (HT157) IEC 60804:1985 type1

IEC 60804:1985 type1 IEC 60651:1979 type1DLgs 477/91,

285x90x3

Weight (batteries included): 500g



Size:

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

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



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



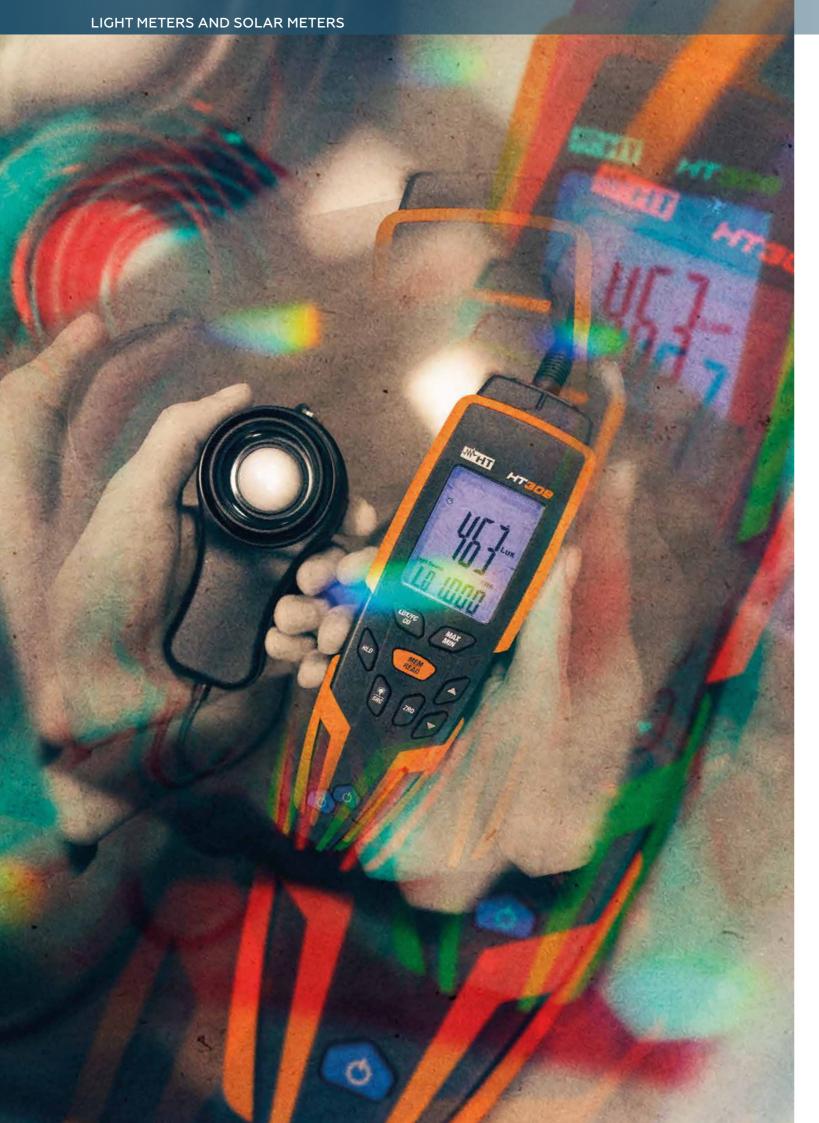
Optional accessories











LIGHT METERS AND SOLAR METERS





HT309

Р١	12	04	
----	----	----	--

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

ORDER CODE **HA003090**

HT309

Mobile digital light meter



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.



SEE PRODUCT DATA SHEET



- > 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



Provided accessories

Carrying bag

Battery

User Manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES ORDER CODE **HAOPV204**

PV204

Mobile digital solar meter



Functions and characteristics

±3BTU/(ft²*h) or ±5%reading (higher value)

Measuring range: 0.1÷1999W/m² 0.1÷634BTU/(ft²*h)

> Selection of the measuring unit: W/m² and BTU/(ft²*h)

Accuracy: ±10W/m² or ±5%reading (higher value)

> Resolution: 0.1/1 W/m²; 0.1/1 BTU/(ft²*h)

> ZERO function for zeroing readings

Backlight and Auto Power OFF

Manual change of scale

Data HOLD / MAX/MIN

PV204 is a **digital solar meter** for measurements of solar irradiation up to $1999W/m^2$, which can be used as an inspection device, typically in photovoltaic installations.



