

# NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

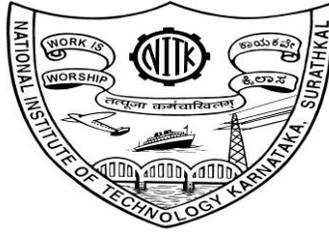
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING  
POST SRINIVASNAGAR, MANGALORE – 575 025 (D K)

Phone: (0824) 2474000.

Fax: (0824) 2474033

E- mail: [info@nitk.ac.in](mailto:info@nitk.ac.in)

Website: <http://www.nitk.ac.in>



## NOTICE INVITING QUOTATION

Notification. No: NITK/EED/1825

Dated: 10-08-2023

Name of Goods	Permanent Magnet Synchronous Motor
Estimated Amount:	Rs. 1,70,000/-
Time for Supply of item after release of Purchase order	45 Days
Document Download / Sale Start Date	15-09-2023 at 3:00 PM
Clarification Start Date	15-09-2023 at 3:00 PM
Clarification End Date	22-09-2023 before 3:00 PM
Bid Submission Start Date	15-09-2023 at 3:00 PM
Last Date for submission of bids	29-09-2023 before 3:00 PM
Bid Opening Date	29-09-2023 at 3:30 PM
Address for Submission of bids	Dr. R Kalpana, Assistant Professor, Department of Electrical and Electronics Engineering, National Institute of Technology Karnataka Surathkal Mangalore-575025, Karnataka Email: <a href="mailto:kalpana@nitk.edu.in">kalpana@nitk.edu.in</a> / Mobile no.: 8762245244.



**NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL**  
**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

POST SRINIVASNAGAR, MANGALORE – 575 025

Phone: (0824) 2474000

Fax: (0824) 2474033

E- mail: info@nitk.ac.in

Website: <http://www.nitk.ac.in>

Notification No: **NITK/EED/1825**

Date: 13-09-2023

**NOTICE INVITING QUOTATION (NIQ)**

The National Institute of Technology Karnataka, Surathkal (in short – NITK, Surathkal) is an Institute Of National Importance Under Ministry of Education Govt of India, imparting Technical Education and engaged in Research Activities. It is proposed to procure the items for the departmental academic/research activities.

Sealed Quotations as per the Price Schedule given in this NIQ are invited for the following items subject to the terms and conditions, from the reputed manufacturers or its authorised dealers so as to reach on or before scheduled date and time. The quotations in the firm's Business letter head should be address to the "Director, NITK, Surathkal". The envelope shall be superscribed with the Quotation Notification Number and the Name of the Goods for which quotation is submitted.

<b>Name of Goods</b>	<b>Permanent Magnet Synchronous Motor</b>
<b>Estimated Amount:</b>	<b>Rs. 1,70,000/-</b>
<b>Time for Supply of item after release of Purchase order</b>	<b>45 Days</b>
<b>Document Download / Sale Start Date</b>	<b>15-09-2023 at 3:00 PM</b>
<b>Clarification Start Date</b>	<b>15-09-2023 at 3:00 PM</b>
<b>Clarification End Date</b>	<b>22-09-2023 before 3:00 PM</b>
<b>Bid Submission Start Date</b>	<b>15-09-2023 at 3:00 PM</b>
<b>Last Date for submission of bids</b>	<b>29-09-2023 before 3:00 PM</b>
<b>Bid Opening Date</b>	<b>29-09-2023 at 3:30 PM</b>

**Sd/-**  
**HOD**

Note: Institute shall not be responsible for any postal delay about non-receipt /non-delivery of the bids or due to wrong addressee.

**SECTION-1**  
**Terms and Conditions**

1. The rates should be quoted for preferably FOR destination from supply within India.
2. The bidder shall indicate the excise duty exemption for the goods if applicable.
3. The rate quoted should be on unit basis. Taxes and other charges should be quoted separately, considering exemptions if any. The rate should be quoted in INR only
4. Rate quoted should be inclusive of Testing, commissioning and Installation of equipment and Training.
5. Payment: No advance payment will be made. Payment will be made only after the supply of the item in good and satisfactory condition and receipt of performance security by supplier.
6. Guarantee/Warranty period should be specified for the complete period should be specified in section 3 of this tender document.
7. Period requirement for the supply and installation of item should be specified in section 3 of this tender document.
8. In case of dispute, the matter will be subject to Mangalore Jurisdiction only.
9. **Liquidated Damages**: Timely delivery is the essence of the contract and hence if the Supplier fails to deliver Goods within the original/extended delivery period(s) specified in the contract, the Institute will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, **@ 1% per week or part of the week of the delayed period** as pre-estimated damages not exceeding 5% of the contract value without any controversy/dispute of any sort whatsoever.

