



Himalayan Solar

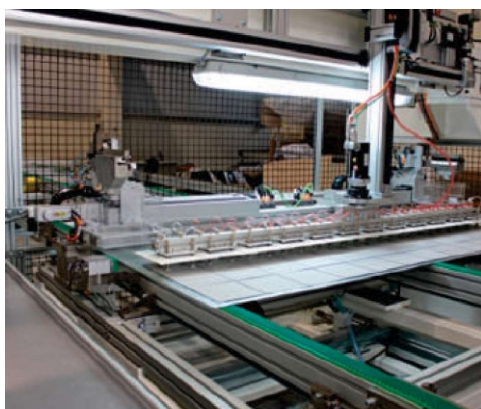
Power Solution for a **Shining Future**



MANUFACTURER OF Solar PV Module and Other Solar Products

HimSol-72/60/48/36





WORLD CLASS MANUFACTURING FACILITY

- ✦ Ultra-modern, fully automatic, State-of-the-art, advanced robotics, world class Tier 1 European Solar PV module manufacturing facility of 100 MW per annum installed capacity.
- ✦ Solar modules in the range of 10Wp to 650Wp using world's best premier quality raw materials
- ✦ Solar Modules are BIS certified for IS 14286/IEC61215, IS/IEC61730 (PART-1 & 2) From NABL/MNRE Approved Laboratory and PID Certified (IECTS62804-1:2015-08) from TUV Rheinland (India) Private Limited
- ✦ Automatic Line includes Stringer, Auto Lay Up Gantry, EL Detector, laminator, Trimming Machine, Framing machine, Hi Pot Tester, AAA+ Sun Simulator etc. from Mondragon Assembly, Spain
- ✦ In-Process Quality Assurance using inline electroluminescence (EL) Test, hot-spot Test, Low irradiance Test, Dry Hipot Test, Wet Leakage Current Test, Bypass Diode Thermal Test, STC & NOCT Performance Test etc.



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Technical Specifications



Electrical characteristics (STC) WP	No of cell	Cell wattage (wp)	Short Circuit Current (Isc) A	Operating voltage (Vmp) V	Operating current (Imp) A	Open Circuit voltage (Voc) V	Module efficiency %	Maximum series fuse rating	Power Tolerance (+)
330	72	4.67	8.99	39.384	8.54	46.44	17.30	30	5
325	72	4.57	8.92	38.952	8.45	46.08	16.94	30	5
320	72	4.52	8.89	38.736	8.4	45.936	16.78	30	5
315	72	4.47	8.85	38.52	8.36	45.72	16.57	30	5
310	72	4.42	8.81	38.304	8.31	45.504	16.41	30	5
275	60	4.67	8.99	32.82	8.54	38.7	17.22	20	5
270	60	4.57	8.92	32.46	8.45	38.4	16.84	20	5
265	60	4.52	8.89	32.28	8.4	38.28	16.66	20	5
260	60	4.42	8.81	31.92	8.31	37.92	16.28	20	5
250	60	4.42	8.81	31.92	8.31	37.92	16.28	20	5
220	48	4.67	8.99	26.256	8.54	30.96	17.01	20	5
210	48	4.47	8.85	25.68	8.36	30.48	16.32	20	5
200	48	4.42	8.81	25.536	8.31	30.336	16.17	20	5
160	36	4.52	8.89	19.368	8.4	22.968	16.28	20	5
150	36	4.42	8.81	19.152	8.31	22.752	15.87	20	5
125	36	4.42	7.025	19.152	6.62	22.752	15.45	20	5
100	36	4.42	5.84	19.152	5.51	22.752	15.55	20	5

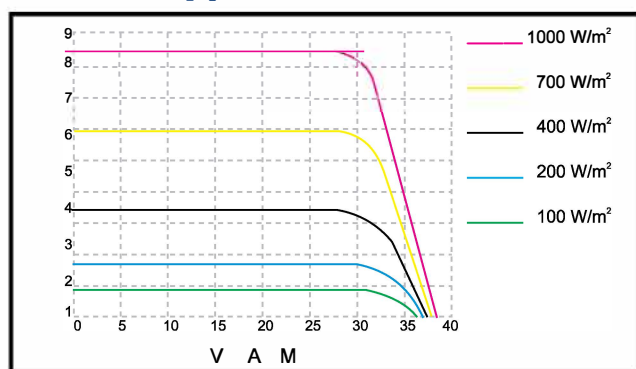
Operating Temperature: minus '40 to plus '80

Maximum system voltage: 1000v DC

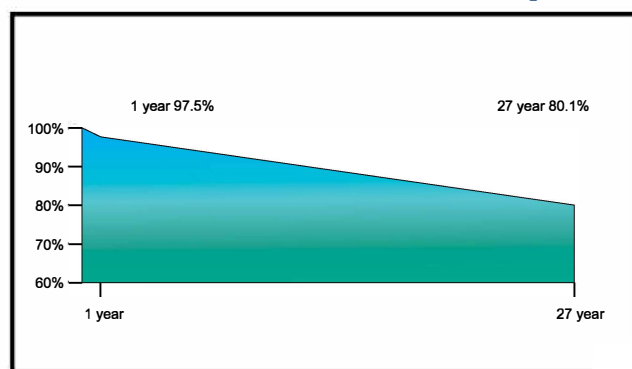
Under Standard Test Condition (STC) of irradiance of 1000 w/m², spectrum AM 1.5 and cell temperature of 25'c

