

Annexure I

Specifications

Multi pole Earth resistance tester

- 3- and 4-pole earth ground measurement
- 4-Pole soil resistivity testing
- 2-pole resistance measurement AC
- 2- and 4-pole resistance measurement DC
- Selective testing, no disconnection of ground conductor (1 clamp)
- Stakeless testing, quick ground loop testing (2 clamps)
- Earth impedance measurement at 55 Hz
- Automatic frequency control (AFC) (94, 105, 111, 128 Hz) instrument should have auto switching frequency capability incase of any interference
- Measuring voltage switchable 20/48V
- Instrument should have a memory to store atleast 1500 sample recordings.
- Instrument should have Programmable limits, settings
- Continuity with buzzer

RA 3-pole ground resistance measurement	
Measuring Voltage	$V_m = 20/48 \text{ V ac}$
Short circuit current	Greater than 200 mA ac
Measure frequency	94, 105, 111, 128Hz or similar multiples of frequency
Resolution	0.001 Ω to 100 Ω
Measuring range	0.001 Ω to 299.9 k Ω
Intrinsic error	$\pm (2 \% \text{ of reading} + 2 \text{ d})$ or better
Operating error	$\pm (5 \% \text{ of reading} + 5 \text{ d})$ or better
RA 4-pole ground resistance measurement	
Measuring Voltage	$V_m = 20/48 \text{ V ac}$
Short circuit current	Greater than 200 mA ac
Measure frequency	94, 105, 111, 128Hz or similar multiples of frequency
Resolution	0.001 Ω to 100 Ω
Measuring range	0.001 Ω to 299.9 k Ω
Intrinsic error	$\pm (2 \% \text{ of reading} + 2 \text{ d})$ or better
Operating error	$\pm (5 \% \text{ of reading} + 5 \text{ d})$ or better

RA 3-pole ground resistance measurement with current clamp	
Measuring Voltage	$V_m = 20/48 \text{ V ac}$
Short circuit current	Greater than 200 mA ac
Measure frequency	94, 105, 111, 128Hz or similar multiples of frequency
Resolution	0.001 Ω to 10 Ω
Measuring range	0.001 Ω to 29.99 k Ω
Intrinsic error	$\pm (7 \% \text{ of reading} + 2 \text{ d})$ or better
Operating error	$\pm (10 \% \text{ of reading} + 5 \text{ d})$ or better
RA 4-pole selective ground resistance measurement with current clamp	
Measuring Voltage	$V_m = 20/48 \text{ V ac}$
Short circuit current	Greater than 200 mA ac
Measure frequency	94, 105, 111, 128Hz or similar multiples of frequency
Resolution	0.001 Ω to 10 Ω
Measuring range	0.001 Ω to 29.99 k Ω
Intrinsic error	$\pm (7 \% \text{ of reading} + 2 \text{ d})$ or better
Operating error	$\pm (10 \% \text{ of reading} + 5 \text{ d})$ or better
Stakeless ground loop measurement	
Measuring Voltage	$V_m = 20/48 \text{ V ac}$
Measure frequency	94, 105, 111, 128Hz or similar multiples of frequency
Noise current (I _{ext})	Max. I _{ext} = 3 A
Resolution	0.001 Ω to 10 Ω
Measuring range	0.001 Ω to 29.99 k Ω
Intrinsic error	$\pm (7 \% \text{ of reading} + 2 \text{ d})$ or better
Operating error	$\pm (10 \% \text{ of reading} + 5 \text{ d})$ or better
Environmental Specifications	
Working temperature	-10 °C to +50 °C
Climatic class	C1 (IEC 654-1), -5 °C to +45 °C, 5 % to 95 % RH
Protection type	IP56 for case, IP40 for battery door according to EN 60529
Safety Specifications	

Safety Rating	CAT II, 300 V
General Specifications	
Display	2999 Digit LCD – 7 segment liquid crystal display with special symbols and backlight
Warranty	Three years