

Annexure-C
Technical Specifications

Item wise Technical Specifications		
Enq. Item SL.No	Item Description and Technical Specifications	Qty (Nos)
10	<p>4 Channel Analog Input Module</p> <p>Number of analog inputs: 4 (Current or voltage differential) Rated voltage: 24 VDC permissible input voltage for voltage input: 35 V (max) permissible input current for current input: 40 mA (Max) Cycle time: 625 µs or better voltage: ±10V, ±5V, ±2.5V analog Input current: 4 to 20 mA, 0 to 20 mA Resolution: 12 bit IP degree of protection: IP20 or better Width: 45 mm ± 5% Height: 100 mm ± 5% Depth 75 mm ± 5% Weight: vendor to specify Warranty: 1 year from date of acceptance</p> <p>Note: 1. Vendor may visit BHEL works to understand the requirements, if required. 2. Detailed product catalogue to be submitted along with the offer. 3. This analog input module shall be compatible with Siemens PLC S7-1200 CPU 4. Vendor to ensure compatibility with the existing systems here. Vendor shall prove-out integration of the supplied model in case it is different from the reference model.</p> <p>Reference make and model: Siemens 6ES7231-4HD32-0XB0</p>	3
20	<p>2 Channel Analog Output Module</p> <p>Number of analog outputs: 2 (Current or voltage) Rated voltage: 24 VDC Output voltage ranges: -10 V to +10 V Output current ranges: 0 to 20 mA Load impedance with voltage outputs: vendor to specify Load impedance with current outputs: vendor to specify Resolution: max. 14 bit; Voltage: 14 bit; Current: 13 bit IP degree of protection IP20 or better Width: 45 mm ± 5% Height: 100 mm ± 5% Depth: 75 mm ± 5% Weight: approx. 180 g ± 5% Warranty: 1 year from date of acceptance</p> <p>Note: 1. Vendor may visit BHEL works to understand the requirements, if required. 2. Detailed product catalogue to be submitted along with the offer. 3. This analog output module shall be compatible with Siemens PLC S7-1200 CPU</p>	2

	<p>4. Vendor to ensure compatibility with the existing systems here. Vendor shall prove-out integration of the supplied model in case it is different from the reference model.</p> <p>Reference make and model: Siemens 6ES7232-4HB32-0XB0</p>	
30	<p>4 Channel Analog Output Module</p> <p>Number of analog outputs: 4 (Current or voltage) Rated voltage: 24 VDC Output voltage ranges:-10 V to +10 V Output current ranges: 0 to 20 mA Load impedance with voltage outputs: vendor to specify Load impedance with current outputs: vendor to specify Resolution: max. 14 bit; Voltage: 14 bit; Current: 13 bit IP degree of protection IP20 or better Width: 45 mm ± 5% Height: 100 mm ± 5% Depth: 75 mm ± 5% Weight: approx. 180 g ± 5% Warranty: 1 year from date of acceptance</p> <p>Note:</p> <ol style="list-style-type: none"> 1. Vendor may visit BHEL works to understand the requirements, if required. 2. Detailed product catalogue to be submitted along with the offer. 3. This analog output module shall be compatible with Siemens PLC S7-1200 CPU 4. Vendor to ensure compatibility with the existing systems here. Vendor shall prove-out integration of the supplied model in case it is different from the reference model. <p>Reference make and model: Siemens 6ES7232-4HD32-0XB0</p>	1
40	<p>Comfort Panel with Key Operation</p> <p>Design of display: TFT Screen diagonal: 4.3 in Display width: 95mm ± 5% Display height: 53.8mm ± 5% Number of colors: 16 million colors or better Horizontal image resolution 480 or better Vertical image resolution 272 or better MTBF backlighting (at 25 °C) 800000 hours or better Number of function keys: 8 Numeric, alphanumeric keyboards with key with led and system keys Power consumption: less than 10W Processor type: vendor to specify Flash and RAM Required USB interface Required Supply voltage: 24 V DC Input current: 130mA ± 5% Interface: RS422 together with RS 485, Industrial Ethernet Protocol: Profibus Interface EMC: Limit class A, for use in industrial areas Degree of protection: IP65 for front panel and IP20 for rear or better</p>	2

	<p>Width of the housing front: 152mm ± 5% Height of housing front: 188mm ± 5% Mounting cutout, width: 135mm ± 5% Mounting cutout, height: 171mm ± 5% Device depth: 49mm ± 5% Weight: less than 800 grams ± 5% Warranty: 1 year from date of acceptance</p> <p>Note: 1. Vendor may visit BHEL works to understand the requirements, if required. 2. Detailed product catalogue to be submitted along with the offer. 3. This HMI shall be compatible with Siemens PLC S7-1200, S7-300 CPU & S7-200 CPU 4. Vendor to ensure compatibility with the existing systems here. Vendor shall prove-out integration of the supplied model in case it is different from the reference model.</p> <p>Reference make and model: Siemens 6AV2124-1DC01-0AX0</p>	
50	<p>Synchronous Servo Motor</p> <p>Rated Stall Torque: 6.0 Nm or better Rated Torqued: 4.7 Nm or better Rated Speed:3000 rpm, Rated Power: 1.48 kW ± 5% Rated Current: 3.7A ± 5% pole Pair number:4 Rotor moment of interia: vendor to specify BASIC ABSOLUTE ENCODER 32 P/REV (ENCODER A-32) WITH DRIVE-CLIQ INTERFACE naturally cooling power/signal connector plug rotatable by 270° SHAFT WITH FITTED KEY W/O HOLDING BRAKE Bearings: Permanently lubricated deep-groove ball bearing DEGREE OF PROTECTION: IP64 or better Weight: 8 kg ± 5% Warranty: 1 year from date of acceptance</p> <p>Note: 1. Vendor may visit BHEL works to understand the requirements, if required. 2. Detailed product catalogue to be submitted along with the offer. 3. This servo motor shall be compatible with Siemens SINAMICS S120 Control Unit CU310 DP and SINAMICS Control Unit CU320 4. Vendor to ensure compatibility with the existing systems here. Vendor shall prove-out integration of the supplied model in case it is different from the reference model.</p> <p>Reference make and model: Siemens 1FK7060-5AF71-1KA0</p>	1