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Product Catalogue



For more information
scan the QR code.

- String Combiner Box • String Monitoring Box
- AC Combiner Box • LT Panel • LBS(1000V DC/1500V DC/800V AC)
- Net Meter • Solar Cable • Solar LED Street Light

Customer Care No.: 18004190198



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About Us

HPL is an established electrical equipment manufacturer with highly efficient manufacturing facilities and in-house Research & Development Centres to produce best in class products for Indian and International markets with an extensive sales and marketing network comprising over 90 Branch Offices & Representative Offices, 1100+ Workforce, 900+ Dealers & Distributors Network and with a pan-India presence of 35000+ Retailers HPL enjoys a significant recall and customer loyalty in the LV switchgear and various product segments across other products in the industrial / Commercial and Consumer segments.

HPL Product Segments:

- Solar Solutions
- Metering
- Switchgear
- LED Lighting
- Wire & Cables

OUR CERTIFICATIONS



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STRING COMBINER BOX 1500V DC

**For Ground Mount Solar
PV Application**

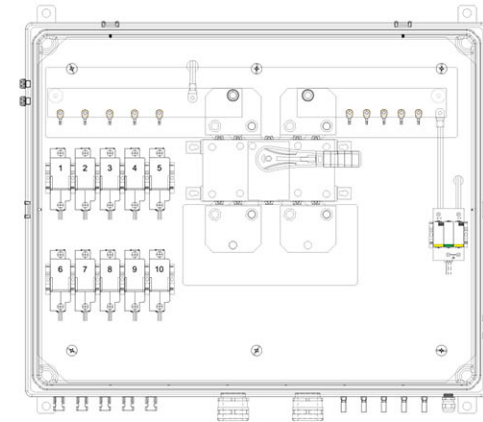


Highlights

- String Combiner Boxes are first point of contact for Solar PV plant and are used to combine multiple string or arrays from PV modules to collate Single DC Output.
- Designed and manufactured with top quality components and workmanship to deliver best in class product to our clients.
- Designed and manufactured under strict engineering standards to face challenging environmental conditions to deliver undoubted performance on field.
- Offer a wide range of String Combiner Box solution to cater utility, commercial and residential segments.
- Customized product range from 500V DC to 1500V DC with reliable safety features.
- Our String Combiner Boxes are in-line with IEC & UL Standards.

Key Features:-

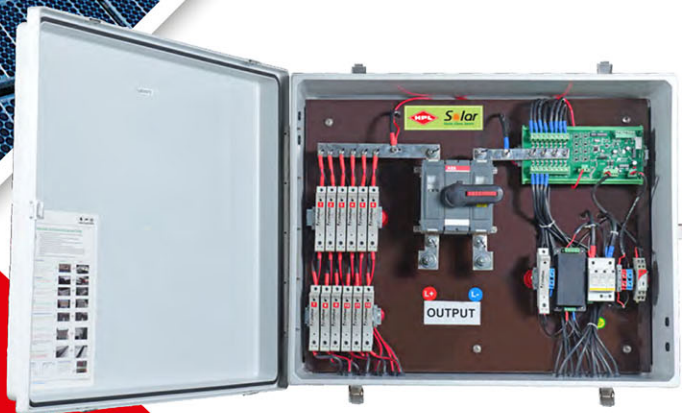
- Touch Safe Fuse Holder
- Surge Protection Device
- DC Disconnect Switch
- FRP & Polycarbonate Enclosure
- NEMA 4X Enclosures
- IP-65/66/67 Enclosures
- Mechanical Strength (IK-08/10)
- UV Resistant
- Pressure Equalizers (Vent Plugs)
- MC4 Connectors for Cable Entry
- Double Compression/ Polyamide Glands for Output
- Wall Mounted / Structure Mounted
- Operating Range (-25°C) - (+80°C)
- Locking Arrangement Hinge and Screw Type
- Tested & Certified as per IEC 61439-1&2 Standard
- Manufacturing Warranty of 5.5 years



Model	Description
SCB 1500V DC	8 IN - 1 OUT
SCB 1500V DC	12 IN - 1 OUT
SCB 1500V DC	14 IN - 1 OUT
SCB 1500V DC	16 IN - 1 OUT
SCB 1500V DC	24 IN - 1 OUT
SCB 1500V DC	32 IN - 1 OUT

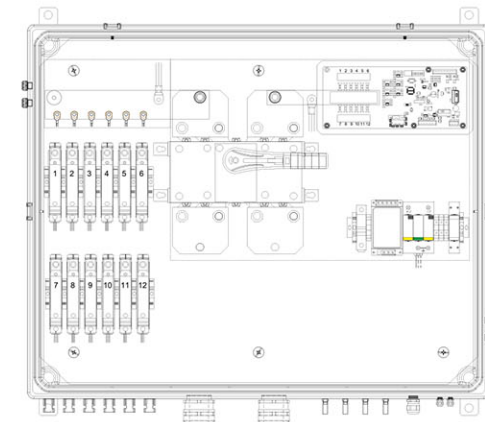
STRING MONITORING BOX 1500V DC

For Ground Mount Solar
PV Application



Key Features:-

- Touch safe fuse holder
- Monitoring PCB (Shunt & Hall Based)
- RS485/OFC/Wi-Fi Monitoring Solutions
- Power Supply
- Surge Protection Device
- DC Disconnect Switch
- NEMA 4X Enclosures
- IP-65/66/67 Enclosures
- Mechanical Strength (IK-08/10)
- UV Resistant
- Pressure Equalizers (Vent Plugs)
- MC4 Connectors for Cable Entry
- Double Compression Glands for Output
- Wall Mounted / Structure Mounted
- Operating Range (-25°C) - (+80°C)
- Locking Arrangement Hinge and Screw Type
- Auto Addressing
- Over Voltage Protection
- Current Measurement (40A)
- Voltage Measurement (1500V DC)
- Tested & Certified as per IEC 61439-1&2 Standard
- Manufacturing Warranty of 5.5 years



Highlights

- SMB are advanced version of SCB integrated with PCB to monitor different analog & digital parameters.
- SMB are designed and manufactured with top quality components and workmanship to deliver best in class product.
- Offer string monitoring solutions to Cater Utility, Commercial and Rooftop segments.
- SMB are manufactured with strict engineering standards to deliver high reliability product to face challenging environmental conditions on field.
- SMB are used to measure SPD Status, DC Disconnecter Status, Temperature Measurement, Voltage & Current Measurement & other customized parameters.
- Our String Monitoring Boxes are in-line with IEC & UL Standards.

