

# Teraohmmeter Picoammeter M1501U



- ▶ Measurement range :
  - ▶ Teraohmmeter from 4kΩ to 2.10<sup>13</sup>Ω
  - ▶ Picoammeter from 50 pA to 3 mA
- ▶ Manual or automatic range selection
- ▶ Measurement voltage adjustable volt by 10 volts steps from 10V to 1500VDC
- ▶ Measurement speed selectable from 1 to 10 readings/sec
- ▶ Memorization of 10 configurations
- ▶ Humidity and temperature measurement

This automatic teraohmmeter-picoammeter microprocessor designed is suited for quality control or incoming inspection departments. The MΩ x km option makes the operation on cables easier.

## Technical Characteristics

### OUTPUT VOLTAGE

- Voltage adjustable from 10VDC to 1500VDC by 10V steps
- Accuracy : ± (0.5% + 0.5V) full scale
- Short circuit current : 3 mA
- Nominal current : 3 mA from 10V to 1500V
- Polarity : Positive pole to HV terminal  
Negative pole to guard terminal
- Possibility of ground the positive or negative high voltage pole
- Temperature coefficient : 0.001%/°C
- Discharge resistance : 2.2 kΩ
- Voltage drift : microprocessor controlled, audio signal when out of tolerance

### Test time

- A temporization circuit allows to adjust the test time from 0 to 999 sec.

### Measurement speed

- 3 speeds can be programmed with measurement display:
- |        |                |
|--------|----------------|
| Slow   | 1 reading/sec  |
| Normal | 3 reading/sec  |
| Fast   | 10 reading/sec |

### TERAHOHMMETER

- Measurement range : 4kΩ to 2.10<sup>13</sup>Ω (2000TΩ)
- Accuracy : ≤ (0.2% of reading + 0.1% of range ± 50/U test %)
- Temperature coefficient: ± 0.1%/°C
- Automatic or manual range selection

Ranges	Resolution
2.10 <sup>6</sup>	4 kΩ
2.10 <sup>7</sup>	10 kΩ
2.10 <sup>8</sup>	100 kΩ
2.10 <sup>9</sup>	1 MΩ
2.10 <sup>10</sup>	10 MΩ
2.10 <sup>11</sup>	100 MΩ
2.10 <sup>12</sup>	1 GΩ
2.10 <sup>13</sup>	10 GΩ
2.10 <sup>14</sup>	100 GΩ
2.10 <sup>15</sup>	1 TΩ

### Measurement on capacitive circuit

- An internal filter enables measurement on capacitive circuits
- Display indicates that measurement voltage has reached requested values

TERA OH M M E T E R

## LOW RESISTANCE MEASUREMENT

### Program memory

- Up to 10 configurations can be memorized (measurement speed, threshold, test voltage ...)

### PICOAMMETER

- Measurement range : 50 pA to 3 mA
- Accuracy :  $\leq (0.2\% \text{ of reading} + 0.1\% \text{ of range})$

### Program memory

- 2000 digits LCD display

### Threshold

- A measurement value inferior to the predisplayed threshold value brings about an audio signal, a visual signal on the LCD and a contact on the instrument back panel will be available with option 03

Ranges	Resolution
2 nA	1 pA (50 pA minimum)
20 nA	10 pA
200 nA	100 pA
2 $\mu$ A	1 nA
20 $\mu$ A	10 nA
200 $\mu$ A	100 nA
2 mA	1 $\mu$ A
3 mA	10 $\mu$ A

### PROTECTION

- High voltage is applied only when the safety loop is closed
- Current can be limited to 3 mA for accordance with VDE0104

## General Characteristics

### Presentation

- Table top metal case fitted with retractable feet

### Dimensions

- Height : 131 mm
- Width : 343 mm
- Depth : 332 mm

### Weight

- Approx. 10 kg

### Operating temperature

- 0°C to +50°C

### Storage temperature

- -20°C to +70°C

### Power

- 230V or 115V +/- 10%, 47/63 Hz
- Consumption : 40 VA

## Options

### M1501U-01

#### Temperature and humidity measurement

- Range : 0 to 100°C
- Accuracy :  $1\% \pm 1^\circ\text{C}$
- Range : 0 to 100% HR
- Accuracy : 2% from 5 to 95% HR

### M1501U-02

#### 0-10V Analog output

### M1501U-03

#### Remote control by dry contacts (PLC)

### M1501U-04

#### Measurement output on rear panel

### M1501U-06

M $\Omega$ /km measurement display : allows on any length of cable, to display the insulation measure brought back on a 1km length

### M1501U-07

#### RS232C Interface

### M1501U-08

#### 3 mA hardware current limitation

## Available accessories

### C019

- High voltage test lead
- ▶ Length : 1.25 and 5 meters
- ▶ Starting : BNC connector
- ▶ Ending : cable ending with 4 mm banana plug
- ▶ Type : high voltage shielded cable



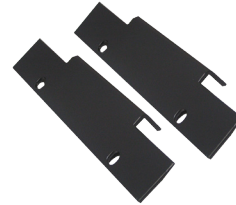
### TE17

- Return probe
- ▶ Length : 1.25, 5 or 10 meters
- ▶ Starting : BNC connector
- ▶ Ending : probe ending with 4 mm banana plug (that can be taken out to connect any other 4 mm cable/accessory type)
- ▶ Type : ground return shielded cable



### KRMGU

- 19 inches rack mounting adaptation kit from 3U units



## Calibration

### REMA 0 to REMA 8

- Standard resistors of 1MΩ, 10MΩ, 100MΩ, 1GΩ, 10GΩ, 100GΩ, 1TΩ, 10TΩ or 100TΩ



### C058

- Connection lead for REMA resistor to Megohmmeter
- ▶ Length : 50 centimeters
- ▶ Starting : 2 BNC connectors
- ▶ Ending : 2 BNC connectors
- ▶ Type : shielded cable for high resistance measurement



### BEM24

- Calibration box including 23 standard resistors from 5kΩ to 100TΩ (500V max, accuracy 1%) + temperature measurement and humidity indicator



### SRE24

- Guard ring measurement electrode for surface/volumic measurement
- ▶ Starting : 4 mm connection on the top of the probe
- ▶ Ending : 4 mm connection on the side of the probe
- ▶ Weight : 2 670 g
- ▶ Type : guard ring measuring electrode according to DIN 53482 / VDE 0303 part 3 IEC93 (Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials)



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