

Transformer testing

MI 3280 Digital Transformer Analyser

NEW

High Voltage Insulation / Continuity / Earth



Digital Transformer Analyser (MI 3280) is a Multi-function, portable battery (Li-ion) powered test instrument with excellent IP protection: IP65 (case closed), IP54 (case open), intended for diagnosing of: turn ratio, phase deviation and excitation current of single and three phase transformer and winding resistance of single and three phase transformer.

MEASURING FUNCTIONS

Available functions and features offered by the Digital Transformer Analyser:

- Turn ratio measurement of single phase transformer;
- Phase deviation between high voltage and low voltage winding;
- Excitation current when measuring turn ratio;
- Turn ratio measurement of three phase transformer:
 - Phase deviation between high voltage and low voltage winding;
 - Excitation current when measuring turn ratio;
- Winding resistance measurement of single phase transformer;
- Winding resistance measurement of three phase transformer.

KEY FEATURES

- A 3.4" color LCD display with touch screen offers easy-to-read results and all associated parameters.
- The operation is straightforward and clear to enable the user to operate the instrument without the need for special training.
- Test results can be stored on the instrument. PC software that is supplied as a part of standard set enables transfer of measured results to PC where they can be analysed or printed.
- Built-in help screens for referencing on site.
- Autotest sequences.
- Built-in charger and rechargeable batteries as standard accessory.
- BT communication with PC, Android tablets and smart phones via built-in BT.
- PC SW Metrel ES Manager for creation of test structures and uploading, downloading of test results, autotest editor and report creation.
- High degree of protection IP 65 (case closed), IP 54 (case open).

APPLICATION

- Power Transformers up to 1,6 MVA.
- Voltage transformers.
- Current transformers.

STANDARDS

Functionality

- C57.12.70

Electromagnetic compatibility

- EN 61326

Safety

- EN 61010 - 1
- EN 61010 - 2 - 030
- EN 61010 - 2 - 033
- EN 61010 - 031

Li - ion battery pack

- IEC 62133

TECHNICAL SPECIFICATION

Function	Measuring range	Resolution	Accuracy		
TURN RATIO r, rA, rB, rC	Excitation voltage 80 V	0.8000 ... 9.9999	0.0001	±(0.2% of reading + 2 digits)	
		10.000 ... 99.999	0.001	±(0.2% of reading + 2 digits)	
		100.00 ... 999.99	0.01	±(0.2% of reading + 2 digits)	
		1000.0 ... 1999.9	0.1	±(0.5% of reading + 2 digits)	
	Excitation voltage 40 V	2000.0 ... 3999.9	0.1	±(0.5% of reading + 2 digits)	
		4000.0 ... 8000.0	0.1	±(1.0% of reading + 2 digits)	
		0.8000 ... 9.9999	0.0001	±(0.2% of reading + 2 digits)	
		10.000 ... 99.999	0.001	±(0.2% of reading + 2 digits)	
	Excitation voltage 10 V	100.00 ... 999.99	0.01	±(0.2% of reading + 2 digits)	
		1000.0 ... 1999.9	0.01	±(0.5% of reading + 2 digits)	
		2000.0 ... 3999.9	0.1	±(0.5% of reading + 2 digits)	
		4000.0 ... 8000.0	0.1	n/a	
	Excitation voltage 5 V	1000.0 ... 8000.0	0.1	n/a	
		0.8000 ... 9.9999	0.0001	±(0.2% of reading + 2 digits)	
		10.000 ... 99.999	0.001	±(0.2% of reading + 2 digits)	
		100.00 ... 999.99	0.01	±(0.5% of reading + 2 digits)	
Excitation voltage 1 V	1000.0 ... 8000.0	0.1	n/a		
	0.8000 ... 9.9999	0.0001	±(0.2% of reading + 2 digits)		
	10.000 ... 99.999	0.001	±(0.5% of reading + 2 digits)		
	100.00 ... 999.99	0.01	n/a		
EXCITATION CURRENT i, iA, iB, iC	Test frequency 55, 65 or 70 Hz	1000.0 ... 8000.0	0.1	n/a	
		0.10 mA ... 9.99 mA	0.01 mA	±(2 % of reading + 0.20 mA)	
		10.0 mA ... 99.9 mA	0.1 mA	±(2 % of reading + 2 digits)	
		100 mA ... 999 mA	1 mA	±(2 % of reading + 2 digits)	
PHASE DEVIATION j, jA, jB, jC	Test frequency 55, 65 or 55 Hz	1.00 A ... 1.10 A	0.01 A	±(2 % of reading + 2 digits)	
		-180.00 ... 180.00 °	0.01°	±(0.05°)	
		0.0 mW ... 9.9 mW	0.1 mW	±(2 % of reading + 3 digits)	
		10.0 mW ... 99.9 mW	0.1 mW	±(2 % of reading + 2 digits)	
WINDING RESISTANCE R, RA, RB, RC	Test current 10 mA ... 1000 mA	100.0 mW ... 999.0 mW	0.1 mW	±(2 % of reading + 2 digits)	
		1.000 W ... 9.999 W	0.001 W	±(2 % of reading + 2 digits)	
		10.00 W ... 99.99 W	0.01 W	±(2 % of reading + 2 digits)	
		100.0 W ... 999.9 W	0.1 W	±(2 % of reading + 2 digits)	
		Battery power supply	14.4 V DC (4.4Ah Li-ion)		
		Battery charging time	typical 4.5 h (deep discharge)		
GENERAL	Mains power supply	90-260 VAC, 45-65 Hz, 100 VA (300 V CAT II)			
	Protection classification	reinforced insulation <input type="checkbox"/>			
	Over-voltage category	50 V CAT IV			
	Pollution degree	2			
	Degree of protection	IP 65 (case closed), IP 54 (case open)			
	Dimensions (w x h x d)	360 x 160 x 330 mm			
	Weight	8.8 kg, (with battery and accessories)			

METREL D.D.

Measuring and Regulation Equipment Manufacturer
Ljubljanska 77, SI-1354 Horjul, Slovenia
T +386 (0)175 58 200, F +386 (0)175 49 226
metrel@metrel.si, www.metrel.si

ORDERING INFORMATION



- Instrument MI 3280
- 4 wire test lid with Kelvin clamp, 2.5m 4 pcs
- USB cable
- Mains cable
- Soft carrying bag
- Soft carrying neck belt
- PC Software Metrel ES Manager
- Instruction manual
- Product verification data
- Warranty declaration
- Declaration of conformity

OPTIONAL ACCESSORIES

Photo	Order No.	Acc. decription
	A 1515	H0 H1 dual red Kelvin clips: (5m black/ yellow leads)
	A 1516	H2 H3 dual red Kelvin clips: (5m white/green leads)
	A 1517	X0 X1 dual grey Kelvin clips: (5m black/yellow leads)
	A 1518	X2 X3 dual grey kelvin clips: (5m white/green leads)