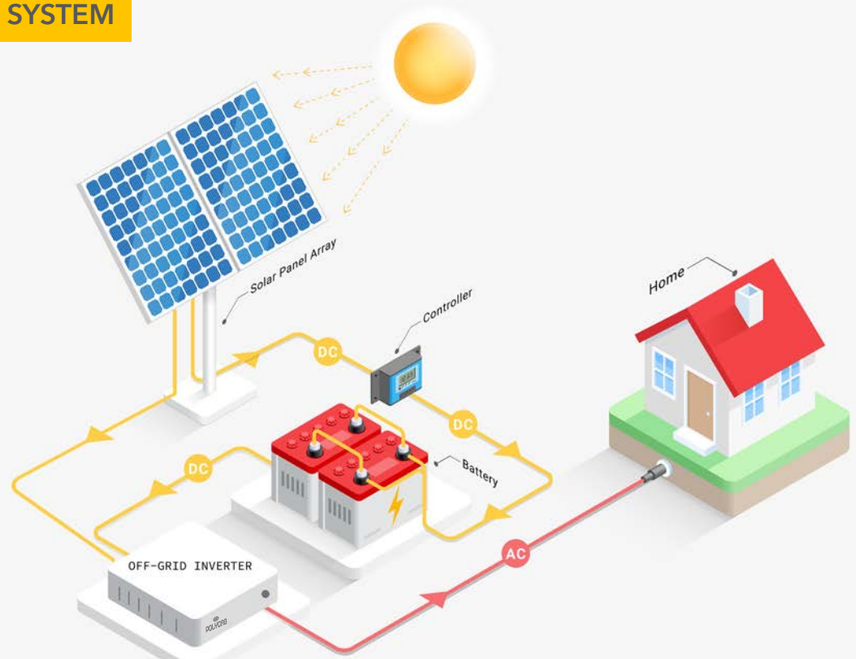
EVERYTHING UNDER THE SUN

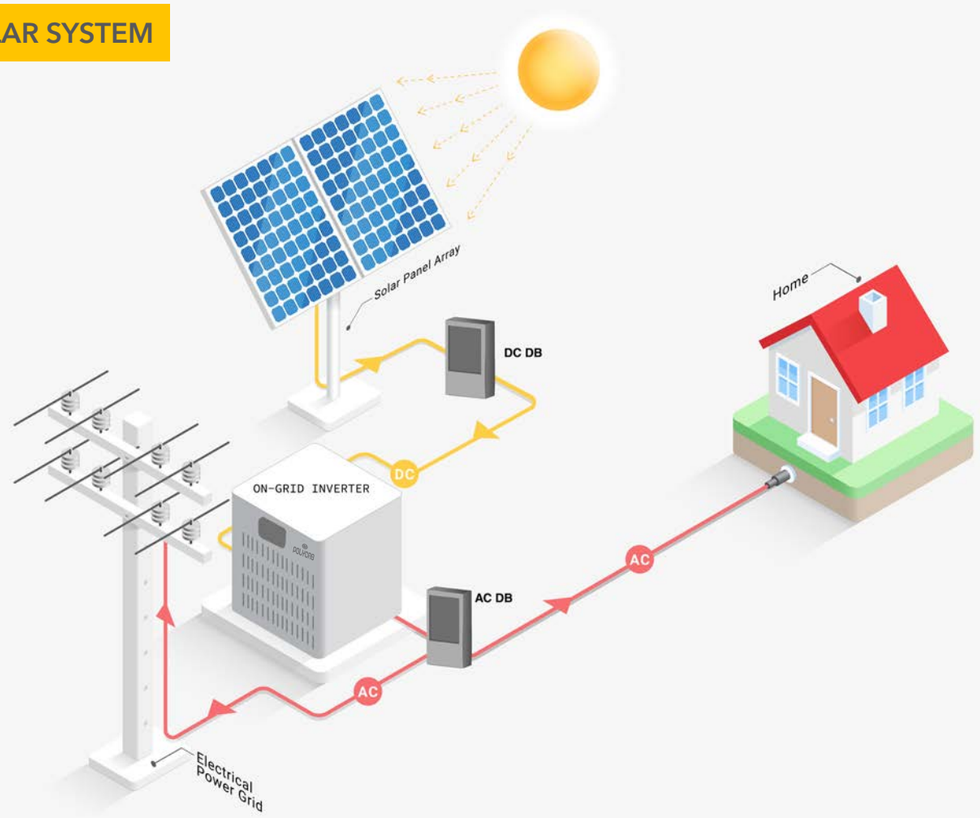
Cables | DC MCB | Grid Tie Solar Inverter | PV Module | Cable Harness
Off Grid Inverter | Connector

POLYCAB

OFF-GRID SOLAR SYSTEM



ON-GRID SOLAR SYSTEM



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ABOUT US

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

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 Certified with all relevant IEC Tests conducted and certified by TUV for the full range of Inverters from 1kW to 110kW.
Our success story of On-Grid Inverters in short span of 5 years is worth mentioning. We have already supplied 300MW+ in capacity and 30000+ 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 Cable Connectors (MC4) in all its variants, Solar Cable Harnesses, Solar Off-Grid Inverters with Batteries (both Tubular Lead-Acid and Lithium Ferro Phosphate) to our product basket.
Our goal to become a one stop shop for all the major components needed by Solar Roof-Top System Integrator is now nearing reality and we are now poised to offer all our products to International Markets.

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.

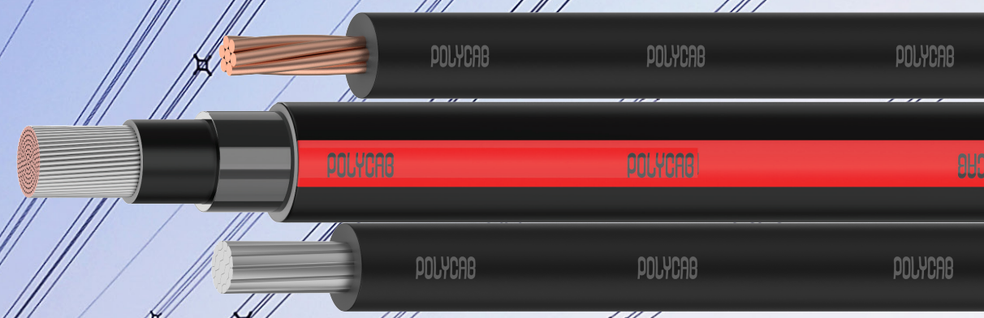
To make an ecological awareness and safe use of renewable energy Polycab has brought complete Solar energy solution in Indian and overseas market. Polycab Solar equipment meet the high expectation that are demanded from the Solar system.
Polycab has brought the environmentally friendly E-Beam Technology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

SOLAR CABLES

LEADING FEATURES

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



POLYCAB GREEN

POLYCAB green technology is highly sustainable and well compatible with ecological use of solar product. The state-of-the-art technology takes care of the product efficiency, service life, emission reduction and conservation of natural resources. Green Technology is the selection of manufacturing methods and Raw materials which support and sustain a renewable way of producing products with minimal harm to the environment. In manufacturing community, POLYCAB future technology will go for a philosophical change that takes care of conservation of energy, scrap reduction and green product design. However, todays opportunity of selling green product, POLYCAB has highly emphasised on the restricted usage of chemicals – the requirement of today and tomorrow and will provide a sustainable future proof solution. POLYCAB green products are following European Union(EU) directives and RoHS & REACH compliance:

REACH

Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) is a European Union (EU) regulation which addresses the production and use of chemical substances, and their potential impact on both human health and the environment. It came into action on 1st June 2007 and replaced a number of European directives and regulations in a single system.

The main aim of REACH is to improve the protection of human health and environment by identification of intrinsic properties of chemical substances as well as to enhance innovative capability and competitiveness of EU chemicals industry.

This regulation also demand progressive substitution of most dangerous chemicals (or Substance of Very High Concern) when suitable alternatives have been identified.

The EU manufacturers and importers are required to gather information on the properties of their chemical substances, which will allow their safe handling and to register the data in the European Chemicals Agency (ECHA). ECHA evaluates individual registration for their compliance and the EU member states evaluate selected substance to clarify initial concern for human health and environment. Authorities and ECHA's scientific committee decide whether the risk of substances (SVHC) can be managed the risk is manageable then the chemical will be subject to authorisation. Otherwise the authority can restrict or ban the chemical or can demand suitable alternative substitution.

There are 205 Substances of Very High Concern which must not be present in more than 0.1% (w/w) to full fill the REACH compliance criteria. This include phthalates, arsenic and its compound, chromium VI and compounds, anthracene oil, acrylamide, cobalt II and compounds, lead and compound, methanol, mercury and compound and many others.

RoHs

Restriction of Hazardous Substance (RoHS) restricts the use of some hazardous materials in the manufacture of electronic and electrical products in European Union (EU).

The aim of RoHS is to restrict the use of hazardous substance during the manufacture of an electronic or electrical product and thus to protect both the environment and human health. The original RoHS or the RoHS 1 also known as directive 2002/95/EC came in action in EU market from 1st July 2006 and it restricts the use of six hazardous materials found in electrical and electronic equipment (EEE).

RoHS 2 or directive 2011/656/EU was published in 21st July 2011 which includes a CE marking. This directive means that with the original RoHS compliance there should be a CE marking on finished product. It includes category 8 (medical devices) and category 9 (monitoring and control equipment) and it has additional compliance record keeping requirement.
RoHS 3 is the latest version of RoHS also known as Directive 2015/863, came in action from 22nd July 2019 and it includes four more substances (all phthalates) to the list of six of original RoHS for electrical and electronic equipment. RoHS 3 adds category 11 (catch-all) products. Category 8 and category 9 has two years extension to meet RoHS 3 compliance.

Following are the 10 restricted substances for which RoHS specifies maximum limit:
Cadmium (Cd) : <100 ppm
Lead (Pb) : <1000 ppm
Mercury (Hg) : <1000 ppm
Hexavalent Chromium (Cr VI) : <1000 ppm
Polybrominated Biphenyl (PBB) : <1000 ppm
Polybrominated Diphenyl Ether (PBDE) : <1000ppm
Bis (2-Ethylhexyl) phthalate (DEHP) : <1000 ppm
Benzyl butyl phthalate (BBP) : <1000 ppm
Dibutyl phthalate (DBP) : <1000 ppm
Di-isobutyl phthalate (DIBP) : <1000ppm

