

No. EMC/359/2020-ETB-4(ESS)

21/08/2024

**NOTICE INVITING QUOTATION**

Sub: - Inviting quotation for the calibration of source and reference meter of Energy Meter Calibration Laboratory (onsite) - reg.

Sealed quotations are invited from NABL accredited laboratories for the onsite calibration of three phase fully automatic system- MT 781 and three phase reference meter- MTi300 equipped in Energy Meter Calibration Laboratory, Thiruvananthapuram (CC-3601). The calibration work is to be carried out as per NABL requirements so as to meet ISO 17025:2017.

The equipment details are as follows.

SN	Particulars/ Description	Quantity	Amount
1	Make: ZERA, Three Phase Portable Fully Automatic Test System with Integrated Current and Voltage Source- Mode: MT781	1	
2	Make: ZERA, Three phase portable reference standard-Model: MTi300.	1	
	GST in %		
	<b>Total Amount</b>		

The details of points to be calibrated (both equipment) is attached along with this notice inviting quotation. The sealed envelope containing the quotation with all taxes and duties and other terms and conditions, should bear the superscription "**Bid for calibration of equipment in Energy Meter Calibration Laboratory, Thiruvananthapuram**" and should address to Director, Energy Management Centre, Sreekrishna Nagar, Sreekariyam, TVM- 17.

**Terms and condition**

- Rate quoted shall be inclusive of transportation charges and all taxes.

- The calibration shall be done within 10 days from issue of the work order.
- Proof for certificate of NABL accreditation of laboratory shall be submitted along with the quotation.
- Payment: 100% on completion and submission of NABL calibration certificate. The last date of receiving quotation is **31.08.2024 before 03.00 PM**

Attachments: Load points to be calibrated in MT781 and MTi300.

**Calibration points-**  
**MT781**

<b>ACTIVE ENERGY MEASUREMENT IN 3P4W MODE @50Hz</b>				
<b>Voltage Range (in V)</b>	<b>Voltage Value (in V)</b>	<b>Current Range (in A)</b>	<b>Current Value (in A)</b>	<b>Power Factor</b>
250	240	0.02	0.02	UPF
250	240	0.02	0.02	0.5L
250	240	0.02	0.02	0.5C
250	240	0.05	0.05	UPF
250	240	0.05	0.05	0.5L
250	240	0.05	0.05	0.5C
250	240	0.5	0.5	UPF
250	240	0.5	0.5	0.5L
250	240	0.5	0.5	0.5C
250	240	1	1	UPF
250	240	1	1	0.5L
250	240	1	1	0.5C
250	240	2	2	UPF
250	240	2	2	0.5L
250	240	2	2	0.5C
250	240	2.5	2.5	UPF
250	240	2.5	2.5	0.5L
250	240	2.5	2.5	0.5C
250	240	5	5	UPF
250	240	5	5	0.5L
250	240	5	5	0.5C

250	240	10	10	UPF
250	240	10	10	0.5L
250	240	10	10	0.5C
250	240	30	30	UPF
250	240	30	30	0.5L
250	240	30	30	0.5C
250	240	50	50	UPF

250	240	50	50	0.5L
250	240	50	50	0.5C
250	240	60	60	UPF
250	240	60	60	0.5L
250	240	60	60	0.5C
250	240	100	100	UPF
250	240	100	100	0.5L
250	240	100	100	0.5C
60	60	0.5	0.5	UPF
60	60	0.5	0.5	0.5L
60	60	0.5	0.5	0.5C
60	60	1	1	UPF
60	60	1	1	0.5L
60	60	1	1	0.5C
60	60	5	5	UPF
60	60	5	5	0.5L
60	60	5	5	0.5C
60	60	10	10	UPF
60	60	10	10	0.5L
60	60	10	10	0.5C