SEE PRODUCT **DATA SHEET**

Provided accessories

Transport case

Battery

User Manual



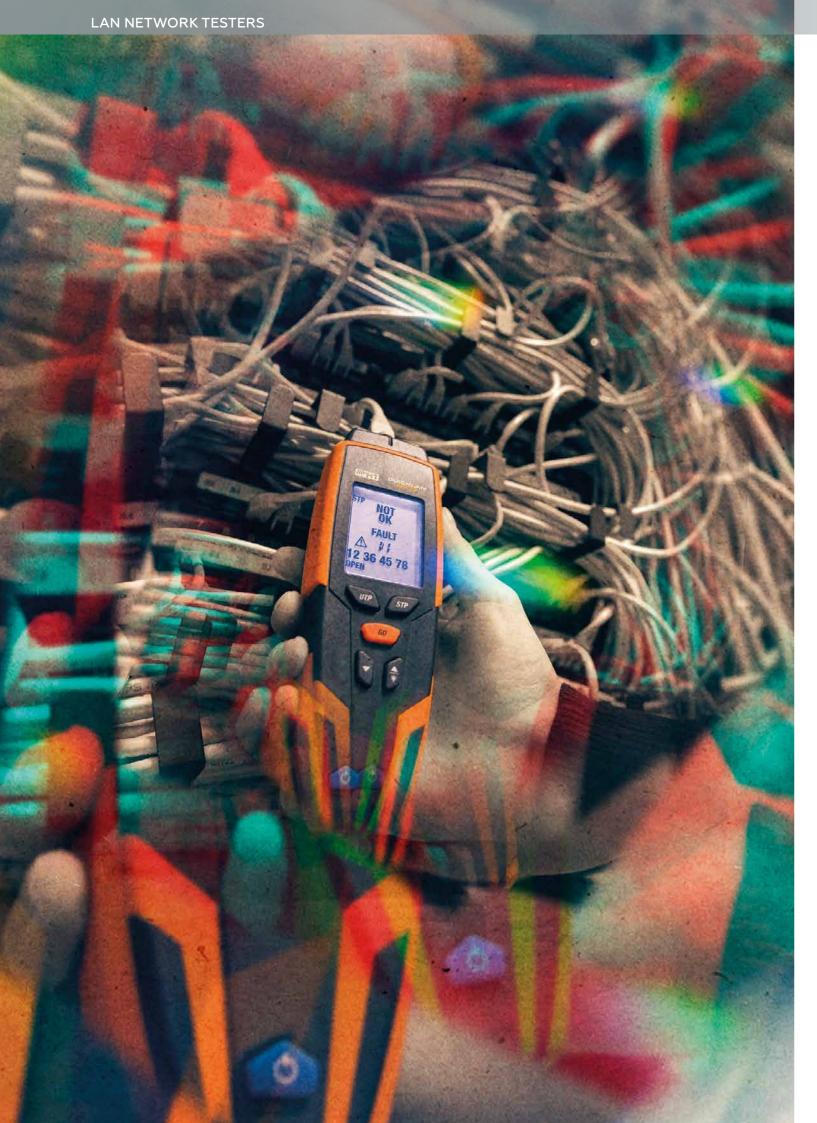
Optional accessories











LAN NETWORK TESTERS





	QUICKLAN6055	QUICKLAN6050N
MAIN MEASUREMENTS		
Cable mapping on LAN networks	•	•
Test on twisted pair cables RJ45 type UTP, STP and FTP	•	•
Test on telephone cables with RJ11 connector		•
Verification on COAX-F cables		•
Errors of open pairs	•	•
Errors of short-circuited pairs	•	•
Errors of exchanged pairs	•	•
Errors of inverted pairs	•	•
Errors of split pairs	•	•
Generic errors (MISWIRE)	•	•
Measurement of cable length		•
Cable length measuring range		1÷255m
ADDITIONAL CHARACTERISTICS		
Display indication of error type	•	•
Test indication OK - NOT OK	•	•
Remote unit recognition	•	•
AutoPowerOFF	•	•
Backlight	•	•
Low battery indication	•	•
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

ORDER CODE HV006055

QUICKLAN6055

Mobile instrument for cable tests in LAN networks



and verifications on installations of LAN networks (also of PoE type) with connectors of type RJ45.



