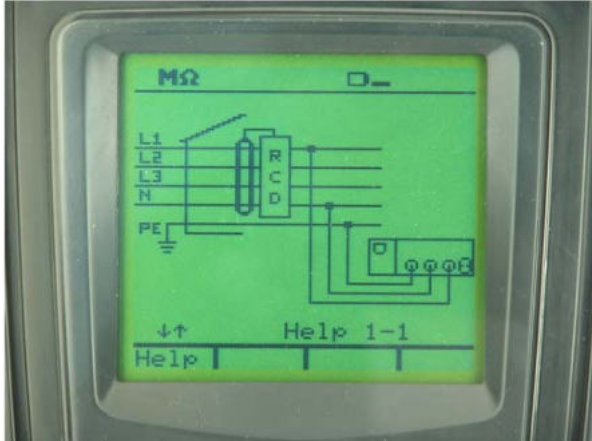
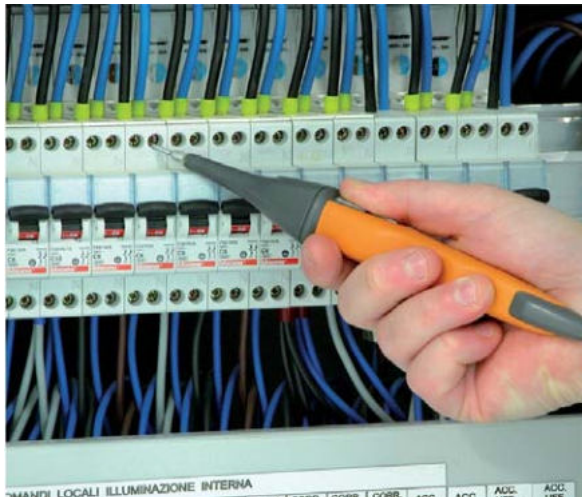


1. MAIN FEATURES OF FAMILY 400 METERS



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