

Hybrid Solar Power Plant



Hybrid Solar Power Plant

What is hybrid solar?

Solar hybrid power systems are hybrid power systems that combine solar power from a photovoltaic system with another power generating energy source or grid energy. Extra power generated from solar is stored in a battery for use at nighttime or at times when solar energy is not available.

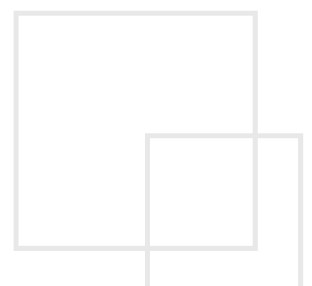
How does a hybrid solar power system work?

The arrangement of solar modules absorbs the sunlight on them and converts them into electricity. The current generated here is Direct Current (DC). The solar inverter then converts the DC to Alternating Current (AC), thus making it power the electrical items and stores extra energy in the battery for future usage.

What are the benefits of a hybrid solar power plant?

1. Reduce electricity bills
2. Power backup during powercut

For frequently asked questions visit: <https://www.aliensolar.com/faq>.



Hybrid: HYBD1A

Model Number: HYBD1A

Solar Power Plant: 1 kW

Connection Type: 1-Phase

Charge Controller: PWM

Transformer: Transformer Based

Maximum Load: 800 W

Battery Backup: 1 hour

Annual Electricity Generation: 1300 kWh

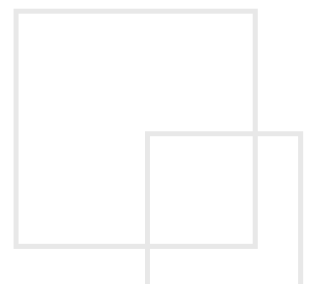
Annual Savings On Electricity Bill: Rs 8700

Annual Savings On CO2 Emission: 1040 kg

Space Required for Installation: 100 Square Feet



HYBD1A				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	3	Nos
2	Solar Inverter	Hybrid Inverter 1P with Inbuild PWM Charge Controller (Transformer Based) Size: 1000 W Make: Luminous/UTL/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-100Ah Make: Exide/Luminous	2	Nos
4	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
5	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	30	m
6	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	10	m
7	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
8	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
9	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
10	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
11	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 1 Nos Pit at AC Side: 1 Nos	2	Set
12	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD1B

Model Number: HYBD1B

Solar Power Plant: 1 kW

Connection Type: 1-Phase

Charge Controller: MPPT

Transformer: Transformer Less

Maximum Load: 800 W

Battery Backup: 1 hour

Annual Electricity Generation: 1300 kWh

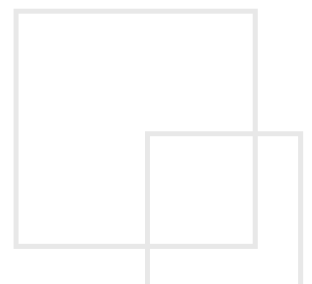
Annual Savings On Electricity Bill: Rs 8700

Annual Savings On CO2 Emission: 1040 kg

Space Required for Installation: 100 Square Feet



HYBD1B				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	3	Nos
2	Solar Inverter	Hybrid Inverter 1P with Inbuilt MPPT Charge Controller (Transformer Less) Size: 1000 W Make: Flin Energy/Growatt/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-100Ah Make: Exide/Luminous	2	Nos
4	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
5	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	30	m
6	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	10	m
7	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
8	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
9	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
10	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
11	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 1 Nos Pit at AC Side: 1 Nos	2	Set
12	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD2A

Model Number: HYBD2A

Solar Power Plant: 2 kW

Connection Type: 1-Phase

Charge Controller: PWM

Transformer: Transformer Based

Maximum Load: 1600 W

Battery Backup: 1 hour

Annual Electricity Generation: 2600 kWh

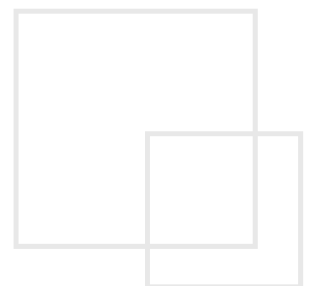
Annual Savings On Electricity Bill: Rs 17400

Annual Savings On CO2 Emission: 2080 kg

Space Required for Installation: 200 Square Feet



HYBD2A				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	6	Nos
2	Solar Inverter	Hybrid Inverter 1P with Inbuilt PWM Charge Controller (Transformer Based) Size: 2000 W Make: Luminous/UTL/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-100Ah Make: Exide/Luminous	4	Nos
4	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
5	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	60	m
6	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	20	m
7	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
8	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
9	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
10	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
11	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 1 Nos Pit at AC Side: 1 Nos	2	Set
12	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD2B