Model	Description
SMB 1500V DC	8 IN - 1 OUT
SMB 1500V DC	12 IN - 1 OUT
SMB 1500V DC	14 IN - 1 OUT
SMB 1500V DC	16 IN - 1 OUT
SMB 1500V DC	24 IN - 1 OUT
SMB 1500V DC	32 IN - 1 OUT

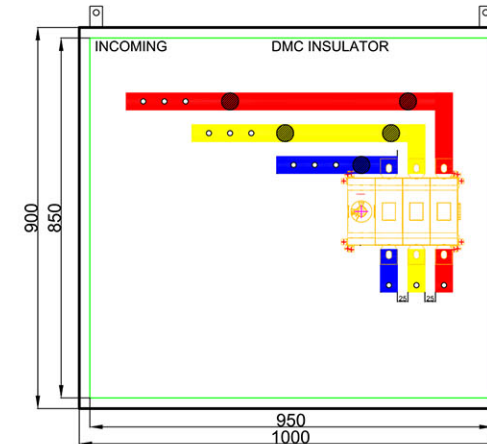
AC COMBINER BOX 800V AC

For Ground Mount & Roof Top
Solar PV Application



Key Features:-

- **Enclosure Material** : CRCA/Galvalume
- **Ingress Protection** : 54/55/65/66
- **Operational Voltage** : Up-to 800VAC
- **Insulation voltage** : Up to 1000VAC
- **Max operating current** : 630A AC
- **Internal Bus Bar** : Aluminium / Copper
- **Input Method** : Double Compression Nickel Plated Cable Gland
- **Output Method** : Double Compression Nickel Plated Cable Gland
- 800V AC MCCB for input protection (Thermal Magnetic/Microprocessor)
- 800V AC Isolator/MCCB for output protection (optional*)
- Tested & Certified as per IS & IEC 61439 Standard



Highlights

- Designed and developed to combine multiple outputs from string inverter's to deliver safe operation of system.
- Designed and manufactured under strict engineering rules and regulation to deliver best in class product to our customers.
- Manufactured with key and top quality components to face challenging environmental conditions.
- Suitable for indoor & outdoor installation with weatherproof features.
- Tailor made as per customer requirement.
- Suitable for Ground Mounted/Rooftop Solar projects.
- AC Combiner Boxes are inline with IEC & IS Standards.

Model	Description
ACCB 800V AC	2 IN - 1 OUT
ACCB 800V AC	3 IN - 1 OUT
ACCB 800V AC	4 IN - 1 OUT
ACCB 800V AC	5 IN - 1 OUT
ACCB 800V AC	6 IN - 1 OUT



LT PANEL 800V AC

For Ground Mount Solar
PV Application

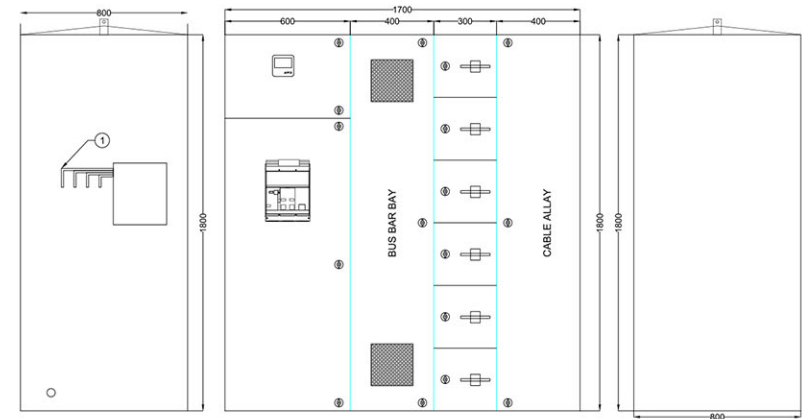


Highlights

- Designed and manufactured under strict engineering standards to deliver best in class product with reliable safety features.
- Manufactured with top quality and precise rating components to deliver product with unparalleled quality.
- Suitable for Indoor & Outdoor installation with weatherproof features.
- With team of technical competence, product can be tailor made as per project requirement.
- With competent compartmental design and maintaining clearance and creep age ratio our product stands to mark in terms of durability.
- Suitable for Ground Mounted/Rooftop applications.
- LT Panels tested as per IEC & IS Standards.

Key Features:-

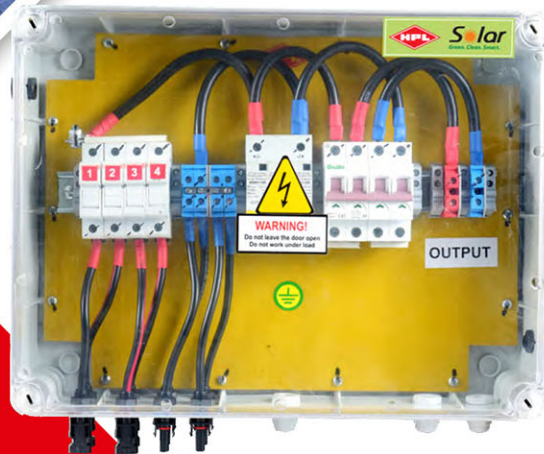
- **Enclosure Material** : CRCA
- Compartmental Double Door Enclosure with canopy and lifting hooks
- 800V AC MCCB for input protection (Thermal Magnetic/Microprocessor)
- 800V AC ACB for output protection (MF/MDO/EDO)
- **Sheet Thickness** : 1.6 mm / 2 mm
- **Ingress Protection** : 54/55
- **Operational Voltage** : Up to 800VAC
- **Insulation voltage** : Up to 1000VAC
- Inbuilt SPD
- Air Circuit Breaker
- Multi-Function Meter
- Auxiliary Panel
- **Bus Bar** : Aluminium/Copper
- **Input Method** : Double Compression Nickel Plated Cable Gland
- **Output Method** : Double Compression Nickel Plated Cable Gland
- Tested & Certified as per IS & IEC 61439 standard