Provided accessories

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



Optional accessories



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

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



PRODUCT **DATA SHEET** QUICKLAN6055

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



ORDER CODE HV006050

QUICKLAN6050N

Mobile instrument for cable tests in LAN networks and length measurement



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.



PRODUCT DATA SHEET QUICKLAN6050N



Provided accessories

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



Optional accessories



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



Characteristics

Functions

Cable mapping in LAN networks

Errors of short-circuited pairs

> Display indication of error type

Indication of test passed/failed

> Errors of exchanged pairs

Generic errors (MISWIRE)

> Remote unit recognition: 8

Low battery indication

> Errors of inverted pairs

> Errors of split pairs

AutoPowerOFF

Errors of open pairs

Test on twisted pair cables RJ45 type UTP and STP

Protection against voltage max 24V (PoE): Size (LxWxH): 190x65x45mm Weight (battery excluded):

30x25x27mm

Remote unit weight:

Size of remote unit (LxWxH):

Considered standard: TIA/EIA 568B



Auto Power OFF

RJ11 connector



Backlight

Characteristics

Functions

connector in CAT5 and CAT6

and STP (shielded) cables.

RJ45, RJ11, COAX F Input connectors 6x1.5V batteries type AAA Power supply: LR03

> Test of wiring errors on LAN network cables with RJ45

> Test of wiring errors on telephone network cables with

> Test of wiring errors on COAX cables with F connector

Detection of up to 4 RJ45 remote units for multiple

Measurement of cable length from 10m to 250m

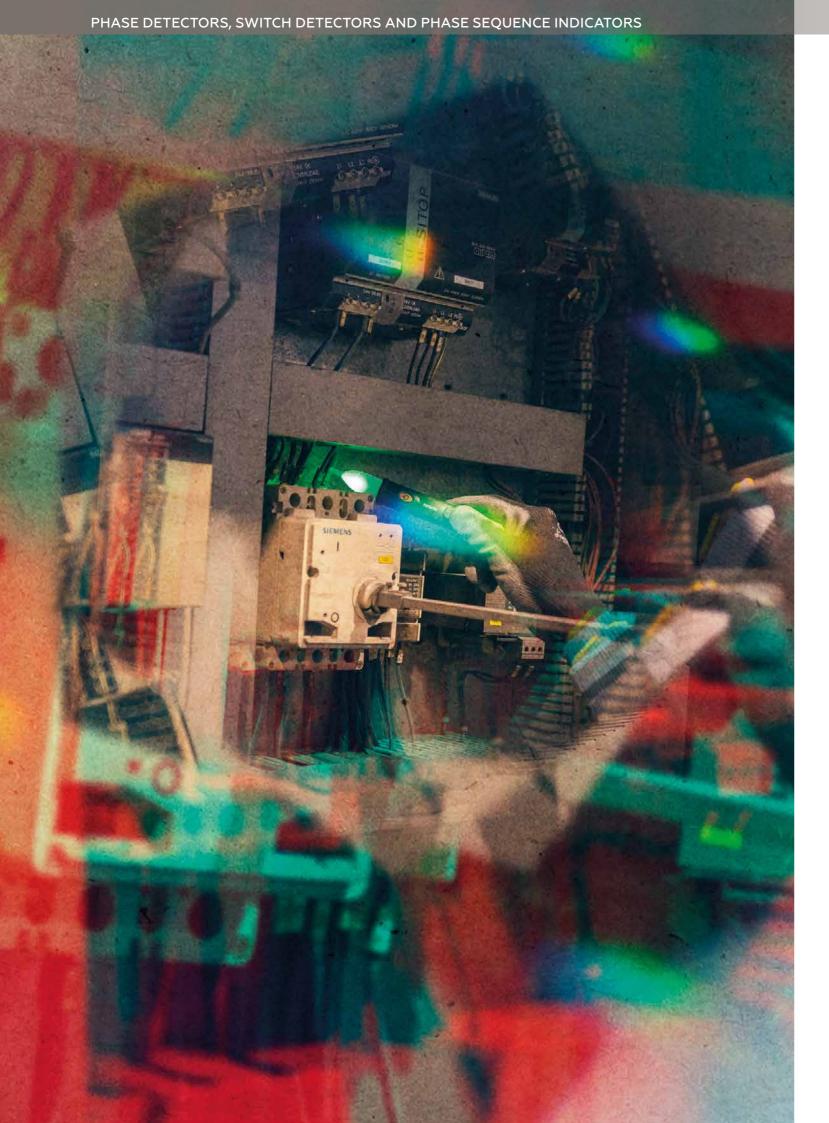
Detection of wiring errors on UTP (unshielded)