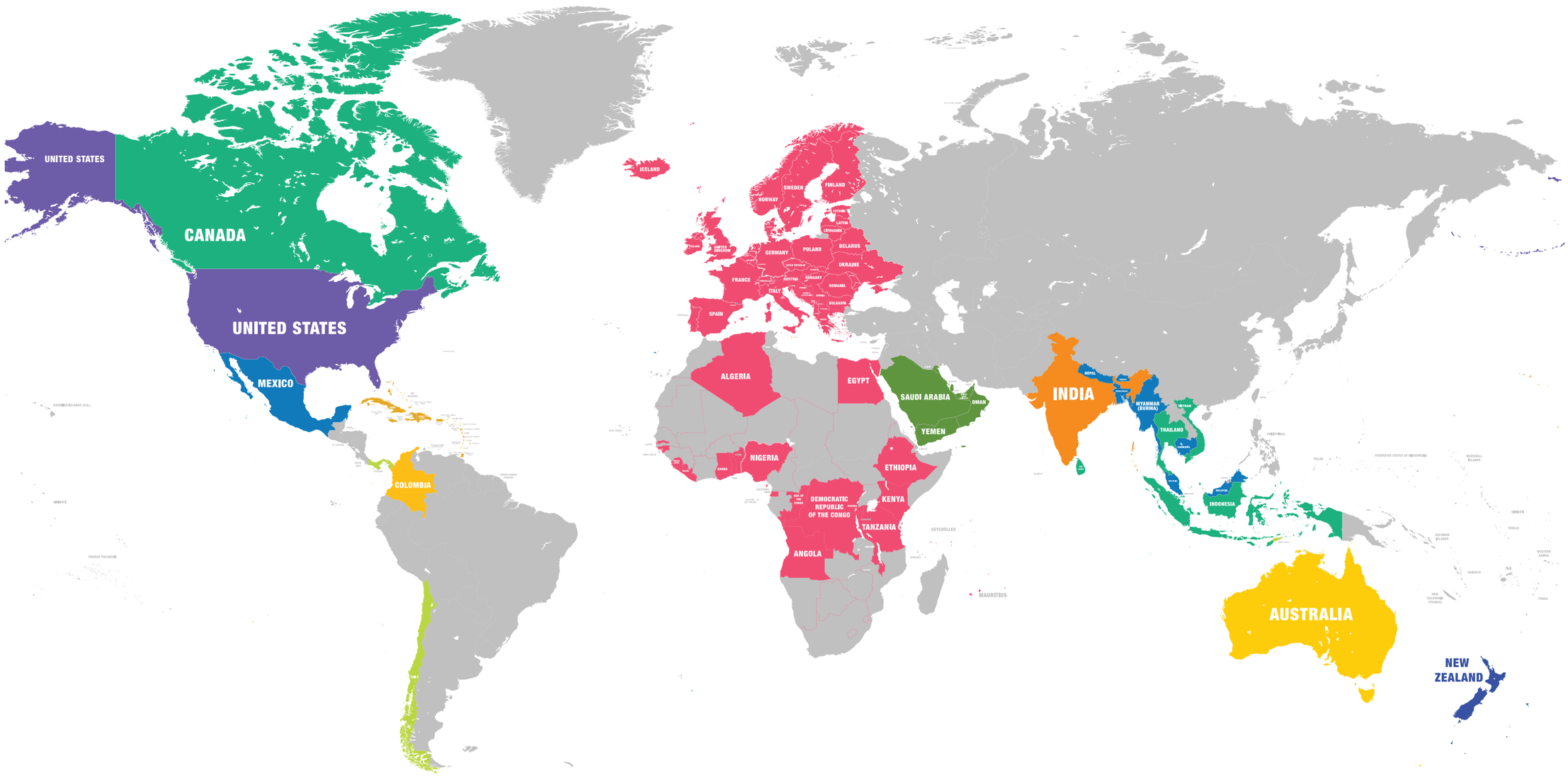
Among these the first six are applied under RoHS 1 while the last four were added in RoHS 3.

WEEE directive 2002/96/EC also related to RoHS. WEEE stands for Waste from Electrical and Electronic Equipment and controls the treatment, recovery and recycling of electronic and electrical equipment. All the applicable products must have WEEE compliance in EU market.

SOLAR INTERNATIONAL PRESENCE

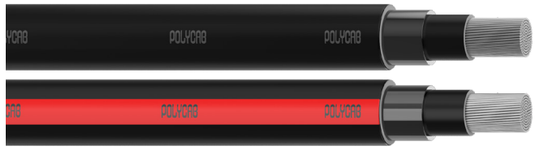
Polycab offers Solar Cable for complete solar projects in both AC as well as DC international markets. Medium Voltage in – 33 / 35 / 36 KV is manufactured for US, European and Australian / New Zealand as per their standards in sizes 185 – 630 sq.mm

DC feeder cables are manufactured for Australian and European markets as per their standards in sizes 120 – 630 sq.mm.
DC string cables with anti-termite Layer for the Australian markets and without anti-termite Layer for the rest of the world are manufactured in sizes, single core, two core as well twin parallel 4sq.m – 16sq.mm. All the DC string cables are insulated and sheathed with Electron Beam Rubberised Polyolefin Halogen free compounds. These DC string cables are AD7 / AD8 compliant.



POLYCAB SOLAR DC STRING CABLE BS EN 50618 & AS NZS 5000.1

Photovoltaic Solar DC Cable, Halogen Free, Flame Retardant, Anti Termite



Salient Features

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

Application

POLYCAB low smoke, halogen free, flexible single core cable with electron beam cross linked insulation and sheathing is designed for use in Photovoltaic installation on 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 +90˚C
Maximum operating conductor temperature: +120˚C for Maximum 20,000 hrs

Construction
- Conductor: Tinned copper conductor as per IEC 60228, class 5.
- Insulation: E-Beam cross linked halogen free and flame-retardant compound (XLPO)
- Anti Termite Layer : Polyamide (Nylon 12), Colour :Black
- 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 - > 30D
For occasional movement - > 20D

Standard and References

EN/IEC 60228

EN 50618

IEC 60332-1-2

AS/NSZ 5000.1

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 AND ELECTRICAL CHARACTERISTICS

Single Core Cross sectional Area	Nominal insulation thickness	Minimum Nylon Thickness	Nominal Sheath thickness	Approx. Overall Diameter	Max. DC Resistance at 20° C
mm2	mm	mm	mm	mm	Ω/km
4.0	0.7	0.2	0.8	6.5	5.09
6.0	0.7	0.2	0.8	7.5	3.39
10	0.7	0.2	0.8	8.0	1.95
16	0.7	0.2	0.9	9.5	1.24

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 the surface
mm2	A	A	A
4	55	52	44
6	70	67	57
10	98	93	79
16	132	125	107

*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.

POLYCAB SOLAR H1Z2Z2-K BS EN 50618 - TWIN

Photovoltaic Solar DC Cable

Salient Features

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

Application

POLYCAB low smoke, halogen free, flexible twin 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 DC

Operation Temperature
Fixed: -40˚C to +90˚ C
Maximum conductor temperature: +120˚ C for Maximum 20,000 hrs

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)

Core 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
IEC 62930

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
Toxicity	EN 50305
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 & ELECTRICAL CHARACTERISTICS

Cross sectional Area	Nominal insulation thickness	Nominal Sheath thickness	Approx. Overall Diameter	Max. DC Resistance at 20˚ C	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
n x mm2	mm	mm	mm x mm	Ω/km	Amp.	Amp.	Amp.
2 x 2.5	0.7	0.8	5.5 x 11.2	8.21	41	39	33
2 x 4.0	0.7	0.8	6.0 x 12.2	5.09	55	52	44
2 x 6.0	0.7	0.8	6.5 x 13.2	3.39	70	67	57
2 x 10	0.7	0.8	7.5 x 15.2	1.95	98	93	79
2 x 16	0.7	0.9	8.5 x 17.2	1.24	132	125	107

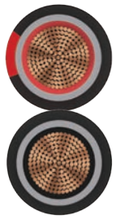
*Current Ratings are based on EN 50618 at Max. Conductor Temperature 120 ˚C and Ambient Air temperature 60 ˚C.
Current rating/de-rating factors other than 60 ˚C ambient temperature.

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 Anti Termite Nylon Layer, If Required.

POLYCAB SOLAR PV1-F 2Pfg 1169/08 2007- TWIN

Photovoltaic Solar DC Cable



Salient Features

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

Application

POLYCAB low smoke, halogen free, flexible twin 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 DC

Operation Temperature
Fixed: -40˚C to +90˚ C
Maximum conductor temperature: +120˚ C for Maximum 20,000 hrs

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)

Core 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
IEC 60332-1-2
2Pfg 1169/08 2007

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
Toxicity	EN 50305
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 & ELECTRICAL CHARACTERISTICS

Cross sectional Area	Minimum insulation thickness	Minimum Sheath thickness	Approx. Overall Diameter	Max. DC Resistance at 20˚ C	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
n x mm2	mm	mm	mm x mm	Ω/km	Amp.	Amp.	Amp.
2 x 2.5	0.5	0.5	4.5 x 9.2	8.21	41	39	33
2 x 4.0	0.5	0.5	5.0 x 10.2	5.09	55	52	44
2 x 6.0	0.5	0.5	5.6 x 11.4	3.39	70	67	57
2 x 10	0.5	0.5	6.6 x 13.4	1.95	98	93	79
2 x 16	0.5	0.5	7.6 x 15.4	1.24	132	125	107

*Current Ratings are based on EN 50618 at Max. Conductor Temperature 120 ˚C and Ambient Air temperature 60 ˚C.
Current rating/ de-rating factors other than 60 ˚C ambient temperature.

up to 60 ˚C	70 ˚C	80 ˚C	90 ˚C	100 ˚C	110 ˚C
1.00	0.91	0.82	0.71	0.58	0.41

POLYCAB SOLAR UL 4703 – AL Alloy

Photovoltaic Wire, 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
POLYCAB PV halogen free flame-retardant Al Alloy conductor E-Beam crosslinked Polyolefins insulated Wire is designed to use in Outdoor Solar application as per NEC 690 in wet & dry location. The cable is rated direct burial, Sunlight resistant and weatherproof.

Voltage Rating
Max Voltage:2000 V

Operation Temperature
Fixed: -40˚C to +90˚ C

Construction
Conductor: 8000 Series Stranded (Class B) Aluminium Alloy conductor as per ASTM B801.
Insulation: Halogen free flame retardant E-Beam crosslinked Polyolefins.

Identification
(-Ve)Black, (+ve)Red

Bending Radius
Fixed installation – 8-10 D

Standard and References
ASTM B801
UL 44
UL 4703
Ul 854

Test Voltage
As per UL 44
Max. Short circuit temp: 250˚ C

Compliance
UL 854 for USE-2
UL 44 for Type RHW-2
UL 4703 for Type PV
UL 44

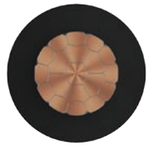
Approval
UL 4703

DIMENSIONAL AND ELECTRICAL CHARACTERISTICS

Conductor Size (AWG/MCM)	No. of Strands (Nos.)	Conductor Dia. Compact (mm)	Max. D.C. Resistance at 20 Deg. C. (Ohm/km)	Nominal Insulation Thickness (mm)	Approx Overall Dia. (mm)
8	7	3.40	3.52	2.15	8.0
6	7	4.29	2.21	2.15	8.9
4	7	5.41	1.39	2.15	10.0
2	7	6.81	0.875	2.15	11.4
1	19	7.59	0.693	2.66	13.2
1/0	19	8.53	0.550	2.66	14.2
2/0	19	9.55	0.436	2.66	15.2
3/0	19	10.70	0.346	2.66	16.3
4/0	19	12.10	0.274	2.66	17.7
250	37	13.20	0.232	3.04	19.6
300	37	14.50	0.194	3.04	20.9
350	37	15.60	0.166	3.04	22.0
400	37	16.70	0.145	3.04	23.1
500	37	18.70	0.116	3.04	26.0
600	61	20.70	0.0967	3.43	28.9
700	61	22.30	0.0829	3.43	30.5
750	61	23.10	0.0774	3.43	31.3
800	61	23.80	0.0725	3.43	32.0
900	61	25.40	0.0645	3.43	33.6
1000	61	26.90	0.058	3.43	35.1

POLYCAB SOLAR UL 4703 – COPPER

Photovoltaic Wire, 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

POLYCAB PV halogen free flame-retardant Copper conductor, E-Beam crosslinked Polyolefins insulated Wire is designed to use in Outdoor Solar application as per NEC 690 in wet & dry location. The cable is rated direct burial, Sunlight resistant and weatherproof.