Cell type: Polycrystalline

Typical IV Curve



Performance Warranty



Warranty

- 10 years for product defects in materials and workmanship
- 27 years linear power output warranty: 10 years at 90% of the minimal rated power output, 27 years at 80% of the minimal rated power output

Applications

- On-grid large scale utility systems
- On-grid rooftop residential and commercial systems
- Off-grid residential systems



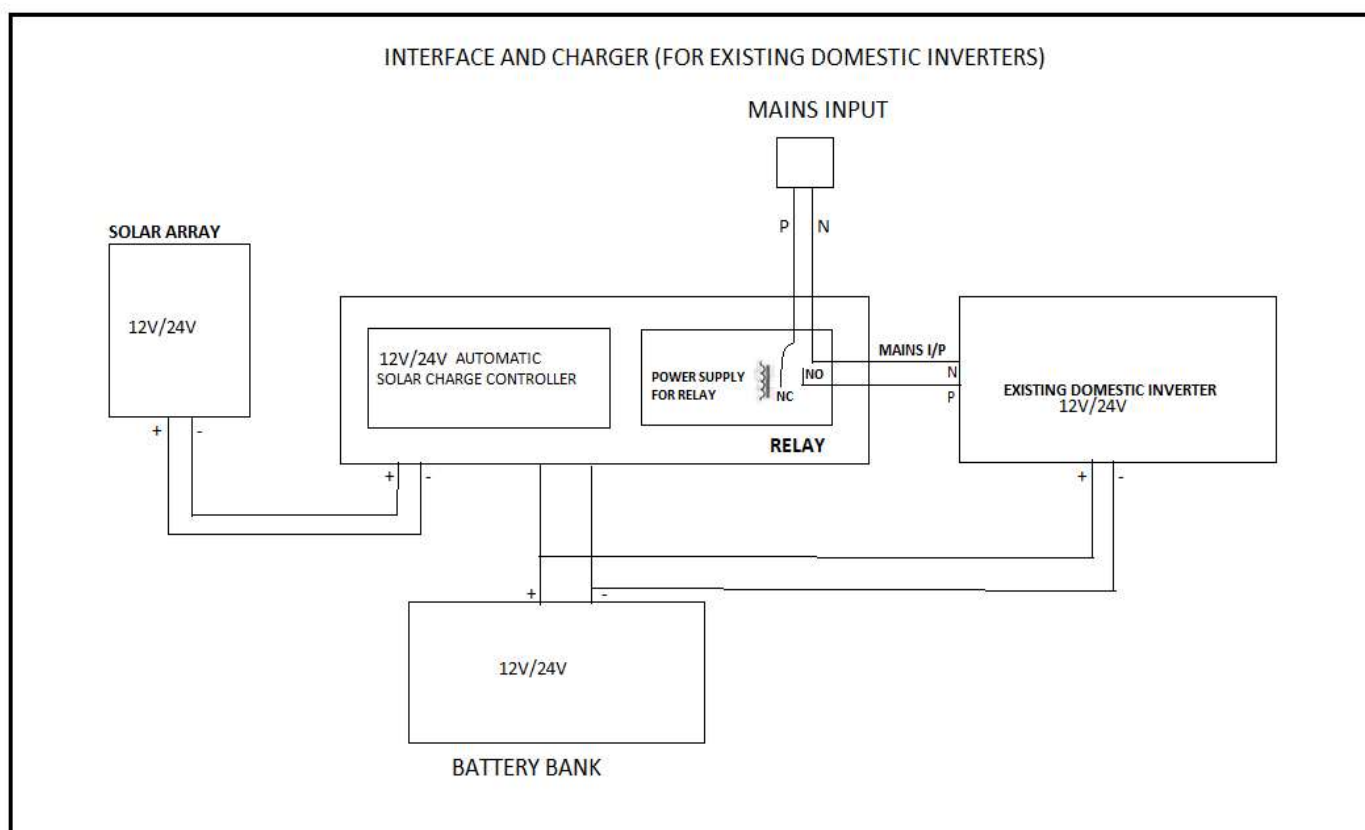
TECHNICAL SPECIFICATION OF INTERFACE SOLAR CHARGE CONTROLLER

Description	Technical Specification Interface Charge Controller
Solar PV Module	(160Watt)The open circuit voltage of the PV modules under STC should be at least 21.0 Volts for 12 Volt panel
Solar PV Module	(320Watt)The open circuit voltage of the PV modules under STC should be at least 42 Volt for nominal 24 Volt panel.
SMU (Charge Controller)	<p>The systems of 320 Watt shall be for the existing inverters on 12V solar array and having single battery of 12VDC.</p> <p>The system of 640 Watt will be for the existing inverters on 24V solar array and having double batteries to form 24VDC battery bank.</p> <p>Type-The controller should be PWM type.</p> <p>Current Rating 320W-It should be rated at least 20Amp. for 12V system with 320 watt solar panels.</p> <p>Current Rating 640W-It should be rated at least 40 Amp. for 24V system with 640 watt solar panels.</p> <p>Operation-</p> <p>1. In Morning condition-</p> <ul style="list-style-type: none"> · When Solar of low intensity is available and Grid is on and the battery is fully charged- Under such condition, the system should work on solar only, when solar current output reaches to 2.0 – 2.5 Amp in case of 320 watt /640Watt solar inverter charger. · The grid should be automatically on/off from existing inverter to support the load from battery and solar panels. When battery voltage falls below preset level and solar is available sufficiently then priority should be from solar side. <p>2. In Day time condition-</p> <p>The system should be designed to give priority to solar power and use grid power only when solar power is insufficient to charge the batteries and battery charge is insufficient to meet the load requirement. When batteries are fully charged during day time, the interface unit shall automatically cut off AC grid power from the system and load should run through the inverter(using stored battery charge).</p> <p>3. In evening condition-</p> <p>When solar power drops to 2.5-2.0 Amp in case of 320/640Watt solar inverter chargers, the systems should be shift to Grid and becomes normal domestic inverters during night time</p> <p>Indicator- The controller should have LCD display to indicate showing of solar charging and AC charging and mains on.</p> <p>Protection- Fuses should be provided to protect against short circuit conditions.</p> <p>To prevent reverse flow of current- Blocking diodes should be provided as part of the electronics, to prevent reverse flow of current through the PV module(s)</p>

