



सरदार वल्लभभाई राष्ट्रीय प्रौद्योगिकी संस्थान, सूरत  
SARDAR VALLABHBHAI NATIONAL INSTITUTE OF  
TECHNOLOGY, SURAT  
विधुत इंजीनियरिंग विभाग  
DEPARTMENT OF ELECTRICAL ENGINEERING

SVNIT

No. DoEE/ APG / 1384 / 2025-26

Date: 22-12-2025

To,

**Subject: Enquiry for Supply of Laboratory Items**

- (i) BLDC MOTOR (48V, 3000 RPM) coupled with Load Arrangement (Separately Excited DC Generator),
- (ii) Switched Reluctance Motor with Load arrangement (Separately Excited DC Generator),
- (iii) Converter-4Ph-SiC Inverter with DSP C2000 Controller-5kW
- (iv) Permanent Magnet Synchronous Motor (5hp) with Load arrangement (Separately Excited DC Generator)

Dear Sir,

You are requested to quote your prices for supply of stores listed overleaf. The quotations may be sent to the undersigned in a sealed envelope and subscribed as: "Quotation with reference to Enquiry No. DoEE/APG / 1384 / 2025-26 dated: 22/12/2025" Your quotation should reach the undersigned on or before **13/01/2026 at 5:00 PM.**

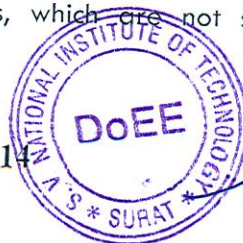
The quotations should be furnished with the following information.

1. The brand or make of each item should be specifically stated and wherever Necessary, Complete set of specifications and dimensions should be given.
2. If asked, samples are accompany the quotations or provide demonstration in the Department at any stage of purchase without claiming any financial benefits.
3. Sales tax, General tax, Central Sales tax, Custom duty, Insurance charges, Packing and Forwarding charges, if not included in the prices quoted, should be clearly specified.
4. The **Supply items (i)BLDC MOTOR (48V, 3000 RPM) coupled with Load Arrangement (Separately Excited DC Generator), (ii) Switched Reluctance Motor with Load arrangement (Separately Excited DC Generator), (iii) Converter-4Ph-SiC Inverter with DSP C2000 Controller-5kW (iv) Permanent Magnet Synchronous Motor (5hp) with Load arrangement (Separately Excited DC Generator)** are used for academic's/research purpose in the laboratory for student education. So, please provide all possible concessional rate. Also provide test report, machine parameters, complete specification and using manual in hard copy.





5. The period of validity of the quotation should be at least **120 Days or more**. Offers subject to prior sale may please be avoided.
6. The delivery period is to be clearly mentioned in the quotation.
7. The mode of delivery of the stores may be mentioned. The delivery should be F.O.R. Surat or at the Institute.
8. All concessions available to an educational institution should be specified and also taken into account while quoting. Also take clarification regarding of % GST before delivery of items.
9. This Institute is located within the limits of S.M.C. & exempted from the paying of Octroi duty on incoming goods from outside limits of S.M.C.
10. This Institute is registered with the dept. of scientific & industrial Research (DSIR) for the purpose of availing custom duty exemption & central excise Duty Exemption, and hence the certificate to this effect will be issued wherever it is necessary on demand.
11. Payment is normally made by cheque drawn on the S.V.N.I.T. Branch Office of State Bank of India, Surat-395007 within a period of thirty days from the date of receipt of stores. If case of any official delay, any type of claimed extra payment will not be considered.
12. Your Specification & terms-conditions should be as per the format attached, must be on your company letterhead & signed by an authorized person.
13. Offered quotation may be rejected if any ambiguity is found in offered specification, terms & conditions supplied by party in specified tabular format.
14. Preference may be given to the supplier having status of authorized dealer of manufacturer, with a view to ensure reliable after sales service for the item.
15. Provide Photograph of quoted items with specifications and list of purchase order given by any agency/institute etc with contact Number.
16. The **Supply items (i)BLDC MOTOR (48V, 3000 RPM) coupled with Load Arrangement (Separately Excited DC Generator), (ii) Switched Reluctance Motor with Load arrangement (Separately Excited DC Generator), (iii) Converter-4Ph-SiC Inverter with DSP C2000 Controller-5kW (iv) Permanent Magnet Synchronous Motor (5hp) with Load arrangement (Separately Excited DC Generator)** will be tested at various level of rating up to rated value in supplier workshop or manufacturing plant decided by the department (If Required). In case of any failure of the system (not working as per need), any type of additional payment will not be given by institute.
17. Finally, items will be accepted after satisfactory performance in our laboratory according to our requirements.
18. At least one year warranty certificate is compulsory along with quotation as well as invoice of the consignment.
19. The Director reserves the right to accept stores, which are not strictly in confirming with the specifications but otherwise, found suitable.