Model	Description
LT-0301	3 IN 1 OUT
LT-0401	4 IN 1 OUT
LT-0501	5 IN 1 OUT
LT-0601	6 IN 1 OUT
LT-0802	8 IN 2 OUT
LT-01002	10 IN 2 OUT
LT-01202	12 IN 2 OUT

ARRAY JUNCTION BOX / DC MCB BOX

For Rooftop Solar PV Application

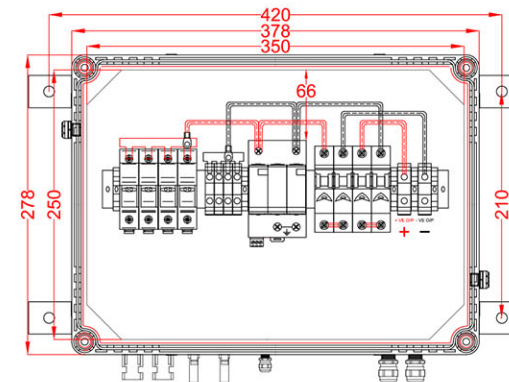


Highlights

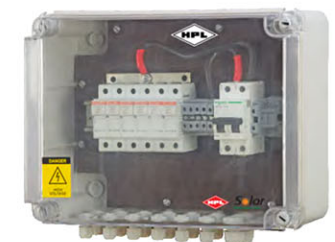
- Array Junction Boxes (AJB), also referred to as PV combiner boxes, basically collect DC power from PV strings with blocking diodes on each string for protecting panels from reverse current flow. The collected power is then transferred to power inverter.
- We offer highly functional PV Array Junction Box. PV Array Junction Box that we offer is fabricated with the use of latest technology and is suitable for different Solar Power applications. Our PV Array Junction Box is tested by the experts under strict industry norms to guarantee flawless functioning and durability.
- Array Junction Box is meant for combining all the incoming lines from the solar panel strings/arrays and deriving one common string/array output for the multiple array inputs.
- Array Junction Boxes are dust, vermin and waterproof and made of Thermoplastic (ABS).
- Junction Boxes have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables.

Key Features:-

- HPL Array Junction Boxes are tested and certified as per IEC 61439-1 standard up-to operating voltage of 1000 V DC.
- The enclosure is made of high quality polycarbonate material.
- Degree of protection IP-65/66
- The enclosure is accessible only via the use of tools in order to ensure the protection
- Tailor made product customised as per customer needs.
- Blocks the reverse flow of current from battery to solar panels.
- Reliable electric safety to avoid hazard.
- Obstructs sudden surges due to lightning strokes during cloudy and rainy conditions and ground the surges immediately.
- Fuses for overload protection on each string.
- Available in reverse blocking diodes (option).
- Easy cable termination with plug in and plug out feature.
- Time and money saver Solar String management.
- Space saving and orientation flexibility.
- Reliable electric safety to avoid hazard.



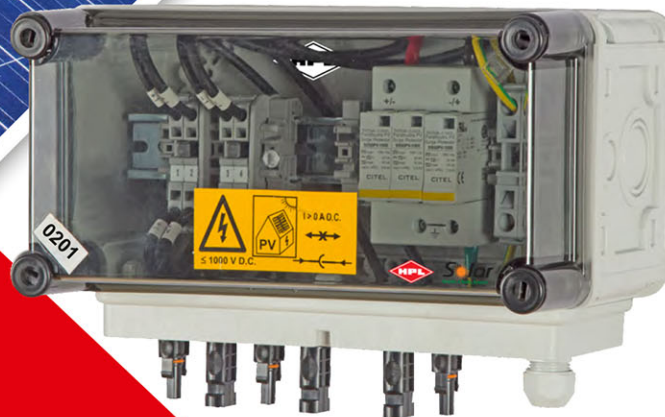
Model	Description	Output
AJB-0101	1 IN 1 OUT	For 1 Solar Array String
AJB-0201	2 IN 1 OUT	For 2 Solar Array String
AJB-0301	3 IN 1 OUT	For 3 Solar Array String
AJB-0401	4 IN 1 OUT	For 4 Solar Array String
AJB-0501	5 IN 1 OUT	For 5 Solar Array String
AJB-0601	6 IN 1 OUT	For 6 Solar Array String
AJB-0701	7 IN 1 OUT	For 7 Solar Array String
AJB-0801	8 IN 1 OUT	For 8 Solar Array String
AJB-1201	12 IN 1 OUT	For 12 Solar Array String
AJB-1801	18 IN 1 OUT	For 18 Solar Array String
AJB-2401	24 IN 1 OUT	For 24 Solar Array String





