



Powering a new dawn
IN SOLAR ENERGY

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COMPANY PROFILE

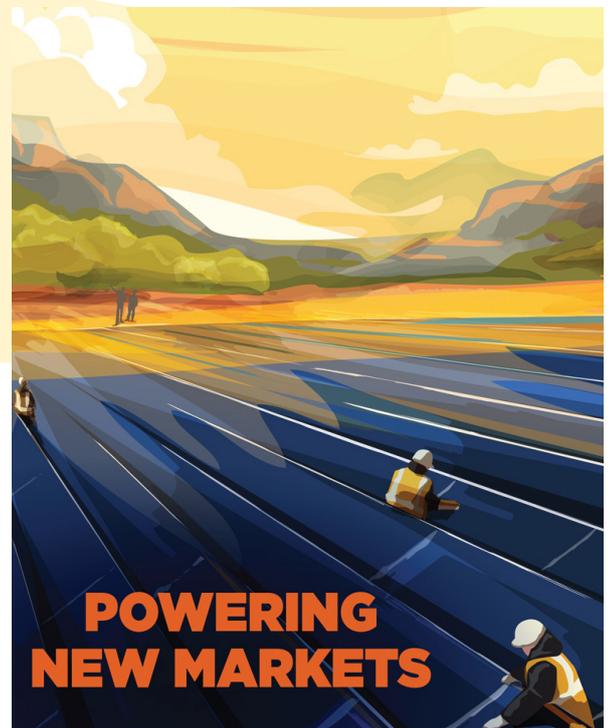
Birkan Solar works with you every step of the way.

Established in the year 2000, Birkan Engineering Industries Pvt. Ltd. Is offering a wide range of glass product at an appealing price. The company serves in various sectors such as corporate, retail, government sector. Each of the glass products offered by the company goes the under quality check ensuring to deliver a refined and distinct items matching up to the international standards. The range of the product we offered were toughened safety glass, Laminated safety glass, Sliver/ Aluminum Mirror, UPVC Window, Sealed window glass, Heat strengthened glass & various other glasses.

The high quality and timely delivery of the items have led to building a strong customer base for the company in India as well as in abroad. Professional approach and quality assurance given by Birkan Engineering Industries Pvt. Ltd. have made us one of the most prominent names in the glass manufacturing industries. To keep up with the latest trend and fashion, our professional team of the company always looks out for fresh designs and ideas. Besides this, we also have a team of technicians, marketing and sales executives, engineers, procuring agents, quality controllers and skilled workers that help them manufacture and deliver premium quality glass products to our customers. The company boasts to have worked for Indian Railways and DMRC. The company ensures optimum satisfaction of their customers through the best use of technology.

Since 2013-2014 we had started dealing in solar glasses. We have been closely associated with the leading solar energy companies for many years. Our comprehensive range of solar glass products and coated glass products have been designed and optimized to suit the challenging requirements associated with each of the solar technologies.

Glass is a durable, highly transparent material ,making it an obvious choice for solar energy applications. Our extra clear solar glass offers superior solar energy transmittance and is stable under solar radiation. It also survives harsh environmental conditions and protects the sensitive components of solar modules from water and humidity ingress. Available with



COMPANY PROFILE

added functionalities, such as transparent conductive coatings or anti-reflective coatings, our solar glass products not only offer durable, transparent protection to solar panels, but also become a functional component of solar modules.



Recent revision of target for raising the solar power capacity in the country to 100 Giga watt by 2021-22, in place of 22 Giga watt set earlier would place India ahead of rest of the world, with 9% share of solar power in the total power generation, from a current level of

.5%. Currently, Germany has a highest Capacity of 35GW of solar power ; Italy has the highest share of 7.2% into total generation. A fold rise in solar power capacity in India from the current 3.3 Giga watt to 100 Giga Watt in 7 years would set another world record.

We proudly announce our start in the area of solar energy production through solar panels. We have a sole aim to procure the best available quality raw materials available in the industry to procedure the most immaculate PV panels available in the Indian market.

We are looking to build our reputation by supplying the best quality of certified panels for the solar industry at the most competitive prices to become a leader in the industry for the residential, commercial & Power generating companies.