Voltage Rating

Rated Voltage: 2000 V

Operation Temperature

Fixed: -40˚C to +90˚ C

Construction

Conductor: Stranded (Class B) Bare or Tinned Copper conductor as per ASTM B8
Insulation: Halogen free Flame retardant E-Beam crosslinked Polyolefins

Identification

(-Ve)Black, (+ve)Red

Bending Radius

Fixed installation – 8-10 D

Standard and References

ASTM B8

UL 44

UL 4703

Ul 854

Test Voltage

As per UL 44
Max. Short circuit temp: 250˚ C

Compliance

UL 854 for USE-2
UL 44 for Type RHW-2
UL 4703 for Type PV
UL 44

Approval

UL 4703 Certified

DIMENSIONAL AND ELECTRICAL CHARACTERISTICS

Conductor Size (AWG/MCM)	No. of Strands (Nos.)	Conductor Dia. Compact (mm)	Max. D.C. Resistance at 20 Deg. C. (Ohm/km) (Bare Conductor)	Nominal Insulation Thickness (mm)	Approx Overall Dia. (mm)
12 AWG	7	2.32	5.43	1.90	6.4
10 AWG	7	2.95	3.41	1.90	7.0
8 AWG	7	3.71	2.14	2.15	8.3
7 AWG	7	4.17	1.70	2.15	8.7
6 AWG	7	4.67	1.35	2.15	9.2
5 AWG	7	5.23	1.071	2.15	9.8
4 AWG	7	5.89	0.848	2.15	10.5
3 AWG	7	6.60	0.673	2.15	11.2
2 AWG	7	7.42	0.534	2.15	12.0
1 AWG	19	8.43	0.423	2.66	14.1
1/0 AWG	19	9.47	0.335	2.66	15.1
2/0 AWG	19	10.64	0.266	2.66	16.3
3/0 AWG	19	11.94	0.211	2.66	17.6
4/0 AWG	19	13.41	0.167	2.66	19.0
250 MCM	37	14.61	0.142	3.04	21.0
300 MCM	37	16.00	0.118	3.04	22.4
350 MCM	37	17.30	0.101	3.04	23.7
400 MCM	37	18.49	0.0885	3.04	24.9
500 MCM	37	20.65	0.0708	3.04	28.0
600 MCM	61	22.68	0.0590	3.43	30.8
700 MCM	61	24.49	0.0506	3.43	32.6
750 MCM	61	25.35	0.0472	3.43	33.5
800 MCM	61	26.19	0.0443	3.43	34.3
900 MCM	61	27.79	0.0393	3.43	35.9
1000 MCM	61	29.26	0.0354	3.43	37.4

POLYCAB 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

POLYCAB 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
mm2	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
mm2	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

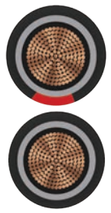
Current rating / de-rating factors other than 60°C ambient temperature.

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.

POLYCAB SOLAR HALOGEN FREE LOW SMOKE IEC 62930

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

POLYCAB low smoke, halogen free, flexible single core cable with electron beam cross linked insulation and sheathing is designed for use in Photovoltaic installation on 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 +90˚C
Maximum operating conductor temperature: +120˚C

Construction

- Conductor: Tinned copper conductor as per IEC 60228, class 5 & class 2
  (Class 5: For cables that is directly connected to the PV Module.
  Class 2: For cables intended for fixed installation and not directly connected to the PV Modules.)
- 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

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 & ELECTRICAL CHARACTERISTICS FOR CLASS 5 CONDUCTOR CABLES

Single Core Cross sectional Area	Nominal insulation thickness	Nominal Sheath thickness	Approx. Overall Diameter	Max. DC Resistance at 20° C
mm2	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
400	2.0	2.0	34.5	0.0495

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

FOR CLASS 2 CONDUCTOR CABLE

Single Core Cross sectional Area	Nominal insulation thickness	Nominal Sheath thickness	Approx. Overall Diameter	Max. DC Resistance at 20° C
mm2	mm	mm	mm	Ω/km
16	0.7	0.9	8.0	1.16
25	0.9	1.0	10.0	0.734
35	0.9	1.1	11.5	0.529
50	1.0	1.1	13.0	0.391
70	1.1	1.2	14.5	0.270
95	1.1	1.3	16.5	0.195
120	1.2	1.3	18.0	0.154
150	1.4	1.4	20.0	0.126
185	1.6	1.6	22.5	0.100
240	1.7	1.7	25.5	0.0762
300	1.8	1.8	28.0	0.0607
400	2.0	2.0	31.5	0.0475

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
mm2	A	A	A
1.5	31	30	24
2.5	42	40	33
4	57	54	45
6	72	69	58
10	98	96	80
16	132	130	107
25	183	174	138
35	227	215	171
50	287	273	209
70	361	344	269
95	433	411	328
120	508	483	382
150	590	560	441
185	671	638	506
240	808	767	599
300	913	866	693
400	1098	1041	825

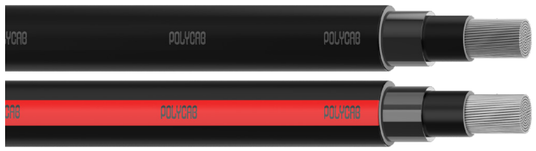
*Current Ratings are based on IEC 62930 at Max. Conductor Temperature 90°C and Ambient Air temperature 30°C.

Current rating / de-rating factors other than 30°C ambient temperature.

0	10°C	20°C	30°C	40°C	50°C	60°C	70°C
1.22	1.15	1.08	1.00	0.91	0.82	0.71	0.58

POLYCAB SOLAR DC FEEDER CABLE AS NZS 5000.1 – ANTI TERMITE

Photovoltaic DC Feeder Cable



Salient Features

- Long life
- UV, Ozone resistant
- Hydrolysis resistant
- Termite Resistant

Application

POLYCAB, single core cable with cross linked polyethylene insulation 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.

Operation Temperature
Fixed: -40˚C to +90˚ C
Maximum operating conductor temperature: +90˚ C

Construction:
- Conductor: Aluminium conductor as per AS-NZS 1125
- Insulation: cross linked polyethylene material, Colour: Black (Longitudinal water blocking Tape can be provided, If required)
- Anti -Termite Layer: Polyamide (Nylon 12)
- Sheath: HDPE

Cable Identification
(- ve) - Black & (+ ve) - Black with red Strip

Bending Radius (For 1 Cable)
For fixed installation - > 12D
For occasional movement - > 15D

Standard and References
AS/NZS 1125
AS/NZS 5000.1
AS/NZS 3808

Test Voltage
6.5kV AC 50Hz

Compliance

UV resistance	ASTM G-154
Water resistance Category (AD7)	IEC 60364-5-51

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

DIMENSIONAL & ELECTRICAL CHARACTERISTICS

Single Core Cross sectional Area	Nominal insulation thickness	Minimum Nylon Jacket thickness	Nominal Sheath thickness	Approx. Overall Diameter	Max. DC Resistance at 20˚ C	Current Rating capacity		
						Two cables touching in air unenclosed spaced from surface	Two cable touching in air on surface	Two cable touching in enclosure Underground
mm2	mm	mm	mm	mm	Ω/km	Amp.	Amp.	Amp.
120	1.2	0.2	1.5	19.5	0.253	305	253	252
150	1.4	0.2	1.6	21.5	0.206	350	291	283
185	1.6	0.2	1.6	24.0	0.164	406	340	329
240	1.7	0.2	1.7	26.5	0.125	485	408	388
300	1.8	0.2	1.8	29.0	0.100	562	473	440
400	2.0	0.2	1.9	32.5	0.0778	660	559	516
500	2.2	0.2	2.0	36.6	0.0605	772	656	590
630	2.4	0.2	2.2	40.5	0.0469	904	772	695

*Current Ratings are based on AS/NZS 3008 std, Max. Conductor Temperature at 90°C, Ambient temperature at 40°C in Air, Ambient temperature at 25°C in Ground, Soil thermal resistivity 1.2 k.m/W, Depth of Laying 0.5m.

Current rating / de-rating factors for other than 40°C ambient air temperature.

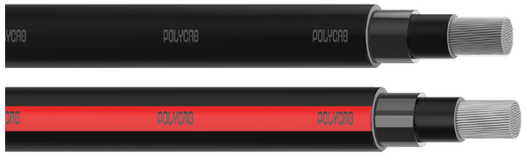
15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C	85°C
1.26	1.20	1.15	1.10	1.05	1.00	0.94	0.88	0.81	0.73	0.65	0.57	0.47	0.34	0.19

Current rating / de-rating factors for other than 25°C ground temperature.

10°C	15°C	20°C	25°C	30°C	35°C	40°C
1.11	1.07	1.03	1.00	0.97	0.93	0.89

POLYCAB SOLAR DC FEEDER CABLE IEC 60502-1

Photovoltaic DC Feeder Cable



Salient Features

- Long life
- UV, Ozone resistant
- Hydrolysis resistant

Application

POLYCAB, single core cable with cross linked polyethylene insulation 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.

Operation Temperature

Fixed: -40˚C to +90˚ C
Maximum operating conductor temperature: +90˚ C

Construction

- Conductor: Aluminium conductor as per IEC 60228
- Insulation: cross linked polyethylene material, Colour: Black (Longitudinal water blocking Tape can be provided, If required)
- Sheath: HDPE

Cable Identification

(- ve) - Black & (+ ve) - Black (70%) with red (30%) Strip

Bending Radius

For fixed installation - > 15D
For occasional movement - > 15D

Standard and References

IEC 60228

IEC 60502-1

Test Voltage

3.5kV AC 49Hz to 61Hz

Compliance

UV resistance	ASTM G-154

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

DIMENSIONAL AND ELECTRICAL CHARACTERISTICS

Single Core Cross sectional Area	Nominal insulation thickness	Nominal Sheath thickness	Approx. Overall Diameter	Max. DC Resistance at 20˚ C	Current Rating capacity		
					In Ground	In Duct	In Air
mm2	mm	mm	mm	Ω/km	Amp.	Amp.	Amp.
120	1.2	1.5	18.0	0.253	230	206	276
150	1.4	1.6	20.0	0.206	256	229	314
185	1.6	1.6	22.0	0.164	290	258	366
240	1.7	1.7	24.5	0.125	335	298	434
300	1.8	1.8	27.5	0.100	376	333	500
400	2.0	1.9	30.5	0.0778	429	378	589
500	2.2	2.0	34.5	0.0605	485	426	685
630	2.4	2.2	38.5	0.0469	546	477	793

*Current Ratings are based on IEC 60364-5-52 std, Max. Conductor Temperature at 90°C, Ambient temperature at 30°C in Air, Ambient temperature at 20®C in Ground, Soil thermal resistivity 2.5 k.m/W, Depth of Laying 0.8m.

Current rating / de-rating factors for other than 30°C ambient air temperature.

10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C
1.15	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.71	0.65	0.58	0.50	0.41

Current rating / de-rating factors for other than 20°C ground temperature.

10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C
1.07	1.04	1.00	0.96	0.93	0.89	0.85	0.80	0.76	0.71	0.65	0.60	0.53	0.46	0.38

POLYCAB SOLAR AS NZS 1429 MV XLPE

Photovoltaic MV Cable

Salient Features

- Long life
- UV, Ozone resistant
- Hydrolysis resistant
- Termite Resistant (optional)

Application

POLYCAB, single core cable with cross linked insulation is designed to use for Photovoltaic installation. These cables are suitable for direct burial application.

