

# INSULATION AND CONTINUITY MEASURING DEVICES



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HT7052 HT7051 NEPTUNE ISO410 M72 M70

### MAIN MEASUREMENTS

TRMS	INSULATION/CONTINUITY					
	HT7052	HT7051	NEPTUNE	ISO410	M72	M70
DC test voltage measuring range	500V ÷ 10kV	100V ÷ 5kV	50,100,250,500,1000V	50,100,250,500,1000V	250 / 500V	250, 500,1000V
Insulation resistance measuring range	120kΩ ÷ 10TΩ	0.01MΩ ÷ 9.99TΩ	0.01MΩ ÷ 1999MΩ	0.01MΩ ÷ 1999MΩ	0.00MΩ ÷ 999MΩ	0.001MΩ ÷ 4000MΩ
Dielectric strength in DC	•	-	-	-	-	-
Continuity of protective conductors with 200mA	-	-	•	•	•	•
Continuity 10A	-	-	-	-	-	-

### ADDITIONAL FUNCTIONS

	HT7052	HT7051	NEPTUNE	ISO410	M72	M70
Test with programmable ramp	• steps of 25VDC	• steps of 25VDC	-	-	-	-
Programmable test timer	• 1s ÷ 30min	• 5s ÷ 100min	• 15s ÷ 10min	• 10s ÷ 16,6min	-	• 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	•	•	•	•	•	•
Measurement of DC/AC voltage up to 600V	• 600V	• 600V	• 1000V	-	• 600V	• 600V
Measurement of resistance and continuity with buzzer	-	-	•	-	•	•
Measurement of phase sequence	-	-	•	-	•	-

### ADDITIONAL CHARACTERISTICS

	HT7052	HT7051	NEPTUNE	ISO410	M72	M70
Measurement category	CAT IV 600V	CAT IV 600V	CAT IV 600V	CAT III 265V	CAT III 550V	CAT III 550V
Backlight	•	•	•	•	-	•
Autocalibration of measuring leads	-	-	•	•	•	•
Guard terminal	•	•	-	-	-	-
Measurements with remote terminal	-	-	-	•	-	-
Internal memory	•	•	-	•	-	-
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	6x 1.2V NiMH LR20	Rechargeable NiMH	4x 1.5V AAA	6x 1.5V type AA	4x 1.5V AA	4x 1.5V AA
Size in mm (LxWxH)	360 x 330 x 160	360 x 310 x 195	175 x 85x 55	222 x 162 x 57	240 x 100 x 45	240 x 100 x 45
Weight (batteries included)	5.5kg	3.5kg	4.20 kg	1kg	450g	450g
Safety	IEC/EN61010-1 IEC/EN61557-2	IEC/EN61010-1 IEC/EN61557-1-2	IEC/EN61010-1 IEC/EN61557-1-2	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1
<b>Order code</b>	<b>HV007052</b>	<b>HV007051</b>	<b>HR00NEPK</b>	<b>HV000410</b>	<b>HV000072</b>	<b>HV000070</b>



ORDER CODE **HV007052**

# HT7052

PROFESSIONAL INSULATION METER  
WITH TEST VOLTAGE UP TO 10KV DC

HT7052 has been developed to measure **insulation resistance** with test voltage **programmable** up to **10kVDC** and **measuring range up to 10TΩ** which makes it very useful in any industrial application (tests on electric machines, power transformers, electric cables, electric boards, generic devices, etc.). The device allows measuring parameters such as **Polarization Index (PI)** and **Dielectric Absorption Ratio (DAR)** and **Dielectric Discharge (DD)**, diagnostic tests which allow determining the quality of an insulating material. It carries out **"ramp"** insulation tests and **dielectric strength test in DC**. HT7052 is supplied with NiMH rechargeable battery with integrated 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 device has been inserted into a comfortable and resistant transport case, solid and safe for "on-site" use.



ORDER CODE **HV007051**

# 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 **10TΩ** which makes it very useful in any industrial application (tests on electric machines, power transformers, electric cables, electric boards, generic devices, etc.). The device allows carrying out tests in **FIX** (with fixed test voltages), **ADJUST** (programmable test voltage) and **RAMP** mode (**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 insulation. HT7051 is supplied with **NiMH rechargeable battery** with integrated 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.



