

Technical Specifications for 6 ½ Digit Digital Multi Meter

Sl No.	Description	Vendor to Specify
1-	Purpose: Digit Multi Meter is required for precision measurement of Voltage, Current, Resistance, Frequency, Capacitance & RTD Temperature etc. In service check / Intermediate check of Laboratory Standard as per NABL Requirement.	
2-	General Requirements:	
a)	Digit Multi Meter should be able to measure the following parameter. Voltage, Current, Resistance, Frequency, Capacitance & RTD Temperature etc.	
b)	DMM should be bench model in size & Portable.	
c)	Input power supply 230V AC $\pm 10\%$, 50Hz, Single phase.	
d)	Environmental Condition: Storage & Operating Temperature: 0°C to 50°C Storage & Operating Humidity: 0-90% non-condensing	
3-	Display VFD Dot matrix	
	Resolution 6.5 Digits	
	Measurement Rate (Rdgs/s) 2000	
4-	Measurement Function	
a.	Volt DC	
	Ranges 100 mV to 1000 V	
	Resolution 0.1 μ V	
	Accuracy $\pm(0.0025\% \text{Reading} + 0.0005\% \text{ of Range})$	
b.	Volt AC	
	Ranges 100 mV to 1000 V	
	Resolution 0.1 μ V	
	Accuracy $\pm(0.06\% \text{Reading} + 0.03\% \text{ of Range})$	
	Frequency 5 Hz to 100 kHz	
c.	Resistance (2 Wire & 4 Wire)	
	Ranges 10 Ω to 1 G Ω	
	Resolution 0.01 m Ω	
	Accuracy $\pm(0.01\% \text{Reading} + 0.001\% \text{ of Range})$	
d.	Amp. DC	
	Ranges 100 μ A to 10A	
	Resolution 0.1 nA	
	Accuracy $\pm(0.05\% \text{Reading} + 0.005\% \text{ of Range})$	

e.	Amp. AC	
	Ranges	100 uA to 10A
	Resolution	0.1 nA
	Accuracy	$\pm(0.1\% \text{Reading} + 0.04\% \text{ of Range})$
	Frequency	5 Hz to 5 kHz
f.	Frequency/Period	
	Ranges	5 Hz to 1 MHz
	Resolution	1 uHz
	Accuracy	0.01%
	Continuity/ Diode Test	Yes
g.	Capacitance	
	Ranges	1 nF to 0.1 F
	Resolution	1 pF
	Accuracy	1%
h.	Temperature	
	Type	RTD 2 Wire & 4 Wire
	Ranges	-200° to +600°C
	Resolution	0.01°C
	Accuracy	0.06°C
5-	Range Selection:	Manual & Auto (Auto Ranging function when feeding unknown input quantities)
6-	Make	The offer will be of reputed make Fluke/ H/P etc.
7-	Other Functions	
a.	Math Functions	Null, Min/Max/Average
	dB/dBm	Required
b.	Advance Functions	
	Statistics/ Histogram	Should be available
	Trend plot	Should be available
	Limit Test	Should be available
c.	Input Output	
	USB Memory	USB Memory Drive port
	Real Time Clock	Should be available
	Interfaces	RS 232, IEE-488.2, Lan, USB via Adapter
	Programming languages/ Modes	SCPI (IEEE -488.2)

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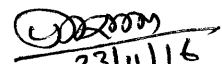
8-	General	
a.	Safety	Comply with IEC 61010-1 2000-1, ANSI/ISA-S82.01-1994, CAN/CSA-C22.2 No CAT I 1000V CAT II 600V.
b.	Warranty	24 Months from the date of commissioning
c.	Software	Basic Software should be supplied
d.	Cables	All necessary power and control cables for smooth operation for the DMM will supplied with system.
e.	Commissioning	Commissioning of the DMM to be done at our work by supplier representative.
9-	Documents:	
a.	Manuals:	Operating & Maintenance Manuals in English language along with circuit diagram.
b.	Calibration Certificate:	Calibration certificate from NABL accredited laboratory in all the ranges of all the measurement functions is mandatorily required to be submitted with DMM Supply.
10-	Packing:	Item should be packed in shock resistance transportation casing (Preferably of hard Material).
11-	Qualification Criteria	Supplier should provide past performance certificate of similar equipment supplied within three year.

NOTES: Supplier should submit technical compliance/comments against each of the above point in above format. Technical bid without complete technical compliance sheet will not be considered for technical evaluation.

PREPARED BY

(A K GUPTA)

CHECKED & APPROVED


 23/11/16
 (PREM RAM)
 (प्रेमराम)
 वरिष्ठ प्रबन्धक (गुणता एवं संचालन प्रमो)
 सामग्री एवं सेवा प्रदाता विकास
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