LINE DIAGRAM OF SYSTEM

प्रणाली का रेखा चित्र

- The systems of 320 Watt shall be for the existing inverters on 12V solar array and having single battery of 12VDC and the system of 640 Watt will be for the existing inverters on 24V solar array and having double batteries to form 24VDC battery bank. For example, the block diagram of 320 watt solar inverter chargers is given as under:-
- 320 वाट की प्रणाली 12V सौर सरणी पर मौजूदा इन्वर्टर के लिए होगी और 12 वीडिसी की एकल बैटरी होगी और 640 वाट की प्रणाली 24V सौर सरणी पर मौजूदा इन्वर्टर के लिए होगी और 24VDC बैटरी बैंक बनाने के लिए डबल बैटरी होगी। उदाहरण के लिए, 320 वाट सौर इन्वर्टर चार्जर के ब्लॉक आरेख को निम्नानुसार दिया गया है: -





INSTALLATION AND COMMISSIONING GUIDELINES

- सोलर पैनल को सूर्य की दिशा में दक्षिण की तरफ (20 - 28) की स्थिति में छाया मुक्त क्षेत्र में रखें ।
- पैनल को जोड़ने के लिए 10 मीटर 2.5 वर्ग व्यास के दोहरे कोर के तांबे तीन केबल का प्रयोग करें ।
- सोलर पैनल की स्थापना ठोस संरचना /मंच (लोहे व सीमेंट के साथ) पर की जानी चाहिए ।

GENERAL GUIDELINES

- कृपया धूल व गंदगी को साफ पानी या गीले कपड़े से जल्दी सुबह या देर शाम को साफ करें, डिटरजेंट/साबुन का प्रयोग न करें , धातु /ठोस वस्तु का प्रयोग न करें।
- सोलर पैनल की केबल को मजबूती से न खींचें । जिसके कारन जोड़ ढीले न हो ।
- सिस्टम को खोलकर बांधने की कोशिश न करें ।

WARRANTY POLICY-वारंटी पालिसी

Sr. No.	System Components	Specification	Certification BIS/IEC	System Warranty
1	Solar PV Module	160W/320W	IS-14286/ IEC 61215, IS /IEC 61730-1 & IS/IEC 61730-2	25 years As per MNRE (GOI) Specification (Performance warranty output should not be less than 90% at the end of 10 years and 80% at the end of 25 years).
2	SMU/Solar Charge Controller	12v-20Amp 24v-40Amp	Test Report from NABL Accredited Lab	5 Years
3	Structure	Rail Type Galvanized Iron with Minimum 80Micron Anodized Structure with Dimensions 40*40*40*2MM		5 Years
4	Solar Cable	PVC Insulated cables, UV resistant DC Wire 4Sqmm	EN 50618	30 Years

- वारंटी शून्य हो जायेगे यदि दोष टूटने, पैनल के छाया में होने, गलत वायरिंग, इकाई से छेड़छाड़, गलत प्रयोग व गलत स्थापना के कारण है।

SOLAR MODULE MANUFACTURER

OUR COMMITMENTS

QUALITY PRODUCTS & SOLUTIONS

TIMELY DELIVERY

COST EFFECTIVENESS

TOTAL CUSTOMER SATISFACTION



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