## Functions and characteristics

- Insulation with test voltage from 500 to 10kVDC in steps of 25VDC
- Measuring range up to 10TΩ
- Timer programmable from 1s to 30min
- Diagnostic tests on materials (PI, DAR, DD)
- Insulation resistance with programmable "ramp"
- Dielectric strength up to 10kVDC
- Measurement of DC/AC voltage up to 600V
- Measurement of capacity of the target
- GUARD terminal for surface current compensation
- Automatic discharge of test object
- **Backlight display**
- **Internal memory for saving results**
- **Recalling on the display the saved results**
- RS-232 and USB serial interface for transferring data onto the PC
- Power supply with rechargeable battery from power
- Display: Custom LCD with backlight and bargraph
- External power supply: 90-260V AC, 45-65Hz, 70VA
- Internal power supply: rechargeable batteries
- Duration: 4 hours (test with 10kV)
- Internal memory: 1000 locations
- PC interface: RS232 and USB
- Insulation: double insulation
- Pollution level: 2
- Mechanical protection: IP53 (closed case)
- Measurement category: CAT IV 600V
- Size (LxWxH) and weight: 330x360x160mm, 5.5kg

## Included accessories

	Red terminal, protection 10kV, 2m
	Terminals (red/black), protection 10kV, 2m, 2 pieces
	Terminals (red/black), protection 10kV, 2 pieces
	Green guard terminal
5004-IECV	Green alligator clip
	Power supply cable
	USB cable
	Cable RS-232
	Software "TeraView" on CD-ROM
	6 x 1.2V rechargeable batteries NiMH IEC LR20
	User Manual
	ISO9000 calibration certificate

## Optional accessories

For further information on optional accessories, please contact HT.

## Functions and characteristics

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

## Included 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
TOPVIEW	Windows software for PC + cable RS-232
	ISO9000 calibration certificate
	User Manual

## Optional accessories

C2009	RS232-USB adapter
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# NEPTUNE

PROFESSIONAL DEVICE  
FOR ELECTRIC SAFETY TESTS ACCORDING TO IEC/EN61557-1  
AND ADVANCED MULTIMETER FUNCTIONS

**NEPTUNE** is an innovative device which, further to being used as powerful multimeter for **TRMS** measurements, allows performing electric safety tests (Insulation and continuity) according to standard IEC/EN61557-1. The device complies to CAT IV 600V, with autorange function and backlit display. The design is extremely modern, attractive and ergonomic to offer the best possible ease of use.



ORDER CODE **HV000410**

# ISO410

MULTIFUNCTION DEVICE FOR MEASURING  
INSULATION AND CONTINUITY  
OF PROTECTIVE CONDUCTORS



ISO410 has been developed to measure **Insulation up to 1000VDC** and **Continuity of protective and equipotential conductors with 200mA**. This device is **very easy to use** and has an innovative structure with no mechanical commutators, which makes it extremely solid and resistant. It allows activating measurements by means of a **remote switch probe** (optional accessory **PR400**), very comfortable when carrying out measurements in a sequence. The context **help on line**, selectable by the user and active for any function, is a useful aid when connecting the device to the system to be tested. The **internal memory** allows saving the measurements carried out in order to subsequently **transfer them onto the PC** through the serial connection. Each measurement is saved together with all its sub-results and test parameters, as well as with two identifiers (which can be set by the user) in order to better identify the spot in which measurement was carried out.