Birkan Engineering Industries Pvt. Ltd. operates in three distinct segments – manufacturing of solar modules, EPC services for solar power projects and creating innovative solar products. We are working relentlessly to provide access to energy especially in the remote, off-grid parts of India.

File No. : 5/22/2013-14/RT(Part)
Government of India
Ministry of New and Renewable Energy
Grid Connected Rooftop Division

Empanelment No. : MNRE/CP/GCRT/B/3852
Date : 15-05-2017

To

BIRKAN ENGINEERING INDUSTRIES PRIVATE LIMITED
S-4, & 6 , SITE IV, INDUSTRIAL AREA,
SAHIBABAD, GHAZIABAD . 201010
Ghaziabad
UTTAR PRADESH

Sub : Empanelment as Channel partner for Grid Connected Rooftop and Small Solar Power Plants Programme of Ministry of New and Renewable Energy.

Sir/Madam,

With reference to your online application and rating report by SME Rating Agency of India Ltd. (SMERA) for your Company/firm, it is to inform you that Ministry has accepted the Rating Report and empanelled your Company as Channel Partner for Grid Connected Rooftop and Small Solar Power Plants Programme.

2. The validity period of empanelment of your company as Channel Partner is One Year from the date of issue of this letter.
3. Channel Partner code of your company is MNRE/CP/GCRT/B/3852
4. Being a Channel Partner you have to install systems with standards/specifications specified for the programme with or without subsidy. In case any sub-standard components are installed and systems are not functioning as per the requirement of the programme, the Ministry will withdraw empanelment with immediate effect by giving advance notice to the Company.
5. As Channel Partner, your company/firm is entitled to work in any state(s) of your choice. However, your company should have an office/service centre in any part of that state(s) with all tax/registrations according to that State Government and billing must be from the office of the concerned state.
6. All the systems to be installed as channel partner must be with 5 years warranty and comprehensive maintenance contract which is mandatory.
7. Ministry also anticipates that, as channel partner, your company will create

awareness and educate beneficiaries about the programme. The beneficiaries must not be misguided for subsidy claims and low quality products.

8. Government of India's logo and/or name of the Ministry is not allowed to be used in any of your company's letter heads/ any other communications for taking undue advantage of empanellment.

9. This empanelment is purely on temporary basis and only to participate in promoting the Grid Connected Rooftop and Small Solar Power Plants programme. This empanelment does not impart the right to participate in any tender and the company must follow all the conditions laid upon by the tendering authority.

10. Renewal of channel partnership for another 1 year is based on the activity/progress reports that have to be submitted to the Ministry on monthly basis through online portal - SPIN (<http://www.solarrooftop.gov.in>)

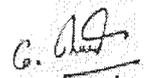
11. Ministry has no role in the agreement between user and company, any legal matter raised will be responsibility of channel partner only. The beneficiaries/organisations are also advised to verify all the procedures/claims before engaging with the company. MNRE shall not be held responsible for any disputes arising from the activities of the company.

12. Any complaint received from the beneficiary against the company regarding non-functioning of system (with or without subsidy) or any fraudulent activity performed by the company, will be posted on Ministry's website till the time the problem gets resolved.

13. In case of any changes in the credentials of the company, the company shall submit authenticated documents to the tendering authority and new/modified certificate would not be issued in any case.

14. This letter is valid only when the agency is live in the online portal of the Ministry (<http://www.solarrooftop.gov.in>)