**REACTIVE ENERGY MEASUREMENT IN 3P4W MODE @50Hz**

<b>Voltage Range (in V)</b>	<b>Voltage Value (in V)</b>	<b>Current Range (in A)</b>	<b>Current Value (in A)</b>	<b>Power Factor</b>
250	240	0.02	0.02	UPF
250	240	0.02	0.02	0.5L
250	240	0.02	0.02	0.5C
250	240	0.05	0.05	UPF
250	240	0.05	0.05	0.5L
250	240	0.05	0.05	0.5C
250	240	0.5	0.5	UPF
250	240	0.5	0.5	0.5L
250	240	0.5	0.5	0.5C
250	240	1	1	UPF
250	240	1	1	0.5L
250	240	1	1	0.5C
250	240	2	2	UPF

250	240	2	2	0.5L
250	240	2	2	0.5C
250	240	2.5	2.5	UPF
250	240	2.5	2.5	0.5L
250	240	2.5	2.5	0.5C
250	240	5	5	UPF
250	240	5	5	0.5L
250	240	5	5	0.5C
250	240	10	10	UPF
250	240	10	10	0.5L

250	240	10	10	0.5C
250	240	30	30	UPF
250	240	30	30	0.5L
250	240	30	30	0.5C
250	240	50	50	UPF
250	240	50	50	0.5L
250	240	50	50	0.5C
250	240	60	60	UPF
250	240	60	60	0.5L
250	240	60	60	0.5C
250	240	100	100	UPF
250	240	100	100	0.5L
250	240	100	100	0.5C
60	60	0.5	0.5	UPF
60	60	0.5	0.5	0.5L
60	60	0.5	0.5	0.5C
60	60	1	1	UPF
60	60	1	1	0.5L
60	60	1	1	0.5C
60	60	5	5	UPF
60	60	5	5	0.5L
60	60	5	5	0.5C
60	60	10	10	UPF
60	60	10	10	0.5L
60	60	10	10	0.5C

**ACTIVE ENERGY MEASUREMENT IN 1P2W MODE @50Hz**

<b>Voltage Range (in V)</b>	<b>Voltage Value (in V)</b>	<b>Current Range (in A)</b>	<b>Current Value (in A)</b>	<b>Power Factor</b>
250	240	0.02	0.02	UPF
250	240	0.02	0.02	0.5L
250	240	0.02	0.02	0.5C
250	240	0.05	0.05	UPF
250	240	0.05	0.05	0.5L

250	240	0.05	0.05	0.5C
250	240	0.5	0.5	UPF
250	240	0.5	0.5	0.5L
250	240	0.5	0.5	0.5C
250	240	1	1	UPF
250	240	1	1	0.5L
250	240	1	1	0.5C
250	240	2	2	UPF
250	240	2	2	0.5L
250	240	2	2	0.5C
250	240	2.5	2.5	UPF
250	240	2.5	2.5	0.5L

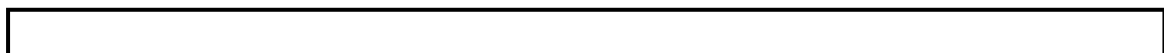
250	240	2.5	2.5	0.5C
250	240	5	5	UPF
250	240	5	5	0.5L
250	240	5	5	0.5C
250	240	10	10	UPF
250	240	10	10	0.5L
250	240	10	10	0.5C
250	240	30	30	UPF
250	240	30	30	0.5L
250	240	30	30	0.5C

**REACTIVE ENERGY MEASUREMENT IN 1P2W MODE @50Hz**

<b>Voltage Range (in V)</b>	<b>Voltage Value (in V)</b>	<b>Current Range (in A)</b>	<b>Current Value (in A)</b>	<b>Power Factor</b>
250	240	0.02	0.02	UPF
250	240	0.02	0.02	0.5L
250	240	0.02	0.02	0.5C
250	240	0.05	0.05	UPF
250	240	0.05	0.05	0.5L
250	240	0.05	0.05	0.5C
250	240	0.5	0.5	UPF
250	240	0.5	0.5	0.5L
250	240	0.5	0.5	0.5C
250	240	1	1	UPF
250	240	1	1	0.5L
250	240	1	1	0.5C
250	240	2	2	UPF
250	240	2	2	0.5L
250	240	2	2	0.5C
250	240	2.5	2.5	UPF
250	240	2.5	2.5	0.5L
250	240	2.5	2.5	0.5C