Size (LxWxH): 156x73x35mm Weight (battery included): 170g Size of rem. unit (LxWxH): 72x20x23mm 25g Remote unit weight:

196







PHASE DETECTORS, SWITCH DETECTORS AND PHASE SEQUENCE INDICATORS











	T		7			Elizziii Aritha
MAIN MEASUREMENTS	LINESPLITTER	HT82	HT70	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					•	
Detection of AC voltage without contact also on insulating sheaths			•	•		
Indications "R" and "L" on the display to measure phase sequence		•				
Phase sequence and phase concordance without contact also on insulating sheaths			•			
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	ΓS					
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						•
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	ΓICS					
LCD display		•				
Sound indications with buzzer			•	•	•	•
Practical breast pocket holder			•	•		
Anti-shock protection sheath		•				
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/EN61010-1
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	HR000070	HR000296	HR000038	HA000138

ORDER CODE **HA000951**

LINESPLITTER

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.).



SEE PRODUCT DATA SHEET LINESPLITTER



- > 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
- > 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

240VAC (±10%) 50/60Hz Power supply:

Connection to mains: in-built Schuko plug, length 50cm

385g

in-built Schuko socket Connection to user:

Output current: max 16A

IEC/EN61010-1, Safety: IEC/EN61010-02-030

Measurement category: CAT III 240V

Size (LxWxH): 210x60x35mm

Weight (batteries

included):