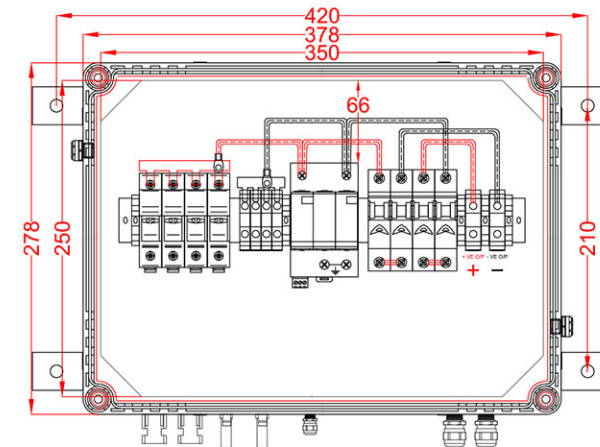
MAIN JUNCTION BOX

Rooftop Solar PV Application



Key Features:-

- HPL Main Junction Boxes are tested and certified as per IEC 61439-1 standard up-to operating voltage of 1000 V DC.
- The enclosure is made of high quality poly-carbonate.
- Degree of protection IP-65/66
- Tailor made product customised as per customer needs.
- Capable of blocking reverse flow of current from battery to solar panels.
- Reliable electric safety to avoid hazard.
- Obstructs sudden surges due to lightning strokes during cloudy and rainy conditions and ground the surges immediately.
- Fuses for overload protection on each string.
- Available in reverse blocking diodes (option).
- Easy DC-termination.
- Easy and decent Cable management.
- Space saving and orientation flexibility.



Highlights

- Main Junction Box is used to combine output from several Array Junction Boxes and connect it to DC Distribution Box or to Power Conditioning Unit/Solar Inverter.
- The MJB consists of Two Sections.
- One to combine all the Positive Terminals.
- Second to combine the Negative Terminals on the other side.
- Tested under strict industry norms by experts to guarantee flawless functioning and durability.
- Main Junction Boxes are made from high quality Thermoplastic (ABS) with the use of latest technology and is suitable for a range of Solar Power applications such as standalone Rooftop Systems, Hybrid Systems etc.
- Main Junction Boxes are Dust, Vermin & Waterproof.
- Fitted with cable glands of appropriate sizes for both incoming and outgoing cables.

Model	Description	
MJB-0201	2 IN 1 OUT	For Combining 2 Solar AJB
MJB-0301	3 IN 1 OUT	For Combining 3 Solar AJB
MJB-0401	4 IN 1 OUT	For Combining 4 Solar AJB
MJB-0501	5 IN 1 OUT	For Combining 5 Solar AJB
MJB-0601	6 IN 1 OUT	For Combining 6 Solar AJB
MJB-0701	7 IN 1 OUT	For Combining 7 Solar AJB
MJB-0801	8 IN 1 OUT	For Combining 8 Solar AJB



DC DISTRIBUTION BOX

Rooftop Solar PV Application

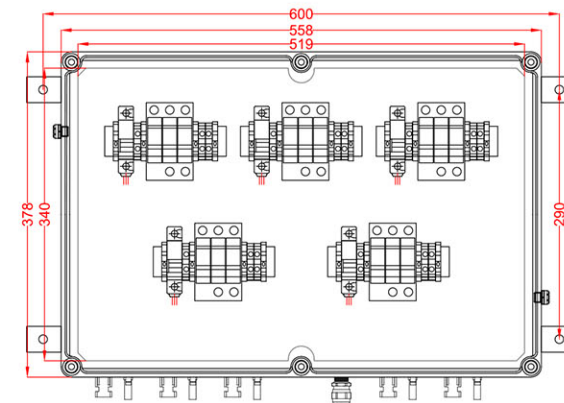


Highlights

- DC Distribution Unit is used to collect DC output from Array Junction Box (AJB) & supply it to the inverter.
- DCDB provides flexibility for the operator of solar power plant to connect & disconnect the inward Solar Supply & Battery Terminals.
- DCDB have two sections 1) Solar Section, 2.) Battery section.
- In each section of DCDB have MCB / MCCB & a fuse of proper rating depending upon the capacity of power plant & battery bank are used.
- DCDB isolates battery bank & Inverter from any electric surge.
- DCDB makes maintenance easier and enhances system reliability.
- Our series of PV DCDB is designed to deliver high performance and better reliability of PV Combiner Box attached to access Inverters.
- It is added to the inverter for minimizing the system installation time and maximizing the Inverter safety.

Key Features:-

- All of HPL- DC Distribution boxes is tested/certified as per IEC/IS standard.
- The enclosure is accessible only via the use of tools in order to ensure the protection.
- Customizable based solution as per customer needs & requirements.
- Reliable electric safety to avoid hazard.
- Easy and decent Cable management.
- Wall mounting design for easy installation and maintenance
- Every terminal is secured and weather proof for outdoor applications also, highly secure wiring, besides being insulated with PG Cable Gland or built-in MC4 terminal connector on demand.
- Protects the system if there is any fault during failure in DC side.



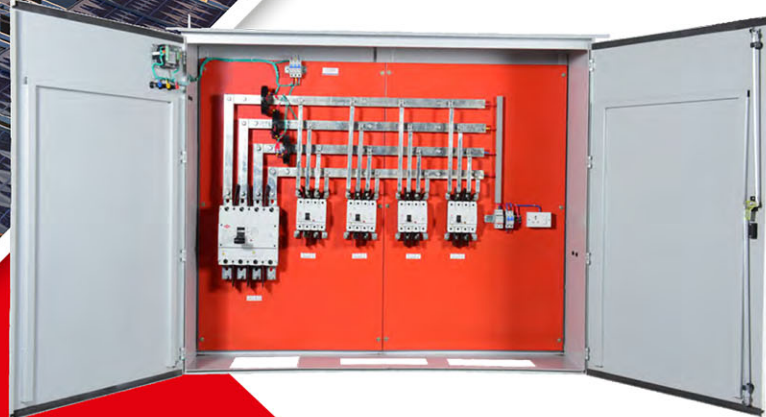
Model	Description
DCDB-0101	1 IN 1 OUT
DCDB-0202	2 IN 2 OUT
DCDB-0303	3 IN 3 OUT
DCDB-0404	4 IN 4 OUT
DCDB-0606	6 IN 6 OUT
DCDB-0808	8 IN 8 OUT
DCDB-1010	10 IN 10 OUT





