

# Professional insulation testing with powerful diagnostic tools

## MI 3205 TeraOhmXA 5kV



MI 3205 TeraOhm XA 5kV is a portable battery (Li-ion) or mains powered test instrument with excellent IP protection (IP65 case closed and IP54 case open), intended for diagnosing of Insulation Resistance by using high test voltages of up to 5 kV. It is designed and produced with the extensive knowledge and experience acquired through many years of working in this field.



### MEASURING FUNCTIONS

- Insulation Measurement;
- Diagnostic Test (PI, DAR, DD);
- Step Voltage Test;
- Withstanding Voltage Test (DC) up to 5 kV;
- Voltage and frequency measurement up to 550 V TRMS.

### KEY FEATURES

- Insulation resistance up to 15 T $\Omega$ ;
- Adjustable test voltage (50 V...5 kV) 50 V and 100 V step;
- Programmable timer;
- Capacitance measurement;
- Charging rate for capacitive load < 1,5 s /  $\mu$ F at 5 kV;
- Short circuit / charge current > 6 mA;
- 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 analyzing 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@300 V) and additional averaging of the result (5, 10, 30, 60);
- CAT IV / 600 V;
- Increased working nominal altitude to 3000 m;
- High power Li-ion battery pack (14.8V, 4.4Ah);
- 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 and varistors.

### STANDARDS

#### Electromagnetic compatibility

- EN 61326 class A

#### Safety

- EN 61010-1 (instrument)
- EN 61010-2-030
- EN 61010-2-033
- EN 61010-031 (accessories)
- EN 61010-2-034

## 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	±(15% of reading + 3 digits)	
	10 TΩ ... 15 TΩ	1 TΩ	±(15% of reading + 3 digits)	
Test voltage	0 V ... 999 V	1 V	±(5% of reading + 3 digits)	
	1.00 kV... 4.99 kV	10 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	±(5 % of reading + 3 digits)	
	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		
Capacitance	20.0 nF ... 999 nF	1 nF	±(5% of reading + 3 digits)	
	1.00 μF ... 9.99 μF	10 nF		
	10.0 μF ... 50.0 μF	100 nF		
True RMS voltmeter (DC, 45 Hz ... 65 Hz)	5 V ... 550 V		±(2 % of reading + 2 digits)	
Frequency	10 Hz ... 500 Hz		±(0.2 % of reading + 1 digit)	
Power supply	90-260 VAC, 45-65 Hz or 14.4 VDC (4,4 Ah Li-Ion)			
Display	Matrix LCD with backlight, 320 x 240 dots			
Overtoltage category	CAT IV / 600 V			
Protection class	Double insulation			
Degree of protection	IP 65 (case closed)			
	IP 54 (case open)			
COM port	BT, RS232 and USB			
Dimensions	345 x 160 x 335 mm			
Weight	5.32 kg			

## OPTIONAL ACCESSORIES






Photo	Order No.	Acc. description
	A 1822 BLK 2M5	10 kV shielded test lead with large black HV test clip
	A 1822 BLK 3M	
	A 1822 BLK 5M	
	A 1822 BLK 10M	
	A 1822 BLK 15M	
	A 1823 RED 2M5	10 kV shielded test lead with large red HV test clip
	A 1823 RED 3M	
	A 1823 RED 5M	
	A 1823 RED 10M	
	A 1823 RED 15M	

Photo	Order No.	Acc. description
	A 1807 2M	10 kV shielded red test lead, HVX
	A 1807 3M	
	A 1807 5M	
	A 1807 8M	
	A 1807 10M	
	A 1807 15M	
	A 1808 2M	10 kV shielded black test lead, HVX
	A 1808 3M	
	A 1808 5M	
	A 1808 8M	
	A 1808 10M	
	A 1808 15M	
	A 1806 2M	Test lead 1000 V CATIII, green, HVX
	A 1806 2M5	
	A 1806 3M	
	A 1806 5M	
	A 1806 10M	
	A 1806 15M	

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## ORDERING INFORMATION



### Standard set MI 3205 (ST)

- Instrument MI 3205 TeraOhmXA 5 kV
- A 1807 10 kV shielded test lead, 2 m, red
- A 1808 10 kV shielded test lead, 2 m, black
- S 2036 10 kV crocodile clip, 2 pcs (black, red)
- A 1806 Guard test lead, green, 2 m
- A 1309 Crocodile clip, green
- A 1036 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



### Euro set MI 3205 (EU)

- Instrument MI 3205 TeraOhmXA 5 kV
- A 1822 Large HV Crocodile with shielded cable, 2.5 m, black
- A 1823 Large HV Crocodile with shielded cable, 2.5 m, red
- A 1806 Guard test lead, green, 2.5 m
- A 1309 Crocodile clip, green
- A 1036 Mains cable
- PC SW HVLINK PRO with USB and RS 232 cable
- Handbook "Guide to modern insulation testing" on CD
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