

PWM isolation

- 4 Number of IGBT with Heat sink provided as power circuit
- 2 Hall Effect current sensors provided for output current & DC current measurement & protection.
- Op-amp signal conditioner circuit provided for current sensors & output terminated in front panel for current wave measurement.
- One number of LED provided to indicate TRIP Status
- One number of Reset Switch provided to reset the Trip Function
- One number of MCB provided at the input of Inverter for over current protection.
- One analog DC voltmeter to indicate the DC-link voltage.
- 10 Numbers of test points provided in control section for wave form measurement in CRO

Resistive Load – 100W Max.

  
Asst. Professor

  
25/05/2022  
HOD / EEE

**FORM A**

**Name : Hybrid Wind Solar Module**

S. No	Technical Specification of the Equipments	RESPONSE
	<b>Hybrid Wind Solar Module</b> <b>24Watts PMSG based Micro wind+Solar Generation Trainer</b>	
1	<b>24W Wind Turbine with Blower setup</b> A Blower and a 200Watts, peak, 24W continuous Wind Turbine are mounted on a Mechanical Frame for Simulating Wind Power Generation for laboratory use. <ul style="list-style-type: none"> <li>✓ Performance Parameter               <ul style="list-style-type: none"> <li>• Rated Electrical Power : 24W@8.2m/s</li> <li>• Rated Wind Speed :12m/s</li> <li>• Cut-in : 3.5m/s</li> <li>• Start-up Wind :2.5m/s</li> </ul> </li> <li>✓ Generator               <ul style="list-style-type: none"> <li>• Type : PMSG</li> <li>• Voltage (V) :3Phase/24VAC</li> <li>• Watts @ Rated wind speed :24 Watts</li> </ul> </li> </ul>	YES / NO
2	<b>Solar Panel: (20+20) W solar panel – 1 No</b>	YES / NO
3	<b>100 W Hybrid DC-DC Buck-Boost Converter</b> <ul style="list-style-type: none"> <li>• 3 Phase full wave uncontrolled rectifier provided for current AC to DC from wind mill</li> <li>• Microcontroller based Buck-Boost with MPPT algorithm</li> <li>• Switching device IGBT</li> <li>• dv/dt protection is available for IGBT (Snubber circuit)</li> <li>• Input – I (Wind)               <ul style="list-style-type: none"> <li>▪ I/P voltage range 12VDC - 24VDC</li> <li>▪ O/P voltage range 24VDC</li> </ul> </li> <li>• Input – II (Solar)               <ul style="list-style-type: none"> <li>• I/P Voltage Range 12VDC - 30VDC</li> <li>• O/P Voltage Range 24VDC</li> </ul> </li> <li>• All the I/P &amp; O/P are sensed through isolated sensors</li> <li>• Proper termination provided for input and output with MCB protection.</li> <li>• 4 keys provided to select the type of control program</li> <li>• 20x4 LCD displays all the I/P / O/P data</li> <li>• Over current, Over voltage &amp; temperature protection.</li> <li>• 34pin FRC &amp; 26 pin FRC provided for external controller interface.</li> <li>• One RS232 port provided to interface with PC</li> </ul>	YES / NO
4	<b>Battery : 24V/26AH, Maintenance free</b>	YES / NO

5	<p><b>100W, 1Φ, 2 Level Inverter</b></p> <ul style="list-style-type: none"> <li>● I/P Voltage : 48V DC</li> <li>● O/P Voltage: 230V AC / 0.5A (max)</li> <li>● Sine wave output with LC Filter</li> <li>● 34 pin FRC &amp; 26 pin FRC provided for controller interface</li> <li>● 4 Numbers of High speed Opto - isolator provided for PWM isolation</li> <li>● 4 Number of IGBT with Heat sink provided as power circuit</li> <li>● 2 Hall Effect current sensors provided for output current &amp; DC current measurement &amp; protection.</li> <li>● Op-amp signal conditioner circuit provided for current sensors &amp; output terminated in front panel for current wave measurement.</li> <li>● One number of LED provided to indicate TRIP Status</li> <li>● One number of Reset Switch provided to reset the Trip Function</li> <li>● One number of MCB provided at the input of Inverter for over current protection.</li> <li>● One analog DC voltmeter to indicate the DC-link voltage.</li> <li>● 10 Numbers of test points provided in control section for wave form measurement in CRO</li> </ul> <p>Resistive Load – 100W Max.</p>	YES / NO
6	<b>Name of The Bidder/Company</b>	
7	<b>Proof of Address within Tamilnadu</b>	
8	<b>Phone No</b>	
9	<b>Signature with Company Seal &amp; Date</b>	