Yours faithfully,

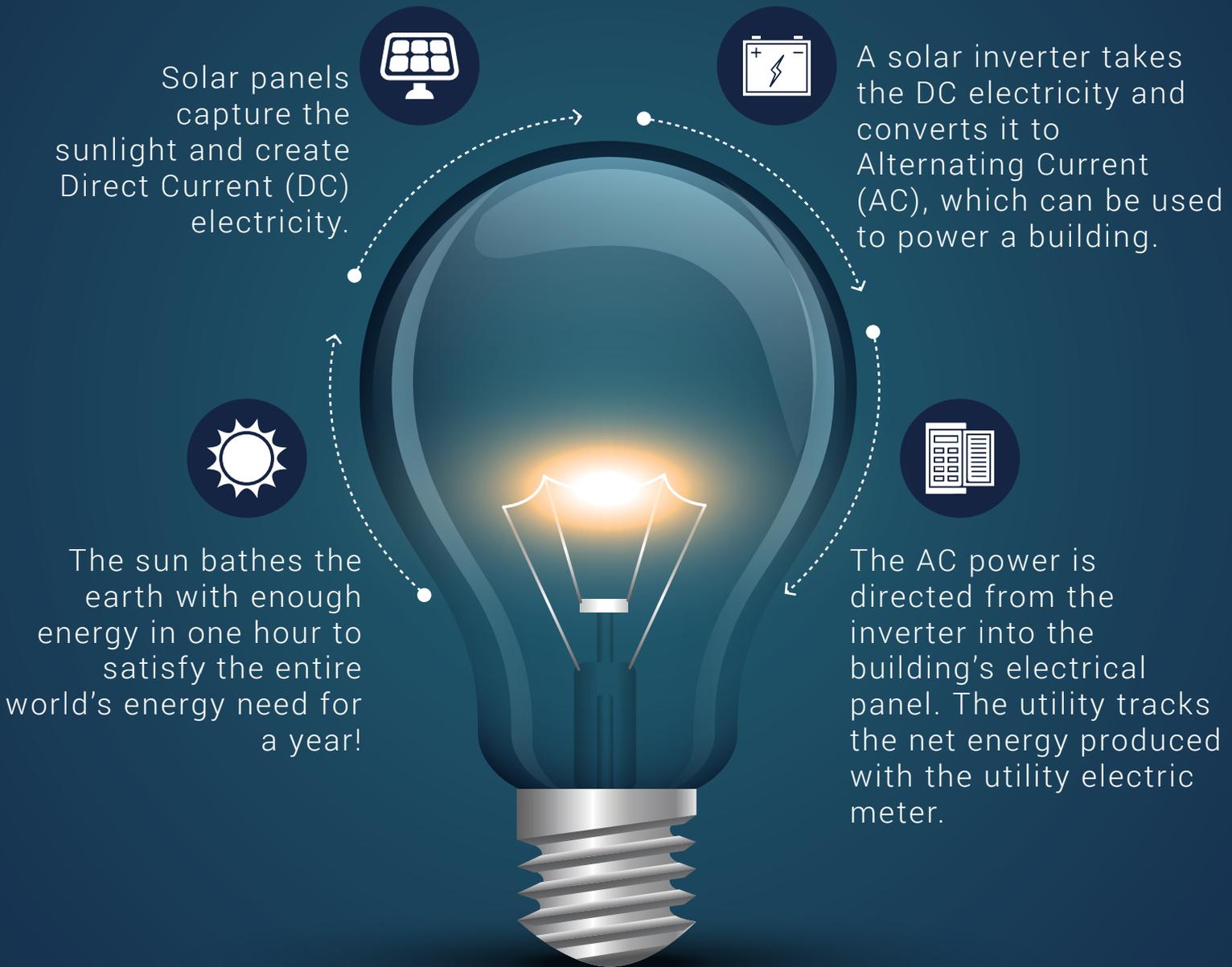


Dr. G. Prasad
Senior Director
Authorized Signatory



SCAN QR Code
Please verify the authenticity from www.solarrooftop.gov.in > List of Empanelled Agencies

