

Technical Specification for RVT305010042: True RMS 300A AC/DC CLAMP METER
as per details mentioned under: Qty-05 Nos.

FUNCTION	RANGE	ACCURACY
AC Response for voltage & Current	True RMS ONLY.	
AC/DC voltage	0-600V	Minimum $\pm(1.5\%$ of rdg+3 dgt)
Measurement	True RMS	
AC current	0-300 A	2.5 % \pm 5 digits
DC current		
Continuity	<30 OHM	
Resistance	UP TO 30 KOHM	
Protection class	300 V CAT IV/600 V CAT III as per International Safety standard IEC61010-1	
Jaw size	Suitable for at least 200 sq mm cable	
Features	Backlight, min max, hold feature	
Warranty	02 years from the date of acceptance.	
Accessories	Battery, crocodile clips, test lead, soft case, warranty certificate, calibration certificate, instruction manual	

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Technical Specification for Material Code RVT305010050* - True RMS Measurement
400A AC/DC Clamp meter as per details mentioned under-Qty-02 Nos.

FUNCTION	RANGE	ACCURACY
AC Response for voltage & Current	True RMS ONLY.	
AC Voltage	0-600V	±(1.5% of rdg+5 dgt)
DC Voltage	0-600V	±(1.0% of rdg+5 dgt)
AC Current	0-400A	2% ±5 digits in 45 Hz to 65 Hz range
		2.5 % ±5 digits in 65 Hz to 300 Hz range
DC Current		2 % ± 5 digits
Continuity	<30 OHM	
Resistance	Up to 30 K-Ohm	1.0 % ± 5 digits
Capacitance	100 micro farad to 1000 micro Farad	
Frequency measurement	5.0 Hz to 500.0 Hz	
Jaw Size	Suitable for at least 400 sq mm cable	
Protection Class	300 V CAT IV/600 V CAT III as per International Safety standard IEC61010-1	
Features	Backlight, Min Max, Hold Feature	
Warranty	02 Years from the Date of Acceptance.	
Accessories	Battery, Crocodile Clips, Test Lead, Soft Case, Warranty Certificate, Calibration Certificate, Instruction Manual	

The accuracy requirement for AC Current & Voltage is maximum measurement error after including the error due to frequency variation in the range of 45 Hz to 300 Hz and Crest factor effect.

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Technical Specification for Material Code RVT305010077 - True RMS Measurement
1000A POWER Clamp meter as per details mentioned under-Qty-02 Nos.

FUNCTION	RANGE	ACCURACY
AC Voltage	0-1000V	±(1.5% of rdg+5 dgt)
DC Voltage		
AC Current	0-1000A	± (2.5 % ± 5 digits)
DC Current		
Other features	Power Measurement, Active Reactive Power, Resistance, Diode, Continuity, THD, power factor.	
Jaw Size	Suitable for 400 sq .mm cable	
Protection Class	300 V CAT IV/600V CAT III as per International Safety standard IEC61010-1	
Features	Backlight, Min Max, Hold Feature	
Warranty	02 Years from the Date of Acceptance.	
Accessories	Battery, Crocodile Clips, Test Lead, Soft Case, Warranty Certificate, Calibration Certificate, Instruction Manual.	

Technical Specification for RVT305010069: Dual Channel Hand held oscilloscope with in built Multi meter, battery & having Technical Specification as per details mentioned under:

FUNCTION	RANGE
3 db Bandwidth	20 MHz
No. of Channels	02 Analog Channels
Input Impedance	1M Ohm minimum
Input Coupling	AC & DC WITH Ground level Indicator
Vertical Sensitivity	10mV/div to 5 V/div
Time Base Range	10ns/div to 4 sec/div
Real Time Sample Rate	Minimum 25 million samples/second
DC Voltage Max	600V
AC Voltage Max	600 V
Multi meter function	True RMS
Cursor Measurement	For both Vertical & Horizontal
Electrical Safety	600V CAT III (EN61010-1)
Trigger system	Normal, Auto, source etc
Display & Resolution	High resolution Wide screen display
Power source	Working on both AC Line and battery (Li-Ion with back up time of 2 hrs)
Warranty	02 years
Accessories	Probe, Adapter, USB Cable, DMM Test lead, Calibration Certificate

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Technical Specification for RVT305010085: Portable 3 Pole Earth testing Digital meter complete with accessories having Technical Specification as per details mentioned under: Qty-01 No.