Voltage Rating
Voltage:19/33 (36) kV

Operation Temperature
Fixed: -40˚C to +90˚C
Maximum operating conductor temperature: +90˚C
Short Circuit conductor temperature: 250˚C

Construction:

- Conductor: Aluminium conductor, Class-2 as per AS/NZS 1125
- Conductor Screen: Extruded Semi-conducting compound
- Insulation: Cross linked Polyethylene as per AS/NZS 3808
  (Tree Retardant XLPE can be provided, If Required)
- Insulation Screen: Extruded Strippable Semi-conducting compound
- Metallic Screen: Copper Wires and Open Helix Copper Tape (Earth Fault current capacity 3kA/sec. & 10kA/sec.)
  (Water blocking tape is applied under and over screen, If Required)
- Composite Sheath:
  Inner Layer: Extruded PVC 5V-90
  Anti Termite Layer (optional): Polyamide (Nylon) 12
  Outer Layer: High Density Polyethylene as per AS/NZS 3808, Colour: Black

Core Identification
Natural

Bending Radius
For fixed installation - > 20D
For occasional movement - > 30D

Standard and References
AS/NZS 1125: 2001
AS/NZS 3808: 2000
AS/NZS 1429.1: 2006

Test Voltage
63kV AC 50Hz

Compliance
Termite Protection — Anti-Termite Polyamide (Nylon) Layer (Optional)

Note: These cables can be provided with Twisted Triplex Formation, If Required

DIMENSIONAL CHARACTERISTICS

No. of Cores	Core Cross sectional Area	Nom. insulation thickness	Approx. Overall Diameter	
			3kA/sec.	10kA/sec.
No.	mm2	mm	mm	mm
1	70	8.0	35.0	36.0
1	95	8.0	37.0	37.0
1	120	8.0	38.0	39.0
1	150	8.0	40.0	40.0
1	185	8.0	41.0	42.0
1	240	8.0	44.0	44.0
1	300	8.0	46.0	47.0
1	400	8.0	49.0	50.0
1	500	8.0	53.0	53.0
1	630	8.0	57.0	57.0

ELECTRICAL CHARACTERISTICS

No. of Cores	Single Core Cross Sectional Area	Max. DC Resistance at 20˚C	Max. AC Resistance at 90˚C	Approx. Cable Capacitance	Approx. Cable Reactance	Impedance of Cable at 90˚C
No.	mm2	Ω/km	Ω/km	mfd/km	Ohm/km	Ohm/km
1	70	0.443	0.568	0.15	0.149	0.587
1	95	0.320	0.411	0.17	0.143	0.434
1	120	0.253	0.325	0.18	0.137	0.353
1	150	0.206	0.265	0.19	0.133	0.297
1	185	0.164	0.211	0.21	0.129	0.247
1	240	0.125	0.161	0.23	0.123	0.203
1	300	0.100	0.129	0.25	0.119	0.176
1	400	0.0778	0.101	0.27	0.114	0.153
1	500	0.0605	0.080	0.30	0.110	0.137
1	630	0.0469	0.062	0.33	0.107	0.125

CURRENT RATINGS

No. of Cores	Core Cross sectional Area	Buried direct in the ground 20°C		In single way ducts 20°C		In Air 30°C		
		Trefoil	Flat Spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
No.	mm2	Amp.	Amp.	Amp.	Amp.	Amp.	Amp.	Amp.
1	70	186	192	176	178	230	236	278
1	95	221	229	210	213	280	287	338
1	120	252	260	240	242	324	332	391
1	150	281	288	267	271	368	376	440
1	185	317	324	303	307	424	432	504
1	240	367	373	351	356	502	511	593
1	300	414	419	397	402	577	586	677
1	400	470	466	451	457	673	676	769
1	500	530	546	504	537	773	776	919
1	630	600	646	554	617	883	886	1089

*Current Ratings are based on IEC 60502-2 & IEC 60287, Max. Conductor Temperature at 90°C, Ambient temperature at 30°C in Air / at 20°C in Ground, Thermal resistivity of Soil 1.5 k.m/W & for earthenware ducts 1.2k.m/W and Depth of Laying 0.8m.

Current rating / de-rating factors for other than 30°C ambient air temperature.

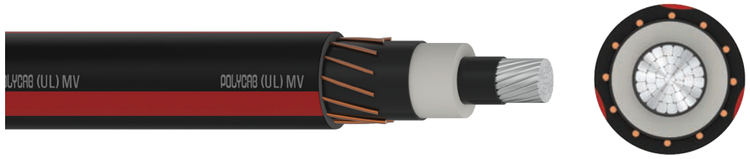
20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.71

Current rating / de-rating factors for other than 20°C ground temperature.

10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
1.07	1.04	1.00	0.96	0.93	0.89	0.85	0.80	0.76

POLYCAB SOLAR UL 1072 MV 105 TR-XLPE

Photovoltaic MV Cable



Salient Features

- Long life
- UV, Ozone resistant

Application

POLYCAB, single core cable with Tree Retardant cross linked Polyethylene insulation is designed to use for Photovoltaic installation. These cables are intended for use in wet or dry locations for distribution of single or three phase medium-voltage power. These cables may be installed in ducts or direct buried.

Voltage Rating

Voltage: 35 kV

Operation Temperature

Fixed: -40˚C to +105˚C
Maximum operating conductor temperature: 105˚C
*Emergency conductor temperature: 140˚C
Short Circuit conductor temperature: 350˚C
(*Operation at the emergency overload temperature shall not exceed 1500 hours cumulative during the lifetime of the cable.)

Construction

- Conductor: Filled (i. e. Water Blocked) Stranded Aluminium Alloy 1350 conductor, Class B as per ASTM B-231
- Conductor Screen: Extruded Semi-conducting compound
- Insulation: Tree-Retardant Cross-linked Polyethylene (TRXLPE) - 100% insulation level.
- Insulation Screen: Extruded Strippable Semi-conducting compound
- Metallic Screen: Concentric Copper Wire Screening.
- Water Blocking Agent: Shall be applied around the neutral wires to resist longitudinal water penetration.
- Outer Sheath: Extruded-to-fill non-conducting cross-linked polyethene jacket, Colour: Black Colour with three longitudinal extruded red stripes.

Bending Radius

For fixed installation - > 12D
For occasional movement - > 15D

Standard and References

ASTM B-231
AEIC CS8
ICEA S-94-649
ICEA T-31-610
ICEA T-34-664 (As applicable for TRXLPE insulated concentric neutral cable)
UL 1072 MV-105

Test Voltage

69kV AC 50Hz

DIMENSIONAL AND ELECTRICAL CHARACTERISTICS

Conductor Cross sectional Area (AWG/ MCM)	Conductor Diameter (inch)	Conductor DC Resistance @ 20°C (ohm/ km)	Nominal Insulation Thickness (mils)	Concentric Neutral			Nominal Thickness of Jacket (mils)	Approx. Overall Diameter (inch)	Ampacity Direct Buried	
				Size	No.of Wires	Size of Wires (AWG)			Flat (Amp)	Trefoil (Amp)
1500	1.299	0.0380	345	1/6	14	14	60	2.56	892	934
1500	1.299	0.0380	345	1/6	19	14	60	2.56	892	934
1500	1.299	0.0380	345	1/6	18	12	60	2.56	892	934
1500	1.299	0.0380	345	1/6	24	12	60	2.56	892	934
1500	1.299	0.0380	345	1/6	22	10	60	2.60	892	934
1250	1.184	0.0453	345	1/12	12	14	60	2.44	836	863
1250	1.184	0.0453	345		17	14	60	2.44	836	863
1250	1.184	0.0453	345		11	12	60	2.44	836	863
1250	1.184	0.0453	345	1/6	15	12	60	2.44	836	863
1250	1.184	0.0453	345	1/3	18	10	60	2.52	836	863
1000	1.117	0.0568	345	1/12	10	14	60	2.36	761	772
1000	1.117	0.0568	345		12	14	60	2.36	761	772
1000	1.117	0.0568	345		15	14	60	2.36	761	772
1000	1.117	0.0568	345		10	12	60	2.40	761	772
1000	1.117	0.0568	345	1/6	12	12	60	2.40	761	772
1000	1.117	0.0568	345	1/3	23	12	60	2.40	761	772
1000	1.117	0.0568	345	1/2	22	10	60	2.44	761	772

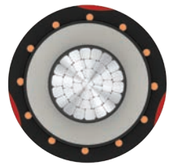
DIMENSIONAL AND ELECTRICAL CHARACTERISTICS

Conductor Cross sectional Area (AWG/ MCM)	Conductor Diameter (inch)	Conductor DC Resistance @ 20°C (ohm/ km)	Nominal Insulation Thickness (mils)	Concentric Neutral			Nominal Thickness of Jacket (mils)	Approx. Overall Diameter (inch)	Ampacity Direct Buried	
				Size	No.of Wires	Size of Wires (AWG)			Flat (Amp)	Trefoil (Amp)
750	0.968	0.0758	345	1/6	15	16	60	2.17	638	648
750	0.968	0.0758	345		13	14	60	2.20	638	648
750	0.968	0.0758	345	1/6	14	14	60	2.20	638	648
750	0.968	0.0758	345		8	12	60	2.24	638	648
750	0.968	0.0758	345	1/3	18	12	60	2.24	638	648
750	0.968	0.0758	345	1/2	17	10	60	2.28	638	648
500	0.789	0.114	345	1/6	10	14	60	2.01	530	533
500	0.789	0.114	345	1/3	12	14	60	2.01	530	533
500	0.789	0.114	345	1/3	12	12	60	2.05	530	533
500	0.789	0.114	345	1/2	18	12	60	2.05	530	533
500	0.789	0.114	345	2/3	23	12	60	2.05	530	533
350	0.616	0.162	345	1/6	11	16	45	1.77	431	434
350	0.616	0.162	345		11	14	45	1.81	431	434
350	0.616	0.162	345	1/3	13	14	45	1.81	431	434
350	0.616	0.162	345	1/2	20	14	45	1.81	431	434
350	0.616	0.162	345		7	12	45	1.81	431	434
350	0.616	0.162	345	2/3	16	12	45	1.81	431	434
250	0.558	0.228	345	2/3	8	16	45	1.65	361	363
250	0.558	0.228	345	1/3	10	14	45	1.65	361	363
250	0.558	0.228	345	1/2	14	14	45	1.65	361	363
250	0.558	0.228	345	2/3	19	14	45	1.65	361	363
4/0	0.512	0.269	345	1/3	8	14	45	1.65	327	328
4/0	0.512	0.269	345	1/2	12	14	45	1.65	327	328
4/0	0.512	0.269	345	2/3	15	14	45	1.65	327	328
4/0	0.512	0.269	345	Full	23	14	45	1.65	327	328
3/0	0.423	0.338	345	1/3	11	16	45	1.54	285	286
3/0	0.423	0.338	345	1/2	15	16	45	1.54	285	286
3/0	0.423	0.338	345	2/3	13	14	45	1.54	285	286
3/0	0.423	0.338	345		15	14	45	1.54	285	286
3/0	0.423	0.338	345	Full	19	14	45	1.54	285	286
3/0	0.423	0.338	345		7	12	45	1.57	285	286
2/0	0.405	0.427	345	1/3	9	16	45	1.50	250	251
2/0	0.405	0.427	345	1/2	12	16	45	1.50	250	251
2/0	0.405	0.427	345	2/3	16	16	45	1.50	250	251
2/0	0.405	0.427	345	Full	15	14	45	1.54	250	251
1/0	0.336	0.538	345	1/3	7	16	45	1.42	216	217
1/0	0.336	0.538	345	1/2	10	16	45	1.42	216	217
1/0	0.336	0.538	345	2/3	13	16	45	1.42	216	217
1/0	0.336	0.538	345	Full	15	16	45	1.42	216	217
1/0	0.336	0.538	345	Full	12	14	45	1.46	216	217
1/0	0.336	0.538	345		16	14	45	1.46	216	217
1/0	0.336	0.538	345		6	14	45	1.46	216	217
1/0	0.336	0.538	345	2/3	11	14	50	1.46	216	217
1/0	0.336	0.538	345	Full	16	14	50	1.46	216	217

*Ampacities based on cables operating in a 3-phase installation with one cable per phase, flat spaced and touching, earth rho of 90°C-cm/W, earth ambient of 20°C, neutral wires grounded at both ends, 75% load factor, conductor temperature of 105°C, and 36" depth of burial.

POLYCAB SOLAR UL 1072 MV 90 TR-XLPE

Photovoltaic AC Cable



Salient Features

- Long life
- UV, Ozone resistant

Application

POLYCAB, single core cable with Tree Retardant cross linked Polyethylene insulation is designed to use for Photovoltaic installation. These cables are intended for use in wet or dry locations for distribution of single or three phase medium-voltage power. These cables may be installed in ducts or direct buried.

Voltage Rating

Voltage: 35 kV

Operation Temperature

Fixed: -40˚C to +90˚C
Maximum operating conductor temperature: 90˚C
*Emergency conductor temperature: 130˚C
Short Circuit conductor temperature: 250˚C
(*Operation at the emergency overload temperature shall not exceed 1500 hours cumulative during the lifetime of the cable.)