250	240	5	5	UPF
250	240	5	5	0.5L
250	240	5	5	0.5C
250	240	10	10	UPF
250	240	10	10	0.5L
250	240	10	10	0.5C
250	240	30	30	UPF
250	240	30	30	0.5L
250	240	30	30	0.5C

**Calibration points- MTi300**



<b>ACTIVE ENERGY MEASUREMENT IN 3P4W MODE @50Hz</b>				
<b>Voltage Range (in V)</b>	<b>Voltage Value (in V)</b>	<b>Current Range (in A)</b>	<b>Current Value (in A)</b>	<b>Power Factor</b>
250	240	1	1	UPF
250	240	1	1	0.5L
250	240	1	1	0.5C
250	240	2	2	UPF
250	240	2	2	0.5L
250	240	2	2	0.5C
250	240	2.5	2.5	UPF
250	240	2.5	2.5	0.5L
250	240	2.5	2.5	0.5C
250	240	5	5	UPF
250	240	5	5	0.5L
250	240	5	5	0.5C
250	240	10	10	UPF
250	240	10	10	0.5L
250	240	10	10	0.5C
250	240	30	30	UPF
250	240	30	30	0.5L
250	240	30	30	0.5C
<b>ACTIVE ENERGY MEASUREMENT IN 3P4W MODE @50Hz (Clamp Mode)</b>				
250	240	50	50	UPF
250	240	50	50	0.5L
250	240	50	50	0.5C
250	240	60	60	UPF
250	240	60	60	0.5L
250	240	60	60	0.5C

<b>REACTIVE ENERGY MEASUREMENT IN 3P4W MODE @50Hz</b>				
<b>Voltage Range (in V)</b>	<b>Voltage Value (in V)</b>	<b>Current Range (in A)</b>	<b>Current Value (in A)</b>	<b>Power Factor</b>
250	240	1	1	UPF
250	240	1	1	0.5L
250	240	1	1	0.5C
250	240	2	2	UPF
250	240	2	2	0.5L
250	240	2	2	0.5C
250	240	2.5	2.5	UPF
250	240	2.5	2.5	0.5L
250	240	2.5	2.5	0.5C
250	240	5	5	UPF
250	240	5	5	0.5L
250	240	5	5	0.5C

250	240	10	10	UPF
250	240	10	10	0.5L
250	240	10	10	0.5C
250	240	30	30	UPF
250	240	30	30	0.5L
250	240	30	30	0.5C
<b>REACTIVE ENERGY MEASUREMENT IN 3P4W MODE @50Hz (Clamp Mode)</b>				
250	240	50	50	UPF
250	240	50	50	0.5L
250	240	50	50	0.5C
250	240	60	60	UPF
250	240	60	60	0.5L
250	240	60	60	0.5C
<b>ACTIVE ENERGY MEASUREMENT IN 1P2W MODE @50Hz</b>				
<b>Voltage Range (in V)</b>	<b>Voltage Value (in V)</b>	<b>Current Range (in A)</b>	<b>Current Value (in A)</b>	<b>Power Factor</b>
250	240	1	1	UPF
250	240	1	1	0.5L
250	240	1	1	0.5C
250	240	2	2	UPF
250	240	2	2	0.5L
250	240	2	2	0.5C
250	240	2.5	2.5	UPF
250	240	2.5	2.5	0.5L
250	240	2.5	2.5	0.5C
250	240	5	5	UPF
250	240	5	5	0.5L

250	240	5	5	0.5C
250	240	10	10	UPF
250	240	10	10	0.5L
250	240	10	10	0.5C
250	240	30	30	UPF
250	240	30	30	0.5L
250	240	30	30	0.5C
<b>ACTIVE ENERGY MEASUREMENT IN 1P2W MODE @50Hz (Clamp Mode)</b>				
250	240	50	50	UPF
250	240	50	50	0.5L
250	240	50	50	0.5C
250	240	60	60	UPF
250	240	60	60	0.5L