AC DISTRIBUTION BOX

For Rooftop & Ground-Mount Solar PV Application

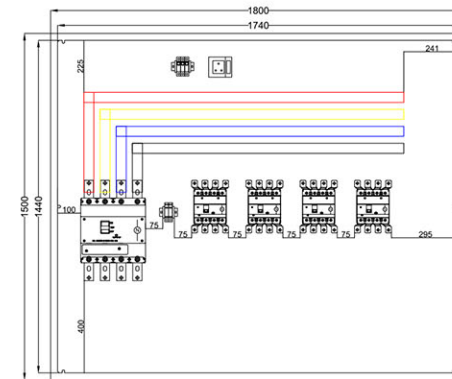


Highlights

- ACDB is capable to receive AC power from solar inverter and directs it to AC loads.
- ACDB is an important part of SPV system as it provides extra protection to the system in case of failures on load side.
- A provision can also be made in ACDB to monitor the consumption of power from SPV Power Plant.
- AC Distribution Box makes maintenance easier and enhances system reliability.
- Our ACDBs are designed to deliver high performance and added protection by isolating inverter from mains as and when required.

Key Features :-

- AC Distribution Boxes are tested and certified as per IEC/IS standard up-to operating voltage of 1000V AC.
- The AC Distribution Box are available in CRCA / Polycarbonate / FRP enclosure with screw and latches opening provision to maintain to deliver better reliability towards tough weather conditions.
- Degree of protection IP-65/66
- Tailor made product as per customer requirements.
- AC Distribution Boxes CRCA Enclosure are crafted with in house powder coating and phosphating facility
- In house testing facility:-
 - Current Test
 - High Voltage Test
 - Torque Test
 - Temperature Rise Test
 - Insulation resistance Test
 - Ingress Protection Test



Model	Description	
ACDB-0101	1 IN 1 OUT	For Single Phase
ACDB-0102	1 IN 2 OUT	For Single Phase
ACDB-0103	1 IN 3 OUT	For Single Phase
ACDB-0101	1 IN 1 OUT	For Three Phase
ACDB-0102	1 IN 2 OUT	For Three Phase
ACDB-0103	1 IN 3 OUT	For Three Phase
ACDB-0103	1 IN 4 OUT	For Three Phase





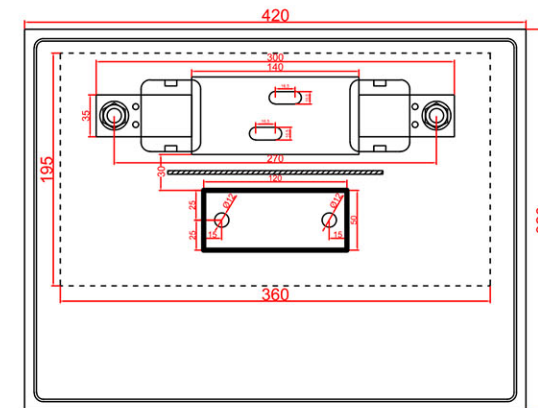
DC FUSE BOX

Ground Mount Application



Key Features :-

- **Enclosure Material** : Poly Carbonate/FRP /CRCA
- **Ingress Protection (IP)** : 65/66 (Polycarbonate & FRP Enclosures)
: 54/55/65 (CRCA Enclosures)
- **Impact Resistance (IK)** : 08/10
- **Operational Voltage** : Up-to 1000V DC
- **Operation Current** : Up-to 400A
- **Bus Bar** : Copper
- **Input Method** : Double Compression Nickel Plated Cable Gland/Polyamide Gland
- **Output Method** : Double Compression Nickel Plated Cable Gland/Polyamide Gland



Highlights

- Fuse Box provides protection between Inverter and String Combiner box.
- HPL Fuse Box having operation voltage up to 1000V DC.
- Replaceable HRC Fuse is used at positive side.
- Copper Bus Bar at negative side.

Model	Current Rating	Voltage Rating
FUSE BOX 001	63A	500V DC/1000V DC
FUSE BOX 002	100A	500V DC/1000V DC
FUSE BOX 003	250A	500V DC/1000V DC
FUSE BOX 004	350A	500V DC/1000V DC
FUSE BOX 005	400A	500V DC/1000V DC



DC DISCONNECTOR 1000V DC

For Rooftop & Ground-Mount
Solar PV Application



Highlights

- High performance switching in a compact frame
- Safe and reliable operation
- Provide safe electrical isolation even at low voltages and up to 1000V DC
- Double positive break position indications
- Quick make and quick break mechanism ensures safe and independent manual operation
- Symmetric pole design for making connections independent of polarity
- Low power losses resulting in enhanced efficiency
- High temperature withstand capacity
- Reference standard IEC 60947-3

Specification (100A to 630A, 2 Pole, 1000VDC)

Reference standard									
Reference standard:	IEC 60947-3								
Technical data									
Rated Operational current (I _n)	100A	125A	160A	200A	250A	315A	400A	500A	630A
Conventional free air Thermal current (I _{th}) @ 40°C	100A	125A	160A	200A	250A	315A	400A	500A	630A
Conventional Thermal current (I _{th}) Enclosed	100A	125A	160A	200A	250A	315A	400A	500A	630A
Number of poles	2								
Rated impulse withstand voltage U _{imp} (kV)	12								
Rated Insulation voltage U _i (Vdc)	1500	1500	1500	1500	1500	1500	1500	1500	1500
Rated Operational voltage U _e (Vdc)	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated short time withstand capacity 1 sec kA	5	5	5	5	5	10	10	10	10
Power Loss W	8	13	17	26	40	12	16	25	40
Utilization category	DC-21B								
Pollution degree	3								
Mechanical durability (operating cycles without load)	10000								
Electrical durability (operating cycles with load)	300	300	300	300	300	200	200	200	200
Handle type	Front operated								
Operating Torque (N-m)	12	12	12	12	12	15	15	15	15
Operating temperature	-25°C to 55°C								
Operating Mechanism	One hand operated with Quick make & quick break type mechanism								
Maximum Copper cable cross-section (mm ²)	35	50	70	95	120	185	240	2x150	2x185
Terminal width (mm)	25	25	25	25	25	45	45	45	45
Terminal Bolt (mm)	M10x35	M10x35	M10x35	M10x35	M10x35	M12x40	M12x40	M14x40	M14x40
Terminal Bolt tightening torque (N-m max.)	50	50	50	50	50	85	85	140	140
Weight / unit (Kgs)	2.1	2.1	2.1	2.1	2.1	4.8	4.8	4.8	4.8



