



भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान, पुणे
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER), PUNE
Dr.Homi Bhabha Road Pune 411008

ENQUIRY

All Communications to be addressed to The Director IISER PUNE for the attention of INCHARGE S & P FOR DIRECTOR	
Tender Enquiry No:	IISER/PUR/0712/18
Date	17/10/2018

Sir/Madam,

Subject: REQUEST FOR QUOTATION DUE DATE: 26/10/2018

Please send your Principal quotation in a sealed cover for the following items with complete specifications and literature showing delivery period, on or before the due date to reach this office. In case of difficulty please contact us at purchase@iiserpune.ac.in

S.No:	Description of Material	Quantity
01	100 MHz arbitrary/function generator (As per attached specification)	One

1. Quotation received after due date will not be considered at all
2. /Fax/Telex Quotation will not be considered.
3. Our Enquiry No, date and DUE date as above must be subscribed on the sealed envelope containing your quotation.
4. We do not accept the advance payment terms or through bank against documents.

Yours Faithfully

Salim Shaikh

सलीम शेख / Salim Shaikh
सहा. कुलसचिव (भंडार एवं क्रय) /
Assistant Registrar (S & P)
भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान
Indian Institute of Science Education & Research
पुणे / Pune - 411008



Specifications For 100 MHz arbitrary/function generator

Waveforms: Sine, Square, ramp, Triangle, noise and arbitrary

Frequency range:

Sine:	max freq: 100 MHz; resolution 1 μ Hz
Square:	max freq: 50 MHz; resolution 1 μ Hz
Ramp:	800 kHz; resolution 1 micro Hz
Triangle:	800 kHz; resolution 1 micro Hz
Noise:	60 MHz; (Gaussian weighting)
Arbitrary:	20 MHz; 75 MSa/s (sample rate)

Output:

Source impedance:	50 Ohms
Grounding:	Should be able to float upto +/- 40 V or above

Amplitude:

Range:	0.02 to 10 Vpp into 50 Ohms	
Resolution:	3 digits in High Impedance	
Amplitude flatness		
	@ 1 Vpp	± 0.25 dB (1 μ Hz to 5 MHz)
		± 0.4 dB (5 MHz to 25 MHz)
		± 0.5 dB (25 MHz to 100 MHz)

Triangle, ramp and arbitrary accuracy: $< \pm 1\%$ (0-10 Vpp)

DC offset	
Range:	at least ± 5 V inclusive of VAC peak + VDC
Resolution:	3 digits
Accuracy:	1 % setting + 5 mV

Sinewave

Spurious component:	< -50 dBc (non-harmonic)
Phase noise:	< -110 dBc/Hz at 10 KHz
Harmonic distortion:	< -60 dBc in DC-1 MHz; < -37 dBc in 1 MHz to 20 MHz; < -30 dBc for > 20 MHz
THD:	$< 0.2\%$; 10 Hz to 20 KHz

Square wave

Rise/Fall time:	< 10 ns at full output swing
overshoot:	$< 4\%$ of Vpp at full output

Ramps, triangle and arbitrary waveforms

Linearity:	+0.5% of full-scale output
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Arbitrary waveforms:

Sample rate:	250 MSa/s
memory length:	≥ 16000 points
resolution:	≥ 14 bits

Phase

Range:	at least $\pm 360^\circ$
Resolution:	≥ 0.01 deg



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Amplitude modulation

Source:	internal (with standard waveforms) or external
Depth:	0 – 120% AM
Rate:	0.003 Hz to 50 kHz (internal) or ≥ 50 KHz external
External Input:	± 5 V for 100 % modulation, 100 kOhm imp, ≥ 55 kHz bandwidth

Frequency modulation

Source:	Internal (with standard functions and arbitrary waveform)
Rate:	0.003 Hz to 10 kHz
Span:	1 μ Hz to 50 MHz (at least 25 MHz for triangle and ramp)

Phase modulation

Source:	Internal (with standard functions)
Rate:	0.003 Hz to 10 kHz
Span:	at least $\pm 360^\circ$

Frequency Sweep

Type:	Linear or log phase continuous
Waveform:	Up, down, up-down and single sweep
Time:	0.001 s to 300 s
Span:	1 μ Hz to 100 MHz (at least 50 MHz for triangle and ramp)
Sweep output:	at 0-5 V linear ramp signal synchronised to sweep