Construction

- Conductor: Filled (i. e. Water Blocked) Stranded Aluminium Alloy 1350 conductor, Class B as per ASTM B-231
- Conductor Screen: Extruded Semi-conducting compound
- Insulation: Tree-Retardant Cross-linked Polyethylene (TRXLPE) - 100% insulation level.
- Insulation Screen: Extruded Strippable Semi-conducting compound
- Metallic Screen: Concentric Copper Wire Screening.
- Water Blocking Agent: Shall be applied around the neutral wires to resist longitudinal water penetration.
- Outer Sheath: Extruded-to-fill Linear low Density polyethene jacket, Colour: Black Colour with three longitudinal extruded red stripes.

Bending Radius

For fixed installation - > 12D
For occasional movement - > 15D

Standard and References

ASTM B-231
AEIC CS8
ICEA S-94-649
ICEA T-31-610
ICEA T-34-664 (As applicable for TRXLPE insulated concentric neutral cable)
UL 1072 MV-90

Test Voltage

69kV AC 50Hz

DIMENSIONAL AND ELECTRICAL CHARACTERISTICS

Conductor Cross sectional Area (AWG/ MCM)	Conductor Diameter (inch)	Conductor DC Resistance @ 20degC (ohm/km)	Nominal Insulation Thickness (mils)	Concentric Neutral			Nominal Thickness of Jacket (mils)	Approx. Overall Diameter (inch)	Ampacity Direct Buried	
				Size	No.of Wires	Size of Wires (AWG)			Flat (Amp)	Trefoil (Amp)
1500	1.299	0.038	345	1/12	19	14	80	2.56	892	934
1500	1.299	0.038	345	1/6	24	12	80	2.56	892	934
1500	1.299	0.038	345	1/3	24	9	80	2.64	892	934
1250	1.184	0.0453	345	1/12	16	14	80	2.44	836	863
1250	1.184	0.0453	345	1/8	15	12	80	2.44	836	863
1250	1.184	0.0453	345	1/6	20	12	80	2.44	836	863
1250	1.184	0.0453	345	1/6	22	12	80	2.44	836	863
1250	1.184	0.0453	345	1/3	25	10	80	2.52	836	863
1250	1.184	0.0453	345	1/2	30	9	80	2.52	836	863
1000	1.117	0.0568	345	1/12	13	14	80	2.36	761	772
1000	1.117	0.0568	345	1/6	16	12	80	2.40	761	772
1000	1.117	0.0568	345	1/3	22	12	80	2.40	761	772
1000	1.117	0.0568	345	1/3	20	10	80	2.44	761	772
1000	1.117	0.0568	345	1/2	30	10	80	2.44	761	772
750	0.968	0.0758	345	1/12	10	14	80	2.20	638	648
750	0.968	0.0758	345	1/6	19	14	80	2.20	638	648
750	0.968	0.0758	345	1/3	22	12	80	2.24	638	648
750	0.968	0.0758	345	1/3	24	12	80	2.24	638	648
750	0.968	0.0758	345	1/2	23	10	80	2.28	638	648

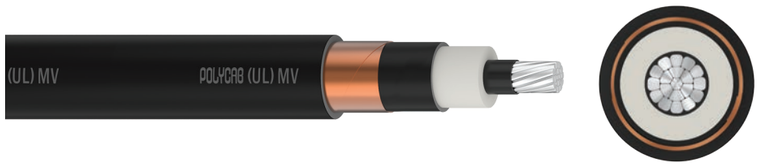
DIMENSIONAL AND ELECTRICAL CHARACTERISTICS

Conductor Cross sectional Area (AWG/ MCM)	Conductor Diameter (inch)	Conductor DC Resistance @ 20degC (ohm/km)	Nominal Insulation Thickness (mils)	Concentric Neutral			Nominal Thickness of Jacket (mils)	Approx. Overall Diameter (inch)	Ampacity Direct Buried	
				Size	No.of Wires	Size of Wires (AWG)			Flat (Amp)	Trefoil (Amp)
500	0.789	0.114	345	1/12	10	16	80	1.97	530	533
500	0.789	0.114	345	1/6	13	14	80	2.01	530	533
500	0.789	0.114	345	1/3	16	12	80	2.05	530	533
500	0.789	0.114	345	1/2	24	12	80	2.05	530	533
500	0.789	0.114	345	2/3	20	10	80	2.09	530	533
350	0.616	0.162	345	1/12	7	16	80	1.77	431	434
350	0.616	0.162	345	1/6	9	14	80	1.81	431	434
350	0.616	0.162	345	1/3	18	14	80	1.81	431	434
350	0.616	0.162	345	1/2	17	12	80	1.81	431	434
350	0.616	0.162	345	2/3	22	12	80	1.81	431	434
350	0.616	0.162	345	Full	16	9	80	1.89	431	434
250	0.558	0.228	345	1/12	6	16	50	1.65	361	363
250	0.558	0.228	345	1/6	10	16	50	1.65	361	363
250	0.558	0.228	345	1/3	13	14	50	1.65	361	363
250	0.558	0.228	345	1/2	16	12	50	1.69	361	363
250	0.558	0.228	345	2/3	21	12	50	1.69	361	363
250	0.558	0.228	345	Full	16	10	50	1.73	361	363
4/0	0.512	0.269	345	1/6	6	14	50	1.65	327	328
4/0	0.512	0.269	345	1/3	11	14	50	1.65	327	328
4/0	0.512	0.269	345	1/2	16	14	50	1.65	327	328
4/0	0.512	0.269	345	2/3	21	14	50	1.65	327	328
4/0	0.512	0.269	345	Full	20	12	50	1.65	327	328
3/0	0.423	0.338	345	1/6	7	16	50	1.54	285	286
3/0	0.423	0.338	345	1/3	9	14	50	1.54	285	286
3/0	0.423	0.338	345	1/2	13	14	50	1.54	285	286
3/0	0.423	0.338	345	2/3	17	14	50	1.54	285	286
3/0	0.423	0.338	345	Full	16	12	50	1.57	285	286
3/0	0.423	0.338	345	1.17	19	12	50	1.57	285	286
2/0	0.405	0.427	345	1/6	6	16	50	1.50	250	251
2/0	0.405	0.427	345	1/3	7	14	50	1.54	250	251
2/0	0.405	0.427	345	1/2	10	14	50	1.54	250	251
2/0	0.405	0.427	345	2/3	14	14	50	1.54	250	251
2/0	0.405	0.427	345		20	14	50	1.54	250	251
2/0	0.405	0.427	345	Full	13	12	50	1.57	250	251
1/0	0.336	0.538	345	1/6	6	16	50	1.42	216	217
1/0	0.336	0.538	345	1/3	9	16	50	1.42	216	217
1/0	0.336	0.538	345	1/3	6	14	50	1.46	216	217
1/0	0.336	0.538	345	1/3	8	14	50	1.46	216	217
1/0	0.336	0.538	345	2/3	11	14	50	1.46	216	217
1/0	0.336	0.538	345	Full	16	14	50	1.46	216	217

*Ampacities based on cables operating in a 3-phase installation with one cable per phase, flat spaced and touching, earth rho of 90°C-cm/W, earth ambient of 20°C, neutral wires grounded at both ends, 75% load factor, conductor temperature of 90°C, and 36" depth of burial.

POLYCAB SOLAR UL 1072 MV 105 TR-XLPE

Photovoltaic MV Cable



Salient Features

- Long life
- UV, Moisture resistant
- High Dielectric strength
- Low dielectric loss
- Excellent resistance to treeing

Application

POLYCAB, single core cable with Tree Retardant cross linked Polyethylene insulation is designed to use for Photovoltaic installation. These cables are intended for use in wet or dry locations for distribution of single or three phase medium-voltage power. These cables may be installed in ducts or direct buried.

Voltage Rating

Voltage: 35 kV

Operation Temperature

Fixed: -40˚C to +105˚C
Maximum operating conductor temperature: 105˚C
*Emergency conductor temperature: 140˚C
Short Circuit conductor temperature: 350˚C
(*Operation at the emergency overload temperature shall not exceed 1500 hours cumulative during the lifetime of the cable.)

Construction

- Conductor: Filled (i. e. Water Blocked) Stranded Aluminium Alloy 1350 conductor, Class B as per ASTM B-231
- Conductor Screen: Extruded Semi-conducting compound
- Insulation: Tree-Retardant Cross-linked Polyethylene (TRXLPE) - 100% insulation level.
- Insulation Screen: Extruded Strippable Semi-conducting compound
- Metallic Screen: Copper Tape Screening with 25% Overlap.
- Outer Sheath: Extruded non-conducting PVC jacket, Colour: Black

Bending Radius

For fixed installation - > 12D
For occasional movement - > 15D

Standard and References

ASTM B-231
AEIC CS8
ICEA S-97-682
ICEA T-31-610
ICEA T-34-664 (As applicable for TRXLPE insulated concentric neutral cable)
UL 1072 MV-105

Test Voltage

69kV AC 50Hz

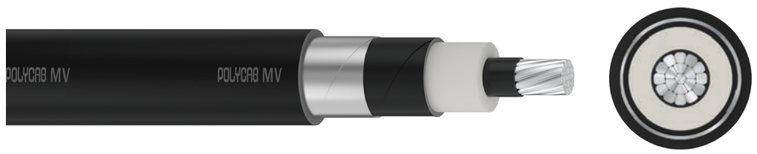
DIMENSIONAL AND ELECTRICAL CHARACTERISTICS

Conductor Cross sectional Area (AWG/ MCM)	Conductor Diameter (inch)	Conductor DC Resistance @ 20°C (ohm/ km)	Nominal Insulation Thickness (mils)	Copper Tape Size (mil)	Nominal Thickness of Jacket (mils)	Approx. Overall Diameter (inch)	Ampacity Direct Buried (Amp)	Ampacity Direct in Duct (Amp)
1000	1.117	0.0568	345	5	110	2.24	745	615
750	0.968	0.0758	345	5	110	2.09	640	525
500	0.789	0.114	345	5	110	1.93	510	410
350	0.616	0.162	345	5	80	1.73	415	340
250	0.558	0.228	345	5	80	1.61	345	275
4/0	0.512	0.269	345	5	80	1.57	310	250
3/0	0.423	0.338	345	5	80	1.46	275	220
2/0	0.405	0.427	345	5	80	1.46	240	190
1/0	0.336	0.538	345	5	80	1.38	210	170

*Ampacities based on earth thermal resistivity of 90 °C-cm/W, earth ambient of 20°C,metallic shield grounded at each ends, 75% load factor, conductor temperature of 105°C, and 36" depth of burial. Values are based on one three-phase circuit, one conductor per phase, in flat adjacent configuration (direct Buried).

POLYCAB SOLAR IEC 60502-2 MV XLPE

Photovoltaic MV Cable



Salient Features

- Long life
- UV, Ozone resistant
- Hydrolysis resist

Application

POLYCAB, single core cable with cross linked insulation is designed to use for Photovoltaic installation. These cables are suitable for direct burial application.

