



INVITATION FOR TENDERS

No. NAL/PUR/SID/362/23

Dated: 12-Mar-2024

CSIR – National Aerospace Laboratories (NAL), Bengaluru, Karnataka, Republic of India, is one of the premier research laboratories under aegis of Council of Scientific and Industrial Research (CSIR), an autonomous body under the Department of Scientific and Industrial Research, Government of India, New Delhi. CSIR-NAL is a Science and Knowledge based Research, Development and Consulting Organization. It is internationally known for its excellence in Scientific Research in Aerospace Engineering.

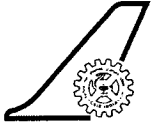
The Director, CSIR-NAL invites online quotation(s) for the procurement of the following item(s) for day to day research work.

Sl. No	Description of Item(s)	Unit	Quantity
1	Digital DC drive panel system (Make: Kirloskar Electric Co Ltd) Note: Please refer annexure for detailed specification.	Nos.	1
2	Reconditioning / Servicing, Repair of Kirloskar make DC motor.	Nos.	1

Single /Double Bid	Single	Tender Type	Open*
Bid Security (EMD) (in INR)	Bid Security Declaration should be enclosed with the quotation	Bid submission end date	01-04-2024 10.00 Hrs
Performance Security	3% of the Contract value	Bid opening date	02-04-2024 11.00 Hrs

***Note: Only Authorised Dealer of M/s Kirloskar Electric Co Ltd to participate in this tender.**

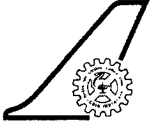
1. Tender document(s) may be downloaded from the Central Public Procurement Portal i.e., <https://www.etenders.gov.in>. Aspiring Bidders' who have not registered in the portal can do the same at free of cost before participating in our tendering process. Bidders are advised to go through instructions provided at 'Instructions for Online Bid Submission', in the portal.
2. Tenderer's can access tender document(s) on the website (for searching in the NIC site <https://www.etenders.gov.in>, kindly go to "Tender Search", option, select tender type and select 'Council of Scientific and Industrial Research', in organization tab and select NAL-Bengaluru-CSIR in department type. Thereafter, click on "Search", button to view all CSIR-NAL, Bengaluru tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online in the website as per the schedule given in the next page.



3. a. Global Tender Enquiry: Either the Indian Agent on behalf of the Foreign Principal or the Foreign Principal can bid directly in a tender but *not* both. However, the offer of the Indian Agent should also accompany the authorization letter from their principal. To maintain sanctity of tendering system, one Indian Agent *cannot* represent *two* different Foreign Principals in *one* tender.
- b. Open Tender Enquiry: Only Local Suppliers with prescribed local content as detailed in Department for Promotion of Industry and Internal Trade (DPIIT) Order No. P-45021/2/2017-PP (BE-II), dated 16th Sep, 2020, and subsequent orders issued by the Ministry of Finance, Government of India from time to time, are eligible for bidding. Bidders' must enclose the certificate declaring their local content of supplies as per our standard form.

Note: Kindly, refer to the first page of Notice Inviting Tender for tender type i.e. Open Tender Enquiry / Global Tender Enquiry and submit your bid accordingly.

4. Unsolicited / Conditional / Unsigned Quotations/Quotations received after the due date and time shall be summarily rejected. The Bidder should comply with the terms and conditions of the tender, failing which, their offer will be liable for rejection.
5. The bids' failing to comply with the following clauses will be summarily rejected.
 - The Bidders' proposing to supply finished products directly/indirectly from vendors' of countries sharing the land border with India should submit a copy of registration done with DPIIT
 - If the products supplied are not from vendors of countries sharing land border with India, the Bidders' have to enclose a declaration to that effect.
6. As per Government of India procurement policies:
 - The purchaser intends to give purchase preference to local supplies (preference to Make in India) in case the cost of procurement is up to Rs.50 (fifty) lakhs.
 - The procuring entity intends to give purchase preference to products/goods manufactured by Micro, Small and Medium Enterprises.
7. Bidders' are requested to refer to the instructions regarding Procurement Policies for "Make in India", issued by Ministry of Commerce and Industry, Department of Industrial Policy and promotion dated. 28-May-2018, and 4-Jun-2020 and guidelines as and when issued.



