

M72 - ISO410

MULTIFUNCTION INSTRUMENT FOR MEASURING INSULATION AND CONTINUITY OF PROTECTIVE CONDUCTORS

Models M72 and ISO410 are innovative instruments for carrying out insulation resistance measurements on civil and industrial electric systems in compliance with standard IEC/EN61557-1 but with a great flexibility for use in compliance with standards such as IEC/EN60204-1 (electric machines) or IEC/EN60439-1 (ANS electric panels). Model ISO410, differently from M72, allows storing each measurement result in its own internal memory and downloading the saved data onto the PC with the aid of the dedicated software. ISO410 also allows carrying out measurements by using a remote switch (optional accessory PR400), which makes it much easier to carry out more measurements one after the other. Model M72 is provided with a powerful multi-meter function for measuring quantities in true RMS value (TRMS), which is useful when solving any kind of electric problem.

FUNCTIONS	M72	ISO410
Continuity with 200mA	•	•
Insulation with 250, 500VDC	•	•
Insulation with 50, 100, 250, 500, 1000VDC		•
Insulation measuring range	0.01MΩ-2GΩ	0.01MΩ-2GΩ
Automatic discharge of tested item	•	•
Measuring probe self-calibration	•	•
Limit setting on measurement		•
Phase sequence indication	•	
DC/AC TRMS voltage	•	
DC/AC TRMS current	•	
Resistance and continuity test	•	
Data HOLD, MAX/MIN/AVG	•	
Voltage and current PEAK measurement	•	
Leakage current measurement (with optional clamp HT96U)	•	
Activation of measurements (with optional remote probe PR400)		•
Help on line on the display		•
Storage of results		•
Optical/USB interface for connection to PC		•
Safety	EN61010-1	EN61010-1
Measurement category	CAT III 550V	CAT III 265V
Power supply	4x1.5V bat.type AA	6x1.5V bat.type AA
Dimensions (LxWxH):	240x100x45	222x162x57
Weight (batteries included)	450g	1Kg

ACCESSORIES	Code
Set of 2 cables with test leads + 2 alligator clips (only M72)	KIT0075
Set of 3 cables + 3 alligator clips + 1 test leads (only ISO410)	UNIVERSALKIT
Carrying bag (only M72)	BORSA75
Carrying bag (only ISO410)	BORSA75N
ISO9000 calibration certificate	
User manual on CD-ROM	
Quick reference guide	
Optional	
PC Windows software + optical / USB cable (only ISO410)	TOPVIEW2006
Clamp 1-100-1000A/1V AC, diameter 54mm (only M72)	HT96U
Clamp 400A AC, diameter 30mm (only M72)	HT4003
Clamp 200A/1V AC, diameter 40mm (only M72)	HT4005K
Clamp 10-100A/1V DC, diameter 32mm (only M72)	HT4004N
Adapter for connection of HT96U, HT4004N, HT4005K clamps (only M72)	NOCANBA
Switch probe (only ISO410)	PR400
Hands-free kit (only ISO410)	SP-0400
Magnetic adapter for connection to screw heads	606-IECN
Safety flexible alligator clip	6007-IEC#

Optional accessories



PR400
Switch probe

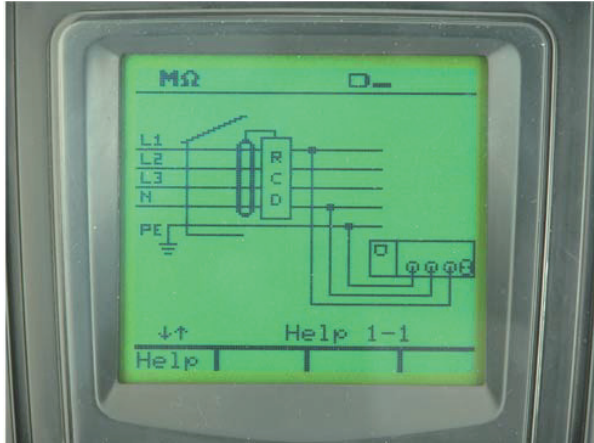


M72
HV000072

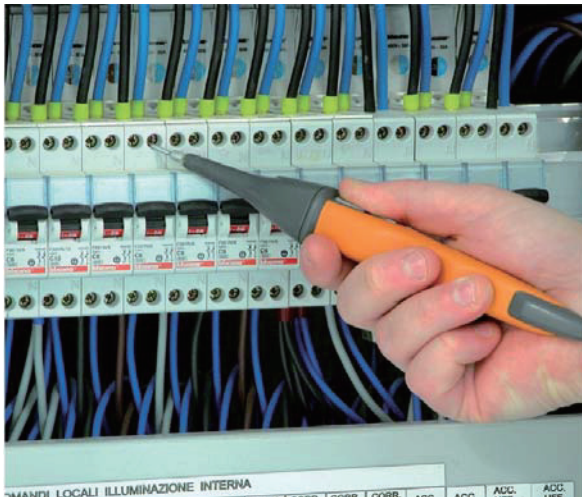


ISO410
HV000410

1. MAIN FEATURES OF FAMILY 400 METERS



Help on line (available on each function) to support the user while connecting the instrument to the installation under measurement