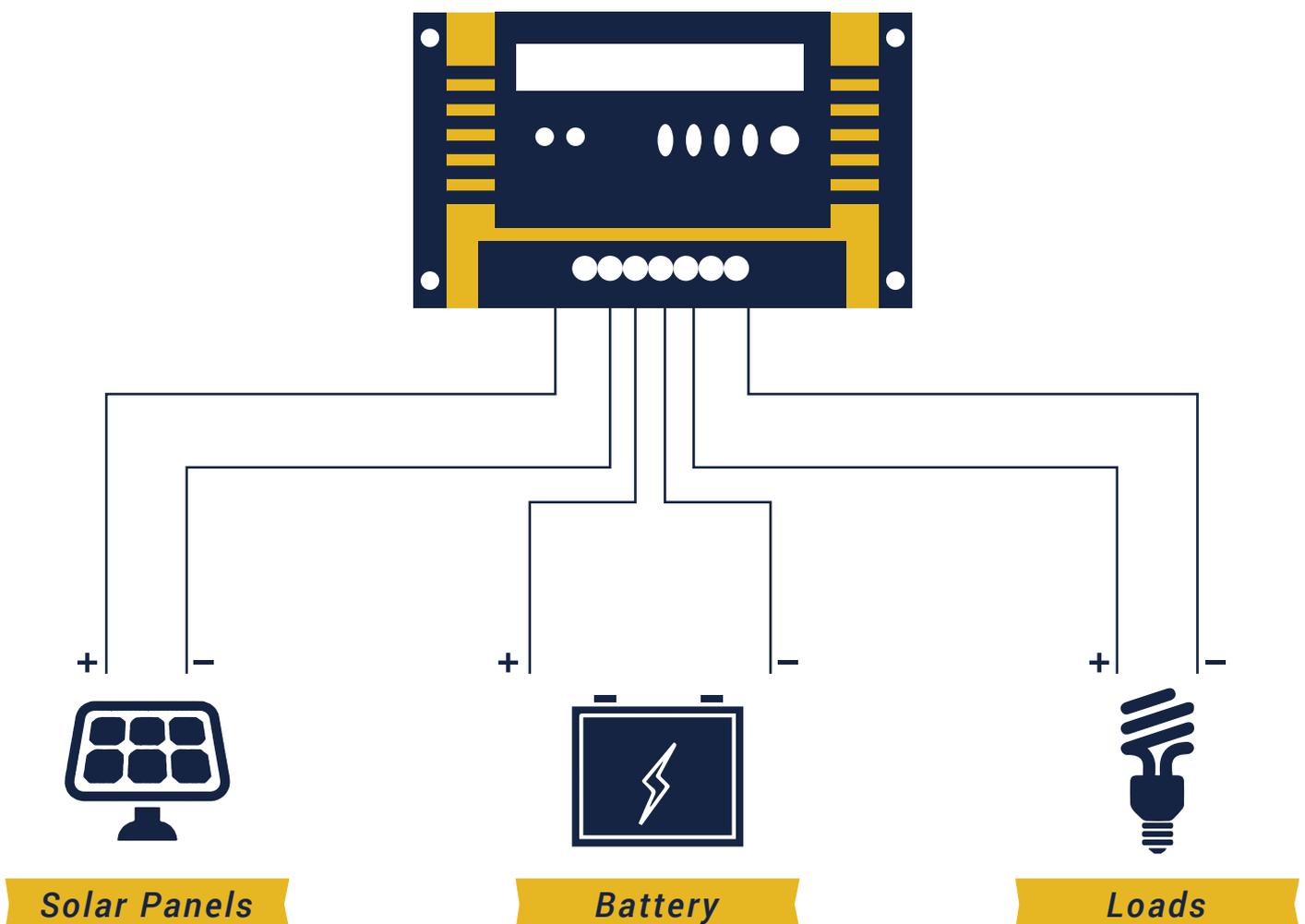
HOW SOLAR WORKS



CHARGE CONTROLLER

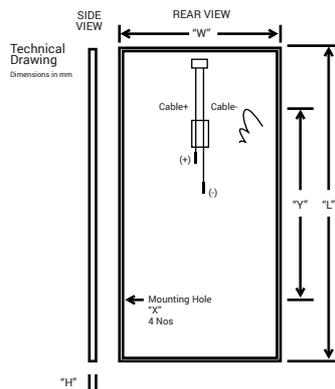
Solar charge controller or charge regulator is an essential requirement for a solar energy system. Output from a 100W 12 V solar panel is not always 12 V throughout the day. It varies from minimum 12 Volts to Maximum 18 Volt as per the sunlight. Means 100 Watt Solar panels is designed to cater 100Watt power at an average. A solar charge controller couples the solar panels with battery by regulating the fluctuating output from solar panels. A good charge controller prevent under and over charging of connected batteries. It prevents the reverse current flow from battery to panels under poor sunlight conditions and night. Additionally charge controllers give protection against battery and panel reverse polarity.

