

Government of India
Bhabha Atomic Research Centre
Multidisciplinary Research Group
Applied Physics Division

Ref: APD/CB/MF/21/VTM/398

27/10/2021

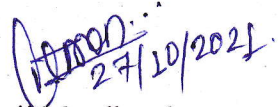
Sub:- *"Design, development, fabrication and testing of miniaturized High Current Trigger Generator unit and associated accessories"*

Due Date: 9th NOVEMBER, 2021

Dear Sirs,

1. Quotations are invited for the minor fabrication job, as per the enclosed specifications and drawings.
2. Bidder shall quote for fabrication of these components with material.
3. Bidder shall take out an insurance policy in favor of BARC for any free issue material supplied.
4. Taxes shall be quoted separately. Form H shall be provided where necessary.
5. The quotations must reach Head, Applied Physics Division on or before the due date referred.
6. **The bidders must quote in a two part tendering system, which means that they will mention the technical specifications and financial terms in separate sealed envelopes, clearly mentioning which is which. These two separate envelopes viz. technical and financial will be enclosed in a bigger sealed envelope super scribed with the above reference number and due date.**
6. The address on the envelope should read:

**The Head,
Applied Physics Division, PURNIMA LABS,
Bhabha Atomic Research Centre
Trombay, Mumbai - 400 085.
Attn: Mr. Vijay Tanaji Mandharekar**
7. The fabrication work shall be subject to inspection by our representative. The finished components shall not be dispatched prior to approval by our representative at the bidder's works. Necessary inspection facilities should be provided to our engineers during fabrication at bidder's premises.
8. The bidder shall deliver the finished components after approval by our representative, within the period as per mention in work order. The finished components shall be delivered by the bidder at **Applied Physics Division, Purnima Labs, (Near Plutonium Plant), Bhabha Atomic Research Centre, Trombay, Mumbai-400 085.**
9. Head, Applied Physics Division, BARC, reserves all right to accept/reject any or all quotations without assigning any reason.
10. Payment will be made by cheque only after satisfactory completion of work on production of bill, delivery challan and advance stamped receipt. It may be noted that income tax @ 2% & GST TDS @ 2% will be deducted from your bill.
11. Job will be guaranteed against material and manufacturing defects for 1 year from the date of supply.


27/10/2021
Vijay Tanaji Mandharekar
For and on behalf of
Head, Applied Physics Division

SPECIFICATIONS

This job involves the design, development, fabrication and testing of miniaturized High Current Trigger Generator unit and associated accessories. The trigger circuit and associated components need to be enclosed in U3/19 inch rack with provisions for six distinct optically and electrically isolated high current trigger pulses of magnitude 15-30 V, 35 A for triggering and controlled operation of high voltage (3 kV) solid state switches. Each of the multiple trigger sections must be supplied using separate high-voltage, high-current power supplies in order to prevent loading. The unit must provide high voltage supplies that adhere to the following specifications:

Power Supply Section Specifications		
Sl. No.	Parameter	Value
1.	Electrical Insulation	Up to 18 kV AC
2.	Maximum Voltage	15 V
3.	Maximum Output Current	200 mA
4.	Output capacitance	330 μ F
5.	Output power	5 W
Trigger Section Specifications		
6.	Input Signal	Fiber optic transceiver
7.	Supply Voltage	15-30 V
8.	Supply Current	200 mA
9.	Output Voltage	\pm 24 V
10.	Output Current	\pm 35 A
11.	DC link voltage	3000 V

Documents required during quotation: **Documentary proof/ Work Order copies of High voltage/High current work done in BARC or other government organizations to be provided.**

The fabricator must prepare a detailed design based on the inputs provided for the unit and get it approved by the divisional representative. Based on his approval, he is supposed to fabricate, procure and assemble various constituent components of the required unit. Approval of the fabricated Trigger unit can be obtained after inspection and testing carried out by divisional representative at the fabricator's place. The various specifications for the design and development of the given unit are summed up in the following points:

1. The circuit design of each section, placement of the sections inside the circuit and the electrical as well as mechanical drawing of circuits in the unit must be carried out by the fabricator. Those drawings need to be approved by the divisional representative before proceeding towards fabrication. Non compliance with any of the fabrication and output requirements will lead to rejection of the job.
2. All components required during fabrication must be procured by the fabricator.