FUNCTION	RANGE
Measuring Function	3 Pole fall of potential Earth testing
Measuring Time	Max 10sec
Measuring range up to 19.99 ohm	Measuring uncertainty of \pm (6% + 5 digit)
Max Display range	1999 Ohm
Electrical Safety	IEC/EN 61010-1,600 V CAT II
Display & Resolution	lighted LCD display
Power source	9V battery alkaline (LR61)
Warranty	02 years
Accessories	Ground stakes-03 Nos, Cable reel-02 Nos. (50m, 25 m), Alligator Clips, battery, unbreakable cover.

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TECHNICAL BID & PQR FOR SUPPLY OF MEASURING INSTRUMENTS

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Annexure-A

PRE QUALIFYING CRITERIA (PQR) & WARRANTY CLAUSE

1. Vendor must read all the Enquiry remarks carefully.
2. Technical & Price Bids must be submitted separately along with other documents as per Tender Enquiry.
3. Price Bid of only those vendors shall be opened who are found techno-commercially suitable & met the Pre qualifying criteria & warranty clause mentioned under:

S.N	PQR & Warranty Clause	Requirement	Vendors Comment
1	The Vendor should be Original Equipment Manufacturer or authorized dealer for this region or DGS&D approved vendor for the same/similar item but same Make.	Specify and attach dealership authorization certificate.	
2	For Table- I, II, III: The vendor should have supplied similar/higher rating Clamp Meter to any CPSE or State transmission & DISCOM, Railways or any other organization under GOI in past 04 years (approx).	Provide copy of Purchase Order and contact details.	
3	For Table-IV: The vendor should have supplied Hand held/Portable Scope meter of minimum 20 MHz to any CPSE or State transmission & DISCOM, Railways or any other organization under GOI in past 04 years(approx).	Provide copy of Purchase Order and contact details.	
4	For Table- V: The vendor should have supplied similar/higher rating 3 pole or 4 pole Earth resistance measurement meter to any CPSE or State transmission & DISCOM, Railways or any other organization under GOI in past 04 years(approx).	Provide copy of Purchase Order and contact details.	
5	All Equipments quoted shall be covered under complete warranty for a minimum period of 02 years from the date of acceptance at HERP.	To Confirm	



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CHECKLIST

S.N	Requirement	(Yes/No)
1	The PQR & Warranty Clause at Page No-3 has been filled.	Y/N
2	Tables for respective items have been completely filled	Y/N
3	OEM technical catalogue/data sheets have been enclosed for each item.	Y/N
4	List of accessories have been mentioned clearly.	Y/N
5	Technical & Price Bid has been sent in separate envelopes.	Y/N
6	In case the OEM quotes through its dealer, the authorization certificate is necessary & shall be enclosed	Y/N
7	Separate details for supplying item at Table- I, II, III including Purchase order, Annexure (if any), Contact details of organization/concerned Department has been enclosed as per PQR at page 3.	Y/N
8	Separate details for supplying item at Table- IV including Purchase order, Annexure (if any), Contact details of organization/concerned Department has been enclosed as per PQR at page 3.	Y/N
9	Separate details for supplying item at Table- V including Purchase order, Annexure (if any), Contact details of organization/concerned Department has been enclosed as per PQR at page 3.	Y/N

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MAKE & MODEL QUOTED:

Table-I

S.N	FUNCTION	RANGE/SPECIFICATION	Our Requirement	Vendors Response
1	AC Response for voltage & Current	True RMS ONLY.	Vendor to Confirm	
2	AC/DC voltage	Minimum $\pm(1.5\%$ of rdg+3 dgt) in range 0-600V		
3	AC current Accuracy	2.5 % \pm 5 digits in the range of 0-300 A.	Vendor to specify	
4	DC current Accuracy			
5	Continuity	<30 OHM		
6	Resistance	Up To 30 KOHM		
7	Protection class	300 V CAT IV/600 V CAT III as per International Safety standard IEC61010-1		
8	Jaw size	Suitable for at least 200 sq mm cable	Vendor to Confirm	
9	Features	Backlight, min max, hold feature		
10	Accessories	Battery, crocodile clips, test lead, soft case, warranty certificate, calibration certificate, instruction manual	Vendor to specify	