CHARGE CONTROLLER



TECHNICAL SPECIFICATIONS FOR SOLAR PANEL

Model	BS10	BS20	BS30	BS40	BS50	BS70	BS75	BS80	BS100	BS140	BS150	BS240	BS250	BS280	BS290	BS300
Electrical Parameters as STC																
Nominal Power Output (W)	10	20	30	40	50	70	75	80	100	140	150	240	250	280	290	300
Power Tolerance (W)	+2	+2	+2	+5	+5	+5	+5	+5	+5	+5	+5	+5	+5	+5	+5	+5
Module Efficiency (%)	10.00	12.00	8.85	12.00	13.53	13.26	14.20	13.85	14.64	14.33	15.36	14.69	15.30	14.39	14.91	15.42
Voltage at Pmax Vmpp (V)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	29	29	35	35	35
Current at Pmax Vmpp (A)	0.57	1.14	1.71	2.29	2.86	4.00	4.29	4.57	5.71	8.00	8.57	8.28	8.28	8.00	8.29	8.57
Open Circuit Voltage Voc (V)	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	36	36	45	45	45
Short Circuit Current Isc (A)	0.60	1.20	1.80	2.41	3.01	4.21	4.51	4.81	6.02	8.42	9.02	8.71	9.07	8.42	8.72	9.02
Electrical Parameters at NOCT																
power Output Pmax (W)	7.2	14.4	21.6	28.8	36	50.4	54	57.6	72	100.8	108	172.8	180	201.6	208.8	216
Voltage at Pmax Vmpp (V)	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	25.52	25.52	30.8	30.8	30.8
Current at Pmax Vmpp (A)	0.47	0.94	1.41	1.87	2.34	3.28	3.51	3.75	4.69	6.56	7.03	6.79	7.07	6.56	6.79	7.03
Open Circuit Voltage Voc (V)	19.01	19.01	19.01	19.01	19.01	19.01	19.01	19.01	19.01	19.01	19.01	31.68	31.68	39.60	39.60	39.60
Short Circuit Current Isc (A)	0.50	1.00	1.50	2.00	2.50	3.49	3.74	3.99	4.99	6.99	7.49	7.23	7.53	6.99	7.24	7.49
Thermal Characteristics																
NOCT (°C)	47+2															
Temperature Coefficient of Pmax (% / °C)	-0.4383															
Temperature Coefficient of Voc (% / °C)	-0.3305															
Temperature Coefficient of Isc (% / °C)	-0.0638															
Operating Conditions																
Max. system voltage (V)	600	600	600	750	750	750	750	750	1000	1000	1000	1000	1000	1000	1000	1000
Max. series fuse rating (A)	0.90	1.80	2.71	3.61	4.51	6.32	6.77	7.22	9.02	12.63	13.53	13.07	13.61	12.63	13.08	13.53
Operating temperature range (°C)	(-) 40 to (+) 85															
General Characteristics																
Dimensions (L/W/H) (mm)	340x295x25	490x340x25	515x660x35		560x660x35	800x660x35		875x660x35	1035x660x35	1480x660x35		1650x990x42		1965x990x42		
Mounting Hole ("X") (mm)			14,340	14,340	14,340	14,510	14,510	14,510	14,800	14,800	141,000	141,000	141,000	141,000	141,000	141,000
Hole to Hole Distance ("Y") (mm)			340	340	340	510	510	510	800	800	1000	1000	1000	1000	1000	1000
Weight (approx) (Kg)	1.25	1.75	4.2	4.2	4.6	4.6	6.0	6.8	7.5	12.2	12.2	18.2	18.2	25	25	25
No. of cells & size	36,156 mm	36,156 mm	36,156 mm	36,156 mm	36,156 mm	36,156 mm	36,156 mm	36,156 mm	36,156 mm	36,156 mm	36,156 mm	60,156 mm	60,156 mm	72,156 mm	72,156 mm	72,156 mm
Cell Matrix	9 x 4	9 x 4	9 x 4	9 x 4	9 x 4	9 x 4	9 x 4	9 x 4	9 x 4	9 x 4	9 x 4	10 x 6	10 x 6	12 x 6	12 x 6	12 x 6
Frame Material	Anodized Aluminium															
Glass	3.2 mm															
Junction Box								IP65 rated	IP65 rated	IP65 rated	IP65 rated	IP65 rated	IP65 rated	IP65 rated	IP65 rated	IP65 rated
Cable Connector										MC4	MC4	MC4	MC4	MC4	MC4	MC4





SOLAR ENERGY A BRIGHT IDEA



Certificate of Empanelment as channel partner awarded by Govt. of India, Ministry of New & Renewable Energy under Grid connected Rooftop & Small Solar Power Plants Programme.

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