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3. During inspection, solid state switches of voltage withstand 3000 V must be triggered successfully by fabricator.
4. The constituent parts should be mounted on a 19" 3-U rack, which is properly insulated to handle the high voltages and currents associated with these circuits.

The arrangement of various sections in the HV Control unit needs to be done as per Fig. 1

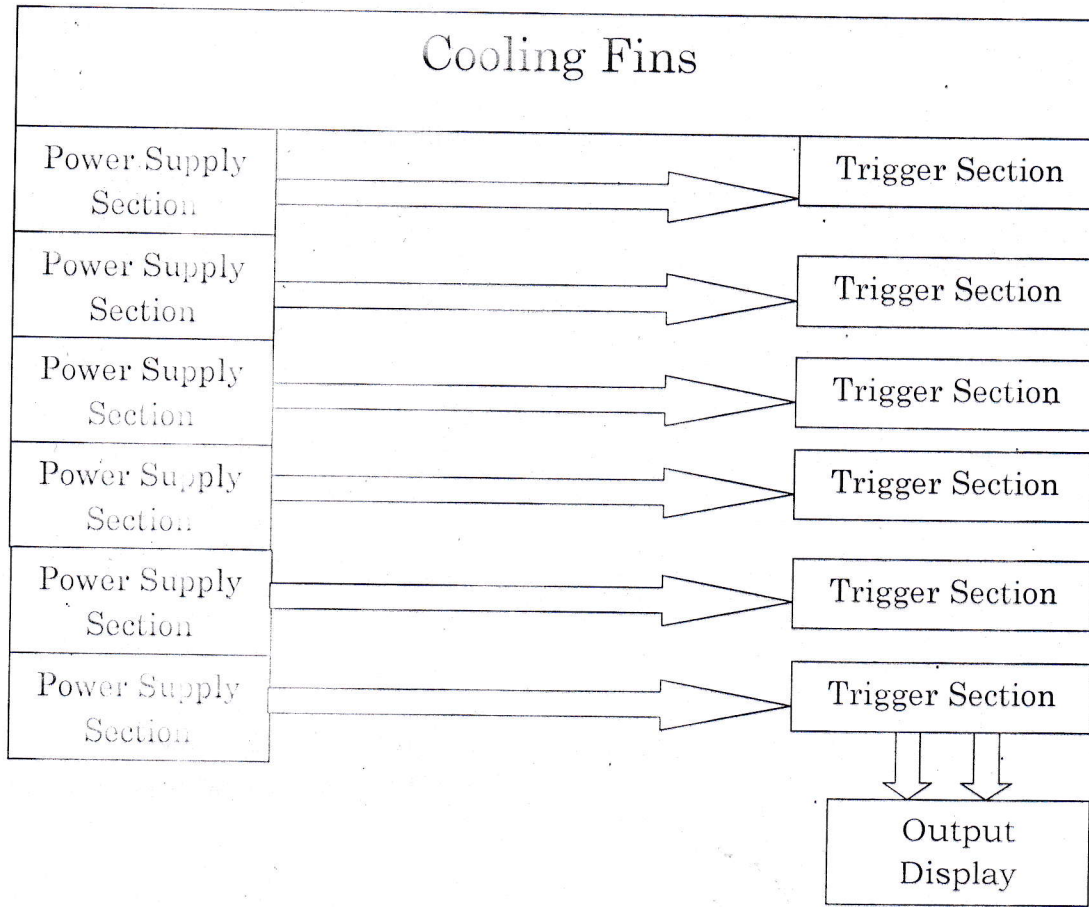


Fig. 1

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