CSIR-National Aerospace Laboratories, Bengaluru-560 017, INDIA

8. Kindly, note CSIR-NAL **GST No.29AAATC2716R1ZB**. And, the bidders' are requested to furnish their GST No. in their invoice failing which we will **not** be able to make timely payment.
9. Printed conditions, if any, submitted along with your quotation will not be binding on us.
10. The prospective bidders' are requested to refer to the Standard Terms and Conditions available on NAL website (www.nal.res.in) under the icon Tender-Purchase before formulating and submitting their bids'.
11. The Director, CSIR – National Aerospace Laboratories, Bengaluru, reserves the right to accept any or all the tenders either in part or in full or to split the order without assigning any reason(s) thereof.
12. Participation in this tender is by invitation only and is limited to the selected bidders. Unsolicited offers are liable to be ignored. However, bidders who desire to participate in such tenders in future may bring it to the notice of Procuring Entity and apply for registration.
13. Bidder to certify the quoted price is not higher than the price quoted with other Government institution for similar specifications and quantity during the current financial year.

Thanking You,

Yours faithfully,


Stores & Purchase Officer
For and on behalf of CSIR-NAL

Digital DC drive panel system specifications for running a DC Motor of 170 kW

Quote is request to be provided for Digital DC drive system compatible with Kirloskar Electric Co. Ltd. make DC motor (used for driving a shaft) for the purpose of motor rotation control and regulation. Specifications of the motor for which drive is required are as follows:

Direct Current Motor (Kirloskar Electric Co. Ltd.):

Frame: KLDC 225MN

Power: 170kW

2400 rpm / 440V / 420A

Airflow: 0.57m³/sec at 142mm WG

Duty: S1

WDG. : SHUNT

ENCL. : IP 23 / IC 06

EXC. : 200V / 7.2A

MTG : HFM

REF : BS5000

INS.CL : F

AMBC : 40

BRGS: CE:SKF 6312 / NCE:SKF 6315

M/C No. : 900967-01

DC drive to be quoted should meet the below mentioned technical specifications:

I. Technical Specifications

1. DC Drive with panel should be Compact and Standalone. It should provide digital control for precise speed regulation.
2. System should be provided with Encoder, Tacho, Armature feedback facility for speed and torque regulation.

Speed regulation:

Encoder feedback should provide upto 0.1% speed regulation

DC Tachometer feedback should provide upto 0.1% speed regulation.

Armature feedback should provide 2000:1 rpm speed range.

Torque regulation:

Encoder feedback should provide +/- 1% torque regulation and ability to hold full load at zero speed.

3. System should be equipped with built-in protective features including -

a. Ground fault protection for reliability b. Motor overload protection

4. System should provide In-depth fault monitoring with Alarms showing the fault occurrence or diagnostic assistant that gets activated when fault occurs. Also fault logging with time and date stamp must be recorded with Fault history stored.

5. Drive should have common controller for 3 phase signal, two or four quadrant DC motor operations.
6. System should provide multi-function programmable digital & analogue input/outputs.
7. System should provide serial communication RS232 / 485 that allows off site programming and remote diagnostics.
8. Drive should provide common communication tools including LCD interface and pc based configuration software:

LCD interface:

- 40 character alphanumeric backlite display
- Keypad / number pad for data entry and parameter status display.
- Control keys for local start, stop, speed and direction
- Alternate shortcut keys for common tasks

PC based configuration software should have following features:

- Windows based drive software Package
- Support configuration & monitoring
- Allow real time diagnostics & monitoring

9. System should be provided with Seven segment display with keypad as well as Start/Stop facility through keypad with LED indication, for viewing of drive status; editing parameters; parameter navigation; drive programming. Menu structure must be user friendly. Also, EEPROM should be provided for parameter storage.
10. Easy serviceability with hinged construction for motor with panel and front accessibility.
11. Drive should meet following Electrical Specifications:
Drive I/p voltages: Armature- 3 phase, 3 wire 415V AC
Drive I/p frequency: 50 Hz
Max. rate of change of freq: 2Hz/Sec
Drive o/p voltage: 440V DC, 420A current
O/p power: 170kW
12. Drive should have operational environmental capability under temperature range of 0° to 50°C and humidity range of 0% to 85%.
13. DC Drive should have ambient temperature storage ranging from 0° to +65°C

II. General Specifications

1. Complete Integration, Installation and Commissioning of the DC drive system at CSIR-NAL should be done by the supplier.
2. Hard copies of detailed technical, maintenance and operating manuals along with circuit diagrams addition to soft copy, in English should be provided.
3. Warranty for a period of at least 12 months from the date of installation & commissioning. Service and hardware updates if any within the warranty period have to be supplied free of cost.