

**Department for Ocean Engineering  
Indian Institute of Technology Madras  
Chennai 600036**

**Ref: OE/2017/inslab/001/sas  
Due date: 24/January/2017**

**Date: 17/January/2017**

- 1 Quotations are invited in duplicate for the various items given below.
- 2 The Quotations duly sealed and super scribed on the envelope with the reference No. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above.
- 3 Quotations should be valid for 60 days from the due date and period of delivery required, warranty terms etc. should also be clearly indicated. A minimum of two years warranty is required.
- 4 Brochure detailing technical specifications and performance, list of industrial and educational establishments where the items enquired have been supplied must be provided.
- 5 Compliancy certificate is to be provided indicating conformity to the technical specifications.
- 6 If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
- 7 Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples / machine/ equipment if called for should be submitted / demonstrated at free of charges, and collected back at the supplier's expenses.
- 8 The rate of sales / General Taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for Sales / General Taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have concessional Sales Tax applicable to non Government Educational Institutions run with no profit motive for which a concessional Sales Tax Certificate will be issued at the time of final settlement of the bill.
- 9 Imported supplies should be quoted for CIF Madras.
- 10 IIT Madras is exempt from payment of Excise Duty and is eligible for concessional rate of custom duty. Necessary certificate will be issued on demand. IIT Madras will make necessary arrangements for the clearance of imported goods at the Airport/Seaport. Hence the price should not include the above charges.
- 11 Local firms to quote for free delivery to this Institute. If quoted for Ex-Godown delivery charges be indicated separately.
- 12 Packing, delivery and installation charges must be clearly indicated.
- 13 Goods should be supplied carriage paid and insured.
- 14 Goods shall not be supplied without an official supply order.
- 15 Payment: Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.
- 16 Delivery and installation at IIT Madras must be done by the vendor.
- 17 Acceptance and Rejection: - I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

Yours faithfully  
Prof.S.A.Sannasiraj

## Technical Specifications

### Item 1: Inclinator

Quantity: 12 Nos.

#### Main Features

- Dual Axis Measurement Range  $\pm 80^\circ$
- High Resolution:  $0.01^\circ$
- High Accuracy:  $0.1^\circ$
- Rugged Glass Fiber Reinforced PBT Housing
- Active Linearization
- Temperature Compensation
- Digital Interface: RS232, Code ASCII
- Analog Interface: Voltage, Current
- Highest Protection Class: IP69K, IP68, IP67

Analog Interface	Voltage	0.5 to 4.5 V, $0^\circ = 2.5$ V Load $\geq 10$ K $\Omega$ with 12 V DC
	Current	4 mA to 20 mA , $0^\circ = 12$ mA Load $\leq 270$ $\Omega$
Digital Interface		RS232 (ASCII Format)
Baud Rate		Max. 115200 Baud (Programmable)
Resolution		$0.01^\circ$
Accuracy (T = -10 $^\circ$ C to +40 $^\circ$ C) <sub>2</sub>		$0.1^\circ$
Sensor Response Time		10 ms (Without Filter)
Recommended Measurement Rate		Up to 10 Hz
Supply Voltage <sup>3</sup>		10 to 30 V DC (Absolute Maximum Ratings)
Power Consumption		$\leq 0.7$ W
EMC		Emitted Interference: EN 61000-6-4 Noise Immunity: EN 61000-6-2
Connection		Connector Output, 8 Pin M12 male (A-coded)

The sealed quotation to be sent to:

*Prof.S.A.Sannasiraj,  
Head,  
Dept. of Ocean Engineering, IIT Madras,  
Chennai-600036, Tamil Nadu, India*

With kind attention: Prof.S.A.Sannasiraj / M.Santhanam

For any technical details you may contact

**M.Santhanam**

Email: [san@iitm.ac.in](mailto:san@iitm.ac.in) or sant2000@yahoo.com