

# INTRODUCTION

Polycab is the country's largest manufacturer of wires and cables, manufacturing around 3.9 million kilometers of cables every year. Underpinning our leadership position are our solid business fundamentals, which include multi-location manufacturing with a high degree of backward integration, a comprehensive product portfolio, strong brand positioning, robust distribution network, and experienced management. Polycab's widest range of wires & cables helps the company bond with millions of satisfied customers, riding on key differentiators like product innovation, superior quality and ready availability. Our clientele includes market leaders in sectors like utilities, power generation, transmission and distribution, petroleum and oil refineries, original equipment manufacturers, EPC contractors, steel, metal, cement, chemicals, atomic energy, railways, and nuclear power industries amongst others.

Apart from a stellar lineup of wires and cables, we have made inroads into the highly competitive FMEG market, with products like fans, LED lighting and luminaires, switches and switchgears, home appliances, solar products and conduits and accessories. Polycab's corporate advantage includes its extensive base of expertise, proven technological capabilities, and comprehensive skills of its human resources.

## **SOLAR-The Infinite Source of Power**

The sun provides us with ample energy than we could ever use, and no one can monopolise the sunlight. Sun light is free and can be used to convert into electrical energy which is referred as Solar PV system. Solar electricity is green renewable energy and doesn't release any harmful carbon dioxide or other pollutants. A typical home solar PV system could save around 1.3 to 1.6 tonnes of carbon per year.

With the continuously increasing demand for electric power, the significantly high price of oil and the growing concern for the environment, many businesses are in the process of implementing alternative sources of energy. Among the renewable energy sources, solar energy is a sustainable choice and that can be used in various applications. Many businesses are now extracting this alternative source of energy, hoping to benefit from its numerous advantages.

To make an ecological awareness and safe use of renewable energy Polycab has brought complete Solar energy solution in Indian and overseas market. Polycab Solar equipment meet the high expectation that are demanded from the Solar system.

Polycab has brought the environmentally friendly E-Beam Technology that meets the demand of sustainable product in line with worldwide market trends and ecological awareness.

Polycab has a comprehensive product range in Solar PV system. The products are manufactured in latest state of the art machines and tested in well-equipped laboratories. These are highly suitable in rough climatic condition as well as guaranteed for more than 25 years of use.

We at Polycab ventured into Solar in 2012 with manufacturing of Solar DC Cables. International accreditation from TUV Rheinland was secured for our Solar DC cables subsequently, initially for 2Pfg 1169/08.2007 standard and then for EN 50618 for sizes 1.5sq. mm to 300sq.mm. complying also to IEC 62930.

We have successfully supplied Solar DC as well as AC Cables to large EPC players, Distributors pan India as well as to many of our International Clients all over the Globe. Repeat orders have been forthcoming out of confidence on our product quality and supply capabilities.

Extending our foray into Solar field we added Solar On-Grid Inverters in our Product Basket in 2016. Polycab Solar Grid-Tie String Inverters have already captured the hearts of Solar Roof-Top System Integrators pan India through product performance and prompt after Sales-Services provided by Polycab. Polycab On-Grid Inverters are IEC / BIS Certified with all relevant applicable standards for the full range of Inverters. With product ratings available from 1 KW and upto 255 KW capacity, we are supplying inverters for Residential, C&I and Utility solar projects.

Our success story of On-Grid Inverters in short span of 6 years is worth mentioning. We have already supplied 500MW+ in capacity and 50000+ Inverters in quantity. All these Inverters are already installed and running successfully in the field. We are sure to capture good market share.

We have also added Solar DC MCBs, Solar PV Modules, Solar Off-Grid and Hybrid Inverters (compatible with both Tubular Lead-Acid and Lithium Ferro Phosphate Batteries) in our product basket to achieve our goal to become a one stop shop for all the major components needed in Solar Projects.

With our strong base, large network of branches, warehouses, and distributors across India, we have been extending our best sales and service support to our valued clients and end users.

With excellent performance and better generation Polycab Solar Products have been the most preferred choice amongst many EPC companies, System Integrators and End Users.

System Integrator is now nearing reality and we are now poised to offer all our products to International Markets.



# SOLAR GRID TIE INVERTER

## LEADING FEATURES

- Wide range available from 1KW to 255KW capacity for residential, commercial, industrial and utility scale projects.
- More power with low start up voltage
- Built in surge protection on AC and DC side
- Compact size for easy installation
- Multiple protection level
- Low harmonic distortion, Fuse free design
- Free remote monitoring
- 5 Years standard warranty





## SOLAR GRID INVERTERS

### POLYCAB SOLAR GRID TIE INVERTERS EXCLUSIVE FOR RESIDENTIAL SMALL ROOFTOP SOLAR PROJECTS



**SINGLE PHASE - 2KW / 3KW / 3.6KW**

#### LEADING FEATURES

##### Superior Efficiency

- Maximum efficiency 97.8%
- String Current 15A, compatible with high Power modules
- 150% PV configuration, 110% output overload

##### High Reliability

- IP65 waterproof and dustproof, C5 anti-corrosion
- Compatible with wide power grid voltage and high harmonic power grid environment
- DC/AC in-built surge protection, AFCI detection optional

##### Intelligent Maintenance

- Remote configuration and upgrade
- Supports export power control

TECHNICAL SPECIFICATIONS			
MODEL	PSIS-2K-SM1	PSIS-3K-SM1	PSIS-3.6K-SM1
Rating	2 KW	3 KW	3.6 KW
<b>INPUT (PV)</b>			
Max. Input Voltage	500V		
Max. PV configuration (STC)	150%		
Rated Input Voltage	360V		
Max. Input Current	15A		
Max. Short Circuit Current	20A		
Start Input Voltage	70V		
MPPT Operating Voltage Range	50V-490V		
Max. Number of PV Strings	1		
No. of MPPTs	1		
<b>OUTPUT (GRID)</b>			
Rated AC Active Power	2,000W	3,000W	3,600W
Max. AC Apparent Power	2,200VA	3,300VA	3,600VA
Max. AC Active Power (PF=1)	2,200W	3,300W	3,600W
Max. AC Output Current	10A	15A	16A
Rated AC Voltage	220V/230V, L+N+PE		
AC Voltage Range	160V-300V (Adjustable)		
Rated Grid Frequency	50Hz/60Hz		
Grid Frequency Range	45Hz-55Hz/55Hz-65Hz (Adjustable)		
THDI	<3% (Rated Power)		
DC Current Injection	<0.5In		
Power Factor	> 0.99 Rated power (Adjustable 0.8 Leading - 0.8Lagging)		
<b>EFFICIENCY</b>			
Max. Efficiency	97.5%	97.8%	97.8%
European Efficiency	96.8%	97.3%	97.3%
<b>PROTECTION</b>			
DC switch	Support		
Anti-islanding protection	Support		
AC overcurrent protection	Support		
AC short circuit protection	Support		
DC reverse connection	Support		
Surge Arrester	DC Type III(Optional) / AC Type III		
Insulation detection	Support		
Leakage current protection	Support		
<b>GENERAL</b>			
Topology	Transformerless		
IP Rating	IP65		
Night Self Consumption	<1W		
Cooling	Natural cooling		
Operating Temperature Range	-25°C - 60°C		
Relative Humidity Range	0-100%		
Max. Operating Altitude	4000m		
Noise(typical)	30dB		
Dimensions (W*H*D)	277mm*243mm*130mm		
Weight	4.96kg		
<b>HMI &amp; COM</b>			
Display	Wireless & APP +LCD		
Communication	WiFi / RS485 (Optional)		
<b>CERTIFICATION</b>			
Safety	IEC62109-1, IEC62109-2		
Grid Code	EC61727/62116		
<b>WARRANTY</b>	5 Years		

NOTE :

ⓄⓂThe range of output voltage and frequency may vary depending upon different grid codes. Specifications are subject to change without advance notice.

