



TeraOhm 5 kV MI 2077

Advanced, field proven instrument. Technical demands require high performance measuring instruments capable of measuring polarization index (PI), dielectric absorption ratio (DAR), dielectric discharge (DD), insulation system capacitance. Easiness of use, high EM immunity and automatic discharge of load after completed measurement are just some of many outstanding features that distinguish Metrel HV testers from other similar products on the market.

High insulation resistance measurement:

- DC test voltages 250 V ÷ 5000 V in steps of 50 V
- Measuring range up to 5 TΩ
- Timer mode from 1 s up to 30 min
- Capacitance measurement up to 50 μF

Step voltage measurement of insulation resistance:

- DC test voltage up to 5000 V automatically divided in 5 steps
- Adjustable test time

Withstanding voltage test up to 5000 V:

- Insulation leakage current measurement
- Adjustable test voltage slope
- Pre-set threshold test current from 1 mA to 1.4 mA
- Time programmable step voltage test

Other features:

- Voltage and frequency measurement up to 600 V AC/DC
- Automatic discharge of capacitive loads
- Guard terminal to eliminate influence of insulation surface leakage currents
- Digital and bar graph display
- Built-in battery charger
- User-friendly PC software (optional)
- RS232 isolated communication port

Typical applications:

- Rotating machines
- Transformers
- Cables
- High voltage generators
- Electrical circuits
- Surge arresters
- Measuring transducers

Standards applied:

- Instruments operation: IEC/EN 61557-2
- Electromagnetic compatibility: (EMC) EN 61326 Class B
- Safety: EN 61010-1 (instruments), EN 61010-031 (accessories)

Technical Specification

Measuring range:	0.12 MΩ ÷ 5 TΩ	Acc. ±(5 % of r. + 3 dig.)	General	
Test voltage ranges (DC):	250 V ÷ 5000 V in steps of 50 V	Acc. ±(3 % of r. + 3 V)	Battery power supply:	7.2 V DC (6 x 1.2 V NiMH batteries, IEC LR14)
Bar Graph Trend:	0 ÷ 1 TΩ		Mains power supply:	230 V AC, 45-65 Hz
Withstanding test voltage:	0 ÷ 5000 V	Acc. ±(3 % of r. + 40 V)	Protection classification:	Double insulation
Leakage current range:	0 ÷ 1.4 mA	Acc. ±(3 % of r. + 3 dig.)	Over-voltage category:	CAT III/600V
Voltage AC/DC range:	0 ÷ 600 V	Acc. ±(3 % of r. + 3 V)	Pollution degree:	2
Capacitance range:	0 ÷ 50 μF	Acc. ±(5 % of r. + 2 dig.)	Degree of protection:	IP 44
Polarization index (PI) range:	0 ÷ 99.9	Acc. ±(5 % of r. + 2 dig.)	Dimensions (w x h x d):	265 x 110 x 185 mm
Dielectric discharge test (DD) range:	0 ÷ 99.9	Acc. ±(5 % of r. + 2 dig.)	Weight (with batteries):	2.3 kg
Dielectric absorption ratio (DAR) range:	0 ÷ 99.9	Acc. ±(5 % of r. + 2 dig.)	Visual and sound warnings:	Yes
Step voltage:	250 ÷ 5000 V in five steps		Display:	LCD dot matrix with backlight (160 x 116)
			Memory:	Non-volatile internal memory, 1000 measurements
			Working temperature range:	-10 ÷ 50 °C
			Nominal temperature range:	10 ÷ 30 °C
			Storage temperature range:	-20 ÷ 70 °C
			Maximum humidity:	95 % RH (0 ÷ 40 °C) non-condensing
			Nominal humidity range:	40 ÷ 60 % RH

Key features



Large custom LCD dot matrix display with bar graph and backlit. Simultaneous presentation of measuring results and test parameters. Built-in timer and real time clock.



User friendly keyboard enables simple and fast adjustment.



Guard connection terminal to eliminate the influence of surface insulation currents.



230 V power supply with built-in battery charger for NiMH batteries enables measurement during the charging. 110 V power supply available on request.



Up to 1000 test results can be stored in the memory module of TeraOhm 5kV. Windows compatible TeraLink PC software serves for downloading and management of test results. Results can be further exported to other Windows programs.

Ordering information

Standard set

MI 2077



Instrument TeraOhm 5 kV
Soft carrying bag
Mains cable
Test lead set, 2 m (black, red)
Guard test lead 2 m with alligator clip (green)
Alligator clips, 2 pcs (black)
Handbook "Guide to modern insulation testing" on CD
Instruction manual
Product verification data

Use of a "Guard" terminal eliminates an influence of surface insulation currents on the measuring result. To assure high accuracy of the measuring results a "Guard" terminal is to be used in conjunction with shielded test leads when measuring insulation resistances in GΩ or TΩ range.

