



NIELIT CALICUT
 (Autonomous Scientific Society of Ministry of Electronics & Information Technology, Govt. of India)
NIT Campus Post, CALICUT-673 601, KERALA
 Email: purchase@calicut.nielit.in Web: <http://nielit.gov.in/calicut>
 Phone: 0495-2287266 Fax: 0495-2287168

LIMITED TENDER ENQUIRY

By Speed Post

Ref. No.: 2(1144)/2019-20/EVTS/MSO

Date: **23.01.2020**

To

DUE DATE: 11.02.2020

1. Quotations are invited for the supply of the items as per Annexure.
2. The quotations duly **SIGNED, SEALED AND SUPERSCRIBED ON THE ENVELOPE WITH THE REFERENCE No. AND DUE DATE**, should be addressed to the undersigned so as to reach on or before the due date stipulated above. Quotations received after the due date will not be considered.
3. The quotations should be valid for acceptance for a period of **sixty days** from the due date
4. Quotations will not be accepted by Fax, Email or any such electronic data transfer form.
5. The quotations should be for goods exactly conforming to our requirements and specifications.
6. If the item is under DGS&D Rate contract, the number and the price applicable must be mentioned. It may also please be indicated whether the supply can be made direct to us at the DGS&D Rate Contract Price.
7. Relevant literature pertaining to the items quoted with full specifications and drawings, if any should be sent along with the quotations, wherever applicable. Samples, if called for, should be submitted free of charges and collected back at the supplier's expenses.
8. Copy of Manufacturing licence, Principal or Authorized Distributor/Dealer Certificate, and Proprietary Certificate, as applicable, should be enclosed.
9. Quotations should be for **free delivery** at our Centre and should clearly specify the **delivery period**. If delivery quoted is Ex-Godown/Consignor Station, delivery charges consisting of freight, packing & forwarding charges, insurance, etc. should be indicated separately. Goods should be supplied duly carriage paid and insured.
10. GST Registration Number of NIELIT Calicut is: **32AAATD0315M1Z6**. GST or any other taxes may be charged as per the rates applicable to Scientific/Educational institutions.
11. Security Deposit @ 5% of the Purchase Order/Invoice value shall be retained, in case order/contract value exceeds Rs.1 lakh, which will be released after the expiry of warranty period.
12. Goods shall not be supplied without an official purchase order.
13. Payment : Payment will be made after completion of supply, installation/assembly and commissioning of the items covered by the order along with necessary spares supplied to the entire satisfaction of NIELIT CALICUT. Payment against invoices shall normally be made within 30 days of receipt and acceptance of equipment/materials at our office. **No advance payment will be made under any circumstance.**
14. Incomplete quotations and quotations which do not comply with all the above instructions are liable to be summarily rejected.
15. NIELIT CALICUT does not bind itself to accept the lowest or any such quotation and has the right to accept or reject whole or any part of tenders or a portion of the supply of goods without assigning any reasons. No correspondence in case of rejected tenders will be entertained.
16. **Earnest Money Deposit (E.M.D.) for Rs. 16,250/-** be deposited by NEFT in the Bank Account No. 10401158037 (IFSC: SBIN0002207) at State Bank of India, NIT Calicut Branch, CREC Campus, Chathamangalam, Calicut – 673 601, in favour of Director, NIELIT CALICUT, failing which the quotation will be rejected. Proof of Deposit of EMD amount with Tenderer's Bank Account No. and IFSC No. should be submitted with the Quotation.

Yours faithfully,

**Purchase In-Charge
For Executive Director**

Encl: **Annexure**

ANNEXURE TO ENQUIRY

Your Quotation No.