## SOLAR GRID INVERTERS

### POLYCAB SOLAR GRID TIE INVERTERS EXCLUSIVE FOR RESIDENTIAL SMALL ROOFTOP SOLAR PROJECTS



**SINGLE PHASE - 4KW / 5KW / 6KW**

#### LEADING FEATURES

##### Superior Efficiency

- Maximum efficiency 98.2%
- String Current 15A, compatible with high Power modules
- 150% PV configuration, 110% output overload

##### High Reliability

- IP65 waterproof and dustproof, C5 anti-corrosion
- Compatible with wide power grid voltage and high harmonic power grid environment
- DC /AC in-built surge protection, AFCI detection optional

##### Intelligent Maintenance

- Remote configuration and upgrade
- Supports export power control

#### TECHNICAL SPECIFICATIONS

MODEL	PSIS-4K-SM2	PSIS-5K-SM2	PSIS-6K-SM2
Rating	4 KW	5 KW	6 KW
<b>INPUT (PV)</b>			
Max. Input Voltage	550V		
Max. PV configuration (STC)	150%		
Rated Input Voltage	360V		
Max. Input Current	30A (2*15A)		
Max. Short Circuit Current	40A (2*20A)		
Start Input Voltage	90V		
MPPT Operating Voltage Range	70V-540V		
Max. Number of PV Strings	2 (1/1)		
No. of MPPTs	2		
<b>OUTPUT (GRID)</b>			
Rated AC Active Power	4,000W	5,000W	6,000W
Max. AC Apparent Power	4,400VA	5,500VA	6,000VA
Max. AC Active Power (PF=1)	4,400W	5,500W	6,000W
Max. AC Output Current	20A	25A	27.3A
Rated AC Voltage	220V/230V, L+N+PE		
AC Voltage Range	160V-300V (Adjustable)		
Rated Grid Frequency	50Hz/60Hz		
Grid Frequency Range	45Hz-55Hz/55Hz-65Hz (Adjustable)		
THDI	<3% (Rated Power)		
DC Current Injection	<0.5%In		
Power Factor	> 0.99 Rated power (Adjustable 0.8 Leading - 0.8Lagging)		
<b>EFFICIENCY</b>			
Max. Efficiency	98.0%	98.2%	98.2%
European Efficiency	97.0%	97.4%	97.4%
<b>PROTECTION</b>			
DC switch	Support		
Anti-islanding protection	Support		
AC overcurrent protection	Support		
AC short circuit protection	Support		
DC reverse connection	Support		
Surge Arrester	DC Type III(Optional) / AC Type III		
Insulation detection	Support		
Leakage current protection	Support		
<b>GENERAL</b>			
Topology	Transformerless		
IP Rating	IP65		
Night Self Consumption	<1W		
Cooling	Natural cooling		
Operating Temperature Range	-25°C - 60°C		
Relative Humidity Range	0-100%		
Max. Operating Altitude	4000m		
Noise (typical)	30dB		
Dimensions (W*H*D)	350mm*347mm*137mm		
Weight	8.5Kg		
<b>HMI &amp; COM</b>			
Display	Wireless & APP+ LCD		
Communication	RS485/WiFi/GPRS(Optional)		
<b>CERTIFICATION</b>			
Safety	IEC62109-1, IEC62109-2		
Grid Code	IEC61727/62116		
<b>WARRANTY</b>	5 Years		

NOTE :

ⓄⓄThe range of output voltage and frequency may vary depending upon different grid codes. Specifications are subject to change without advance notice.

## SOLAR GRID - TIE STRING INVERTER



### THREE PHASE - 5/6/8/10/12/15/17/20 KW

#### LEADING FEATURES

- More Reliable & Efficient with world class components for 20 years design life
- High frequency switching technology
- Low start-up voltage & ultra wide MPPT range for more energy generation
- Multiple protection levels
- THDi <1.5%
- Max. efficiency 98.7%
- IP65 for outdoor installation
- Compact size & light weight design for easy installation
- RS-485: Wi-Fi/GPRS/LAN Interface
- Free remote monitoring on web portal & mobile app
- 5 years standard warranty
- Warranty extendable upto 20 years

TECHNICAL SPECIFICATIONS								
MODEL	PSIT - 5K	PSIT - 6K	PSIT - 8K	PSIT - 10K	PSIT - 12K	PSIT - 15K	PSIT - 17K	PSIT - 20K
RATING	5 KW	6 KW	8 KW	10 KW	12 KW	15 KW	17 KW	20 KW
<b>INPUT DC</b>								
Max. DC Input Power (KW)	6	7.2	9.6	12	14.5	18	20.4	24
Max. DC Input Voltage (V)	1000							
Start - Up Voltage (V)	180							
MPPT Voltage Range (V)	160-850							
Max. Input Current (A)	11 + 11				22 + 22			
Max Short Circuit Current for each MPPT (A)	17.2+17.2				34.3+34.3			
MPPT Number / No. of Strings per MPPT	2/1				2/2			
<b>OUTPUT AC</b>								
Rated Output Power (KW)	5	6	8	10	12	15	17	20
Max. Apparent Output Power (KVA)	5.5	6.6	8.8	11	13.2	16.5	18.7	22
Max . Output Power (KW)	5.5	6.6	8.8	11	13.2	16.5	18.7	22
Rated Grid Voltage (V)	400							
Grid Voltage Range (V)	313-470(Adjustable)							
Rated Grid Frequency (Hz)	50/60							
Grid Frequency Range(Hz)	47-52 or 57-62							
Operation Phase	Three							
Rated Grid Output Current(A)	7.2	8.7	11.5	14.4	17.3	21.7	24.6	28.9
Max. Output Current(A)	7.9	9.5	12.7	15.9	19.1	23.8	27	31.8
Power Factor(at rated output power)	0.8 leading ..1.0.8 lagging							
THDi(at rated output power)	<1.5%							
DC Injection Current (mA)	<0.5% In							
<b>EFFICIENCY</b>								
Max. Efficiency	98.3%		98.7%			98.7%		
EU Efficiency	97.8%		98.1%			98.1%		
MPPT Efficiency	>99.5%							
<b>PROTECTIONS</b>								
Built-in Protections	DC Reverse Polarity, Short Circuit Protection, Output Over Current, Output Over Voltage, Insulation Resistance Monitoring , Residual Current Detection, MOVs for Surge Protection on DC & AC Sides, Grid Monitoring, Islanding Protection, Temperature Protection							
Integrated DC Switch	Yes							
<b>GENERAL DATA</b>								
Dimension (mm)	310W*563H*219D							
Weight(kg)	17.3	18		18.9		19.8		
Topology	Transformerless							
Self Consumption (watt)	<1 (Night)							
Operating Ambient Temperature Range	-25 to 60°C							
Relative Humidity	0~100%							
Ingress Protection	IP65							
Noise Emission(typical)	<30 dBA							
Cooling Concept	Natural Cooling				Intelligent fan-cooling			
Max. Operation Altitude	4000m							
Design life	>20 Years							
<b>FEATURES</b>								
DC Connection	MC -4 mateable							
AC Connection	IP 67 Rated Plug							
Display	LCD 2 x 20 Z							
Communication; Monitoring Interface	RS485, WiFi/GPRS/LAN							
Warranty	5 Years Standard (Extendable upto 20 years)							
<b>IEC CERTIFICATES</b>								
Grid Connection	IEC 61727							
Anti-Islanding Protection	IEC 62116							
Environmental Testing	IEC 60068-2 (1-2-14-27-30-64)							
Safety	IEC 62109-1, IEC 62109-2, EN62109-1, EN62109-2							
EMC	IEC 61000, EN 61000-6-1, EN61000-6-2, EN61000-6-3, EN 61000-6-4							
Efficiency Measurement	IEC 61683, EN50530							

Note : Specifications are subject to change

## SOLAR GRID - TIE STRING INVERTER



### THREE PHASE : 25KW / 30KW / 33KW / 40KW

#### LEADING FEATURES

- 3/4 MPPT design with precise algorithm, effectively reducing string mismatch.
- 8 strings intelligent monitoring
- Smart I-V Curve Diagnosis supported
- Fuse free design to avoid hazard
- Low start-up voltage & Ultra-wide MPPT range for more energy generation.
- 30% DC Overload, 13A input for each PV string
- THDi<3%, Low harmonic distortion
- Max. Efficiency 98.8%
- Leakage current repression technology
- Volt-Watt work mode integrated
- IP65 for outdoor Installation
- Type II surge arrester for both DC and AC side
- RS-485, Ethernet; Wi-Fi/GPRS/LAN monitoring interface
- Free remote monitoring on Web portal and Mobile App
- 5 Years standard Warranty, Extendable upto 20 Years.