## Functions and characteristics

### Multimeter section

- DC / AC, AC+DC TRMS voltage
- Input of low-impedance voltage
- 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

- Phase sequence with 1 terminal
- Insulation with test voltage 50, 100, 250, 500, 1000V with PI and DAR calculation
- Continuity of protective conductors with 200mA

### Section Mains analysis

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

## Included accessories

4324-2	Pair of test tips Red/Black 2/4mm straight banana
YABAT0001HTO	Alkaline battery 1.5V, type AAA, IEC LR03, 4 pcs
YABRS0002HTO	Carrying bag
YAMUM0066HTO	User manual on CD-ROM
YAMUM0065HTO	Quick reference guide
	Calibration certificate ISO9000

## Optional accessories

606-IECN	Connector with magnetic terminal
F3000U	AC flexible clamp with 30/300/3000A full scales
HT96U*	AC current clamp with 1/100/1000A full scales
HT97U*	AC current clamp with 10/100/1000A AC full scales
HT98U*	DC current clamp with 1000A full scale
HT4006	AC/DC current clamp with 40/400A full scales
NOCANBA	Hypertac-to-banana adapter
5004-IECR	Red alligator clip
5004-IECN	Black alligator clip
C2065	3-wire cable Red, Black and Green with Schuko plug

The standard accessories can be different depend on countries.  
\* Adapter NOCANBA required.

## Functions and characteristics

- Continuity of protective conductors with 200mA
- Insulation with 50, 100, 250, 500, 1000VDC
- Insulation measuring range 0.01MΩ-2GΩ
- Automatic discharge of measured object
- Autocalibration of measuring leads
- Setting the limit on measurement
- Activation of measurements with optional remote lead PR400
- Context help on the display
- Storage of results
- Optical/USB interface for PC connection
- **Safety: IEC/EN61010-1**
- **Measurement category CAT III 265V**
- **Power supply 6 x 1.5V batt. type AA**
- **Size (LxWxH): 222x162x57mm**
- **Weight (batteries included): 1kg**

## Included accessories

UNIVERSALKITCOMBI	Set of 3 cables + 3 alligator clips + 3 leads
BORSA75	Soft carrying bag
	ISO9000 calibration certificate
	User manual on CD-ROM
	Quick user guide

## Optional accessories

TOPVIEW2006	Windows software for PC + optical/USB C2006 cable
VA500	Rigid transport case for device and accessories
PR400	Remote lead for test activation
SP-0400	Set of straps for slinging the instrument over one's shoulder



**TRMS**

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## M72

COMBINED DEVICE FOR INSULATION MEASUREMENT, CONTINUITY OF PROTECTIVE CONDUCTORS AND MULTIMETER FUNCTION

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).



ORDER CODE HV000070

## M70

COMBINED DEVICE FOR MEASURING INSULATION AND CONTINUITY 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 current of 200mA** in domestic and industrial electric installations.

Thanks to the **LOCK function**, insulation measurement can be carried out in a **continuous manner over time**, thus testing the insulation of the target with a **duration test**. It carries out measurement with a timer, **programmable from 2 to 60s**.

### Functions and characteristics

- Continuity of protective conductors with 200mA
- Insulation with 250,500VDC
- Insulation measuring range 0.01MΩ-2GΩ
- Automatic discharge of measured object
- 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**
- **Measurement category: CAT III 550V**
- **Power supply: 4x1.5V batt. type AA**
- **Size (LxWxH): 240x100x45 mm**
- **Weight (batteries included): 450g**

### Included accessories

KIT0075	Set of 2 cables with leads + 2 alligator clips
BORSA2000	Soft carrying bag
	ISO9000 calibration certificate
	User manual on CD-ROM
	Quick user guide

### Optional accessories

HT96U	Standard 1-100-1000A/1V clamp, diameter 54mm
HT4003	Standard 400A AC clamp
HT4004N	Standard 10-100A DC/1V clamp
HT4005N	Standard 5-100A AC/1V clamp
NOCANBA	Adapter for connect. HT96U, HT4004N, HT4005N

### Functions and characteristics

- Insulation with test voltage 250, 500, 1000VDC
- Measuring range up to 4GΩ
- Automatic discharge of measured object
- 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 dots**
- **Power supply: 4x1.5V batteries type AA**
- **AutoPowerOFF: after 15 minutes' idling**
- **Safety: IEC/EN61010-1**
- **Measurement category: CAT III 550V**
- **Size (LxWxH): 240x100x45 mm**
- **Weight (batteries included): 450g**

### Included accessories

KIT0070	Set of 2 cables + 2 alligator clips + 1 lead
BORSA2000	Soft carrying bag
	Batteries
	CE declaration of conformity
	User Manual