Model Number: HYBD2B

Solar Power Plant: 2 kW

Connection Type: 1-Phase

Charge Controller: MPPT

Transformer: Transformer Less

Maximum Load: 1600 W

Battery Backup: 1 hour

Annual Electricity Generation: 2600 kWh

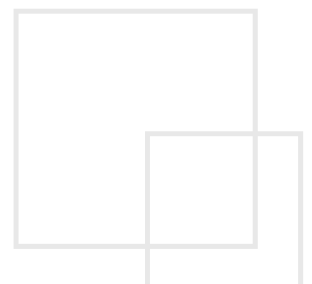
Annual Savings On Electricity Bill: Rs 17400

Annual Savings On CO2 Emission: 2080 kg

Space Required for Installation: 200 Square Feet



HYBD2B				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	6	Nos
2	Solar Inverter	Hybrid Inverter 1P with Inbuilt MPPT Charge Controller (Transformer Less) Size: 2000 W Make: Flin Energy/Growatt/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-100Ah Make: Exide/Luminous	4	Nos
4	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
5	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	60	m
6	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	20	m
7	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
8	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
9	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
10	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
11	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 1 Nos Pit at AC Side: 1 Nos	2	Set
12	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD3A

Model Number: HYBD3A

Solar Power Plant: 3 kW

Connection Type: 1-Phase

Charge Controller: MPPT

Transformer: Transformer Based

Maximum Load: 2400 W

Battery Backup: 1 hour

Annual Electricity Generation: 3900 kWh

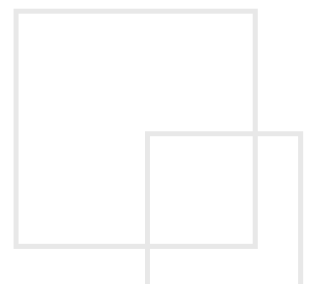
Annual Savings On Electricity Bill: Rs 26100

Annual Savings On CO2 Emission: 3120 kg

Space Required for Installation: 300 Square Feet



HYBD3A				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	10	Nos
2	Solar Inverter	Hybrid Inverter 1P with Inbuilt MPPT Charge Controller (Transformer Based) Size: 3000 W Make: Luminous/UTL/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-150Ah Make: Exide/Luminous	4	Nos
3	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
4	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	90	m
5	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	30	m
6	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
7	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
8	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
9	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
10	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 1 Nos Pit at AC Side: 1 Nos	2	Set
11	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
12	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD3B

Model Number: HYBD3B

Solar Power Plant: 3 kW

Connection Type: 1-Phase

Charge Controller: MPPT

Transformer: Transformer Less

Maximum Load: 2400 W

Battery Backup: 1 hour

Annual Electricity Generation: 3900 kWh

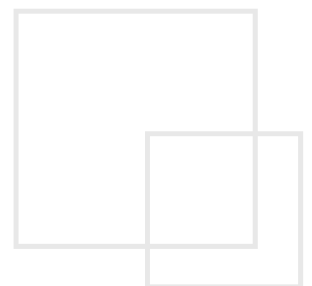
Annual Savings On Electricity Bill: Rs 26100

Annual Savings On CO2 Emission: 3120 kg

Space Required for Installation: 300 Square Feet



HYBD3B				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	10	Nos
2	Solar Inverter	Hybrid Inverter 3P with Inbuilt MPPT Charge Controller (Transformer Less) Size: 3000 W Make: Flin Energy/Growatt/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-150Ah Make: Exide/Luminous	4	Nos
3	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
4	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	90	m
5	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	30	m
6	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
7	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
8	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
9	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
10	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 1 Nos Pit at AC Side: 1 Nos	2	Set
11	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD4A

Model Number: HYBD4A

Solar Power Plant: 4 kW

Connection Type: 1-Phase

Charge Controller: MPPT

Transformer: Transformer Based

Maximum Load: 3200 W

Battery Backup: 1 hour

Annual Electricity Generation: 5200 kWh

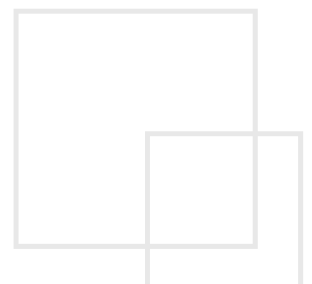
Annual Savings On Electricity Bill: Rs 34800