#### TECHNICAL SPECIFICATIONS

MODEL	PSIT - 25K	PSIT - 30K	PSIT - 33K	PSIT - 40K
RATING	25 KW	30 KW	33 KW	40 KW
<b>INPUT DC</b>				
Max. DC Input Power (KW)	33	39	43	52
Max. DC Input Voltage (V)	1100			
Rated Voltage (V)	600			
Start up Voltage (V)	180			
MPPT Voltage Range (V)	200-1000			
Max. Input Current(A)	26+26+26			26+26+26+26
Max Short Circuit Current for each MPPT (A)	40+40+40			40+40+40+40
MPPT Number / No. of Strings per MPPT	3/2			4/2
<b>OUTPUT AC</b>				
Rated Output Power (KW)	25	30	33	40
Max. Apparent Output Power (KVA)	27.5	33	36.3	44
Max. Output Power (KW)	27.5	33	36.3	44
Rated Grid Voltage (V)	400			
Grid Voltage Range (V)	313 - 470 (Adjustable)			
Rated Grid Frequency (Hz)	50/60			
Grid Frequency Range (Hz)	47-52 or 57-62			
Operation Phase	3/N/PE			
Rated Grid Output Current(A)	36	43.3	47.6	57.7
Max. Output Current(A)	41.8	50.2	55.1	66.9
Power Factor(at rated output power)	0.8 leading ..1.0.8 lagging			
THDi (at rated output power)	<3%			
DC Injection Current (mA)	<0.5% In			
<b>EFFICIENCY</b>				
Max. Efficiency	98.8%			
EU Efficiency	98.3%			
MPPT Efficiency	>99.5%			
<b>PROTECTIONS</b>				
Built -in Protections	DC Reverse Polarity, Short Circuit Protection, Output Over Current Protection, Output Over Voltage Protection, Insulation Resistance Monitoring, Residual Current Detection, Surge Protection through SPDs, DC Side Type II/AC Side Type II, Grid Monitoring, Islanding Protection, Temperature Protection			
Intergrated DC Switch	Yes			
String Monitoring	Yes			
Anti - PID	Optional			
<b>GENERAL DATA</b>				
Dimension (mm)	647W*629H*252D			
Weight(kg)	45			
Topology	Transformerless			
Self Consumption (watt)	<1 (Night)			
Operating Ambient Temperature Range	-25 to 60°C			
Relative Humidity	0~100%			
Ingress Protection	IP65			
Noise Emission{typical}	<30 dBA			
Cooling Concept	Natural Convection			
Max. Operation Altitude	4000m			
Design life	>20 Years			
<b>FEATURES</b>				
DC Connection	MC -4 mateable			
AC Connection	Terminal board			
Display	LCD 2 x 20 Z			
Communication Connections	RS 485, Ethernet			
Monitoring Interface	WiFi/GPRS/LAN			
Warranty	5 Years Standard (Extendable upto 20 years)			
<b>IEC CERTIFICATES</b>				
Grid Connection	IEC 61727			
Anti-Islanding Protection	IEC 62116			
Environmental Testing	IEC 60068-2 (1-2-14-27-30-64)			
Safety	IEC 62109-1, IEC 62109-2, EN62109-1, EN62109-2			
EMC	IEC 61000 -6-1(2-3-4) EN61000-6-1(2-3-4)			
Efficiency Measurement	IEC 61683, EN50530			

Note: Specifications are subject to change

## SOLAR GRID - TIE STRING INVERTER



### THREE PHASE - 50KW & 60KW

#### LEADING FEATURES

- Transformerless Inverter
- Maximum Efficiency Over 98.9%, EU Efficiency Over 98.5%
- Wide MPPT Voltage Range with 4 MPPT Design and Precise MPPT Algorithm
- IP 65 Certified
- Low Harmonic Distortion, THDi <3%
- Inergrated DC Switch
- Intelligent Fan - Cooling
- 5 Years Standard Warranty With Extended Warranty Option
- Onboard SPDs for DC & AC Sides
- Free Remote Monitoring on Web Portal & Mobile App

#### TECHNICAL SPECIFICATIONS

MODEL	PSIT - 50K	PSIT - 60K
RATING	50 KW	60 KW
<b>INPUT SIDE (DC)</b>		
Max. DC Input Power (KW)	60	72
Max. DC Input Voltage (V)	1100	
Start -Up Voltage (V)	200	
MPPT Voltage Range (V)	200 - 1000	
Max.Input Current (A)	28.5A+28.5A+28.5A+28.5A	
Max Short Circuit Current for each MPPT (A)	44.5+44.5+44.5+44.5	
MPPT Number / No. of Strings per MPPT	4/3	
<b>OUTPUT SIDE (AC)</b>		
Rated Output Power (KW)	50	60
Max. Apparent Output Power (KVA)	55	66
Max. Output Power (KW)	55	66
Rated Grid Voltage (V)	400	400
Grid Voltage Range (V)	304-460	304-460
Rated Grid Frequency (Hz)	50/60	
Operation Phase	Three	
Rated Grid Output Current(A)	72.2	86.6
Max. Output Current(A)	83.3	100
Power Factor(at Rated output power)	0.8 leading ..1.0.8 lagging	
THDi (at rated output power)	<3%	
DC Injection Current (mA)	<0.5% In	
Grid Frequency Range (Hz)	47-52 or 57-62	
<b>EFFICIENCY</b>		
Max. Efficiency	98.80%	99.00%
EU Efficiency	98.40%	98.50%
MPPT Efficiency	>99.90%	
<b>PROTECTIONS</b>		
Built -in Protections	DC Reverse - Polarity, Short Circuit Protection, Output Over Current Protection, Output Over Voltage Protection, Insulation Resistance Monitoring , Residual Current Detection, Surge Protection & Monitoring , Islanding Protection, Temperature Protection, Surge Protection through SPDs on both AC & DC Sides , Grid Monitoring	
Intergrated DC Switch	YES	
<b>GENERAL DATA</b>		
Dimension (mm)	630W*700H*357D(mm)	
Weight (kg)	63	
Topology	Transformerless	
Self Consumption (Night)	<1W(Night)	
Operating Ambient Temperature Range	-25° to 60°C	
Ingress Protection	IP65	
Noise Emission(Typical)	<60 dBA	
Cooling Concept	Intelligent Fan-Cooling	
Max. Operation Altitude	4000m	
Design life	>20 Years	
Relative Humidity	0~ 100%	
<b>FEATURES</b>		
DC Connection	MC - 4 Mateable	
AC Connection	OT Terminal Connectors	
Display	LCD 2 x 20 Z	
Communication Connections	4 pin RS485 connector, 2 RJ45 Connector, 2 Group of Terminal Block	
Monitoring Interface	LAN/Wifi/GPRS	
<b>IEC CERTIFICATES</b>		
Grid Connection	IEC 61727	
Anti-Islanding Protection	IEC 62116	
Environmental Testing	IEC 60068-2 (1-2-14-27-30-64)	
Safety	IEC 62109-1, IEC 62109-2, EN62109-1, EN62109-2	
EMC	IEC 61000, EN 61000-6-2, EN61000-6-4	
Efficiency Measurement	IEC 61683, EN50530	

Note: Specifications are subject to change

## SOLAR GRID - TIE STRING INVERTER



### THREE PHASE - 80KW-100KW-110KW-5G SERIES LEADING FEATURES

- Maximum Efficiency 98.7%
- Wide Voltage range and low startup voltage
- Supports 50% DC overload, 9/10 MPPT design with precise MPPT algorithm
- THDi < 3%, Low Harmonic Distortion
- IP66 for outdoor Installation
- Anti-resonance, supporting over 6MW paralleled in one transformer
- Intelligent Fan Cooling
- High precision intelligent string monitoring
- Night SVG function
- Smart I-V Curve Diagnosis supported
- Fuse free design to avoid hazard
- Type II SPD for both DC and AC side
- Leakage current repression technology
- Volt-Watt work mode integrated
- DC input reverse alarm
- Integrated DC and AC (optional) disconnect switches
- RS-485, Ethernet; Wi-Fi/GPRS/LAN; PLC (optional) monitoring interface
- Support "Y" type connection in DC side
- Supports aluminium wire access to reduce cost
- Free remote monitoring on Web Portal and Mobile App
- 5 Years standard warranty, extendable upto 20 years