Voltage Rating
Voltage:18/30 (36) kV

Operation Temperature
Fixed: -40˚C to +90˚C
Maximum operating conductor temperature: +90˚C
Short Circuit conductor temperature: 250˚C

Construction

- Conductor: Aluminium conductor, Class-2 as per IEC 60502-2
- Conductor Screen: Extruded Semi-conducting compound
- Insulation: Cross linked Polyethylene as per IEC 60502-2
- Insulation Screen: Extruded Semi-conducting compound
- Tape Screen: Polyethylene laminated Aluminium foil
  (Water blocking tape is applied under tape screen, If Required)
- Outer Sheath: High Density Polyethylene as per IEC 60502-2, Colour: Black

Core Identification
Natural

Bending Radius
For fixed installation - > 15D
For occasional movement - > 20D

Standard and References

IEC 60228: 2004

IEC 60502-2: 2014

Test Voltage

63kV AC 50Hz

Compliance

U.V. Resistance	UL 2556
Oil Resistance	ICEA S-93-639

DIMENSIONAL CHARACTERISTICS

No. of Cores	Cross sectional Area	Nom. insulation thickness	Approx. Overall Diameter
No.	mm2	mm	mm
1	70	8.0	33.0
1	95	8.0	35.0
1	120	8.0	36.0
1	150	8.0	38.0
1	185	8.0	40.0
1	240	8.0	42.0
1	300	8.0	44.0
1	400	8.0	48.0
1	500	8.0	51.0
1	630	8.0	55.0

ELECTRICAL CHARACTERISTICS

No. of Cores	Cross- sectional area	Max. Conductor Resistance		Impedance of Cable	Approx. Cable Capacitance	Approx. Cable Reactance
		at 20°C DC	at 90°C AC	at 90°C		
No.	mm2	Ohm/km	Ohm/km	mfd/km	Ohm/km	
1	70	0.443	0.568	0.587	0.15	0.149
1	95	0.320	0.411	0.431	0.17	0.131
1	120	0.253	0.325	0.348	0.18	0.125
1	150	0.206	0.265	0.291	0.19	0.122
1	185	0.164	0.211	0.241	0.21	0.117
1	240	0.125	0.161	0.196	0.23	0.112
1	300	0.100	0.130	0.169	0.25	0.108
1	400	0.0778	0.101	0.146	0.27	0.105
1	500	0.0605	0.0799	0.128	0.30	0.100
1	630	0.0469	0.0631	0.117	0.33	0.098

CURRENT RATINGS

No. of Cores	Core Cross sectional Area	Buried direct in the ground 20°C		In single way ducts 20°C		In Air 30°C		
		Trefoil	Flat Spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
No.	mm2	Amp.	Amp.	Amp.	Amp.	Amp.	Amp.	Amp.
1	70	186	192	176	178	230	236	278
1	95	221	229	210	213	280	287	338
1	120	252	260	240	242	324	332	391
1	150	281	288	267	271	368	376	440
1	185	317	324	303	307	424	432	504
1	240	367	373	351	356	502	511	593
1	300	414	419	397	402	577	586	677
1	400	470	466	451	457	673	676	769
1	500	530	546	504	537	773	776	919
1	630	600	646	554	617	883	886	1089

*Current Ratings are based on IEC 60502-2 & IEC 60287, Max. Conductor Temperature at 90®C, Ambient temperature at 30®C in Air / at 20®C in Ground, Thermal resistivity of Soil 1.5 k.m/W & for earthenware ducts 1.2k.m/W and Depth of Laying 0.8m.

Current rating de-rating factors for other than 30°C ambient air temperature.

20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.71

Current rating de-rating factors for other than 20°C ground temperature.

10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
1.07	1.04	1.00	0.96	0.93	0.89	0.85	0.80	0.76

POLYCAB SOLAR IEC 60502-2 MV HEPR

Photovoltaic MV Cable

Salient Features

- Long life
- UV, Ozone resistant
- Hydrolysis resist

Application

POLYCAB, single core cable with HEPR (High Modulus Ethylene Propylene Rubber) insulation is designed to use for Photovoltaic installation. These cables are suitable for direct burial application.

Voltage Rating
Voltage:18/30 (36) kV

Operation Temperature
Fixed: -40˚C to +90˚C
Maximum Operating conductor temperature: +90˚C
Short Circuit conductor temperature: 250˚C

Construction
- Conductor: Aluminium conductor, Class-2 as per IEC 60502-2
- Conductor Screen: Extruded Semi-conducting compound
- Insulation: HEPR as per IEC 60502-2
- Insulation Screen: Extruded Strippable Semi-conducting compound
- Tape Screen: Polyethylene laminated Aluminium foil
  (Water blocking tape is applied under tape screen, If Required)
- Outer Sheath: High Density Polyethylene as per IEC 60502-2, Colour: Black

Core Identification
Natural

Bending Radius
For fixed installation - > 15D
For occasional movement - > 20D

Standard and References

IEC 60228: 2004

IEC 60502-2: 2014

Test Voltage

63kV AC 50Hz

Compliance

U.V. Resistance	UL 2556
Oil Resistance	ICEA S-93-639

DIMENSIONAL CHARACTERISTICS

No. of Cores	Cross Sectional Area	Nom. insulation thickness	Approx. Overall Diameter
No.	mm2	mm	mm
1	70	8.0	33.0
1	95	8.0	35.0
1	120	8.0	36.0
1	150	8.0	38.0
1	185	8.0	40.0
1	240	8.0	42.0
1	300	8.0	44.0
1	400	8.0	48.0
1	500	8.0	51.0
1	630	8.0	55.0

ELECTRICAL CHARACTERISTICS

No. of Cores	Cross- Sectional Area	Max. Conductor Resistance		Impedance of Cable	Approx. Cable Capacitance	Approx. Cable Reactance
		at 20°C DC	at 90°C AC	at 90°C		
No.	mm2	Ohm/km		Ohm/km	mfd/km	Ohm/km
1	70	0.443	0.568	0.587	0.18	0.149
1	95	0.320	0.411	0.431	0.20	0.131
1	120	0.253	0.325	0.348	0.22	0.125
1	150	0.206	0.265	0.291	0.23	0.122
1	185	0.164	0.211	0.241	0.25	0.117
1	240	0.125	0.161	0.196	0.27	0.112
1	300	0.100	0.130	0.169	0.30	0.108
1	400	0.0778	0.101	0.146	0.33	0.105
1	500	0.0605	0.0799	0.128	0.36	0.100
1	630	0.0469	0.0631	0.117	0.40	0.098

CURRENT RATINGS

No. of Cores	Core Cross sectional Area	Buried direct in the ground 20°C		In single way ducts 20°C		In Air 30°C		
		Trefoil	Flat Spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
No.	mm2	Amp.	Amp.	Amp.	Amp.	Amp.	Amp.	Amp.
1	70	182	188	172	174	218	223	259
1	95	217	224	206	208	266	273	317
1	120	247	256	235	238	309	317	368
1	150	277	287	264	267	352	361	419
1	185	314	325	300	303	406	417	484
1	240	364	377	350	354	483	495	575
1	300	411	426	397	401	556	570	659
1	400	471	487	456	462	651	667	770
1	500	531	567	509	542	751	767	920
1	630	601	667	559	622	862	876	1090

*Current Ratings are based on IEC 60502-2 & IEC 60287, Max. Conductor Temperature at 90°C, Ambient temperature at 30°C in Air / at 20°C in Ground, Thermal resistivity of Soil 1.5 k.m/W & for earthenware ducts 1.2k.m/W and Depth of Laying 0.8m.

Current rating / de-rating factors for other than 30°C ambient air temperature.

20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.71

Current rating / de-rating factors for other than 20°C ground temperature.

10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
1.07	1.04	1.00	0.96	0.93	0.89	0.85	0.80	0.76

SOLAR PANEL

LEADING FEATURES

- Manufactured using high grade raw materials from reputed international suppliers
- Torsion and corrosion resistant with Silver (>15 micron) Anodized Aluminum frame
- PID free Modules with extra-long term reliability
- Generation even under low light conditions during sunrise and sunset
- IEC Certified
- 25 Years Linear Performance Warranty
- At polycrystalline page below changes.

72 CELL 5BB PV MODULE

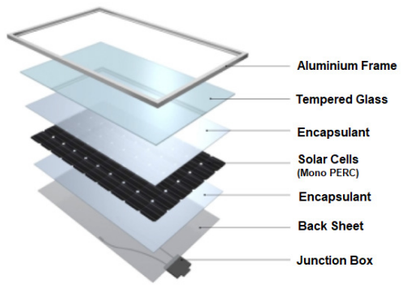
MONOCRYSTALLINE PERC
72 CELL 5BB PV MODULE

LEADING FEATURES

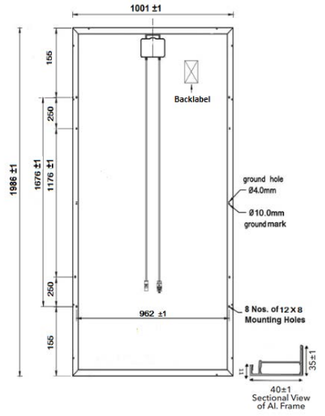
- Manufactured using high grade raw materials from reputed international suppliers
- 72 cell, 5BB configurations with wattage ranging from 380Wp to 400Wp
- Torsion and corrosion resistant with Silver (>15 micron) Anodized Aluminum frame
- PID free Modules with extra-long-term reliability
- Higher energy density per square foot than conventional Monocrystalline cells
- Reduces BOS & installation cost
- Superior temperature co-efficient and performance at NOCT
- Better performance even at low Irradiance condition
- >78% fill factor for improved energy conversion efficiency
- 25 Years Linear Performance Warranty

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)	20				
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 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. 670				

Module Encapsulation

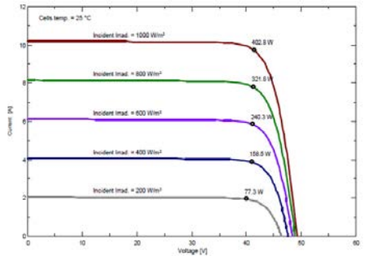


Mounting Diagram Details



All Dimensions are in mm

Current Voltage Curve



72 CELL 5BB PV MODULE

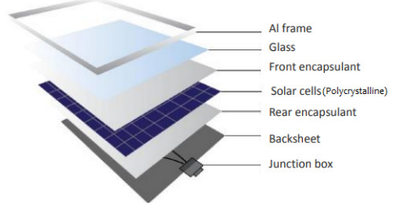
POLYCRYSTALLINE
72 CELL 5BB PV MODULE

LEADING FEATURES

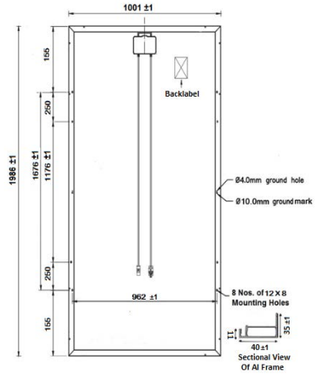
- Manufactured using high grade raw materials from reputed international suppliers adopting a stringent quality criteria
- 72 cell configurations with wattage rating from 315 to 335 Watts
- Torsion and corrosion resistant with Silver (>15 micron) Anodized Aluminum frame
- Generation even under low light conditions during sunrise and sunset
- IEC Certified
- PID Free Modules with Extra long-term reliability
- Better Performance even at Low Irradiance condition
- >76.0% fill factor for improved energy conversion efficiency
- 25 Years of Linear Performance Warranty

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%)	9.08	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	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 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				
Pallets Per Container	10				
Gross Weight No. of Pallet Box (Approx. in kg)	Max. 670				

Module Encapsulation

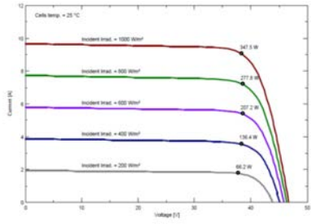


Mounting Diagram Details



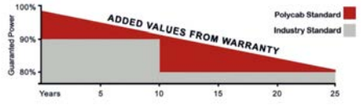
All Dimensions are in mm

Current Voltage Curve



Linear Performance Warranty

10 years Product Warranty / 25 Years Linear Power Warranty



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 tailormade 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 laborsaving 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.