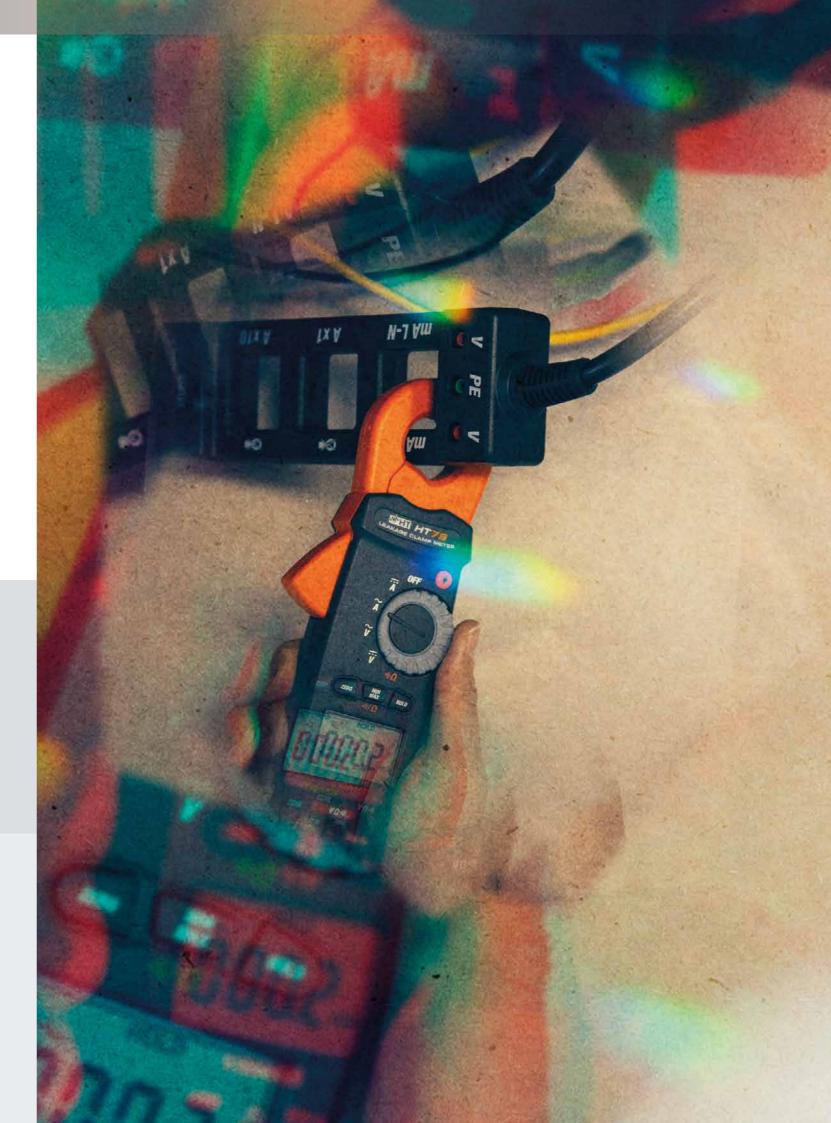
Provided accessories

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.



KIT82 Kit of 3 cables + 3 alligator clips



PRODUCT **DATA SHEET**



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



Characteristics

Power supply: from mains 40V ÷ 600V / 15-400Hz

LCD display Display:

Pollution level:

IEC/EN61010-1 Safety: Phase sequence: IEC/EN61557-7 CAT III 600V Measurement

category:

Size (LxWxH):

Weight (batteries included):

130x69x22mm 130g



Provided accessories

KIT82

Set of 3 cables + 3 alligator clips

Bag and user manual



Optional accessories



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

ORDER CODE **HR000070**

HT70

ORDER CODE HR000296

HT20s

Pen phase detector with measurement of phase sequence (HT70)



HT70

100V ÷ 1000V to earth

2x1.5V alkaline batteries

type AAA NEDA24A LR03

50/60Hz

IEC/EN61010-1

CAT IV 1000V

160x26x20mm

HT20S

Functions

Measurement of phase sequence

Characteristics

Detection of presence of AC

LED and buzzer indications

Battery check with LED

AC reference voltage:

Measurement category:

Batteries and user manual

Weight (batteries included):

Provided accessories

voltage

indications

Pocket clip

Frequency:

Power supply:

Pollution level:

Size (LxWxH):

Safety:

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



SEE PRODUCT DATA SHEET



Optional accessories



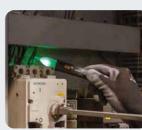


Step1 - Take HT70 and rest it on the assumed phase L1 of the three-phase system (on the conductor or sheath) for at least 5s and wait for the red LED to flash and the buzzer to sound.





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.



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

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.



PRODUCT **DATA SHEET**



HT5

Phase detector with internal gas lamp test



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**

Provided accessories

Batteries

User Manual



Optional accessories



SCAN THE QR CODE TO DISCOVER ALL OPTIONAL ACCESSORIES

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

230VAC, 50Hz Power supply: <20mA Signal output current:

in-built Schuko Europlug External connection: 0°C ÷ 40°C (32°F ÷ 104°F) Operating temperature:

Operating humidity:

0°C ÷ 50°C (32°F ÷ 122°F) Storage temperature:

<95%RH Storage humidity: 95x60x30mm Size (L x W x H):

140g Weight:





Characteristics of HT38R

IEC/EN61010-1 Safety: IEC/EN61326-1 EMC:

Insulation: double insulation Pollution level: Measurement category: CAT III 250V Max operating altitude:



Provided accessories

Transmitter HT38T

Receiver HT38R Battery (receiver)

Carrying bag

User Manual



Optional accessories



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



Functions

- Operation test of neon and fluorescent tubes
- 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 50/60Hz
- Continuity test with buzzer
- Diode test
- > LED indications and sound notifications
-) In-built torch



Characteristics

1x9V batteries type IEC 6F22 Power supply:

IEC/EN61010-1 Safety: CAT III 300V Measurement

category: Size (LxWxH):

