

Professional insulation testing with powerful diagnostic tools

MI 3210 TeraOhmXA 10kV



MI 3210 TeraOhm XA 10 kV is a portable, battery or mains powered test instrument with excellent IP protection (IP65), intended for diagnosing of Insulation Resistance by using high DC test voltages of up to 10 kV. Because of its robustness (CAT IV protection) and high immunity to radiated RF fields it is best suited for industrial environment.



High Voltage Insulation / Continuity / Earth

MEASURING FUNCTIONS

- Insulation Measurement;
- Diagnostic Test (PI, DAR, DD);
- Step Voltage Test;
- Withstanding Voltage Test (DC) up to 10 kV;
- Voltage and frequency measurement up to 550 V TRMS.

KEY FEATURES

- Insulation resistance up to 20 TΩ.
- Adjustable test voltage (50 V...10 kV) 50 V and 100 V step.
- Programmable timer.
- Capacitance measurement.
- Charging rate for capacitive load < 3 s / μF at 10 kV.
- Automatic discharge of test object after completion of measurement.
- Guard terminal.

- High voltage breakdown detection.
- Custom defined tests.
- Auto adjustment function.
- Measurement results in numerical and graphical form.
- PC software HVLink PRO for downloading and analysing of the test results and test report printing.
- Isolated RS232 and USB communication ports, BT interface.
- High quality accessories including shielded test leads in standard set.
- High EM interferences protection: Input AC current noise rejection (1 mA∞600 V) and additional averaging of the result (5, 10, 30, 60).
- CAT IV / 600 V.
- Mains and rechargeable battery power supply.

APPLICATION

- Power transformers;
- Measuring transducers in distribution networks;
- Testing insulation resistance of rotating machinery and cables;
- Production line periodic testing and maintenance;
- Troubleshooting and analysis of all kinds of insulation problems;
- High voltage generators;
- Surge arrestors.

STANDARDS

Electromagnetic compatibility

- EN 61326 class A

Safety

- EN 61010-1 (instrument);
- EN 61010-2-030;
- EN 61010-2-033;
- EN 61010-031 (accessories)

TECHNICAL SPECIFICATION

FUNCTION	Measuring range	Resolution	Accuracy	
Insulation resistance	0.01 MΩ ... 9.99 MΩ	10 kΩ	±(5% of reading + 3 digits)	
	10.0 MΩ ... 99.9 MΩ	100 kΩ	±(5% of reading + 3 digits)	
	100 MΩ ... 999 MΩ	1 MΩ	±(5% of reading + 3 digits)	
	1.00 GΩ ... 9.99 GΩ	10 MΩ	±(5% of reading + 3 digits)	
	10.0 GΩ ... 99.9 GΩ	100 MΩ	±(5% of reading + 3 digits)	
	100 GΩ ... 999 GΩ	1 GΩ	±(5% of reading + 3 digits)	
	1.0 TΩ ... 9.9 TΩ	100 GΩ	±(5% of reading + 3 digits)	
	10 TΩ ... 20 TΩ	1 TΩ	±(15% of reading + 3 digits)	
Test voltage	0 V ... 999 V	1 V	±(5% of reading + 3 digits)	
	1.00 kV ... 9.99 kV	10 V		
	10.0 kV ... 14.0 kV	100 V		
Insulation leakage current	1.00 mA ... 5.00 mA	10 μA	±(5% of reading + 3 digits)	
	100 μA ... 999 μA	1 μA		
	10.0 μA ... 99.9 μA	100 nA		
	1.00 μA ... 9.99 μA	10 nA		
	100 nA ... 999 nA	1 nA		
	10.0 nA ... 99.9 nA	100 pA		
	0.00 nA ... 9.99 nA	10 pA		±(10% of reading + 0.15 nA)
	Dielectric absorption ratio (DAR)	0.01 ... 9.99		0.01
	10.0 ... 100.0	0.1		
Polarization index (PI)	0.01 ... 9.99	0.01	±(5% of reading + 2 digits)	
	10.0 ... 100.0	0.1		
Dielectric discharge (DD)	0.01 ... 9.99	0.01	±(5% of reading + 2 digits)	
	10.0 ... 100.0	0.1		
Voltage AC/DC	5.0 V ... 99.9 V	0.1 V	±(2% of reading + 2 digits)	
	100 V ... 550 V	1 V		
Frequency	10 Hz ... 500 Hz	0.1 Hz	±(0.2% of reading + 1 digits)	
Capacitance	20.0 nF ... 999 nF	1 nF	±(5% of reading + 2 digits)	
	1.00 μF ... 9.99 μF	10 nF		
	10.0 μF ... 50.0 μF	100 nF		
Power supply	12 V DC (3.4 Ah Lead - Acid)			
Display	320 x 240 dots matrix display with backlight			
Overvoltage category	CAT IV / 600 V			
Protection class	Double insulation			
COM port	RS232, USB and Bluetooth			
Dimensions	345 x 160 x 335 mm			
Weight	6.5 kg			

OPTIONAL ACCESSORIES









Photo	Order No.	Acc. decription
	S 2029	10 kV shielded test lead, 8 m, 2 pcs (black, red)
	S 2030	10 kV shielded test lead, 15 m, 2 pcs (black, red)
	A 1539 BLK 2M5	10 kV shielded test lead with large black HV test clip, 2.5 m
	A 1639 RED 2M5	10 kV test lead with large red HV test clip, 2.5 m

Photo	Order No.	Acc. decription
	A 1655 2M5	Guard test lead, 2.5 m
	S 1539 5M	Set 10 kV test leads with large HV test clip, 5 m
	S 1539 10M	Set 10 kV test leads with large HV test clip, 10 m
	S 1539 15M	Set 10 kV test leads with large HV test clip, 15 m

METREL D.D.

Measuring and Regulation Equipment Manufacturer
Ljubljanska 77, SI-1354 Horjul, Slovenia
T +386 (0)1 75 58 200, F +386 (0)1 75 49 226
metrel@metrel.si, www.metrel.si

ORDERING INFORMATION



Standard set MI 3210 (ST)

- Instrument MI 3210 TeraOhmXA 10 kV
- 10 kV shielded test lead with probe, 2 m
- 10 kV shielded test lead, 2 m, 2 pcs (black, red)
- 10 kV crocodile clip, 2 pcs (black, red)
- Guard test lead, green, 2 m
- Crocodile clip, green
- Mains cable
- PC SW HVLink PRO with USB and RS 232 cable
- Handbook "Guide to modern insulation testing" on storage media
- Instruction manual on storage media
- Calibration certificate



Euro set MI 3210 (EU)

- Instrument MI 3210 TeraOhmXA 10 kV
- 10 kV shielded test lead with probe, 2 m
- Large HV Crocodile with cable, red, 2.5 m
- Large HV Crocodile with shielded cable, black, 2.5 m
- Guard test lead, green, 2.5 m
- Crocodile clip, green
- Mains cable
- PC SW HVLink PRO with USB and RS 232 cable
- Handbook "Guide to modern insulation testing" on CD
- Instruction manual on CD
- Calibration certificate