20. The Head of Department/Director reserves the right to stop the purchase process at any stage.
21. Bidder need to quote all the items.
22. An enquiry may send in the following address.

To,

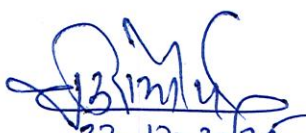
The Director,

(kind attention, Head, Department of Electrical Engineering

Sardar Vallabhbhai National Institute of Technology (SVNIT), Dumas road, Ichhchnath, Surat-395007  
(Gujarat)

Ph 0261-2201572 (office, DoEE), 8511034177

Yours faithfully,

  
22.12.2025  
(Prof. Rakesh Maurya)  
Laboratory Incharge,  
Advanced Drives Lab.,  
DoEE

  
22/12/25  
(Prof. Sabha Raj Arya)  
Laboratory Incharge, Advanced  
Drives Lab, DoEE

  
Head, DoEE



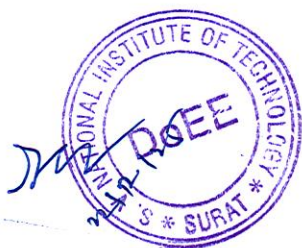
Price bid

**Enquiry for Supply of Laboratory Items**

Sr. No.	Description	Specifications	Qty.	Make and Unit cost of complete set after including all concessions for educational institute (in Rs)	Total cost of complete set (in Rs.) without taxes
1.	<b>BLDC MOTOR</b> (48V, 3000 RPM) coupled with Load Arrangement (Separately Excited DC Generator) Both Motors is horizontal foot mounted fitted on MS frame/channel base, are directly Gear/jaw type coupled and fixed with Safety guard and encoder fitting shaft extension, fan cooling, without locking, proper dc voltage during loading and etc. Diode bridge rectifier based Field Exciter unit required, installation work Warranty: at least 1Year or higher other. Necessary required details are given in attached <b>Annexure-I</b> (Detailed specification as per <b>Annexure -I</b> )	As per attached Annexure-I Specifications)	<b>01 Set</b>		
2.	<b>Switched Reluctance Motor</b> with Load arrangement (Separately Excited DC Generator) Both Motors is horizontal foot mounted fitted on MS frame/channel	As per attached Annexure-I Specifications)	<b>01 SET</b>		



	base, are directly Gear/jaw type coupled and fixed with Safety guard, scale arrangement with inductance profile, and encoder fitting shaft extension, fan cooling, without locking, proper dc voltage during loading and etc. Diode bridge rectifier based Field Exciter unit required, installation work Warranty: at least 1Year or higher. Necessary required details are given in attached <b>Annexure-I</b> (Detailed specification as per Annexure -I)				
3.	<b>Converter-</b> 4Ph -SiC Inverter with DSP C2000 Controller-5kW Supervisory controller ensures safe operation, even with faulty user code, installation with programming and simulation etc for all machines/ drives Warranty: at least 1Year or higher other necessary required details are given in attached <b>Annexure-I</b> (Detailed specification as per Annexure -I)	As per attached Annexure-I	01 SET		
4.	<b>Permanent Magnet Synchronous Motor</b> with Load arrangement (Separately Excited DC Generator) Both Motors is horizontal foot mounted fitted on MS frame/channel base, are directly Gear/jaw type coupled and fixed with Safety guard, with encoder fitting shaft extension, fan cooling, without locking, proper dc voltage during loading at armature and etc. Diode bridge rectifier based Field Exciter unit required with box etc, installation work, provide photograph etc. Warranty: at least 1Year or higher. Necessary required details are given in attached <b>Annexure</b> (Detailed specification as per Annexure -I)	As per attached Annexure-I	01 Set		
GST (in Rs.)					
Total amount including GST and others (in Rs.)					