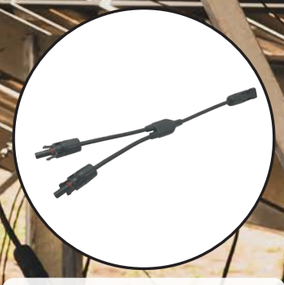
PHOTOVOLTAIC SOLAR CONNECTORS

LEADING FEATURES

- PPO Socket Housing
- IP 68 Protection when mated and IP 20 when open
- Snap Fit Locking Arrangement
- Crimped terminal Connection
- Low Contact Resistance
- Tested as per IEC 62852
- Provides UV Protection
  (Tested for 500 hrs as per ISO 4892-2)

Branch Connector
2 In 1 Out

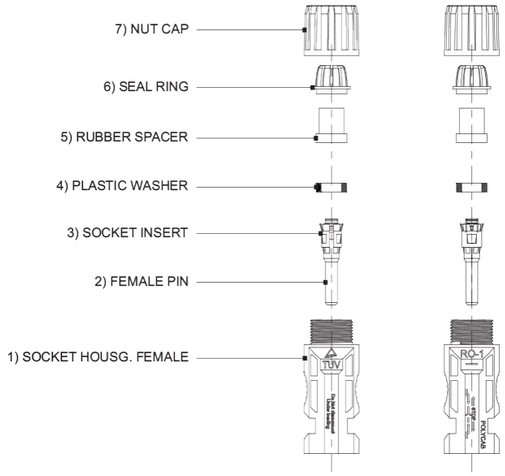
Branch Connector
3 In 1 Out



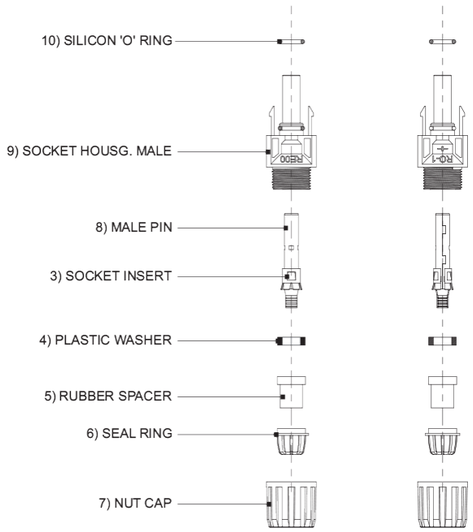
Y Connector

ELECTRICAL CHARACTERISTICS	
Rated Voltage	1000 V / 1500 V DC
Rated Impulse Voltage	12000V / 16000V
Rated Current (IEC 90°C)	25 A (2.5 mm²), 30 A (4.0 mm², 6.0 mm²)
Rated Insulation Voltage	6000V / 8000V
Contact Resistance	< 0.5 mΩ
Test Voltage	6kV (1000V) / 8 kV (1500 V) 50Hz, 1 min
Protection Class	II
Overvoltage Category	CAT III
Pollution Degree	2
MECHANICAL CHARACTERISTICS	
Dimensions Female	55mm*19mm
Dimensions Male	52mm*19mm
IP Rating	IP 68
Contact Material	Copper with Tin Plating
Cable type	2.5 mm²/4.0 mm²/6.0 mm²
Insertion Force	≤ 50 N
Withdrawal Force	≥ 50 N
Insulation Material	PPO (Noryl - PX 9406)
Bending Radius	≥4*Cable OD
Termination and Connection	Crimped Connection
Locking System	Snap In
OTHER CHARACTERISTICS	
Ambient Temperature	-45°C to +85°C
Upper Limit Temperature	100°C
Flame Class	UL 4-VO
Reference Standard	IEC 62852
OPERATING CYCLES 100	
Values for Cable Clamp	5.7mm to 7.2mm
Wire cross section area or cross section range	1*4.0mm²,1*6.0mm²

FEMALE_SOCKET HOUSG._ASSEMBLY



MALE_SOCKET HOUSG._ASSEMBLY



REF	Description	Colour	Material	Qty (Nos.)	Remarks
1	Socket Housg. Female	Black	Noryl	01	
2	Female Pin	-	Cu	01	TIN PLATING
3	Socket Insert	-	SS	02	
4	Plastic Washer	Black	Noryl	02	
5	Rubber Spacer	Black	TPU	02	
6	SEAL	Ring	Black	Noryl	02
7	Nut	Cap	Black	Noryl	02
8	Male Pin	-	Cu	01	Tin Plating
9	Socket Housg. male	Black	Noryl	01	
10	Silicon 'O' Ring		Silicon	01	

DC MCB

LEADING FEATURES

- Easy Installation
- Quick in tripping off when current exceeds
- Low maintenance
- High Relability
- 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	IS/IEC 60947 - Part 2, CE Marking
Rated Current (In)	0.5A, 1A, 2A, 3A, 4A, 5A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
Tripping Curve	C Type (7In - 14In)
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)	690V
Electrical Life	>2000 Nos
Mechanical Life	>10000 Nos
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

POLYCAB

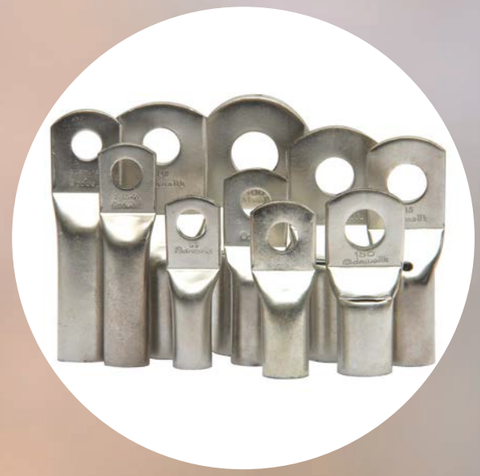
dowell's®

SYMBOL OF QUALITY

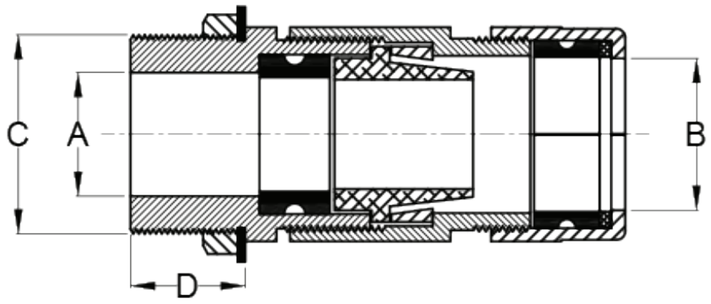
Pioneers in Solderless Terminals, Crimping Tools & Cable Glands

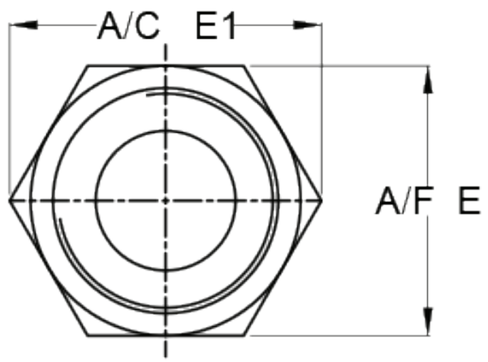
HOUSE OF DESIGNERS & MAKERS OF TERMINALS, TOOLS & CABLES

| CABLE LUNGS | CRIMPING TOOLS
| GLANDS | CONNECTORS | TERMINALS
| HYDRAULIC NON - HYDRAULIC | DIES
| SINGLE-COMPRESSION
| DOUBLE-COMPRESSION



DOWELL'S MAKE DOUBLE COMPRESSION WEATHER AND FLAME PROOF CABLE GLANDS SUITABLE FOR SOLAR APPLICATION



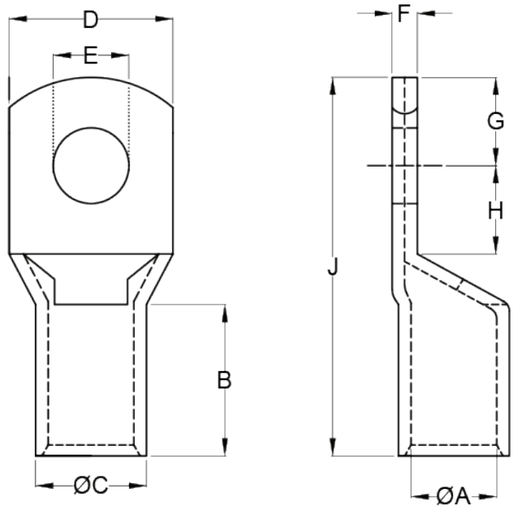


TECHNICAL DATA:-

1. **Material:-** Brass as per IS-319 / IS-12943 / BS-2874
   (Aluminium, S.S. and M.S. also available)
2. **Finish:-** Nickel Coated (Tin, Chrome and Cadmium also available)
3. **Coating Thickness:-** 3 microns (minimum)
4. **Entry Thread:-** BSC/ET (NPT and Metric also available)
4. **Type Test:-** Tested as per BS 6121:1989
5. **Flame Proof Test:-** IEC 60079-1:2007
6. ***Weather Proof Test:-*** IEC 60529:2001 for IP-66

SUITABLE OVER ALL DIAMETER	DBW SERIES	D (mm)	DBF SERIES	D (mm)	A (mm)	B (mm)	C (inch)	E A/F	E1 A/C
6.0 - 12.5	DBW 01SS	13	DBF 01SS	25	12.5	13.0	3/4	21.0	24.0
12.0 - 16.5	DBW 01S	15	DBF 01S	25	14.5	18.0	3/4	25.0	29.0
16.5 - 18.5	DBW 01	15	DBF 01	25	14.5	19.0	3/4	27.5	31.5
16.5 - 18.5	DBW 01A	15	DBF 01A	25	14.5	19.0	1	27.5	31.5
18.5 - 20.0	DBW 02	15	DBF 02	25	18.0	21.0	1	30.0	34.5
18.5 - 20.0	DBW 02A	15	DBF 02A	25	14.5	21.0	3/4	30.0	34.5
20.0 - 23.0	DBW 03	15	DBF 03	25	19.0	23.5	1	31.5	36.0
23.0 - 26.0	DBW 04	15	DBF 04	25	20.5	27.0	1	36.0	41.5
23.0 - 26.0	DBW 04A	15	DBF 04A	25	22.0	27.0	1.1/4	36.0	41.5
26.0 - 30.0	DBW 05	15	DBF 05	25	25.5	31.0	1.1/4	41.0	47.0
26.0 - 30.0	DBW 05A	15	DBF 05A	25	27.0	31.0	1.1/2	41.0	47.0
30.0 - 33.0	DBW 06	15	DBF 06	25	31.0	34.5	1.1/2	47.0	54.0
30.0 - 33.0	DBW 06A	15	DBF 06A	25	27.0	34.5	1.1/4	47.0	54.0
33.0 - 37.0	DBW 07	15	DBF 07	25	32.0	38.0	1.1/2	50.0	57.0
37.0 - 41.0	DBW 08	15	DBF 08	25	38.5	42.5	2	56.0	64.0
41.0 - 46.0	DBW 09	15	DBF 09	25	40.0	47.0	2	59.0	67.0
46.0 - 52.0	DBW 010	20	DBF 010	25	44.0	53.0	2	67.0	77.0
46.0 - 52.0	DBW 010A	20	DBF 010A	25	48.0	53.0	2.1/2	67.0	77.0
52.0 - 54.0	DBW 011A	20	DBF 011A	25	51.0	57.0	2.1/2	80.0	92.0
54.0 - 61.0	DBW 011	20	DBF 011	25	56.5	62.0	2.1/2	80.0	92.0
61.0 - 66.0	DBW 012	20	DBF 012	25	64.0	68.0	3	85.0	98.0
66.0 - 72.0	DBW 013A	20	DBF 013A	25	67.0	73.0	3	99.0	113.0
72.0 - 78.0	DBW 013	20	DBF 013	25	74.0	80.0	3.1/4	99.0	113.0
78.0 - 84.0	DBW 014	20	DBF 014	25	78.0	85.0	3.1/2	105.0	121.0
84.0 - 94.0	DBW 015	20	DBF 015	25	90.5	97.0	4	114.0	132.0
94.0 - 104.0	DBW 016	20	DBF 016	25	101.0	106.0	4.1/2	130.0	149.0