Date:

| | | |
|----|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| 1 | Name of item(s) | MSO with Protocol Analyser & High Voltage Probe – QTY. 1 No. |
| 2 | Specifications & Quantity As per Specifications attached. | |
| 3 | Price per unit in Rs. (in figures & words) | Attach separate list, if required. |
| 4 | Total Price in Rupees (in figures & words) | |
| 5 | Delivery Period | |
| 6 | Terms of Delivery | |
| 7 | Taxes, Duties, Octroi & any other statutory levies or charges | |
| 8 | Transportation, Insurance, Packing & Forwarding etc. | |
| 9 | Discount/off etc., if any | |
| 10 | GST Registration No. | |
| 11 | Payment Terms | |
| 12 | Validity of Tender | |
| 13 | Warranty | |
| 14 | Any other remarks / EMD Amount and Payment details | |
| 15 | Signature of the Tenderer with Name and Date | |
| 16 | Address with Email ID & Mobile No. | |
| 17 | Central Public Procurement Portal (www.eprocure.gov.in) Registration, Email login ID | |

- NB:** (1) The prices quoted and Taxes charged should be Academic/Educational Prices/rates, wherever applicable.
- (2) Enquiry for the above items and specifications can also be downloaded from our website <http://nielit.gov.in/calicut> or www.eprocure.gov.in
- (3) Please register at www.eprocure.gov.in and intimate login details without fail. Watch website for regular updates

Specification of MSO with Protocol Analyser & High Voltage Probe

| Sl. No | Parameter | Specification | Compliance (Y/N) |
|-------------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 1 | Make and Model (Specify) | | |
| 2 | Product Type | Handheld | |
| 3 | Analogue Input Channels | 4Nos, Isolated | |
| 4 | Bandwidth | 500MHz, 5Gsample/second | |
| 5 | Input Sensitivity | 2mV/div to 100V/div | |
| 6 | Max,. Input voltage (with BNC) | ≥ 300V (RMS) , ≥400V(peak) CAT IV | |
| | Max,. Input voltage (with Additional Probe) | CAT IV 600 V, CAT III 1000 V | |
| 7 | Real-time waveform acquisition rate | ≥ 50 000 waveforms/s | |
| 8 | Time base range | 1 ns/div to 500 s/div | |
| | ADC Resolution | 10bit | |
| Logic Analyser (MSO) functionality | | | |
| 9 | No. of input channels | ≥ 8 | |
| 10 | Bandwidth | ≥ 250MHz | |
| 11 | Memory depth | ≥ 125 ksample | |
| Protocol Analyser functionality | | | |
| 12 | Supported Protocols | CAN, LIN, I2C, SPI, UART/RS-232/RS-422/RS-485, CAN FD, SENT | |
| 13 | CAN Analyser | signal type: CAN_H, CAN_L bit rate : standard bit rate (10/20/33.3/50/83.3/ 100/125/250/500/1000 kbps) or user defined bit rate in range from 10 kbps to 1 Mbps auto threshold setup: assisted threshold configuration for CAN triggering and decoding (software) source: any input channel or logical channel | |
| 14 | LIN Analyser | version 1.3, 2.x or SAE J602 bit rate (1.2/2.4/4.8/9.6/10.417/ 19.2 kbps) or user-defined bit rate in range from 1 kbps to 20 kbps signal polarity idle low, idle high device list associate frame address with symbolic ID (software) auto threshold setup assisted threshold configuration for LIN triggering and decoding (software) | |
| 15 | I2C Analyser | bit rate : up to 3.4 Mbps (auto-detected); auto threshold setup : assisted threshold configuration for I2C triggering and decoding (software) device list: associate frame address with symbolic ID (software) | |
| 16 | SPI Analyser | Type : 2-wire, 3-wire and 4-wire SPI | |