### TECHNICAL SPECIFICATIONS

MODEL	PSIT - 80K	PSIT - 100K	PSIT - 110K
Rating	80 KW	100KW	110KW
<b>INPUT DC</b>			
Max. DC Input Power (kW)	120	150	165
Max. DC Input Voltage (V)	1100		
Rated Voltage	600		
Start-Up Voltage (V)	195		
MPPT Voltage Range (V)	180-1000		
Max. Input Current (A)	9*26		10*26
Max Short Circuit Current for each MPPT (A)	9*40		10*40
MPPT Number / No.of Strings per MPPT	9/2		10/2
<b>OUTPUT AC</b>			
Rated Output Power (kW)	80	100	110
Max. Apparent Output Power (kVA)	88	110	121
Max. Output Power (kW)	88	110	121
Rated Grid Voltage (V)	3/IN/PE, 220/380, 230/400		
Grid Voltage Range (V)	304-460		
Rated Grid Frequency (Hz)	50/60		
Grid Frequency Range (Hz)	47-52 or 57-62		
Rated Grid Output Current (A)	121.6	152	167.1
Max Output Current (A)	133.7	167.1	183.8
Power Factor (at rated output power)	>0.99 (Adjustable 0.8 leading ..1.. 0.8 lagging )		
THDi (at rated output power)	<3%		
DC Injection Current (mA)	<0.5 %In		
<b>EFFICIENCY</b>			
Max. Efficiency	98.7%		
EU Efficiency	98.3%		
<b>PROTECTIONS</b>			
Built-in Protections	DC Reverse Polarity Protection, Short Circuit Protection, Output Over Current Protection, Output Over Voltage Protection, Insulation Resistance Monitoring, Residual Current Detection, Islanding Protection, Temperature Protection, Grid Monitoring		
Surge Protection (DC/AC)	Type II/Type II		
I/V Curve scanning	Yes		
Integrated DC Switch	Yes		
Integrated AC Switch	Yes		Optional
String Monitoring	Yes		
Anti - PID Function	Yes		
Integrated AFCI (DC arc-fault circuit protection)	Yes		
<b>GENERAL DATA</b>			
Dimension (mm)	1050W*567H*314.5D	1065W*567H*344.5D	
Weight (kg)	82	84	
Topology	3 level, Transformerless		
Self Consumption (watt)	<2 (Night) (Without Anti-PID)		
Operating Ambient Temperature Range	-25 to 60°C		
Relative Humidity	0~100%		
Ingress Protection	IP66		
Noise Emission [typical]	<65dB		
Cooling Concept	Intelligent Fan-cooling		
Max.Operation Altitude (m)	4000		
Design Life	>25 Years		
<b>FEATURES</b>			
DC Connection	MC-4 mateable		
AC Connection	OT Terminal Connectors (max 185 mm <sup>2</sup> )		
Display	LCD, 2×20 Z		
Communication Interface	RS485, Ethernet; PLC (Optional)		
Monitoring	Wi-Fi/GPRS/LAN		
OTA update	Yes		
<b>IEC CERTIFICATES</b>			
Grid Connection	IEC 61727		
Anti-Islanding Protection	IEC 62116		
Environmental Testing	IEC 60068-2 (1-2-14-27-30-64)		
Safety	IEC 62109-1, IEC 62109-2, EN 62109-1, EN 62109-2		
EMC	IEC 61000-6-2, IEC 61000-6-4, EN61000-6-2, EN61000-6-4 IEC 61000-3-5, IEC 61000-3-12		
Efficiency Measurement	IEC 61683, EN50530		

Note: Specifications are subject to change



## SOLAR GRID - TIE STRING INVERTER



### THREE PHASE - 255K-EHV-5G SERIES

#### LEADING FEATURES

- Maximum Efficiency 99%
- Wide Voltage range and low start up voltage
- Supports 50% DC overload, 14 MPPT design with precise MPPT algorithm
- THDi < 3%, Low Harmonic Distortion
- IP66 for outdoor Installation
- High Power tracking density 56MPPT/MW @30degC
- Compatible with Bifacial modules
- Intelligent Fan Cooling
- Type II SPD for both DC and AC side
- High precision intelligent string monitoring
- Night SVG function
- Smart I-V Curve Diagnosis supported
- Fuse free design, safe and maintenance free
- LCD display + Keypad + LED Indication
- Built-In Anti PID recovery for better module performance
- Integrated DC disconnect switches
- Max. Parallel Inverters are allow up-to 25nos. due to Low resonance
- Low consumption <2w @ night time
- RS-485, Ethernet; Wi-Fi/GPRS/LAN; PLC (optional) monitoring interface
- Support Y type connection in DC side
- Supports aluminium cable access to reduce cost

#### TECHNICAL SPECIFICATIONS

MODEL	PSIT- 255K-EHV-5G
Rating	255 KW
<b>INPUT DC</b>	
Max. DC Input Power (kW)	330
Max. DC Input Voltage (V)	1500
Rated Voltage	1080
Start-Up Voltage (V)	600
MPPT Voltage Range (V)	580-1500
Max. Input Current (A)	14*26
Max Short Circuit Current for each MPPT (A)	14*40
MPPT Number / No.of Strings per MPPT	14/28
<b>OUTPUT AC</b>	
Max. Apparent Output Power (kVA)	255kVA@30degC / 235kVA@40degC / 220kVA@50degC
Max. Output Power (kW)	255
Rated Grid Voltage (V)	3/PE,800
Grid Voltage Range (V)	640-920
Rated Grid Frequency (Hz)	50/60
Grid Frequency Range (Hz)	47-52 or 57-62
Max.Output Current (A)	184
Power Factor (at rated output power)	>0.99 (Adjustable 0.8 leading ..1. 0.8 lagging )
THDi (at rated output power)	<3%
DC Injection Current (mA)	<0.5 %In
<b>EFFICIENCY</b>	
Max. Efficiency	99.0%
EU Efficiency	98.7%
MPPT Efficiency	99.9%
<b>PROTECTIONS</b>	
Built-in Protections	DC Reverse Polarity Protection, Short Circuit Protection, Output Over Current Protection, Output Over Voltage Protection, Insulation Resistance Monitoring, Residual Current Detection, Islanding Protection, Temperature Protection, Grid Monitoring
Surge Protection (DC/AC)	Type II/Type II
I/V Curve scanning	Yes
Integrated DC Switch	Yes
String Monitoring	Yes
Night Time SVG Function	Yes
Anti - PID Function	Yes
<b>GENERAL DATA</b>	
Dimension (mm)	1125W*770H*384D
Weight (kg)	113
Topology	Transformerless
Self Consumption (watt)	<2 (Night)
Operating Ambient Temperature Range	-25 to +60°C
Relative Humidity	0-100%
Ingress Protection	IP66
Noise Emission (typical)	<65dB
Cooling Concept	Intelligent Fan-cooling
Max.Operation Altitude (m)	4000
Design Life	>25 Years
<b>FEATURES</b>	
DC Connection	MC-4 mateable
AC Connection	OT Terminal Connectors (max. 300 mm <sup>2</sup> )
Display	LCD, 2×20 Z
Communication Interface	RS485, Ethernet; PLC (Optional)
Monitoring	WiFi/GPRS/LAN
OTA update	Yes
<b>IEC CERTIFICATES</b>	
Grid Connection	IEC 61727
Anti-Islanding Protection	IEC 62116
Environmental Testing	IEC 60068-2 (1-2-14-27-30-64)
Safety	IEC 62109-1, IEC 62109-2, EN 62109-1, EN 62109-2
EMC	IEC 61000-3-5, IEC 61000-3-12, IEC 1000-6-2, IEC 61000-6-4, EN 61000-6-2, EN 61000-6-4
Efficiency Measurement	IEC 61683, EN50530