DC DISCONNECTOR 1500V DC

For Rooftop & Ground-Mount
Solar PV Application



Highlights

- High performance switching in a compact frame
- Safe and reliable operation
- Provide safe electrical isolation even at low voltages and up to 1500VDC
- Double positive break position indications
- Quick make and quick break mechanism ensures safe and independent manual operation
- Symmetric pole design for making connections independent of polarity
- Low power losses resulting in enhanced efficiency
- High temperature withstand capacity
- Reference standard IEC 60947-3

Specification (100A to 630A, 2 Pole & 3 Pole, 1500VDC)

Reference standard										
Reference standard:	IEC 60947-3									
Technical data										
Rated Operational current (In)	100A	125A	160A	200A	250A	315A	400A	500A	630A	
Conventional free air Thermal current (Ith) @ 40°C	100A	125A	160A	200A	250A	315A	400A	500A	630A	
Conventional Thermal current (Ithe) Enclosed	100A	125A	160A	200A	250A	315A	400A	500A	630A	
Number of poles	2 & 3									
Rated impulse withstand voltage Uimp (kV)	12									
Rated Insulation voltage Ui (Vdc)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Rated Operational voltage Ue (Vdc)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Rated short time withstand capacity 1 sec kA	2P	10	10	10	10	10	15	15	15	15
	3P	5	5	5	5	5	10	10	10	10
Power Loss W	2P	5	6	8	12	16	15	24	28	40
	3P	8	13	17	26	40	12	16	25	40
Utilization category	DC-21B									
Pollution degree	3									
Mechanical durability (operating cycles without load)	2P	10000	10000	10000	10000	10000	8000	8000	5000	5000
	3P	10000	10000	10000	10000	10000	10000	10000	10000	10000
Electrical durability (operating cycles with load)	2P	1500	1500	1500	1500	1500	1200	1200	1000	1000
	3P	300	300	300	300	300	200	200	200	200
Handle type	Front operated									
Operating Torque (N-m)	2P	9.5	9.5	9.5	9.5	9.5	11	11	17	17
	3P	12	12	12	12	12	15	15	15	15
Operating temperature	-25°C to 55°C									
Operating Mechanism	One hand operated with Quick make & quick break type mechanism									
Maximum Copper cable cross-section (mm ²)	35	50	70	95	120	185	240	2x150	2x185	
Terminal width (mm)	2P	66	66	66	73	73	96	96	135	135
	3P	25	25	25	25	25	45	45	45	45
Terminal Bolt (mm)	M10x35	M10x35	M10x35	M10x35	M10x35	M12x40	M12x40	M14x40	M14x40	
Terminal Bolt tightening torque (N-m max.)	50	50	50	50	50	85	85	140	140	
Weight / unit (Kgs)	2P	2.4	2.4	2.4	2.6	2.6	4.1	4.1	8.8	8.8
	3P	2.2	2.2	2.2	2.2	2.2	5.2	5.2	5.2	5.2
Phase Barriers & Terminal shrouds	Available as standard									
Auxiliary contact (1NO+1NC)	Optional									



Load Break Switch 800V AC

For Rooftop & Ground-Mount
Solar PV Application



Highlights

- High performance switching in a compact frame
- Safe and reliable operation
- Provide safe electrical isolation even at low voltages and up to 800V AC
- Double positive break position indications
- Quick make and quick break mechanism ensures safe and independent manual operation
- Symmetric pole design for making connections independent of polarity
- Low power losses resulting in enhanced efficiency
- High temperature withstand capacity
- Products for 800V AC & 440V AC application
- Reference standard IEC 60947-3

Specification (100A to 630A, 3 Pole & 4 Pole, 800VAC)

