TERAOHMMETER

Teraohmmeter Picoammeter M1501P

- Measurement range :
  - Teraohmmeter from 4kΩ to 2.10^{15}Ω
  - Picoammeter from 0.01 pA to 20 mA
- Manual or automatic range selection
- Measurement voltage adjustable volt by volt from 1V to 1500VDC
- Measurement speed selectable from 1 to 10 readings/sec
- Memorization of 10 configurations
- Humidity and temperature measurement
- Programmable via IEEE interface

This automatic teraohmeter-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 volt by volt from 1VDC to 1500VDC
- Accuracy :

± (0.5% + 0.5V) full scale

- Short circuit current : 20 mA
- Nominal current :

10 mA from 1V to 1000V
5 mA from 1000V 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

TERAOHMMETER

- Measurement range : 100Ω à 2.10^{15}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^{6}	4 kΩ
2.10^{7}	10 kΩ
2.10^{8}	100 kΩ
2.10^{9}	1 MΩ
2.10^{10}	10 MΩ
2.10^{11}	100 MΩ
2.10^{12}	1 GΩ
2.10^{13}	10 GΩ
2.10^{14}	100 GΩ
2.10^{15}	1 TΩ

Measurement on capacitive circuit

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

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Test & Measurement

TERAOHMMETER

LOW RESISTANCE MEASUREMENT

Program memory

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

PICOAMMETER

- Measurement range : 0.01pA to 20 mA
- Accuracy : ≤ (0.2% of reading + 0.1% 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
20 pA	0.01 pA (0.5 pA minimum
200 pA	0.1 pA
2 nA	1 pA
20 nA	10 pA
200 nA	100 pA
2 µA	1 nA
20 µA	10 nA
200 µA	100 nA
2 mA	1 µA
20 mA	10 µA

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% ± 1°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

MΩ/km measurement display : allows on any length of cable, to display the insulation measure brought back on a 1km lenght

M1501U-07

RS232C Interface

M1501U-08

3 mA hardware current limitation

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sefelec Test & Measurement

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Available accessories

CO19

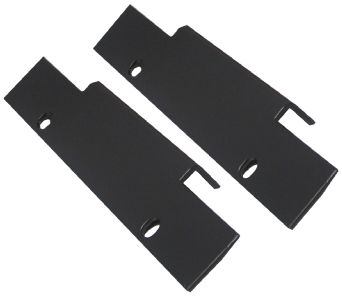
- High voltage test lead
  - Length : 1.25 and 5 meters
  - Starting : BNC connector
  - Ending : cable ending with 4 mm banana plug
  - Type : high voltage shielded cable

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

KRMG3U

- 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

CO58

- 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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