Note: Specifications are subject to change

## LEADING FEATURES

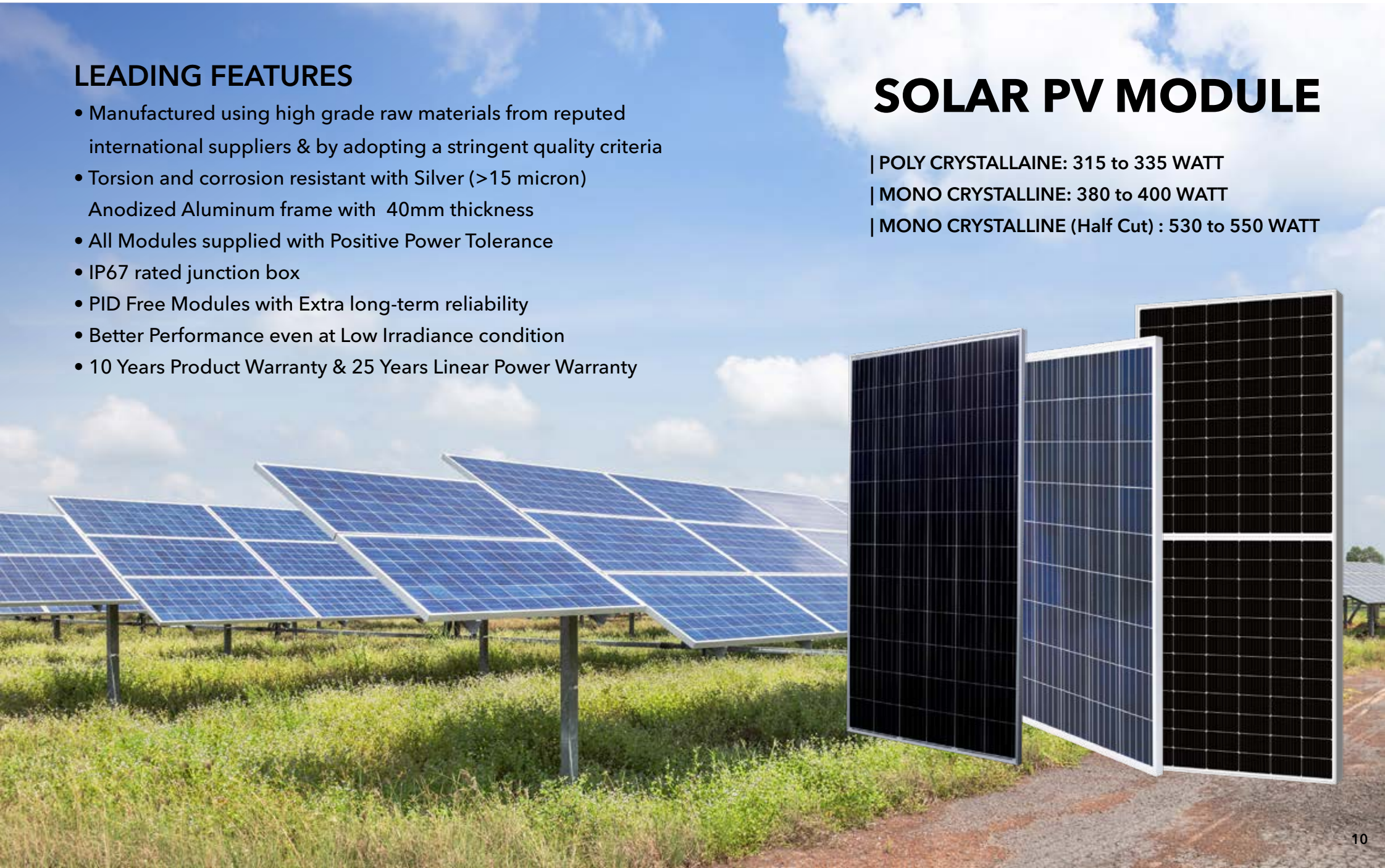
- Manufactured using high grade raw materials from reputed international suppliers & by adopting a stringent quality criteria
- Torsion and corrosion resistant with Silver (>15 micron) Anodized Aluminum frame with 40mm thickness
- All Modules supplied with Positive Power Tolerance
- IP67 rated junction box
- PID Free Modules with Extra long-term reliability
- Better Performance even at Low Irradiance condition
- 10 Years Product Warranty & 25 Years Linear Power Warranty

## SOLAR PV MODULE

| POLY CRYSTALLINE: 315 to 335 WATT

| MONO CRYSTALLINE: 380 to 400 WATT

| MONO CRYSTALLINE (Half Cut) : 530 to 550 WATT



# MONO CRYSTALLINE 72 CELL 5BB SOLAR PV MODULE

# POLY CRYSTALLINE DCR 72 CELL 5BB SOLAR PV MODULE

TECHNICAL SPECIFICATIONS					
ELECTRICAL SPECIFICATIONS (STC)					
Model	PIL 380HM	PIL 385HM	PIL 390HM	PIL 395HM	PIL 400HM
Max. Power (Pm) in Watts (0 to +3%)	380	385	390	395	400
Open Circuit Voltage (Voc) in Volts (± 3%)	48.65	48.72	48.85	49.04	49.28
Short Circuit Current (Isc) in Amps (± 5%)	9.9	10	10.1	10.15	10.2
Voltage at Max Power (Vmp) in Volts	39.97	40	40.14	40.32	40.46
Current at Max Power (Imp) in Amps	9.51	9.63	9.72	9.8	9.89
Module Efficiency (%)	19.11	19.37	19.62	19.87	20.12
Fill Factor (%)	78.92	79.06	79.08	79.38	79.61
TEMPERATURE COEFFICIENT					
Nominal Operating Cell Temperature (°C)	43 ± 2				
Coefficient of Current (Isc) α (%/°C)	0.05				
Coefficient of Voltage (Voc) β (%/°C)	-0.30				
Coefficient of Power (Pmax) γ (%/°C)	-0.40				
OPERATING CONDITIONS					
Maximum System Voltage (Vdc)	1500				
Max. Series Fuse Rating in (A)	20				
Operating Temp. Range (°C)	-40 to +85				
Maximum Load Condition (snow or wind)	Sustain Heavy wind & snow loads (2400 Pa & 5400 Pa or 550 Kg/m²)				
MODULE MECHANICAL DETAILS					
Module Dimensions LxWxH (mm)	1986 X 1001 X 40				
Module Weight (Approx. in kg)	23.4				
No. of Cells & size (mm)	72 cells, 158.75 X 158.75				
Frame Material	Anodized Aluminium				
Glass	3.2mm, Anti-reflective coated low iron Mat-Mat tempered solar glass				
Junction Box	TUV Approved Non-potted IP 67 or IP 68 rated with 3 Bypass diodes (4 T / 3 D )				
Cable Connector	4 sqm. (12AWG) solar cable 1200mm X 2 nos Black MC4 compatible connectors				
No. of Grounding Holes	1 nos. of Dia. 4mm on each length side				
Mounting hole size (mm)	8 Oblong of size 8 X 12				
PACKING & SHIPPING DETAILS					
Number of Modules per Pallet	28				
Pallet Box Dimensions LxWxH (mm)	2015 x 1160 x 1130				
Number of Pallets Per Container	10				
Gross Weight of Pallet Box (Approx. in kg)	Max. 685				

TECHNICAL SPECIFICATIONS					
ELECTRICAL SPECIFICATIONS (STC)					
MODEL	PIL 315HP	PIL320HP	PIL 325HP	PIL 330HP	PIL 335HP
Power (Pm) in Watts (0 to ±3%)	315	320	325	330	335
Open Circuit Voltage (Voc) in Volts (0 to ±3%)	45.25	45.60	45.80	46.15	46.22
Short Circuit Current (Isc) in Amps ( ±5%)	9.03	9.05	9.10	9.15	9.26
Voltage at Max Power (Vmp) in Volts	36.98	37.26	37.58	37.85	38.07
Current at Max Power (Imp) in Amps	8.52	8.59	8.65	8.72	8.80
Module Efficiency (%)	15.85	16.10	16.35	16.60	16.85
Fill Factor	77.11	77.56	77.99	78.16	78.28
TEMPERATURE COEFFICIENT					
Nominal Operating Cell Temperature (°C)	43 ±2				
Coefficient of Current (Isc) α (%/°C)	0.06				
Coefficient of Voltage (Voc) β (%/°C)	-0.33				
Coefficient of Power (Pmax) γ (%/°C)	-0.40				
OPERATING CONDITIONS					
Maximum System Voltage (Vdc)	1500				
Max. Series Fuse Rating in Amps	15 or 20				
Operating Temp. Range (°C)	-40 to +85				
Maximum Load Condition (snow or wind)	Sustain Heavy wind & snow loads (2400 Pa & 5400 Pa or 550 Kg/m²)				
MODULE MECHANICAL DETAILS					
Module Dimensions LxWxH (mm)	1986 x 1001 x 40				
Module Weight (Approx. in kg)	Max. 23.4				
No. of Cells & size (mm)	72 cells, 158.75 X 158.75				
Frame Material	Anodized Aluminium				
Glass	3.2mm, Anti-reflective coated low iron textured tempered solar glass				
Junction Box	TUV Approved Pre-potted IP 67 or IP68 rated with 3 Bypass diodes (4 T / 3 D )				
Cable Connector	4 sqm. (12AWG) solar cable 1200mm X 2 nos Black MC4 compatible connectors				
No. of Grounding Holes	1 nos. of Dia. 4mm on each length side				
Mounting hole size (mm)	8 Oblong of size (8 x 12)				
PACKING & SHIPPING DETAILS					
No. of Modules per Pallet	28				
Pallet Box Dimensions LxWxH (mm)	Max. 2015 x 1160 x 1130				
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**Module Encapsulation**