## Annexure-I (Detailed specification)

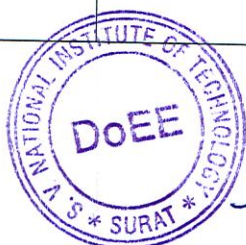
Details of required items (Special Design Motor and Converter) for academic and research work in Advanced Drives Laboratory, Department of Electrical Engineering

### TECHNICAL SPECIFICATION:

Supply of Laboratory Items as

- (1) BLDC MOTOR (48V, 3000 RPM) coupled with Load Arrangement (Separately Excited DC Generator)
- (2) Switched Reluctance Motor with Load arrangement (Separately Excited DC Generator)
- (3) Converter-4Ph-SiC Inverter with DSP C2000 Controller-5kW
- 4) Permanent Magnet Synchronous Motor (5hp) with Load arrangement (Separately Excited DC Generator)

Sr. No.	Name of Items	Required specification
01.	<b>BLDC MOTOR (48V, 3000 RPM) coupled with Load Arrangement (Separately Excited DC Generator)</b>	<p>Input Voltage (VDC) : 48  Rated Power (kW) : 1.2  Rated Torque (Nm) : 3.8  Peak Torque (Nm) : 8  Rated Current (Amp) : 25.5  Peak Current (Amp) : 53.8  Rated Speed (rpm) : 3000  Torque Constant (Nm/Amp): 0.149  Back EMF (V/krpm) : 9.94  Terminal Resistance (Ohm): 0.0501  Terminal Inductance (mH): 0.2513  Inductance (mH)  D axis : 0.1260  Q axis : 0.1254  Rotor Inertia (Kg/m2) : 6.62E-004  Efficiency (%) : 91.22 or higher  Approx. Motor Weight (Kg): 4.7 to 6kg or higher  Feedback Sensor : 3nos. of Hall sensor with 120Deg apart with very precises accuracy.</p> <p><b>SEPARATELY EXCITED DC SHUNT GENERATOR</b>  Rated Power : 2.2kW  Rated HP : 3HP  Rated Voltage Arm. : 180-220V DC  Rated Voltage Field. : 180- 220V DC  Rated Speed : 1500/3000 RPM  Insulation Class : F  IP :21  Duty : S1  Mounting : B3</p> <p>Both Motors is horizontal foot mounted fitted on MS frame/channel base, are directly Gear/jaw type coupled and fixed with Safety guard and encoder fitting shaft extension, fan cooling, without locking, proper dc voltage during loading and etc.  Diode bridge rectifier based Field Exciter unit required, installation work, provide photograph etc.  Warranty: at least 1Year or higher</p>



*Handwritten signature and date 22/11/15*

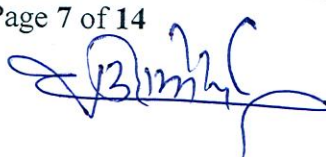
*Handwritten signature*



02.	<b>Switched Reluctance Motor with Load arrangement (Separately Excited DC Generator)</b>	<p> Rated Power : 1 kW  Rated Voltage : 48 V DC  Number of Phases : 4  Stator Slots (Poles) : 8  Rotor Poles : 6  Rated Current (approx.): 21–23 A  Rated Speed : 1500–3000 rpm (typical)  Torque (rated/max): 6.4 Nm (estimated), 12–15 Nm peak  Efficiency : 80–85% (typical for SRM) or higher  Insulation Class : Class H  Cooling : Air cooled (standard); forced air optional  Enclosure Type : IP44 or better  Shaft Diameter : ~14–19 mm (for 1 kW SRM)  Weight : 8–12 kg (approximate)  Feedback : Position encoder/Absolute encoder  </p> <p> <b>DC SEPARATELY EXCITED DC SHUNT GENERATOR</b>  Rated Power : 2.2kW  Rated HP : 3HP  Rated Voltage Arm. : 180-220V DC  Rated Voltage Field. : 180- 220V DC  Rated Speed : 1500/3000 RPM  Insulation Class : F  IP : 21  Duty : S1  Mounting : B3  </p> <p> Both Motors is horizontal foot mounted fitted on MS frame/channel base, are directly Gear/jaw type coupled and fixed with Safety guard, scale arrangement with inductance profile, and encoder fitting shaft extension, fan colling, without locking, proper dc voltage during loading and etc.  Diode bridge rectifier based Field Exciter unit required, installation work, provide photograph etc.  Warranty: at least 1Year or higher </p>
03.	<b>Converter- 4Ph -SiC Inverter with DSP C2000 Controller- 5kW</b>	<p> Input Specifications  Input Power:  3-phase, 415 V AC, 50 Hz, 4-wire system  Maximum DC Bus Voltage: 800 VDC  Rectification Stage:  SiC Diode Bridge (TO-247 package) with pre-charge circuitry  Input relay for inrush protection  DC link electrolytic capacitors for smooth bus operation  DC bus voltage monitoring with GUI readout  Inverter Stage  Power Devices: SiC MOSFET-based 3-phase bridge  Switching Frequency: Up to 100 kHz  (Supports study of inductor sizing and switching impact on motor performance) </p>