Each model permits the Start of measurements with remote probe (PR400 optional accessory)



General menu to quickly selection of available test performed by meter
(COMBI419 and COMBI420 models only)

**1. ELECTRICAL SPECIFICATIONS**Accuracy is indicated as \pm (% rdgs + no. of dgt) at 23°C \pm 5°C, con relative humidity <60%HR**Insulation resistance (DC voltage)**

Test voltage (V)	Range (M Ω)	Resolution (M Ω)	Accuracy	Category of measure
50	0.01 \div 9.99	0.01	$\pm(2.0\%rdg + 2dgt)$	CAT III 240V to Ground CAT III 415V between inputs
	10.0 \div 49.9	0.1	$\pm(5.0\%rdg + 2dgt)$	
	50.0 \div 99.9			
100	0.01 \div 9.99	0.01	$\pm(2.0\%rdg + 2dgt)$	
	10.0 \div 99.9	0.1	$\pm(5.0\%rdg + 2dgt)$	
	100 \div 199	1		
250	0.01 \div 9.99	0.01	$\pm(2.0\%rdg + 2dgt)$	
	10.0 \div 99.9	0.1		
	100 \div 249	1	$\pm(5.0\%rdg + 2dgt)$	
	250 \div 499			
500	0.01 \div 9.99	0.01	$\pm(2.0\%rdg + 2dgt)$	
	10.0 \div 99.9	0.1		
	100 \div 499	1	$\pm(5.0\%rdg + 2dgt)$	
	500 \div 999			
1000	0.01 \div 9.99	0.01	$\pm(2.0\%rdg + 2dgt)$	
	10.0 \div 99.9	0.1		
	100 \div 999	1	$\pm(5.0\%rdg + 2dgt)$	
	1000 \div 1999			

Open leads voltage:

1.25 x nominal test voltage
voltage measurement resolution:1V

Short circuit current:

<15mA (peak) for each test voltage

Nominal current:

>2.2mA with 230k Ω @, 500V; 1mA with 1M Ω @ other test voltage**Continuity test on protective conductors**

Range (Ω)	Resolution (Ω)	Accuracy (*)	Category of measure
0.00 \div 9.99	0.01	$\pm(2.0\%rdg + 2dgt)$	CAT III 240V to Ground CAT III 415V between inputs
10.0 \div 99.9	0.1		

(*) after cable calibration which eliminates the cable resistance

Test current:

>200mA DC per R \leq 5 Ω (calibration included)

current measurement resolution: 1mA

Open leads voltage:

4 < V₀ < 24V



2. GENERAL SPECIFICATIONS

MECHANICAL FEATURES

Dimensions:	240 (L) x 160 (W) x 70 (D) mm
Weight (batteries included):	about 1.2kg
Protection degree:	IP50

MEMORY AND SERIAL INTERFACE

Each measurement can be stored	
Memory:	>600 locations
PC communication port:	optical / USB

DISPLAY:

Features:	graphic LCD with backlight
-----------	----------------------------

POWER SUPPLY:

Batteries:	6x 1.5V type LR6, AA, AM3, MN 1500
Battery life:	> 600 measurements (without using the timer)

ENVIRONMENTAL CONDITIONS:

Reference temperature of calibration:	23°C ± 5°C
Working temperature:	0° ÷ 40°C
Working humidity:	< 80%HR
Storage temperature (batteries not included):	-10 ÷ 60°C
Storage humidity:	< 80%HR

GENERAL REFERENCE STANDARDS:

Product guideline:	IEC61557
Insulation:	class 2 (double insulation)
Pollution degree:	2
Overvoltage category of the voltage inputs (installation/measurement):	CAT III 240V to ground, 415V between inputs
Overvoltage category of the AUX input:	5V to ground
Max altitude:	2000m

This instrument complies with the requirements of the European Low Voltage Directives 2006/95/EEC (LVD) and EMC 2004/108/EEC