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Table-II

MAKE & MODEL Quoted:

S.N	FUNCTION	RANGE/SPECIFICATION	Our Requirement	Vendors Response
1	AC Response	True RMS ONLY.	Vendor to confirm & specify	
2	AC Voltage Accuracy	Min $\pm(1.5\%$ of rdg+5 dgt) in range 0-600V		
3	DC voltage Accuracy	Min $\pm(1.0\%$ of rdg+5 dgt) in range of 0-600V		
4	AC current Accuracy	2% ± 5 digits in 45 Hz to 65 Hz range & 2.5 % ± 5 digits in 65 Hz to 300 Hz range including crest & frequency variation		
5	DC current Accuracy	2 % ± 5 digits		
6	Continuity	<30 OHM		
7	Resistance	Up to 30 K-Ohm with accuracy ± 1.0 % ± 5 digits		
8	Capacitance	100 micro farad to 1000 micro Farad		
9	Frequency	5.0 Hz to 500.0 Hz		
10	Protection class	300 V CAT IV/600 V CAT III as per International Safety standard IEC61010-1		
11	Jaw size	Suitable for at least 400 sq mm cable		Vendor to Specify
13	Accessories	Battery, crocodile clips, test lead, soft case, warranty certificate, calibration certificate, instruction manual		



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Table-III

MAKE & MODEL Quoted:

S.N	FUNCTION	RANGE/SPECIFICATION	Our Requirement	Vendors Response
1	AC Response	True RMS ONLY.		
2	AC Voltage	Min \pm (1.5% of rdg+5 dgt) in range 0-1000V	Vendor to Confirm	
3	DC voltage			
4	AC current Accuracy	Min \pm (2.5 % \pm 5 digits) in range 0-1000V	Vendor to Confirm	
5	DC current Accuracy			
6	Protection class	300 V CAT IV/600V CAT III as per International Safety standard IEC61010-1		
7	Jaw size	Suitable for at least 400 sq mm cable		
8	Features	Power Measurement, Active Reactive Power, Resistance, Diode, Continuity, THD, power factor, in rush etc.	Vendor to Specify	
9	Accessories	Battery, crocodile clips, test lead, soft case, warranty certificate, calibration certificate, instruction manual		



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Table-IV

MAKE & MODEL Quoted:

S.N	FUNCTION	RANGE/SPECIFICATION	Our Requirement	Vendors Response	
1	3 db Bandwidth	20 MHz	Vendor to confirm & specify		
2	No. of Channels	02 Analog Channels			
3	Input Impedance	1M Ohm minimum			
4	Input Coupling	AC & DC WITH Ground level Indicator			
5	Vertical Sensitivity	10mV/div to 5 V/div			
6	Time Base Range	10ns/div to 4 sec/div			
7	Real Time Sample Rate	Minimum 25 million samples/second			
8	AC/ DC Voltage Max	600V			
9	Multi meter function	True RMS			
10	Trigger system	Normal, Auto, source etc			
11	Display & Resolution	High resolution Wide screen display		Vendor to specify	
12	Power source	Working on both AC Line and battery (Li-Ion with back up time of 2 hrs)			
13	Cursor Measurement	For both Vertical & Horizontal			
14	Accessories	Probe, Adapter, USB Cable, DMM Test lead, Calibration Certificate			

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Table V

MAKE & MODEL Quoted:

S.N	FUNCTION	RANGE/SPECIFICATION	Our Requirement	Vendors Response
1	Measuring Function	3 Pole fall of potential Earth testing	Vendor to confirm & specify	
2	Measuring Time	Max 10sec		
3	Measuring range up to 19.99 ohm	Measuring uncertainty of \pm (6% + 5 digit)		
4	Max Display range	1999 Ohm		
5	Electrical Safety	IEC/EN 61010-1, 600 V CAT II		
6	Display & Resolution	lighted LCD display		
7	Power source	9V battery alkaline (LR61)		
8	Accessories	Ground stakes-03 Nos, Cable reel-02 Nos. (50m, 25 m), Alligator Clips, battery, unbreakable cover.		