| | | | |
|------------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| | | bit rate : up to 50 Mbps (auto-detected) bit order : LSB first, MSB first word size : 4/8/12/16/20/24/28/32 bit frame condition : SS, timeout polarity : (MOSI, MISO, SS) active high, active low slope : (CLK) rising edge, falling edge auto threshold setup : assisted threshold configuration for SPI triggering and decoding (software) | |
| 17 | UART/RS-232/RS-422/RS-485 Analyser | bit rate : 300 bps to 20 Mbps signal polarity : idle low, idle high number of bits : 5 bit to 9 bit bit order : LSB first, MSB first parity : odd, even, none stop bits : 1, 1.5 or 2 end of packet : timeout, none auto threshold setup : assisted threshold configuration for UART triggering and decoding | |
| 18 | CAN-FD triggering and decoding | signal polarity : CAN_H, CAN_L standard ISO, non-ISO (Bosch) bit rate arbitration rate standard bitrate :(10/ 20/ 33.3/ 50 /83.3 / 100/ 125/ 250/ 500/1000 kbps) or user defined bit rate in range from 10 kbps to 1 Mbps data rate : standard bit rate (10/20/33.3/50/83.3/ 100/125/250/500 kbps; 1/1.5/2/4/6/8/10/12/14/15 Mbps) or user defined bit rate in range from 10 kbps to 15 Mbps auto threshold setup : assisted threshold configuration for CAN triggering and decoding (software) | |
| 19 | SENT Triggering & Decoding | signal polarity : idle low, idle high clock period : (clock tick) 1 μ s to 100 μ s clock tolerance : 0 % to 25 % data nibbles : 1 to 6 serial message type : none, short serial message and enhanced serial message auto threshold setup : assisted threshold configuration for SENT triggering and decoding (software) | |
| Waveform Measurements | | | |
| 20 | Automatic measurements | period, frequency, rise time, fall time, positive pulse width, negative pulse width, positive duty cycle, negative duty cycle, delay, phase mean value, RMS value, crest factor, standard deviation, minimum, maximum, peak-to-peak, base level, top level, amplitude, area, overshoot, pre shoot, AC, DC, AC+DC count positive pulses, count negative pulses, | |

| | | | |
|---------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| | | count rising edges, count falling edges active power, apparent power, reactive power, power factor, VPWM, fPWM, V/fPWM | |
| Digital Multimeter | | | |
| 21 | Measurements | Voltage: DC, AC, AC+DC Current: with current clamp or shunt resistance, continuity test, diode test, temperature, frequency, capacitance | |
| 22 | Maximum resolution | 10000 counts, 4 digits | |
| 23 | Maximum input voltage | ≥ 1000 V (RMS) CAT III, 1414 V (peak) | |
| 24 | DC accuracy | ≤ ±(0.05 % + 0.03 % of range) @100 V range | |
| 25 | AC accuracy (AC coupling) | ≤ ±(0.2 % + 0.05 % of range) | |
| FFT | | | |
| 26 | Number of simultaneous spectra | 1 | |
| 27 | Source | 4 Channels | |
| 28 | FFT sizes | 64 ksample or 8 ksample | |
| 29 | Window types | rectangular, flat-top, Hamming, Hann, Blackman | |
| 30 | Sampling frequency | equal to sampling rate of current horizontal scale for FFT size of 64 ksample | |
| General | | | |
| 31 | Display Type | 7.0" LC TFT color display | |
| 32 | Resolution | 800 × 480 pixel (WVGA) | |
| 33 | Certifications | VDE, CCSAUS | |
| 34 | AC supply | 100 V to 240 V at 50 Hz | |
| 35 | Battery | Li-Ion rechargeable smart battery operating time ≥ 4 h | |
| 36 | Memory Card | SDHC, min. 4 Gbyte, max. 32 Gbyte | |
| 37 | High Voltage Probe (3 Nos) | 400MHZ HV probe, Passive, 100x, 50Mohm, 7.5pF, 1kVRMS, 4kV Trans, 2 m Cable, including standard accessory | |
| 38 | Warranty | 3 Years, Quote for additional 2 years. | |

* Attach detailed Technical catalogue

Sign of Authorized Signatory with Name & Seal