		<p>Output Power: Up to 10 kW</p> <p>Phase Current Capability:</p> <p>70 A RMS @ 25°C</p> <p>50 A RMS @ 100°C</p> <p>Measurement &amp; Sensing</p> <p>Current Sensing:</p> <p>3-phase Hall-Effect sensors for motor currents</p> <p>Supports sensorless operation</p> <p>Voltage Sensing:</p> <p>Real-time phase voltage monitoring</p> <p>Temperature Sensing:</p> <p>4-channels for device and ambient temperature monitoring</p> <p>Rotor Position Feedback Options:</p> <p>Hall Sensors</p> <p>ABI Incremental Encoder</p> <p>Sine-Cosine Encoder (Single-ended &amp; Differential)</p> <p>Gate Driver Board</p> <p>Driver IC: Infineon 1EDI3031ASXUMA1 (SiC-optimized)</p> <p>Features:</p> <p>High-speed isolated gate driving</p> <p>Built-in protection:</p> <p>Undervoltage Lockout (UVLO)</p> <p>DESAT (Desaturation protection)</p> <p>Interlocks</p> <p>Fault reporting and system interlocking</p> <p>Control Platform</p> <p>Processor:</p> <p>TI C2000 TMS320F28003x series</p> <p>Dual-Controller Architecture:</p> <p>Pre-Programmed Controller:</p> <p>Built-in tested control algorithms:</p> <p>Torque Control</p> <p>Speed Control</p> <p>Flux Weakening</p> <p>MTPA, etc.</p> <p>Algorithm selection via:</p> <p>Touch Screen HMI</p> <p>PC GUI software</p> <p>System supervision and protection</p> <p>User Controller:</p> <p>Open access for student programming</p> <p>MATLAB/Simulink compatible for rapid prototyping and interface</p> <p>Supports user-defined motor control algorithm development</p> <p>Control Flexibility:</p> <p>Switch between:</p> <p>Internal Algorithm (pre-programmed)</p> <p>External Logic (user-defined via GUI)</p> <p>Even in External mode, the internal controller handles system protection</p> <p>Monitoring &amp; GUI</p> <p>User Interfaces:</p>
--	--	---