Reference standard								
Reference standard:	IEC 60947-3							
Technical data	FRAME-1		FRAME-2		FRAME-3		FRAME-4	
Rated Operational current (In)	100A	125A	160A	200A	250A	320A	400A	630A
Conventional Thermal current (Ith) @ 40°C	100A	125A	160A	200A	250A	320A	400A	630A
Conventional Enclosed Thermal current (Ithe)@ 40°C	100A	125A	160A	200A	250A	320A	400A	630A
Rated Impulse withstand voltage (Uimp)	6 kV	6 kV	6 kV	8 kV	8 kV	12 kV	12 kV	12 kV
Rated Insulation voltage (Ui)	1000 Vac	1000 Vac	1000 Vac	1000 Vac	1000 Vac	1000 Vac	1000 Vac	1000 Vac
Dielectric strength (50 Hz 1 minute)	5 kV	5 kV	5 kV	5 kV	5 kV	8 kV	8 kV	8 kV
Rated Operational voltage (Ue)	800Vac	800Vac	800Vac	800Vac	800Vac	800Vac	800Vac	800Vac
Rated Short circuit Making capacity(Icm) (peak RMS value)	7.65 kA	7.65 kA	7.65 kA	13.6 kA	13.6 kA	13.6 kA	17 kA	32 kA
Rated Short Time withstand current (Icw) for 1 sec.	5 kA	5 kA	5 kA	10 kA	10 kA	10 kA	12 kA	20 kA
Conditional short circuit current (RMS value)	80 kA	80 kA	80 kA	80 kA	80 kA	80 kA	80 kA	80 kA
Power Loss	5W	6W	8W	12W	17W	21W	42W	87W
Pollution degree	3	3	3	3	3	3	3	3
Utilization category	AC-22A	AC-22A	AC-22A	AC-22A	AC-22A	AC-22A	AC-22A	AC-22A
Rated Making capacity	300A	375A	480A	600A	750A	960A	1200A	1890A
Rated Breaking capacity	300A	375A	480A	600A	750A	960A	1200A	1890A
Mechanical Life (No. of operations w/o current)	8500	7000	7000	7000	7000	4000	4000	4000
Electrical Life (No. of operations with current)	1500	1000	1000	1000	1000	1000	1000	1000
Switch operating torque (N-m)	9.5	9.5	9.5	11	11	17	17	40
Terminal width (mm)	25	25	25	32	32	40	55	50
Terminal thickness (mm)	4	4	4	4.5	4.5	5	5	6
Min. Copper Cable/Busbar size (sq.mm)	35	50	70	95	120	185	30x5x2	50x4x2
Min. Aluminum Cable/Busbar size (sq.mm)	50	70	95	150	185	240	32x8x2	50x6.5x2
Switch operating mechanism	Quick Make & break	Quick Make & break	Quick Make & break	Quick Make & break	Quick Make & break	Quick Make & break	Quick Make & break	Quick Make & break
Operating mode	Front operated	Front operated	Front operated	Front operated	Front operated	Front operated	Front operated	Front operated
Handle type	Single handle	Single handle	Single handle	Single handle	Single handle	Single handle	Single handle	Double handle
Terminal type	Lug/ Busbar type	Lug/ Busbar type	Lug/ Busbar type	Lug/ Busbar type	Lug/ Busbar type	Lug/ Busbar type	Lug/ Busbar type	Lug/ Busbar type

NET METER ROOFTOP SOLAR BI-DIRECTIONAL SOLUTION

For Rooftop & Ground-Mount
Solar PV Application



Highlights

- Available in Single Phase & Three Phase as per BIS.
- AMR compatible unit for local and remote communication.
- Internal Battery Back up to Display Meter Data in power off event.
- kWh, kVAh measurement for import & export mode.
- History of energy consumption for Billing months.
- TOD wise, Daily & block load survey for profile Data availability.
- Self Diagnostic facility, Anti –Tamper/Event logging.
- Data download through optical Port & RS 232 port.
- Backlight LCD display.
- Minimum 200 Tamper event data.

* Features varies with respect to model selected



Application

- Import - export Electricity Measurement at interconnection points.
- Suitable for both On-Grid & Off-grid interconnection points.
- Net Electricity Measurement for Roof Top Solar, Wind & Other Renewable Power generation sources.

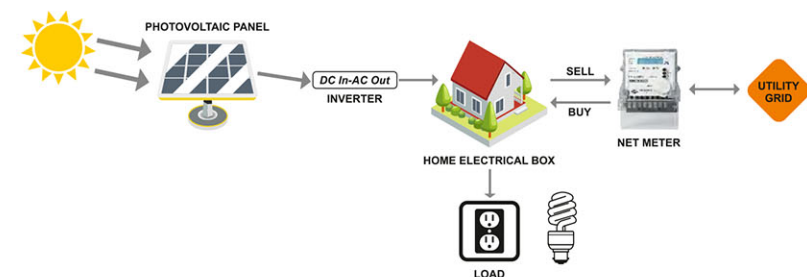
Benefits

- Single Metering unit for Bi-directional Energy Measurement.
- Separate Energy Registration for import & export.
- Net Energy calculation for Power credits.
- Designed & Developed, as per IS 13779, IS 14697.
- Accurate Energy Measurement CL-0.5, CL-1.0.
- Open Communication Protocol - DLMS as per IS 15959.

Technical Specification

Bi-directional ac Static Meter		
S.N.	Items	Technical Specification
Electrical		
01.	System	<ul style="list-style-type: none"> • Single phase (5-30A) • Single phase (10-60A) • Three phase (10-40A) • Three phase (10-60A) • Three phase LTCT -/5A • Three phase HTCT -/5A
02.	Accuracy	0.5 accuracy Class, as per IS 14697 1.0 accuracy Class, as per IS 13779
03.	Measuring Parameters	<ul style="list-style-type: none"> • Active, Reactive & Apparent Energy in both import & export mode • Signed Active, Reactive and Apparent power • Net Energy Calculation • Maximum Demand With Date & Time snap shots • Power On-off event logging • Last 12 month Billing Data • Daily (midnight) & every 15/30 Min Load profile Data • Anti – tamper and Event logging • TOD wise Data upto 8 configurable Tariff Zones True (4 Quadrant) Energy measurement in Three Phase Bi-Directional Meter
04.	Communication	Galvanically Isolated Optical Port and RS 232 port for remote communication

* Specification varies with respect to model selected



SOLAR CABLE

For Rooftop & Ground-Mount Solar PV Application



Highlights

In a PV system, SOLAR CABLE is one of the most crucial parts. They are connected on DC side of the system, proper cable sizing and its quality ultimately decides the power delivered to the load and in turn efficiency of the entire system because undersized cable results into heating which may lead further up to hazardous incidents like fire. Also Even a small increase in cable resistance resulting into increased I²R losses which is considered as a higher loss of energy and such cable will lose its acceptance.

Further as solar cable has to function in open atmosphere over a long period, it has to withstand all environmental severities like UV radiation, rain, dust & dirt, temperature variations, humidity, insects and microbes etc. Frequent failure / replacement of solar cable will lead to decrease in the overall project efficiency resulting in high operational costs.

HPL Solar cables are made under stringent MNRE parameters to deliver lasting performance throughout the lifetime of the PV System.