**SECTION-2**  
**SCHEDULE OF REQUIREMENTS, SPECIFICATIONS AND ALLIED DETAILS**  
[ To be filled up by the Department / Centre of NITK, Surathkal ]

---

Item(s) Name to be Procured	: <b>Permanent Magnet Synchronous Motor</b>
Brief Specifications of the Item(s) (Attach Additional Sheet if necessary)	: <b>Attached</b>
Quantity	: <b>01</b>
Any other details / requirement	: <b>Nil</b>
Warranty Period required	: <b>02 years</b>
Delivery Schedule expected after placement of Purchase order (in Weeks)	: <b>6 weeks</b>

**SECTION 3**  
**PRICE SCHEDULE**

[ To be used by the bidder for submission of the quotation]

- 
1. Item Name :
  2. Specifications  
(Conforming to Schedule of requirements  
Enclose additional sheets if necessary) :
  3. Currency and Unit Price :
  4. Quantity :
  5. Item Cost (Sl No. 3 \* Sl. No. 4 ) :
  6. Taxes and Other Charges :  
(i) Specify the type of taxes and duties  
in percentages and also in figures.  
(ii) Specify Other Charges in figures.
  7. **Warranty Period** :  
**(Conforming to the Schedule of requirements)**
  8. Delivery Schedule :  
(Conforming to the Schedule of requirements)
  9. Name and address of the Firm for  
placing purchase order :
  10. Name and address of Indian authorized  
agent ( in case of imports only) :

**Signature of the Bidder:** \_\_\_\_\_

**Name and Designation:** \_\_\_\_\_

**Business Address** : \_\_\_\_\_

\_\_\_\_\_

**Place:**

**Date:**

**Seal of the Bidder's Firm**

**SECTION 4**  
**CONTRACT FORM**

[ To be provided by the bidder in the business letter head]

---

1. (Name of the Supplier's Firm) hereby abide by the delivery schedule mentioned in this document for supply of the items if the purchase order is awarded.
2. The item will be supplied conforming to the specifications stated in this document without any defect and deviations.
3. Warranty will be given for the period mentioned in this document and service will be rendered to the satisfaction of NITK, Surathkal during this period.

**Signature of the Bidder:** \_\_\_\_\_

**Name** : \_\_\_\_\_

**Business Address** : \_\_\_\_\_

\_\_\_\_\_

**Place :**

**Date :**

**Seal of the Bidder's Firm**

# Permanent Magnet Synchronous Motor

## Specifications:

- Rated Power: 1.07 kW
- Rated Speed: 4000 rpm
- Continuous stall torque: 3.6 Nm
- Continuous stall current: 6.3 A
- Rated bus voltage: 300 V
- Peak Current: 16 A
- Maximum Speed: 7000 rpm
- Peak Torque: 10.8 Nm
- Number of motor poles: 4
- Motor Inertia: 5.61 kg-cm<sup>2</sup>
- Thermal resistance: 1 °C/watt
- Thermal time constant: 28 Min
- Mechanical time constant: 2.7 msec
- Electrical time constant: 3.73 msec
- Torque constant: 0.67 Nm/amp
- Voltage constant: 57.5 Vpk/krpm
- Resistance: 2.2 ohms
- Inductance: 8.2 mH
- Weight: 11/5.0 lbs/Kg
- Encoder: Encoder, EPC, 2500L, 4 Pole, 40 MM BC, CE
- Hall Sensors
- Leads: 3#18
- Standard: IEC/NEMA Designs
- Shaft rotation: Reversible
- Insulation Class: F

## Additional Features

- Motor should be TENV enclosed and base should be bracket mounted.
- Rugged Construction: Sealed to IP54, with shaft oil seal sealed to IP55, 95% RH Non-condensing.

- Variety of feedback options: Resolver, Incremental Encoder, Hall sensor.
- Optional Holding Brakes.
- Extra high insulated stator for high voltage and current spike protection.
- Superior bearing protection with Mobile Polyrex EM grease to provide four times greater life.
- Cable ASSY for EPC Encoder
- High output torque at low speed.
- Premium 200° C moisture resistant, multi-coated wire for reliability.
- Meeting UR/CSA/CE/TUV/WEEE requirements.
- Must be suitable for applications with higher load inertias.
- Provision for external load (Electrical/ Mechanical) arrangement along with required power supplies for Sensors and shielded cables for motor terminals.
- Provide a closed loop FOC algorithm.
- The control algorithm should be compatible to FPGA Control Controller Box (Xilinx SoC: Dual Arm Core Neon Processing/FPU Engines, Artix-7 FPGA)
- An initial two days training on FOC control of PMSM using FPGA Controller.