



**NATIONAL CENTER FOR COMBUSTION RESEARCH  
AND DEVELOPMENT (NCCRD)  
INDIAN INSTITUTE OF TECHNOLOGY MADRAS  
CHENNAI – 600036, INDIA**

---

**Ref. No. ICS/11-12/013/DSTX/TSUN**

**Date: 2 May 2016**

**Due date: 23 May 2016**

**Item name: High intensity LED strobes with heatsink and strobe input power supply and controller (1 no.)**

1. Quotations are invited in a **two bid system** for the items shown overleaf (in Annexure I). The offers / bids should be submitted as Technical bid and Financial bid. The Technical bid should consist of all technical details / specifications only. The Financial bid should indicate item-wise price for each item and it should contain all Commercial Terms and Conditions including Taxes, transportation, packing & forwarding, installation, guarantee, payment terms, pricing terms etc. The Technical bid and Financial bid should be put in separate covers and sealed. Both the sealed covers should be put in a bigger cover. The Tender for supply of “ \_\_\_\_\_ ” should be written on the left side of the Outer bigger cover and sealed.
2. The quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
3. The total cost of the equipment in terms of CIP Chennai should be clearly mentioned.
4. Terms of warranty and guarantee should be explicitly mentioned.
5. Packing and delivery charges, customs and clearance duty should be clearly stated.
6. Goods shall not be supplied without an official supply order.
7. Local firms : Quotations should be for free delivery to this institute. If quotations for ex-godown delivery charges should be indicated separately.
8. Firms outside Chennai: Quotations should be for F.O.R. Chennai. If F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If ex-godown, packing, forwarding and freight charges must be indicated.
9. 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 (CST) applicable to non-government educational institutions run with no profit motive for which a concession sales tax certificate will be issued at the time of final settlement of the bill.
10. Payment : Specify the mode of payment and if advanced payment has to be made. Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.
11. IIT Madras is exempt from payment of excise duty and is eligible for concessional rate of customs duty. Necessary certificate will be issued on demand.
12. IIT 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.
13. The sealed quotation may be sent to

**Prof. S. R. Chakravarthy**

**NCCRD Office,**

**No. 201, Rarefied Gas Dynamics Lab (Behind Aerospace Engineering Dept.)**

**Chennai – 600036, Ph. (O) +91-44-22575025**



NATIONAL CENTER FOR COMBUSTION RESEARCH  
AND DEVELOPMENT (NCCRD)  
INDIAN INSTITUTE OF TECHNOLOGY MADRAS  
CHENNAI – 600036, INDIA

---

**Annexure I**

Ref. No. ICS/11-12/013/DSTX/TSUN

Date: 2 May 2016  
Due date: 23 May 2016

**High intensity LED strobes with heatsink and strobe input power supply and controller ( 1 no.)**

**Illumination system specifications:**

High intensity LED illuminator consisting of LEDs, power supply with strobe control, heatsink and bench mounting assembly (for standard 25 mm breadboard)

LED should have a circular emitter and should be a CoB type with detachable electrodes

Nominal intensity at continuous operation should be at least 12000 Lumens

Nominal intensity when strobed should be at least 18000 Lumens

LEDs should be sourced from a reputed manufacturer such as CREE or similar

The strobing control on the power supply should use 3.3V or 5V input and work with faster than 200 ns rise and fall times

The heatsink may be of active or passive convection type and should ensure continuous operation of the LED within the temperature range where its expected lifecycle is not compromised

The LED heat sink assembly should be modular allowing for upgrades as well as replacement of subcomponents rather than the entire assembly

12 assemblies of LEDs are required. The frontal dimensions of each assembly should not exceed 5 x 5 cm in size.

**Controller specifications:**

ATX or micro ATX computer with high end server componentry (power supply and cabinet from antec/ corsair or other reputed manufacturer) (minimum specs: 6th generation i5/ 16G Ram/ M.2 SSD/ 20" HD monitor)

Installed with NI Labview and NI PCIe 6535 hardware for strobing control with all required cables and connector blocks and strobing control hardware



**NATIONAL CENTER FOR COMBUSTION RESEARCH  
AND DEVELOPMENT (NCCRD)  
INDIAN INSTITUTE OF TECHNOLOGY MADRAS  
CHENNAI – 600036, INDIA**

---

Any Labview programs required to control the hardware to be able to strobe with electronic pulse durations of 200 ns or less

NI USB thermocouple kit with one USB DAQ unit and one thermocouple with 0-200 C range or better to cut off power to the LED system to ensure safety of the system

**General requirement:**

Warranty for both illumination system and controller: 1 year or longer

Only firms which quote for both the illumination system and controller will be considered

For any technical clarification, please contact prof. TNC.Anand.

Email ID : [anand@iitm.ac.in](mailto:anand@iitm.ac.in)