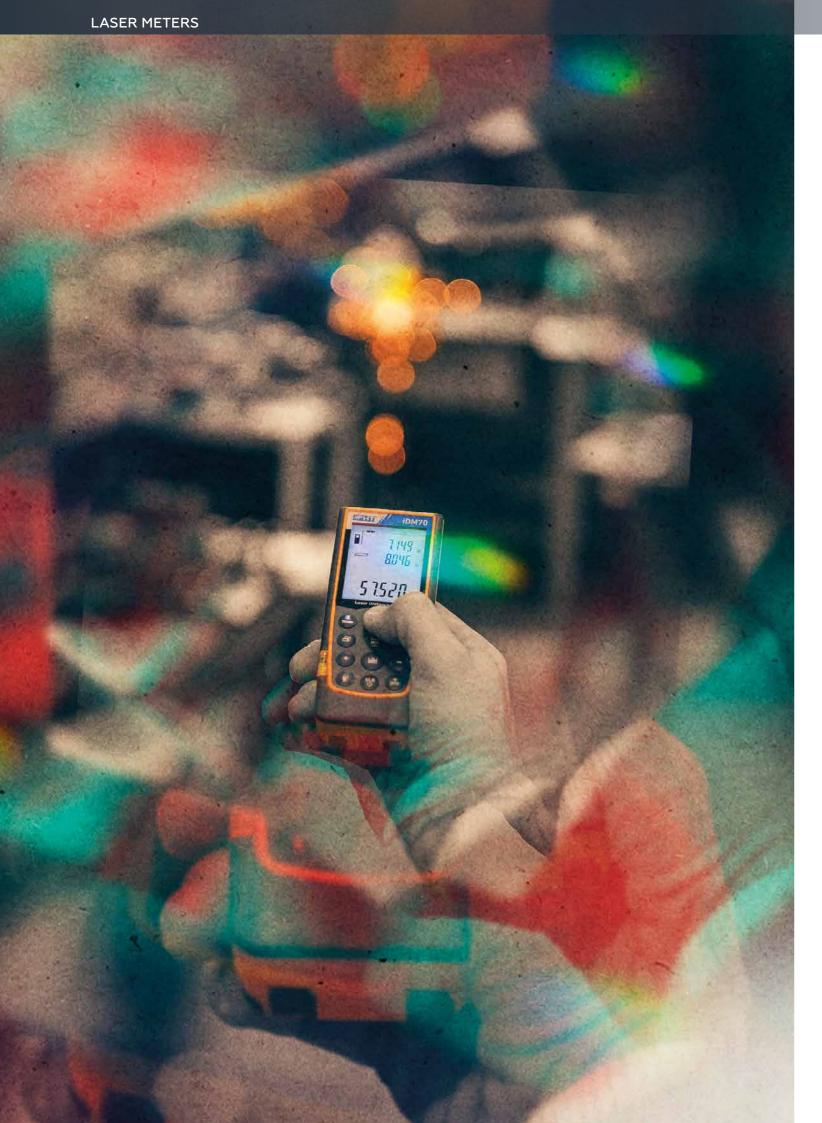
255x60x40mm

Weight (batteries included):









LASER METERS





MAIN MEASUREMENTS	iDM70	DM40	
Distance measuring range	0,05 ÷70m	0,05 ÷40m	
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	•	•	
Partial operations (additions/subtractions) with internal memory	•	•	
ADDITIONAL CHARACTERISTICS			
Connection to iOS/Android devices through HTLaserMeter App	•		
Activation of the laser pointer for measurement	•	•	
Setting of measuring reference	•	•	
Setting of timer for measurements	•		
Selection of measuring unit	m - ft	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	2x 1.5V AAA	
Size (LxWxH) (mm)	135x53x30	110x48x28	
Weight (batteries included):	160g	135g	
ORDER CODE	HA000700	HA004000	

ORDER CODE HA000700

iDM70

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



Model iDM70 is a professional laser meter 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, 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.



ORDER CODE **HA004000**

DM40

Compact laser distance meter with capacity 40m



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.