Special Properties of HPL Solar Cables

- UV Resistance : Full protection against Ultraviolet Rays.
- Outdoor Durability : resists extreme temperatures (-40°C to 120°C) & ozone resistant.
- Halogen-Free : Low Smoke Emission & Low Toxicity/Corrosively during fire.
- Properties against fire : flame retardant, fire retardant.
- Flexibility and stripping ability : for fast and easy installation.
- Lifetime reliability : lasts up to 30 years even under tough external conditions.
- Fully Recyclable : In accordance with new environmental regulations.
- Suitable to any connector types.
- According to EN/IEC/IS.

Constituents :-

- HPL solar cables are manufactured with the following materials.
- Zero Halogen Polyolefin Compound
- Annealed Tinned Copper Conductor
- Cross Linked Polyolefin Compound

Mechanical Features

- Resistant to Impact, tear & abrasion
- Minimum bending radius - 4 times of overall diameter.
- Safe pulling force -50 N/sq mm

Thermal Features

- Maximum conductor temperature of operation-120°C.
- Minimum operating temperature: -40°C

Electrical Features

- Voltage Rating : 1.5 (1.8) KV DC
- High voltage test : 6.5 KV DC for 5 minutes.

Chemical Features

- Resistant to mineral oils
- Resistant to acids & alkaline

HPL ATC copper conductor XLPO insulated and XLPO sheathed Solar cable as per EN-50618

Nominal Cross sectional area of the conductor sq.mm	Nos./Max. Dia of Strand No./ (mm)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Sheath (mm)	Mean Overall Diameter Upper Limit Informative Value	Current Rating under according to method of installation			Conductor Resistance at 20°C Max. ohm/Km
					Single Cable Free in air	Single Sable on a surface	Two loaded cable touching on a surface	
					Amp.	Amp.	Amp.	
1.5	30 / 0.25	0.7	0.8	5.4	30	29	24	13.7
2.5	50 / 0.25	0.7	0.8	5.9	41	39	33	8.21
4	56 / 0.30	0.7	0.8	6.6	55	52	44	5.09
6	84 / 0.30	0.7	0.8	7.4	70	67	57	3.39
10	80 / 0.40	0.7	0.8	8.8	98	93	79	1.95
16	126 / 0.40	0.7	0.9	10.1	132	125	107	1.24
25	196 / 0.40	0.9	1.0	12.5	176	167	142	0.795
35	276 / 0.40	0.9	1.1	14.0	218	207	176	0.565
50	396 / 0.40	1.0	1.2	16.3	276	282	221	0.393
70	556 / 0.40	1.1	1.2	18.7	347	330	278	0.277
95	954 / 0.40	1.1	1.3	20.8	416	395	333	0.210



SOLAR LED BULB / BATTEN



LED Bulb Features :-

- High efficiency LED's for optimum light output and savings in power.
- Aesthetically designed heat sinks with specially designed fins.
- High quality diffuser for glare free distribution.
- Drivers with on board circuit protections.
- Highly efficient metal core PCB.

Product Descriptions	Lumen (lm)	In. Current (mA)	CRI	CCT
Solar Bulb 3W DC	270 lm	250mA	>80	5500 - 6500K
Solar Bulb 5W DC	460 lm	420mA	>80	5500 - 6500K
Solar Bulb 7W DC	630 lm	580mA	>80	5500 - 6500K
Solar Bulb 9W DC	830 lm	750mA	>80	5500 - 6500K

LED Batten Features :-

- Designed Linear sleek Aesthetic PVC housing.
- High efficiency LED's for optimum light output and savings in power.
- High quality PC cover for LED linear lamp ensures soft and glare free lighting.
- Short circuit and surge protection for enhanced reliability and longer service life of driver.
- Wide beam angle of 120° with efficacy over >95 Lm/ W.

Product Descriptions	Lumen (lm)	In. Current (mA)	CRI	CCT
Solar LED Batten 5W	450 lm	410mA	>80	5500-6500K
Solar LED Batten 9W	850 lm	750mA	>80	5500-6500K
Solar LED Batten 12W	1160 lm	1000mA	>80	5500-6500K
Solar LED Batten 18W	1740 lm	1500mA	>80	5500-6500K



SOLAR LED STREET LIGHT



Specifications :

Housing : High grade Aluminium pressure Die-Cast, **Cover :** Toughened Glass

LED Make : Osram / Cree / Nichia / Seoul / Samsung, **Luminous Efficacy :** ≥95 lumen/watt

Special Features : With in-built charge controller with separate green and red Led lights for battery charging and discharging indications also protection against over voltage, under voltage, short circuit & surge upto 4 kv. Operating at Dust to Dawn mode, also suitable for standalone & Centralized Street Lighting system.

Conform to LM-79 & LM-80 respectively.

Technical Details

Rated Wattage	Operating Voltage	CCT	CRI	I/P(A)
7W	10.5V-14V	5500K-6500K	>80	600
9W	10.5V-14V	5500K-6500K	>80	750
12W	10.5V-14V	5500K-6500K	>80	980
15W	10.5V-14V	5500K-6500K	>80	1250
21W	10.5V-14V	5500K-6500K	>80	1750

Applications :

- Road Lighting
- Colony lighting
- Shopping center perimeter lighting
- Industrial Area

Specifications :

Housing : High grade Aluminium pressure Die-Cast., **Cover :** Toughened Glass.

LED Make : Osram / Cree / Nichia / Seoul / Samsung, **Luminous Efficacy :** ≥95 lumen/watt

Special Features : Protection against over voltage, under voltage, short circuit & surge upto 4 kv. Operating at Dust to Dawn mode, also suitable for standalone & Centralized Street Lighting system.

Conform to LM-79 & LM-80 respectively.

Technical Details

Rated Wattage	Operating Voltage	CCT	CRI	I/P(A)
40W	10.5V-14V	5500K-6500K	>70	3300
50W	10.5V-14V	5500K-6500K	>70	4160
60W	22V-26V	5500K-6500K	>70	2500
100W	22V-26V	5500K-6500K	>70	4160

Applications :

- Road Lighting
- Colony Lighting
- Shopping Center Perimeter Lighting
- Industrial Area Lighting
- National Highway Lighting