		<p>Touch Screen Interface (stand-alone use) PC GUI Software (USB/Ethernet)</p> <p>Features:</p> <p>Real-time numerical values and waveform plots</p> <p>Monitoring of:</p> <p>Phase currents &amp; voltages</p> <p>DC Bus Voltage</p> <p>Torque &amp; speed</p> <p>Temperature trends</p> <p>Rotor position &amp; encoder signals</p> <p>Algorithm selection &amp; system status display</p> <p>Fault messages and event logs</p> <p>Educational Benefit: Enables visualization of dynamic motor behaviour and comparison of control algorithms. Enhances hands-on learning and debugging.</p> <p>Safety &amp; Protection</p> <p>Input pre-charge and relay for inrush surge protection</p> <p>Hardware interlocks for critical fault protection</p> <p>Protection Features:</p> <p>Over-voltage</p> <p>Over-current</p> <p>Over-temperature</p> <p>Supervisory controller ensures safe operation, even with faulty user code, installation with programming and simulation etc for all machines/ drives, provide photograph etc.</p> <p>Warranty: at least 1Year or higher</p>
04.	<p><b>Permanent Magnet Synchronous Motor with Load arrangement (Separately Excited DC Generator)</b></p>	<p>Input Voltage (VDC) : 380Vac</p> <p>Rated Power (kW) : 3.7kW</p> <p>Rated current(Amp) : 10A</p> <p>Rated Speed (rpm) : 3000</p> <p>Efficiency (%) : 94.4 % or Higher</p> <p>Mounting : Foot/Flange</p> <p>Protection class : IP54</p> <p>Insulation class : 155/F</p> <p>Encoder Technical Specifications: -</p> <p>Encoder : 512/1024 PPR (Good Accuracy)</p> <p>Voltage : 5 to 10V</p> <p>Channel : 3 Channel incremental A,B, Z</p> <p>SEPARATELY EXCITED DC SHUNT GENERATOR</p> <p>Rated Power : 4.4kW</p> <p>Rated HP : 6hp</p> <p>Rated Voltage Arm. : 180-220V DC</p> <p>Rated Voltage Field. : 180- 220V DC</p> <p>Rated Speed : 1500/3000 RPM</p> <p>Insulation Class : F</p> <p>IP : 21</p> <p>Duty : S1</p> <p>Mounting : B3</p> <p>Both Motors is horizontal foot mounted fitted on MS</p>

*[Handwritten signature]*

*[Handwritten signature]*



		<p>frame/channel base, are directly Gear/jaw type coupled and fixed with Safety guard, with encoder fitting shaft extension, fan colling, without locking, proper dc voltage during loading and etc.</p> <p>Diode bridge rectifier based Field Exciter unit required with box etc, installation work, provide photograph etc.</p> <p>Warranty: at least 1Year or higher</p>
--	--	---

Signature and stamp of agency

#### Terms & Conditions

1.	Percentage of GST	
2.	Delivery Period	
3.	Validity of the quotation – at least 120 days	
4.	Warranty/Guarantee- 1 Years	
5.	Name of Make and model of item	
6.	Other Terms & conditions	
7.	Bidder or supplier should attached complete details with contact Number including agency account information for payment	
8.	At the time of Delivery, provide operating manual and test report	
9.	Attached Annexure-II as a Compliance after filling	

Signature and stamp of agency

*San*  
22/12/25

*[Signature]*

## **Annexure-II** **(Compliance report)**

Details of required items (Special Design Motor and Converter) for academic and research work in Advance Electric Drives Laboratory, Department of Electrical Engineering

### **TECHNICAL SPECIFICATION:**

Supply of Laboratory Items

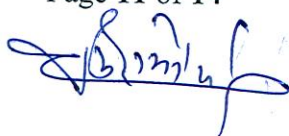
- (1) BLDC MOTOR (48V, 3000 RPM) coupled with Load Arrangement (Separately Excited DC Generator)
- (2) Switched Reluctance Motor with Load arrangement (Separately Excited DC Generator)
- (3) Converter-4Ph-SiC Inverter with DSP C2000 Controller-5kW
- (4) Permanent Magnet Synchronous Motor (5hp) with Load arrangement (Separately Excited DC Generator)

Sr. No.	Name of Items	Required specification	Compliance Yes/No
01	<b>BLDC MOTOR</b> (48V, 3000 RPM) coupled with Load Arrangement (Separately Excited DC Generator)  Make: OMAX/ LCI (LAB CONCERN INDIA) / SHARP/JE (JENCO ENTERPRISES)	<b>(a) BLDC MOTOR (48V, 3000 RPM)</b> Input Voltage (VDC) : 48  Rated Power (kW) : 1.2 Rated Torque (Nm) : 3.8 Peak Torque (Nm) : 8 Rated Current (Amp) : 25.5 Peak Current (Amp) : 53.8 Rated Speed (rpm) : 3000 Torque Constant (Nm/Amp): 0.149 Back EMF (V/krmp) : 9.94 Terminal Resistance (Ohm): 0.0501 Terminal Inductance (mH): 0.2513 Approx. Inductance (mH) D axis : 0.1260 Q axis : 0.1254 Rotor Inertia (Kg/m2) : 6.62E-004 Efficiency (%) : 91.22 or higher Approx. Motor Weight (Kg): 4.7 to 6kg or higher Feedback Sensor : 3nos. of Hall sensor with 120 Degree electrical apart with very précises accuracy. <b>Test from no-load to full load with required characteristics</b>	Yes/No
		<b>(b) Separately Excited DC Shunt Generator</b> Rated Power : 2.2kW Rated HP : 3HP Rated Voltage Arm. : 180-220V DC Rated Voltage Field. : 180- 220V DC Rated Speed : 1500/3000 RPM Insulation Class : F IP : 21	Yes/No