**Mounting Diagram Details**

**Current Voltage Curve**

**Linear Performance Warranty**

10 years Product Warranty / 25 Years Linear Power Warranty

All Dimensions are in mm

**Module Encapsulation**

**Mounting Diagram Details**

**Current Voltage Curve**

**Linear Performance Warranty**

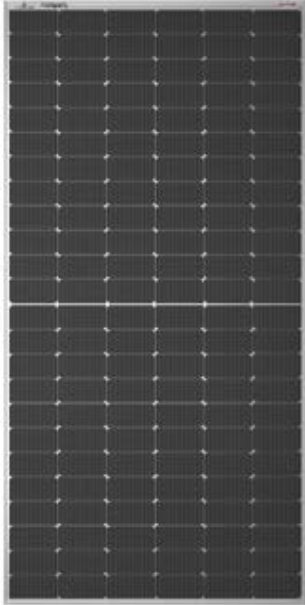
10 years Product Warranty / 25 Years Linear Power Warranty

All Dimensions are in mm

NOTE: Specifications for DCR module



## HALF CUT CELL MONOCRYSTALLINE-PERC SOLAR MODULE



### HIGH CUSTOMER VALUE

- Lower LCOE (Levelized Cost of Energy), reduced BOS (Balance of System) cost, shorter payback time
- Lowest guaranteed first year and annual degradation
- Designed for compatibility with existing mainstream system components
- Higher return on Investment

### HIGH RELIABILITY

- Minimized micro-cracks
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load

### PRODUCT WARRANTY

- 12 year product warranty
- 27 year performance warranty with lowest degradation

### EXCELLENT LOW IRRADIATION PERFORMANCE

- Be it early morning, cloud or dusk, the monofacial modules perform even at low light conditions, due to the use of Mono-PERC cell technology.
- Lower temperature coefficient ( $\gamma = -0.38\%/^{\circ}\text{C}$ ) and operating temperature

### PERFORMANCE GUARANTEED IN PARTIAL SHADOW

- Innovative Series Parallel connection to ensure shadow optimization in portrait mode.

### REDUCTION IN HOTSPOT TEMPERATURES

- Decline in heat production reduces chances of hot spot generation in shaded conditions. Lower heat production positively affects module longevity.

### BETTER TOLERANCE TO MICRO CRACK

- Higher number of busbar makes the PV modules less prone to loss in efficiency which happens generally due to micro-cracks.

### REDUCED POWER LOSS

- Multi Busbar module with M10 cells allows the electrical charges to travel a comparatively shorter distance with less resistance. Lower internal resistance boosts the module power helping to achieve lower cell to module conversion loss.

### DESIGN USING CIRCULAR RIBBONS

- Round-shaped busbar increases the scattering effect towards the cell surface for higher cell absorption; the result is ~2% increased module performance.

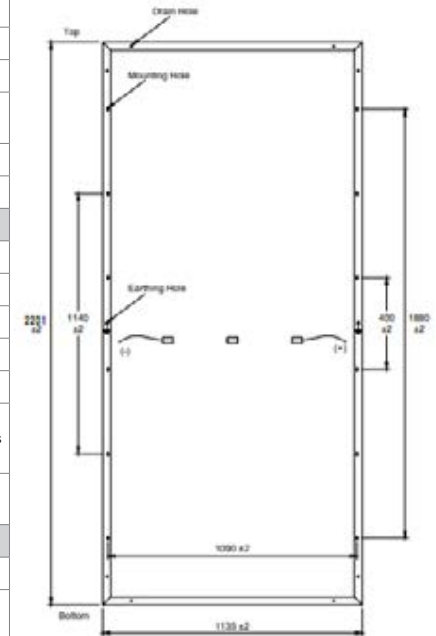
### DESIGN USING SPLIT JUNCTION BOX

- Low heat generated, high fuse rating (25A) & Diode rating  $\geq 35\text{A}$

### OUTSTANDING VISUAL APPEARANCE

- Designed with aesthetics in mind

TECHNICAL SPECIFICATIONS						
MODEL NAME	PIL 525M10HC144	PIL 530M10HC144	PIL 535M10HC144	PIL 540M10HC144	PIL 545M10HC144	PIL 550M10HC144
Max. Power-Pmax (W) (0 to +3%)	525	530	535	540	545	550
Open Circuit Voltage-Voc (V) ( $\pm 3\%$ )	48.65	48.85	49.05	49.25	49.45	49.65
Short Circuit Current-Isc (A) ( $\pm 5\%$ )	13.55	13.61	13.67	13.73	13.79	13.85
Maximum Voltage-Vmax (V)	41.54	41.74	41.93	42.16	42.35	42.58
Maximum Current-Imax (A)	12.64	12.70	12.76	12.81	12.87	12.92
Fill Factor (%)	79.65	79.73	79.79	79.87	79.93	80.00
Module Efficiency (%)	20.28	20.47	20.66	20.86	21.05	21.24
TEMPERATURE COEFFICIENTS (Tc)						
Tc of Isc- $\alpha$ (%/ $^{\circ}\text{C}$ )	0.07					
Tc of Voc- $\beta$ (%/ $^{\circ}\text{C}$ )	-0.36					
Tc of Power- $\gamma$ (%/ $^{\circ}\text{C}$ )	-0.38					
Nominal Operating Cell Temperature-NOCT ( $^{\circ}\text{C}$ )	45 $\pm$ 2					
Temperature Range $^{\circ}\text{C}$	-40 to + 85					
Maximum System Voltage (VDC)	1500					
MECHANICAL PARAMETERS						
Dimension LxWxH (mm)	2281 x 1135 x 40-35 ( $\pm 2$ mm)					
X-Pitch (mm)	1090 ( $\pm 2$ mm)					
Y-Pitch (mm)	400, 1140 & 1880 ( $\pm 2$ mm)					
Mounting Holes (mm)	12 Oblong Holes( 8 x 12 mm)					
Weight (Kg)	Max. 28.3 Kg					
Junction Box , Cable & Connector	Split JB- IP68 ,450mm cable, 3 Diode, MC4 Connector, Max Series Fuse Rating : 25A					
Solar Cell	91 mm x 182 mm , 10 Bus-bar, Mono-PERC cell					
PACKING & SHIPPING DETAILS						
Number of modules per pallet	20 nos. in 1 box					
Pallet Box Dimensions- LxWxH (mm)	2310 x 830 x 1265 mm					
Gross weight (appx.) of box	Max. 590 Kgs.					



Note : All measurements mentioned in are "mm".

#### Note :

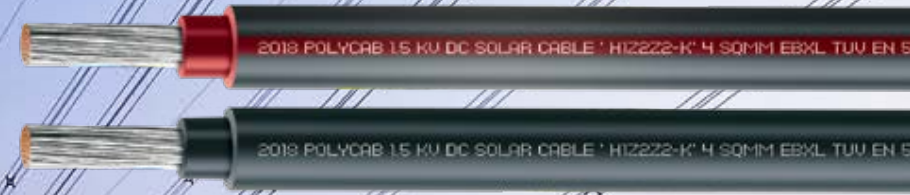
1. The electrical data given here is for reference purpose only.
2. Please confirm your exact requirements with Polycarb sales representative while placing your order.
3. Refer installation Manual instructions & Polycarb warranty statement for terms & conditions.
4. Polycarb Reserves the right to change the specifications without prior notice.



## LEADING FEATURES

- Electron beam cross linked compound
- UV, ozone, temperature & hydrolysis resistant
- Flame retardant, low smoke
- Excellent encapsulation
- Very long service life >25 years

## SOLAR DC CABLES



## POLYCAP SOLAR H1Z2Z2-K BS EN 50618

Photovoltaic Solar DC Cable, Halogen Free, Flame Retardant



### Salient Features

- Halogen free
- Electron Beam Cross-linked
- Flame retardant
- Long life
- Flexibility
- UV, Ozone resistant
- Hydrolysis resistant
- High temperature resistant

### Application

POLYCAP low smoke, halogen free, flexible single core cable with electron beam cross linked insulation and sheath is designed to use for Photovoltaic installation at the DC side. These cables are suitable for permanent outdoor use under variable climatic condition.