Trigger generator

Source:	Single, internal, external, line
Rate (internal):	0.001 Hz to 5 MHz (2 digit resolution)
External trigger:	positive or negative edge, at least TTL
Output:	TTL and/or CMOS

Internal standard timebase:

Accuracy:	Better or equal to ± 5 ppm (20 deg C to 30 deg C)
Aging:	5 ppm/year or better
Input:	10 MHz/N ± 2 ppm (N = 1 to 8)
Output:	TTL level

Others

Computer interfaces:	GPIB or RS 232 or USB
Power:	220 Vac, 50 Hz

Internal time base synchronisation: Should be able to synchronise internal timebase with external 10 MHz timebase



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TERMS AND CONDITIONS FOR ENQUIRY.

1. Quotation should be SEALED and mention the ENQUIRY NO: DATE and DUE DATE on the envelope.
2. The quotations will be accepted only upto 5.00 p.m. The quotations will be opened in the presence of the representatives, if any, of the quoting firm at 3.30 p.m. on the next working day of the due date.
3. Your offer should be valid for a period of 60 days from the date of opening of the quotations/tenders
4. Break up of individuals cost of items should be provided.
5. Your rate should include packaging and forwarding charges. In case of quotation F.O.R. destination Insurance should also be covered. The good should be insured in your favor against theft, loss, damage or breakage during transit.
6. We are prepared to consider the offer for the material, either from indigenous manufacturer or of foreign manufacturer or available from ready stock. Any offer to supply on forward Delivery Basis under supplier's own import quota license will also be considered.
7. The Quotation should have the following(In case the quote is in foreign currency) :
 - FOB Airport price including packing forwarding and inland freight charges
 - CIF Mumbai price by Airfreight.
 - Name & address of the Indian agents and their contact details.
 - Amount of agency commission payable to Indian agent in Indian currency after receipt of consignments in good condition at our stores and in case of equipment, after satisfactory installation & commissioning. Indian Foreign Exchange and Regulations act requires that commission to Indian agency, discount etc if any indicated separately.
 - Indicate names of reputed Indian organizations where you have supplied similar equipment and may attach satisfactory performance report of equipment from users.
 - Prices eventually or finally paid in case you have supplied similar or identical equipment to other IISER institutes in the preceding 3 years
 - All Bank charges outside India shall be borne by the beneficiary
 - Details of services to be rendered by you.
 - Delivery period
 - Details Terms including warranty period.
8. We do not accept advance payment terms or payment against documents. See below details of accepted payment terms.

Modes of Payment

i) Payment will be made directly to the suppliers by wire transfer for 100% of the Invoice value after receipt of the goods in our Stores, tested /inspected and found satisfactory with regard to quality, quantity, and specifications ordered for and after satisfying that the terms and conditions of supply have been fulfilled.

OR

ii) By Irrevocable Letter of Credit for 100% of the Invoice value. However, 90% of the Invoice value will be paid on presentation of original shipping documents to our bankers and balance 10% will be paid after receipt of material and acceptance of the goods at IISER Pune.

9. **WARRANTY**
The items covered by the schedule of requirement shall carry minimum **One year on the equipment/instrument comprehensive warranty after installation** from the date of acceptance of the equipment by IISER, PUNE. Warranty shall include free maintenance of the whole equipment supplied including free replacement of parts. The defects, if any, shall be attended to on immediate basis but in no case any defect should prolong for more than 24 hours. The comprehensive warranty includes onsite warranty with parts.
The defects, if any, during the guarantee/warranty period are to be rectified free of charge by arranging free replacement wherever necessary. This includes cost, insurance, freight, custom duty & Clearance octroi, local taxes if any should be borne by the beneficiary or his agent. A clear confirmation should be given for this item.
10. Please provide a compliance table with your quotation in the following format:

Item	Specification asked	Specification Quoted for	Departure and remarks
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Please provide sufficient technical details with your quotation (in the form of brochures, spec sheets or tech notes) such that every point should be independently verifiable. Marking the details on the accompanying material will be greatly appreciated.

11. The quotations are liable to be rejected if any of the above condition are not complied with
12. Printed condition of the tenders/quotations shall not be binding on us.
13. The acceptance of the quotation will rest with the Director, Indian Institute of Science Education and research (IISER) Pune who does not bind himself to accept the lowest quotation and reserves the right to himself to reject or partially accept any or all the quotations received without assigning any reason.