		Duty : S1 Mounting : B3 Both Motors is horizontal foot mounted fitted on MS frame/channel base, are directly Gear/jaw type coupled and fixed with Safety guard and encoder fitting shaft extension, fan Colling, without locking, proper dc voltage during loading at armature and etc. Diode bridge rectifier based Field Exciter unit required, installation work, provide photograph etc. Warranty: at least 1 Year or higher.	
02.	<b>Switched Reluctance Motor with Load arrangement</b> (Separately Excited DC Generator)  Make: OMAX/ LCI (LAB CONCERN INDIA) / SHARP/ JE (JENCO ENTERPRISES)	<b>(a) Switched Reluctance Motor</b> Rated Power : 1 kW Rated Voltage : 48 V DC Number of Phases : 4 Stator Slots (Poles) : 8 Rotor Poles : 6 Rated Current (approx.): 21–23 A Rated Speed : 1500–3000 rpm (typical) Torque (rated/max): 6.4 Nm (estimated), 12–15 Nm peak Efficiency : 80–85% (typical for SRM) or higher Insulation Class : Class H Cooling : Air cooled (standard); forced air optional Enclosure Type : IP44 or better Shaft Diameter : ~14–19 mm (for 1 kW SRM) Weight : 8–12 kg (approximate) Feedback : Position encoder/Absolute encoder with precise measurement (02 numbers high accuracy). <b>Test from no-load to full load with required characteristics</b>	Yes/No
		<b>(b) Separately Excited DC Shunt Generator</b> Rated Power : 2.2kW Rated HP : 3HP Rated Voltage Arm. : 180-220V DC Rated Voltage Field. : 180- 220V DC Rated Speed : 1500/3000 RPM Insulation Class : F IP : 21 Duty : S1 Mounting : B3 Both Motors is horizontal foot mounted fitted on MS frame/channel base, are directly Gear/jaw type coupled and fixed with Safety guard, scale arrangement with inductance profile, and encoder fitting shaft extension, fan cooling, without locking, proper dc voltage during loading at armature and etc. Diode bridge rectifier based Field Exciter unit required, installation work, provide	Yes/No

		<p>photograph etc.</p> <p>Warranty: at least 1Year or higher</p> <p><b>Test from no-load to full load with required characteristics</b></p>	
03.	<p><b>Converter- 4Ph -SiC</b>  <b>Inverter with DSP</b>  <b>C2000 Controller-5kW</b>  <b>Make:</b>  <b>SEMIKRON/INFENION/</b>  <b>LAB CONCERN INDIA/</b>  <b>INSTAPOWER</b></p>	<p><b>(a)Input Specifications</b></p> <p>Input Power:  3-phase, 415 V AC, 50 Hz, 4-wire system  Maximum DC Bus Voltage: 800 VDC  Rectification Stage:  SiC Diode Bridge (TO-247 package) with pre-charge circuitry  Input relay for inrush protection  DC link electrolytic capacitors for smooth bus operation  DC bus voltage monitoring with GUI readout  Inverter Stage  Power Devices: SiC MOSFET-based 3-phase bridge  Switching Frequency: Up to 100 kHz  (Supports study of inductor sizing and switching impact on motor performance)  Output Power: Up to 10 kW  Phase Current Capability:  70 A RMS @ 25°C  50 A RMS @ 100°C  Measurement &amp; Sensing  Current Sensing:  3-phase Hall-Effect sensors for motor currents  Supports sensorless operation  Voltage Sensing:  Real-time phase voltage monitoring</p>	Yes/No
		<p><b>(b)Temperature Sensing:</b>  4-channels for device and ambient temperature monitoring  Rotor Position Feedback Options:  Hall Sensors  ABI Incremental Encoder  Sine-Cosine Encoder (Single-ended &amp; Differential)  Gate Driver Board  Driver IC: Infineon 1EDI3031ASXUMA1 (SiC-optimized)  Features:  High-speed isolated gate driving  Built-in protection:  Under voltage Lockout (UVLO)  DESAT (Desaturation protection)  Interlocks  Fault reporting and system interlocking  Control Platform  <b>Test from no-load to full load with required characteristics</b></p>	Yes/No
		<p><b>(c)Processor:</b>  TI C2000 TMS320F28003x series  Dual-Controller Architecture:</p>	Yes/No



