

**NOTICE INVITING QUOTATION**

**NIQ No.: IITD/PHYSICS/2012/EP3/TC**

**DUE DATE: 29-10-2012**

Sealed quotations along with complete details (brochures/web-site details) are invited for procuring the PID temperature Controller as per following desired specifications.

<b>Item description: PID temperature controllers for 4.2-350K range, complete with GPIB &amp; USB cables and Cernox sensors compatible with controllers</b>	
<b>Quantity: 02 each</b>	
<i>Parameters</i>	<i>Specifications</i>
1. Temperature range	4.2-350K or wider on both ends
2. No. and type of Input sensors	Two required One should be DIODE type (Si, etc.), & Other Should be PTC RTD type (100 Ohm, Pt-100, etc) (Quote the price of two cernox sensors)
3. A/D resolution of sensors	24 bit or higher
4. Update rate of sensor temperature display	10 readings/sec or more on each input sensor channels
5. No. of Control Heater output channels and type	Two required Both control should be PID type
6. Heater output Power on two channels	50 W on each channel
7. A/D resolution of heater control	15 bit or higher on both
8. Heater resistance range	10 $\Omega$ to 100 $\Omega$
9. Heater Power Ranges	Front panel selectable 3 or more ranges are required
10. Heater output noise	< 15 $\mu$ A
11. Saftey	Protection from Short circuit Power Up heater Shut off feature Output should be referenced to ground
12. Calibration data/User data selection feature	20 or more Standard/User calibration curve Storing via front panel or via remote PC
13. Display type/ display parameters	Fluorescent Display/ Up to 4 parameters should be simultaneous dsipalyed
14. Display Units of Sensor Temp/heater, etc.	K, $^{\circ}$ C, V, mV, $\Omega$
15. Display resolution for temperature	0.001 $^{\circ}$ C or K
16. Control Modes	All four, namely the RAMP, Autotune, PID, PID zone modes are required
17. P and I ranges	Range from 0 to 1000 or higher with a step resolution of 0.1 is required for P as well as I values
18. Display annunciators	Required for Control input, alarm, tuning
19. LED for status	Required for Remote, alarm, control outputs
20. IEEE Interface	488.2 type with Labview Driver support (Quote the price of 2 numbers of 1 m long GPIB cable)

21. USB Interface	RS232 Serial function with Labview Driver support with B-type USB connector (Quote the price of 2 numbers of 1 m long GPIB cable)
22. Input Voltage/ frequency	Single Phase, 220±40V / 50 ± 3Hz

## TERMS & CONDITIONS COVERING SUBMISSION OF QUOTATIONS

1. **Delivery** The rates quoted must be for **FOB**
2. **Payment Terms** Acceptable payment terms are (i) Payment by Wire transfer within 30 days of installation, (ii) L/C, and (iii) Sight Draft. The payment terms, **preferably via L/C**, should be clearly indicated in the offer. The vender must provide complete details regarding the offered mode of payment. **Quotations offering the Advanced Payment terms will not be entertained.**
3. **Validity of quotations** Quotations will be considered **valid for 3 months** from the date of receipt unless otherwise stated.
4. **Correspondence** No correspondence regarding acceptance/rejection of a quotation will be entertained.
5. **Submission of quotations** Quotations should be sent in a sealed cover marked at the top with our **N.I.Q. REFERENCE AND DUE DATE FOR OPENING** as otherwise it will not be considered.
6. **Discount/ rebates** Special discount/rebate wherever admissible keeping in view that the supplies are being made for Educational purpose in respect of Public Institution of National importance may please be indicated.
7. **Warranty & delivery period** **Necessary information must be provided in respect of**
  - (a) Warranty (**preferably 3 years**) and
  - (b) Delivery period
8. **Others**
  1. The vendor must attach with the offer a **latest sole selling and servicing agency-ship certificate from OEM.**
  2. The **printed brochures and website link detailing the technical specifications of the items quoted MUST be provided** in the offer, **failing which the offer shall not be considered.**
9. **Rejection** Quotations not conforming to above terms and conditions will be rejected.
10. **Institute's rights** Institute reserves the rights of acceptance or rejection of any or all quotations without assigning any reason(s). The discretion for increasing or decreasing of the quantities demanded also vests with the Institute.

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