SEE PRODUCT **DATA SHEET**



Functions

- 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
- > Connection to iOS/Android devices through Bluetooth
- › Air bubble level
- Hole for tripod insertion
- Backlight
- Activation of buzzer upon key pressing
- Auto Power OFF



Characteristics

2x1.5V alkaline batteries type AA LR06 Power supply:

max 8000 measurements **Duration:**

5-digit LCD display with backlight Display:

20 locations + external through App Memory:

Interface: Bluetooth[™] compatible with iOS

Mechanical protection: IP54

class 2 according to IEC/EN60825-1 Laser pointer:

135x53x30mm Size (LxWxH):

Provided accessories

Optional accessories

SCAN THE OR CODE

TO DISCOVER ALL **OPTIONAL ACCESSORIES**

Weight (batteries included):

Carrying bag, battery and user manual

User manual HT LaserMeter APP



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



Characteristics

2x1.5V alkaline batteries type AAA Power supply:

Duration: max 5000 measurements

5-digit LCD display with backlight Display:

20 locations Memory:

Mechanical

class 2 according to IEC/EN60825-1 Laser pointer:

110x48x28mm Size (LxWxH):

Weight (batteries

protection:

135kg



Provided accessories

Carrying bag

Non-slip strap

Batteries

User Manual



Optional accessories

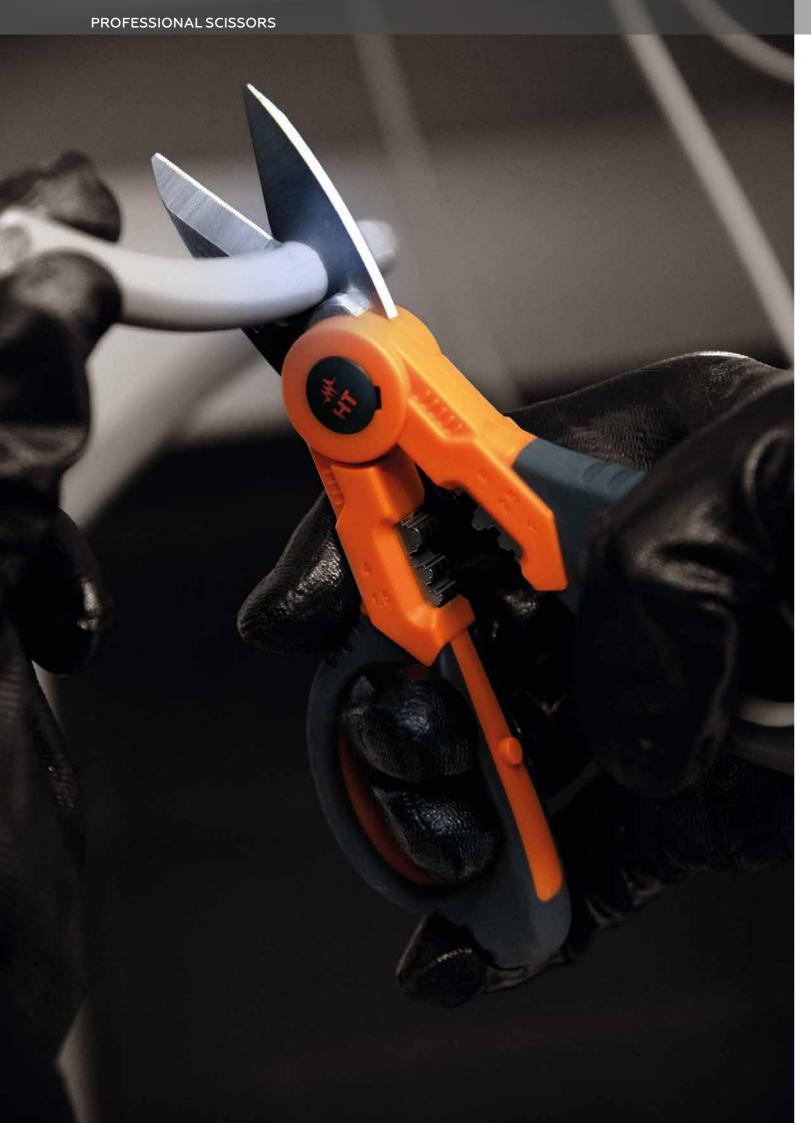


SCAN THE QR CODE TO DISCOVER ALL









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





SEE PRODUCT DATA SHEET

- > New design, even more ergonomic
- Non-slip grip
- > Blade in reinforced steel
- Universal crimper for crimp terminals between 1 and $6 \, mm^2$
- 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



SEE PRODUCT DATA SHEET F50

- Non-slip grip
- > Blade in reinforced steel
- > Universal crimper for crimp terminals between 1 and 6 mm^2
- Case with safety lock
- > Practical hooking system