		<p>Pre-Programmed Controller:  Built-in tested control algorithms:  Torque Control  Speed Control  Flux Weakening  MTPA, etc.  Algorithm selection via:  Touch Screen HMI  PC GUI software  System supervision and protection  User Controller:  Open access for student programming  MATLAB/Simulink compatible for rapid prototyping and interface  Supports user-defined motor control algorithm development  Control Flexibility:  Switch between:  Internal Algorithm (pre-programmed)  External Logic (user-defined via GUI)  Even in External mode, the internal controller handles system protection  Monitoring &amp; GUI  User Interfaces:  Touch Screen Interface (stand-alone use)  PC GUI Software (USB/Ethernet)  Features:  Real-time numerical values and waveform plots  Monitoring of:  Phase currents &amp; voltages  DC Bus Voltage  Torque &amp; speed  Temperature trends  Rotor position &amp; encoder signals  Algorithm selection &amp; system status display  Fault messages and event logs  Educational Benefit: Enables visualization of dynamic motor behaviour and comparison of control algorithms. Enhances hands-on learning and debugging.</p>	
		<p><b>(d) Safety &amp; Protection:</b>  Input pre-charge and relay for inrush surge protection  Hardware interlocks for critical fault protection  Protection Features:  Over-voltage  Over-current  Over-temperature  Supervisory controller ensures safe operation, even with faulty user code, installation with programming and simulation etc for all machines/ drives, provide photograph etc.  Warranty: at least 1Year or higher  <b>Test from no-load to full load with required</b></p>	Yes/No

*Signature*  
24/11/18

*Signature*

		characteristics	
04	<b>Permanent Magnet Synchronous Motor with Load arrangement (Separately Excited DC Generator)</b>  Make: OMAX/ LCI (LAB CONCERN INDIA) / SHARP/ JE (JENCO ENTERPRISES)	<b>Permanent Magnet Synchronous Motor</b> (a) Input Voltage (VDC) : 380Vac  Rated Power (kW) : 3.7kW Rated current(Amp) : 10A Rated Speed (rpm) : 3000 Efficiency (%) : 94.4 % or Higher Mounting : Foot/Flange Protection class : IP54 Insulation class : 155/F <b>ENCODER TECHNICAL SPECIFICATIONS: -</b> Encoder : 1024 PPR (1024 PPR, ABZ, with incremental type, Good Accuracy and proper mounting) Voltage : 5 to 10V Channel : 3 Channel incremental A,B, Z <b>Test from no-load to full load with required characteristics</b>	Yes/No
		(b) Separately Excited DC Shunt Generator Rated Power : 4.4kW Rated HP : 6hp Rated Voltage Arm. : 180-220V DC Rated Voltage Field. : 180- 220V DC Rated Speed : 1500/3000 RPM Insulation Class : F IP : 21 Duty : S1 Mounting : B3 Both Motors is horizontal foot mounted fitted on MS frame/channel base, are directly Gear/jaw type coupled and fixed with Safety guard, with encoder fitting shaft extension, fan cooling, without locking, proper dc voltage during loading at armature and etc. Diode bridge rectifier based Field Exciter unit required with box etc, installation work, provide photograph etc. Warranty: at least 1Year or higher <b>Test from no-load to full load with required characteristics</b>	Yes/No

Make:


(1) BLDCM/ Switched Reluctance Motor/ PMSM: OMAX/ LCI (Lab Concern India) / SHARP/ JE (JENCO ENTERPRISES)

(2) Separately Excited DC Shunt Generator: OMAX Motors /Bharath Electric/ Lab Concern India

(3) Converters: SEMIKRON/INFENION/ Lab Concern India/ INSTAPOWER

Note: Provide all Compliance by writing proper answer.

Signature and stamp of agency

  
22.12.2025

  
22/12/25