### Voltage Rating

Nominal Voltage: 1500 V DC between conductors as well as conductor and earth.  
Max permitted voltage: 1800 V

### Operation Temperature

Fixed: -40°C to +120°C  
Maximum operating conductor temperature: +120°C

### Construction

- Conductor: Tinned copper conductor as per IEC 60228, class 5.
- Insulation: E-Beam cross linked halogen free and flame-retardant compound (XLPO)
- Sheath: E-Beam cross linked halogen free and flame-retardant compound (XLPO)

### Identification

Insulation : (-ve) Black & (+ve) Red  
Sheath : (-ve) Black & (+ve) Black (70%) with red Strip (30%)

### Bending Radius

For fixed installation - > 4D  
For occasional movement - > 5D

### Standard and References

EN/IEC 60228  
EN 50618  
IEC 60332-1-2

### Test Voltage

6.5kV AC 50Hz

### Compliance

Fire Performance EN 60332-1  
Smoke Emission IEC 61034/ EN 50268-2  
Halogen free material EN 50267-2-1 / IEC 60754-2  
Resistance to ozone EN 50396  
Weathering / UV HD 605/A1 or DIN 53667  
Life Expectancy IEC 60216  
Water Resistance  
-Category {{AD7/AD8}} IEC 60364-5-51

## DIMENSIONAL CHARACTERISTICS

Single Core Cross sectional Area	Nominal insulation thickness	Nominal Sheath thickness	Approx. Overall Diameter	Max. DC Resistance at 20° C
mm <sup>2</sup>	mm	mm	mm	Ω/km
1.5	0.7	0.8	5.0	13.7
2.5	0.7	0.8	5.5	8.21
4.0	0.7	0.8	6.0	5.09
6.0	0.7	0.8	6.5	3.39
10	0.7	0.8	7.5	1.95
16	0.7	0.9	8.5	1.24
25	0.9	1.0	10.5	0.795
35	0.9	1.1	12.0	0.565
50	1.0	1.1	14.0	0.393
70	1.1	1.2	16.0	0.277
95	1.1	1.3	18.0	0.210
120	1.2	1.3	19.5	0.164
150	1.4	1.4	21.5	0.132
185	1.6	1.6	24.5	0.108
240	1.7	1.7	27.0	0.0817
300	1.8	1.8	30.0	0.0654

## CURRENT RATINGS

Nominal Cross sectional Area	Current Carrying Capacity according to method of installation		
	Single Cable Free in air	Single Cable on a surface	Two loaded cables touching, on a surface
mm <sup>2</sup>	A	A	A
1.5	30	29	24
2.5	41	39	33
4	55	52	44
6	70	67	57
10	98	93	79
16	132	125	107
25	176	167	142
35	218	207	176
50	276	262	221
70	347	330	278
95	416	395	333
120	488	464	390
150	566	538	453
185	644	612	515
240	775	736	620
300	895	850	713

\*Current Ratings are based on EN 50618 at Max. Conductor Temperature 120°C and Ambient Air temperature 60°C.

Note: the expected period of use at maximum conductor temperature at 120° C is limited to 20,000 hours

Current rating / de-rating factors other than 60°C ambient temperature.

Up to 60°C	70°C	80°C	90°C
1.00	0.92	0.84	0.75

Note: These cables can be provided with twisted formation, If required.



## SOLAR OFF GRID INVERTERS



### LEADING FEATURES

- DSP Controller based MPPT controller, High Efficiency upto 88%
- Range from 3 KVA to 15KVA Voltage 48 V/ 120 V/ 240 V
- More PV Power allowed per kVA than competition
- Higher PV Overload capacity
- No PV overload tripping, instead we have limiting feature so that generation does not fully stop
- Wider MPPT voltage range, Wide Grid range
- AC input Current limiting suitable for rural feeders
- Fast response to sudden solar radiation changes
- Priority modes for high & low backup requirements
- MCB protection at all Inputs and Outputs
- Fully metallic bod for higher robustness
- Pure Sine Wave output
- Temp controlled forced fan cooling
- No derating of power till 50 Dec C
- Daily data logging of Solar kWh
- Real Time clock for LCD Display

TECHNICAL SPECIFICATIONS									
MODEL		PMIS 3048	PMIS 5048	PMIS 6048	PMIS 6096	PMIS 7596	PMIS 10120	PMIS 125120	PMIS 15240
<b>RATING</b>		3KVA / 48VDC	5KVA / 48VDC	6KVA / 48VDC	KVA / 96VDC	7.5KVA / 96VDC	10KVA / 120VDC	12.5KVA / 120VDC	15KVA / 240VDC
<b>SOLAR CHARGE CONTROLLER</b>									
Charge Controller Type		MPPT							
No of MPPT Channel	Nos.	1							
Per Channel PV Capacity	KWp	3	5	6	6	8	10	10	15
No. of PV Inputs	Nos.	1	1	1	1	1	1	1	1
Max. Open Circuit PV Volts (Voc)	Volts	190	190	190	360	360	360	360	700
PV Voltage Range (Vmp)	Volts	75 - 160	75 - 160	75 - 160	140-299	140-299	165 - 299	165 - 299	365 - 560
PV Minimum Voltage	Volts	70	70	70	130	130	132	132	290
Float Voltage (LMLA/VRLA)	Volts	52.8/54	52.8/54	52.8/54	105.6/108	105.6/108	129/135	129/135	258/270
Boost Voltage (LMLA/VRLA)	Volts	58/55.2	58/55.2	58/55.2	117.6/110.4	117.6/110.4	144/138	144/138	288/276
<b>SOLAR PANEL CONFIGURATION</b>									
SPV Rating	Watt	335							
SPV Qty.	Nos.	9	15	18	18	24	30	30	45
SPV Configuration		3S x 3P	3S x 5P	3S x 6P	6S x 3P	6S x 4P	6S x 5P	6S x 5P	15S x 3P
<b>SOLAR INVERTER</b>									
Output Voltage / Frequency	Volts / Hz	230 / 50							
No. of Phases	Ph	Single Phase							
Output Capacity	KVA	3	5	6	6	7.5	10	12.5	15
	KW	2.4	4	4.8	4.8	6	8	10	12
Output Current	Amp	10.5	17	21	21	26	34.8	43.5	52.2
Voltage Regulation (#)	%	+/- 2							
Frequency Regulation	Hz	+/- 0.5							
THD	%	< 3							
DC Rated Voltage	Volts	48		96		120		240	
Efficiency (Peak)	%	88		88		88		88	
Over Load (*)	%	110% for 60 sec / 125% for 30 sec / 150% for 5 sec							
Changeover Time	mSec	< 20							
Auto Load Bypass		Provided							
(*) Overload protections are not applicable for charger mode. MCB in Grid / load path are provided for protections. (#) In bypass mode, the output available on load terminals is just the mains present and not a regulated output.									
<b>GRID CHARGER</b>									
I/P Voltage Range	VAC	170-270							
I/P Frequency range	Hz	47-53							
Grid Charger Start Voltage (settable)	Volts	45.3		92.2		113.4		226.8	
Grid Charger Current (settable as per battery)	Amps	Max. 30		Max. 35		Max. 35		Max. 35	
<b>PROTECTIONS</b>									
PV Side: Reverse Polarity, Surge Protection, Over voltage					Grid Side: Over/Under Voltage, Over/Under Frequency				
Battery Side: Reverse Polarity, Over/Under Voltage, Current Limit					Load Side: Over/Under Voltage, Overloads, Short Circuit				
System Protection: Over Temperature									
<b>DISPLAY PARAMETERS</b>									
PV Side: Voltage, Current, Power, Energy					Grid Side: Voltage, Current, Frequency				
Battery Side: Voltage, Current, Battery Charging/Discharging Status					Load Side: Voltage, Current, Power				
<b>INDICATIONS / MESSAGES</b>									
LED Indications: System Power On, Inverter ON (Load On Inverter), Solar Available/Solar Charging, Load On Grid/Grid Charging, Battery Under Voltage, System Trip/Fail									
Message: Over Load, Short Circuit, System Over Temperature									
Real Time Logged Parameters: PV KWh Cumulative, Datewise PV KWh in last 30days, Monthly KWh, Yearly KWh, User Keypad for Settings Change									
REMOTE MONITORING (Optional) GPRS: SIM based Data logger provided to access parameters remotely on portal with interval of 30minutes									
<b>GENERAL INFORMATION</b>									
Recommended Battery	Lead Acid Tubular / SMF VRLA @ C10								
Degree of Protection	IP-21								
Type of Cooling	Forced Cooled								
Operating temperature	0-50 degrees (without Derating)								
Humidity	Max. 95% Non-Condensing								
Altitude	1000m above sea level								
Cable Entry	Rear, Bottom								
Housing	Tower Type, Epoxy Powder Coating								
Color Shade	White								
Terminal sizes: PV/ Batt./ Grid / Load	M6 / M6 / M6 / M6								
Cable Termination Type	Bus Bar Type with Ring Type Lugs								
Net Weight (Approx.)	48 kg	56 kg	70 kg	102 kg	105 kg	110 kg	125 kg	145 kg	
Dimensions (H X W X D) (Approx. in mm)	430 x 280 x 600	470 x 280 x 600	515 x 300 x 700	790 x 510 x 815	790 x 510 x 815	650 x 400 x 730	650 x 450 x 740	650 x 450 x 740	

