

# Request for quotation

Enquiry number: AE/MIS/2018/High Speed Data Acquisition System

Enquiry date: 20/04/2018

Closing Date: 14/05/2018

## **Subject: *Purchase of High Speed Data Acquisition system and associated equipment***

Quotation for the items mentioned above is requested in a sealed envelope. The quotation should reach on or before May 14, 2018 to the address given below.

### **A. Technical Specification**

#### **1. Overview**

- a. Communication with host PC (Windows): via USB (v2.0orhigher). Appropriate Windows10 compatible GUI based interface software must be provided. The license agreement for this software must allow IIT Kanpur to use the software perpetually.
- b. Minimum 3 nos. of Analog Input Engines, capable of running at different rates
- c. Inputs and Outputs:
  - I. Analog Inputs: at least 8 (differential)
  - II. Analog Outputs: at least 2
  - III. Digital Inputs/Outputs (Bidirectional): at least 24
  - IV. General Purpose Counter Timer: at least 4
  - V. Frequency Generator: at least1
- d. Must be fully controllable and programmable via NI-LabView
- e. Bidder must have a Standard Service Program for Hardware repair and at least three year warranty must be provided under this program. Any additional cost for this service must be included in the price bid.

#### **2. Detailed Specifications:**

##### **a. Analog Inputs:**

i.	Number of Channels	Differential Operation: at least 8
ii.	Analog-Digital-Converter Resolution	At least 16 bits
iii.	Sampling Rate	At least 1.25 MS/s per channel (simultaneous)
iv.	Small signal Bandwidth	At least 1MHz
v.	Input range	+/-1Vtoatleast+/-10V; must be programmable by user
vi.	Absolute accuracy	Less than 3000uV at 10V range Less than 350uV at 1V range

vii.	Input Coupling	DC
viii.	CMRR for differential inputs	75 dB
ix.	Input impedance	>100 G Ohm when powered ON >2k Ohm when powered OFF
x.	Overvoltage protection	At least +/-36V for all Analog Input Pins

**b. Analog Outputs:**

i.	Number of Channels	At least 2
ii.	Digital-Analog-Converter resolution	At least 16 bits
iii.	Update Rate	At least 3.3MS/s per channel
iv.	Slew Rate	At least 20V/us
v.	Output range	+/- 10V, +/- 5V: Must be user programmable
vi.	Output Coupling	DC
vii.	Output impedance	At most 0.4 ohm
viii.	Output drive	At least +/- 5 mA
ix.	Waveform modes	Non-periodic waveform, periodic waveform Re-generation mode to deliver programmable Waveform capability.

**c. Digital Inputs/ Outputs Bidirectional:**

i.	Number of Channels	At least 24
ii.	Voltage levels	Compatible with TTL logic

**d. Frequency Generator:**

i.	Number of Channels	At least 1
ii.	Voltage levels	Compatible with TTL logic
iii.	Base Clocks	20MHz, 10 MHz, 100 kHz

iv.	Divisors	1 to 16
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**e. General purpose Counter/Timer:**

i.	Number of counter/timer	At least 4
ii.	Voltage levels	Compatible with TTL logic
iii.	Resolution	At least 32 bits
iv.	Internal Base Clock	At least upto 100 MHz.

**g) External Trigger:** Software programmable for analog input/analog output and counter/timer functions.

**Terms and conditions:**

- Quotations should have a validity of minimum of 60 days.
- Warranty period should be clearly mentioned.
- The delivery period should be specifically stated.
- Property certificate should be provided if applicable.
- Permissible educational discount should be provided since the equipment will be used for research work of students.
- For suppliers from outside India, the rate offered should be FOB (specify city) or FCA terms.
- IIT Kanpur has its own freight forwarder for shipping from outside India.

**Address for the quotation:**

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