DOWELL'S MAKE COPPER HEAVY DUTY CABLE TERMINALS SUITABLE FOR SOLAR APPLICATION



TECHNICAL DATA:-

1. Description:-Copper Heavy Duty series recommended/suitable for compact circular cable for solar application

2. Range:- 2.5 sq-mm to 400 sq-mm

3. Material:- Grade Cu-ETP as per IS-191 / BS EN-13600 (type HC C101)

4. Finish:- Electro Tinned Coated

5. Coating Thickness:- 10 microns (minimum)

6. Operating Temperature:- 110° C (maximum)

7. Type Test:- Tested as per BS 4579 (Part 1) : 1970

CATALOG NO.	SIZE (sq-mm)	STUD	E	ØA	ØC	D	F	B	H	G	J	Recommended Crimping Tool
CUS-388	2.5	M4	4.2	2.4	4.0	8	1.0	7	5	4	18	
CUS-389	4	M5	5.2	3.1	4.8	10	1.0	7	6	5	20	SYT-2
CUS-390	6	M5	5.2	3.8	5.5	10	1.2	9	6	5	23	
CUS-353	10	M6	6.5	4.5	6.2	12	1.2	9	7	6	25	
CUS-354	16	M6	6.5	5.4	7.1	12	1.4	12	7	7	30	
CUS-355	25	M6	6.5	6.8	8.8	13	2.0	12	7	7	30	
CUS-356	35	M8	8.4	8.2	10.6	15	2.4	12	9	9	35	SYB-95
CUS-357	50	M8	8.4	9.5	12.4	18	2.9	16	11	10	43	
CUS-358	70	M10	10.5	11.2	14.7	21	3.5	18	13	12	50	
CUS-359	95	M10	10.5	13.5	17.4	25	3.9	20	13	13	55	
CUS-241	120	M12	13.0	15.0	19.4	28	4.4	22	14	14	60	
CUS-242	150	M12	13.0	16.5	21.2	30	4.7	26	16	16	69	
CUS-243	185	M16	17.0	18.5	23.5	34	5.0	32	17	17	78	
CUS-244	240	M16	17.0	21.0	26.5	38	5.5	38	20	20	92	SYD-20B
CUS-245	300	M16	17.0	23.5	30	43	6.5	42	22	22	101	
CUS-246	400	M16	17.0	26.8	34.8	50	8.0	44	26	26	114	

SOLAR INVERTERS

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
- High reliable and efficient Indian Brand

SOLAR GRID - TIE STRING INVERTER

SINGLE PHASE

1/1.5/2/3/4/5 KW (4G SERIES)

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 power generation
- Multiple protection levels
- THDi <3%
- Max. efficiency 98.1%
- Built-in export power management for export control
- IP65 for outdoor installation
- Compact size & light weight design for single person easy installation
- RS-485; Wi-Fi/GPRS/LAN interface
- Free remote monitoring on web portal & mobile app
- 5 years standard warranty
- Extendable upto 20 years

TECHNICAL SPECIFICATIONS						
MODEL	PSIS - 1K	PSIS 1.5K	PSIS 2K	PSIS 3K	PSIS 4K	PSIS 5K
RATING	1KW	1.5KW	2KW	3KW	4KW	5KW
INPUT DC						
Max. DC Input Power (KW)	1.2	1.8	2.3	3.5	4.6	5.8
Max. DC Input Power (KW)	600					
Strat -Up Voltage (V)	60		90		120	
MPPT Voltage Range (V)	50 -500		80 -500		90 - 520	
Max.Input Current(A)	11				11 + 11	
Max Short Circuit Current for each MPPT (A)	17.2				17.2 + 17.2	
MPPT Number / No. of Strings per MPPT	1/1				2/1	
OUTPUT AC						
Rated Output Power (KW)	1	1.5	2	3	4	5
Max. Apparent Output Power (KVA)	1.1	1.7	2.2	3.3	4.4	5
Max . Output Power (KW)	1.1	1.7	2.2	3.3	4.4	5
Rated Grid Voltage (V)	220/230					
Grid Voltage Range (V)	160-285 (Adjustable)					
Rated Grid Frequency (Hz)	50/60					
Grid Frequency Range(Hz)	47-52 or 57-62					
Operation Phase	Single					
Rated Grid Output Current(A)	4.5/4.3	6.8/6.5	9.1/8.7	13.6/13	18.2/17.4	22.7/21.7
Max. Output Current(A)	5.2	8.1	10.5	15.7	21	25
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					
EFFICIENCY						
Max. Efficiency	97.2%			97.5%	98.1%	
EU Efficiency	96.5%			96.8%	97.3%	
MPPT Efficiency	>99.5%					
PROTECTIONS						
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					
GENERAL DATA						
Dimension (mm)	310W*373H*160D				310W*543H*160D	
Weight(kg)	7.4		7.7		11.5	
Topology	Transformerless					
Self Consumption (watt)	<1 (Night)					
Operating Ambient Temperature Range	-25~60°C					
Relative Humidity	0~100%					
Ingress Protection	IP65					
Noise Emission(typical)	<20 dBA					
Cooling Concept	Natural Convection					
Max. Operation Altitude	4000m					
Design life	>20 Years					
FEATURES						
DC Connection	MC -4 mateable					
AC Connection	IP 67 Rated Plug					
Display	LCD 2 x 20 Z					
Communication Connections	4 pin RS485 connector					
Monitoring	WiFi/GPRS/LAN					
Warranty	5 Years Standard (Extendable upto 20 years)					
IEC CERTIFICATES						
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, EN 61000-6-2, EN61000-6-3, EN61000-6-4				EN 61000-6-2, EN 61000-6-3	
Efficiency Measurement	IEC 61683, EN50530					

SOLAR GRID - TIE STRING INVERTER

THREE PHASE

5/6/8/10/12/15/17/20 KW
(4G SERIES)

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
INPUT DC								
Max. DC Input Power (KW)	6	7.2	9.6	12	14.5	18	20.4	24
Max. DC Input Voltage (KW)	1000							
Strat -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		
OUTPUT AC								
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							
EFFICIENCY								
Max. Efficiency	98.3%		98.7%			98.7%		
EU Efficiency	97.8%		98.1%			98.1%		
MPPT Efficiency	>99.5%							
PROTECTIONS								
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							
GENERAL DATA								
Dimension (mm)	310W*563H*219D							
Weight(kg)	17.3	18			18.9		19.8	
Topology	Transformerless							
Self Consumption (watt)	<1 (Night)							
Operating Ambient Temprerature 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							
FEATURES								
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)							
IEC CERTIFICATES								
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 - 40KW - 5G SERIES

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
INPUT DC				
Max. DC Input Power (KW)	33	39	43	52
Max. DC Input Power (KW)		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
OUTPUT AC				
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		
EFFICIENCY				
Max. Efficiency		98.8%		
EU Efficiency		98.3%		
MPPT Efficiency		>99.5%		
PROTECTIONS				
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		
GENERAL DATA				
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		
FEATURES				
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)		
IEC CERTIFICATES				
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 Algorithim
- 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
INPUT SIDE (DC)		
Max. DC Input Power (KW)	60	72
Max. DC Input Voltage(V)	1100	
Strat -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	
OUTPUT SIDE (AC)		
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	
EFFICIENCY		
Max. Efficiency	98.80%	99.00%
EU Efficiency	98.40%	98.50%
MPPT Efficiency	>99.90%	
PROTECTIONS		
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	
GENERAL DATA		
Dimension (mm)	630W*700H*357D(mm)	
Weight (kg)	63	
Topology	Transformerless	
Self Consumption (Night)	<1W(Night)	
Operating Ambient Tempreature 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%	
FEATURES		
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	
IEC CERTIFICATES		
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	

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	100K	110K
INPUT DC			
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	
OUTPUT AC			
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/N/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	
EFFICIENCY			
Max. Efficiency		98.7%	
EU Efficiency		98.3%	
PROTECTIONS			
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	
GENERAL DATA			
Dimension (mm)	1050W*567H*314.5D	1065W*567H*344.5D	
Weight (kg)	82	84	
Topology		3 level, Transformerless	
Self Consumption (watt)		<2 (Night) (Witout 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	
FEATURES			
DC Connection		MC-4 mateable	
AC Connection		OT Terminal Connectors (max 185 mm2)	
Display		LCD, 2×20 Z	
Communication Interface		RS485, Ethernet; PLC (Optional)	
Monitoring		WiFi/GPRS/LAN	
OTA update		Yes	
IEC CERTIFICATES			
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	

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
INPUT DC	
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
OUTPUT AC	
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
EFFICIENCY	
Max. Efficiency	99.0%
EU Efficiency	98.7%
MPPT Efficiency	99.9%
PROTECTIONS	
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
GENERAL DATA	
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
FEATURES	
DC Connection	MC-4 mateable
AC Connection	OT Terminal Connectors (max. 300 mm2)
Display	LCD, 2×20 Z
Communication Interface	RS485, Ethernet; PLC (Optional)
Monitoring	WiFi/GPRS/LAN
OTA update	Yes
IEC CERTIFICATES	
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

SOLAR OFF-GRID INVERTER

Protections

- 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

SOLAR OFF-GRID INVERTER
WITH MPPT BASED CHARGE CONTROLLER

LEADING FEATURES

- DSP Controller based MPPT controller, High Efficiency upto 88%
- Range from 3 KVA to 15 KVA 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
- Fast charging CC-CV charging through Solar as well as Grid
- Priority modes for high & low backup requirements
- MCB protection at all Inputs and Outputs
- Fully metallic body for higher robustness
- Pure Sine Wave output
- Temp compensation for VRLA Batteries
- Temp controlled forced fan cooling
- No derating of power till 50 Deg C
- Daily data logging of Solar kWh
- Real Time clock for LCD Display

TECHNICAL SPECIFICATIONS

MODEL		PMIS 3048	PMIS 5048	PMIS 6048	PMIS 10120	PMIS 15240
RATING		3 KVA / 48 VDC	5 KVA / 48 VDC	6 KVA / 48 VDC	10 KVA / 120 VDC	15 KVA / 240 VDC
SOLAR CHARGE CONTROLLER						
Charge Controller Type				MPPT		
No of MPPT Channel	Nos.	1				
Per Channel PV Capacity	KWp	3	5	6	10	15
No. of PV Inputs	Nos.	1	1	1	1	1
Max. Open Circuit PV Volts (Voc)	Volts	190	190	190	360	700
PV Voltage Range (Vmp)	Volts	75 - 160	75 - 160	75 - 160	165 - 299	365 - 560
PV Minimum Voltage	Volts	70	70	70	132	290
Float Voltage (LMLA/VRLA)	Volts	52.8/54	52.8/54	52.8/54	129/135	258/270
Boost Voltage (LMLA/VRLA)	Volts	58/55.2	58/55.2	58/55.2	144/138	288/276
SOLAR PANEL CONFIGURATION						
SPV Rating	Watt			335		
SPV Qty.	Nos.	9	15	18	30	45
SPV Confoguration		3S x 3P	3S x 5P	3S x 6P	6S x 5P	15S x 3P
SOLAR INVERTER						
Output Voltage / Frequency	Volts / Hz			230 / 50		
No. of Phases	Ph			Single Phase		
Output Capacity	KVA	3	5	6	10	15
	KW	2.4	4	4.8	8	12
Output Current	Amp	10.5	17	21	34.8	52.2
Voltage Regulation (#)	%	+/- 2				
Frequency Regulation	Hz	+/- 0.5				
THD	%	< 3				
DC Rated Voltage	Volts	48			120	240
Efficiency (Peak)	%	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				
GRID CHARGER						
I/P Voltage Range	VAC			170-270		
I/P Frequency range	Hz			47-53		
Grid Charger Start Voltage (settable)	Volts		45.3		113.4	226.8
Grid Charger Current (settable as per battery)	Amps	Max.30		Max. 35	Max. 35	Max.30
(*)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.						
USER INTERFACE						
DISPLAY PARAMETERS						
PV Side: Voltage, Current, Power , Energy				Grid Side: Voltage, Current, Frequency		
Battery Side: Voltage, Current, Battery Charging/Discharging Status				Load Side: Voltage, Current, Power		
INDICATIONS / MESSAGES						
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 Curcuit,System Over Temperature,Battery & PV reverse Polarity,Battery Current limit						
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						
GENERAL INFORMATION						
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	110 kg	145 kg
Dimensions (H X W X D) (in mm)		430 x 280 x 550	470 x 280 x 600	515 x 300 x 700	650 x 400 x 730	650 x 450 x 740