Note : Specifications are subject to change

## SOLAR HYBRID INVERTERS



**SINGLE PHASE - 3 / 5 / 7.5 / 10 / 15 KVA  
THREE PHASE AVAILABLE ON DEMAND FROM  
10KVA TO 250KVA**

### LEADING FEATURES

- High customer value with lower lcoe (levelized cost of energy)
- Reliable quality with minimized micro-cracks
- Excellent low irradiation performance
- Performance guaranteed in partial shadow
- Reduced power loss
- Reduction in hotspot temperature
- 27 Years performance warranty

TECHNICAL SPECIFICATIONS							
<b>MODEL</b>		PHMIS 3048	PHMIS 5048	PHMIS 7548	PHMIS 7596	PHMIS 10120	PHMIS 15240
<b>RATINGS</b>		3KVA/48V	5KVA/48V	7.5KVA/48V	7.5KVA/96V	10KVA/120V	15KVA/240V
<b>SOLAR CHARGE CONTROLLER (SCC)</b>							
Charge Controller Type (Buck)		MPPT					
PV Nominal Capacity (Total KWp)	KWp	3	5	8	8	10	15
Max PV Strings in Parallel	Nos.	3	5	8	6	6	5
No of MPPT Channels	Nos.	1					
Max. Open Circuit PV Volts (Voc)	Volts	190			360		675
MPPT Voltage Range(Vmp)	Volts	75-160			140-299	165-299	330 - 560
Max O/P Amps	Amps	60	100	160	80		60
Peak Charging Efficiency		94%					
<b>SOLAR INVERTER</b>							
Nominal Capacity		3KVA	5KVA	7.5KVA	7.5KVA	10KVA	15KVA
Output Current (A)	Amps	10	17	26	26	35	52
Battery Voltage (V)	Volts	48			96	120	240
Output Voltage/ Freq / Phase	Volts	230V (± 2%) / 50Hz / 1P+N					
Load Power Factor		0.8- Unity					
Peak Efficiency	%	>86			>88		>90
Over Loads: 60 / 30 / 5 seconds	%	101-110% / 111- 125% / 126- 150%					
Auto Bypass Feature		Provided					
Anti Islanding / Power Export to Grid		Provided (As per IEC 62116 & IEC 61727)					
<b>GRID CHARGER</b>							
Grid Voltage Range	Volts	230 (+10% & -20%)					
Grid frequency Range	Hz	50 (+5% & -5%)					
Max Grid Import Power	KVA	4.5	7.5	12	12	15	22.5
<b>PROTECTIONS</b>							
PV Side: Reverse Polarity, PV Power Limit, Surge Protection (MOV)				Grid Side: O/U Voltage, O/U Frequency, Surge Protection (MOV)			
Battery Side: Reverse Polarity, PV Power Limit, Surge Protection (MOV)				Load Side: Overloads, Short circuit, Surge Protection (MOV)			
System Protection: Over Temperature							
<b>DISPLAY PARAMETERS</b>							
PV Side: Voltage, Charger O/P Amps, Power, Cumulative Energy				Grid Side: Phase Voltage, Frequency, Power, Power Factor			
Battery Side: Voltage, Current, Battery State				Load Side: Voltage & Current, Frequency, Power, Export kWh.			
System Protection: Mode of Operation, Active Faults, Status Mimic							
<b>MISCELLANEOUS</b>							
Switchgear Protection				MCB/MCCB provided on PV, Battery, Load & Grid path.			
LED Indications				Mains On, Alarm, Buzzer Mute			
Data Port (RS485/ RS 232)				Optional (Available on Request)			
Remote Monitoring				Optional through GPRS based Modem			
Ingress Protection				IP- 21 (Indoor Type)			
Cooling Method				Force Cooling (Temp Controlled)			
Operating Temperature				0-50 degrees (Without Derating)			
Humidity				Max. 95% Non-Condensing			
Altitude				1000 m above sea level			

NOTE- Specifications are subject to change without prior notice



# DC MCB

## LEADING FEATURES

- Easy Installation
- Quick in tripping off when current exceeds
- Low maintenance
- High Reliability
- Commandable short circuit protection
- Ease of operations
- Suitable for industrial as well as residential operations
- Indian safety standards tested
- Maintenance Free Operations



### TECHNICAL SPECIFICATIONS

Standard Compliance	IEC 60947 - Part 2
Rated Current (In)	0.5A, 1A, 2A, 3A, 4A, 5A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
Tripping Curve	C Type
No of. Poles & Rated Voltages	1P: 250VDC, 2P: 500VDC, 4P: 1000VDC
Rated Ultimate Short Circuit Breaking Capacity (ICU)	6000A
Rated Service Short Circuit Breaking Capacity (ICU)	6000A
Rated Impulse Withstand Voltage (Uimp)	4kV
Utilization Category	A
Rated Insulation Voltage (Ui)	1000V
Electrical Life	>4000 Oprations
Mechanical Life	>20000 Oprations
Contact	Anti Weld Silver Graphic Contacts
Ambient Temperature	-5 to + 50 C
Terminal	Box Type, 35 Sq.mm.
Protection Class	IP 20
ON - OFF Indication	Positive indication as ON (RED), & OFF (GREEN)
Connections	Dual Connection level (Bus Bar + Cable)
Mechanism	Trip free Mechanism
Mounting	Din rail mounting. (35mm x 7.5mm)
Lable Holder	Integrated label Holder

Note : Specifications are subject to change

# CABLE HARNESS

## LEADING FEATURES

- Cost reductions and scale efficiencies
- Increasing operational electricity yield
- Reducing Operation and Maintenance costs
- Flexibility, ease of Installation and Safety
- Strive for excellence, develop for innovation
- Advanced technology and sales through-train service
- Guaranteed Waterproof
- Seamless transition between cable and plug
- PV Connector standard IEC/EN 62852 compliant
- PV Cable DC standard as per EN 50618 compliant

### Advantages of 1500V DC Cabling

The DC cables are the 'life veins' of every PV system. They have to defy extreme weather conditions for many years and reliably safeguard the electricity yields

- Wiring harness solutions reduce /eliminate the use of DC combiner boxes
- High quality connection points, 1500V DC and optimized plug connections reduce DC power losses
- Wiring harness cabling system saves up to 50% solar cable than typical single array solutions
- Sturdy construction ensures service life operation under extreme climatic conditions
- Efficient and easy to integrate modular system with protective accessories like 1500V inline fuses and diodes

- ✓ **Polycab's strength in offering the highest quality products, competitive prices, and excellent customer service is what sets us apart from our competitors.**

Polycab PV cable harnesses offers completely bundled, labeled and packaged assemblies of PV cable and connectors tailor-made as per customer requirements. The PV cable harness acts as a pre-combiner to connect strings of PV panels as input to Polycab Combiner Boxes. DC Cables from the individual strings are bundled into a harness and then terminated to either a male or female MC4 or equivalent connector which then terminates in Polycab String Combiner Box, thus providing a labor-saving integrated plug and play solution.

- ✓ **Delivering convenience and quality in harnesses customize to your specifications**

Our customized harness assemblies are configured using Polycab TUV approved DC Cable and Connectors. All components used provide durability and deliver long-term reliability and service life.

- ✓ **Sophisticated solar constructions require clever solutions**

An efficient layout of a solar cables with connectors effectively consume optimum length of cables and connectors suiting the layout thus providing high performance with increased returns for service life of the system.

- ✓ **Engineered solutions designed specifically for each individual job**

Intelligent cabling solutions engineered for specific layouts to provide the best overall value and design flexibility to get the job done efficiently.

- ✓ **Polycab has a long legacy of providing high reliability connectivity solutions in extremely harsh environments. Our solar products were developed to deliver outstanding value and reliability that we are known for to the solar industry.**

Manufactured in controlled conditions utilizing high efficiency equipment, reducing job site risk and potential warranty claims. Quick and easy solar system installation reduces project costs. Harness assemblies are made to order in customized configurations to meet the most stringent application requirements.

