

Tender notification for the procurement of an **oscilloscope** for thermal transport spectroscopy experiments in the Mechanical Engineering department at IISc Bangalore

Deadline for submission of tenders: August 19th, 2020, 5 pm Indian Standard Time

August 3rd 2020

Dear Sir/Madam,

Kindly send the lowest quotation for an **oscilloscope** with the following specifications and terms & conditions on C.I.P. Bangalore basis. The tender should be submitted in two separate sealed envelopes - one of them containing the technical bid and the other containing the commercial (or financial) bid. Please ensure that both of these sealed envelopes reach us, duly signed, by August 19th 2020 before 5 pm, Indian Standard Time, delivered either by post or in-person.

Detailed specifications requirement of the oscilloscope are provided below:

Please enclose a compliance certificate along with the technical bid.

No. of analog channels	:	4
Bandwidth (on each analog channel)	:	≥ 4 GHz
Rise time	:	< 110 ps
Sample rate (on at least 2 analog channels)	:	≥ 20 GS/s (real time)
Record length (on each analog channel)	:	≥ 62.5 M points
Input coupling on each analog channel	:	AC and DC options
Input impedance on each analog channel	:	50Ω and $1 \text{ M}\Omega$ options
ADC bits	:	≥ 10
RMS noise on analog channels (at 1mV/div. vertical setting, 50Ω)	:	< 160 micro-Volts
Trigger types	:	Edge, Pulse Width, Runt, Timeout, Window, Setup & Hold
Max. trigger frequency	:	≥ 3 GHz
Connectivity	:	USB and LAN
No. of digital channels	:	≥ 16

Other essential technical specifications and requirements:

1. An auxiliary input with 50Ω or $1 \text{ M}\Omega$ input impedance must be available. This auxiliary input must be usable as an external trigger (e.g., as an input for a trigger signal from an external function generator). The max. trigger frequency for the auxiliary trigger input must be ≥ 200 MHz.
2. The equipment should be operable with 220-240 VAC, 50 Hz power supply (Indian electric power outlet conditions).
3. A capability to perform on-board frequency domain analysis must be available.

4. At least one analog channel should also be externally triggerrable (e.g., as an input for a trigger signal from an external function generator).
5. All necessary additional hardware and software, required for the safe and reliable operation of the oscilloscope, and for precise, fast and reliable acquisition and transfer of the acquired signal data to a stand-alone computer, must be included in the tender offer. No further accessories should be required for the safe and reliable operation of the oscilloscope.
6. The oscilloscope must have an capacitive touch screen.

Terms and conditions:

1. Only **standard products, whose details and specifications can be accessed on the vendor or the principal's website** before August 3rd 2020 should be quoted.
2. **3-year company/factory/principal warranty**, from the date of installation, including all, detailed terms and conditions should be included in the tender offer.
3. The cost of shipping up to **CIP Bangalore** should be included. IISc will help with customs clearance at Bangalore Airport.
4. The technical installation engineer/personnel should provide on-site training for the safe and reliable operation of the oscilloscope, during the installation. **The technical installation personnel/engineer, who will perform the installation, must possess a proof of training certificate from the company/factory/principal, which should be submitted along with the tender.**
5. The vendor should be of international repute, with oscilloscope maintenance and repair facilities in India. The vendor should have supplied **at least five units of similar oscilloscopes in India within the past three years**. A list of customers to whom these oscilloscopes have been supplied, along with their contact details must be enclosed with the tender offer.
6. The technical bid should contain an authorization letter/certificate from the principal company. It should also contain detailed technical specifications of the equipment along with the commercial terms and conditions, terms and conditions for the delivery and installation of the equipment, proof of training certificate for the technical service/maintenance engineers, and a compliance certificate, with a tabulated Yes/No answers towards all of the specifications and requirements listed above in this document. The technical bid should NOT include any pricing information.
7. Payment will be through **letter of credit (LC)**, with 80% of the payment released upon receipt of all dispatch documents and the remaining 20% released after successful installation and demonstration of specifications, options and performance of the equipment.
8. The sealed envelopes containing (separately) the technical bid and commercial/financial bid, duly signed, should reach the following address before August 19th 2020, 5 pm, Indian Standard Time:

**The Chair,
Department of Mechanical Engineering,
(Attn: Dr. Navaneetha Krishnan Ravichandran)
Indian Institute of Science,
Bangalore 560012, India**