Annual Savings On CO2 Emission: 4160 kg

Space Required for Installation: 400 Square Feet



HYBD4A				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	12	Nos
2	Solar Inverter	Hybrid Inverter 1P with Inbuilt MPPT Charge Controller (Transformer Based) Size: 4000 W Make: Luminous/UTL/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-100Ah Make: Exide/Luminous	8	Nos
4	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
5	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	120	m
6	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	30	m
7	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
8	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
9	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
10	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
11	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 2 Nos Pit at AC Side: 2 Nos	4	Set
12	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD4B

Model Number: HYBD4B

Solar Power Plant: 4 kW

Connection Type: 1-Phase

Charge Controller: MPPT

Transformer: Transformer Less

Maximum Load: 3200 W

Battery Backup: 1 hour

Annual Electricity Generation: 5200 kWh

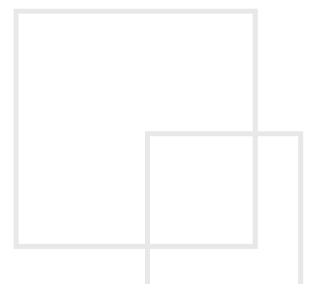
Annual Savings On Electricity Bill: Rs 34800

Annual Savings On CO2 Emission: 4160 kg

Space Required for Installation: 400 Square Feet



HYBD4B				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	12	Nos
2	Solar Inverter	Hybrid Inverter 3P with Inbuilt MPPT Charge Controller (Transformer Based) Size: 4000 W Make: Flin Energy/Growatt/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-100Ah Make: Exide/Luminous	8	Nos
4	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
5	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	120	m
6	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	30	m
7	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
8	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
9	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
10	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
11	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 2 Nos Pit at AC Side: 2 Nos	4	Set
12	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD5A

Model Number: HYBD5A

Solar Power Plant: 5 kW

Connection Type: 1-Phase

Charge Controller: MPPT

Transformer: Transformer Based

Maximum Load: 4000 W

Battery Backup: 1 hour

Annual Electricity Generation: 6500 kWh

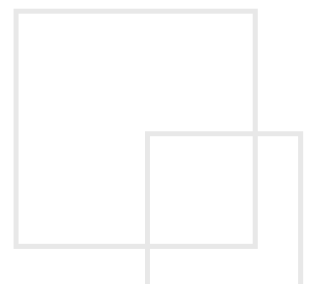
Annual Savings On Electricity Bill: Rs 43500

Annual Savings On CO2 Emission: 5200 kg

Space Required for Installation: 500 Square Feet



HYBD5A				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	16	Nos
2	Solar Inverter	Hybrid Inverter 1P with Inbuilt MPPT Charge Controller (Transformer Based) Size: 5000 W Make: Luminous/UTL/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-100Ah Make: Exide/Luminous	8	Nos
4	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
5	Solar DC Cable	DC Solar Cables 1*4 mm2 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	150	m
6	LT Cable	LT Cables 2*6 mm2 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	30	m
7	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
8	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
9	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
10	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
11	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm2 Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 2 Nos Pit at AC Side: 2 Nos	4	Set
12	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm2 Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD5B

Model Number: HYBD5B

Solar Power Plant: 5 kW

Connection Type: 3-Phase

Charge Controller: MPPT

Transformer: Transformer Less

Maximum Load: 4000 W

Battery Backup: 1 hour

Annual Electricity Generation: 6500 kWh

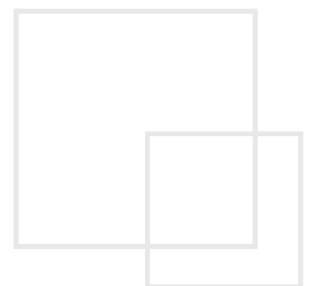
Annual Savings On Electricity Bill: Rs 43500

Annual Savings On CO2 Emission: 5200 kg

Space Required for Installation: 500 Square Feet



HYBD5B				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	16	Nos
2	Solar Inverter	Hybrid Inverter 3P with Inbuilt MPPT Charge Controller (Transformer Less) Size: 5000 W Make: Flin Energy/Growatt/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-100Ah Make: Exide/Luminous	8	Nos
4	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
5	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	150	m
6	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	30	m
7	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
8	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
9	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
10	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
11	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 2 Nos Pit at AC Side: 2 Nos	4	Set
12	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD7A

Model Number: HYBD7A

Solar Power Plant: 7 kW

Connection Type: 3-Phase

Charge Controller: MPPT

Transformer: Transformer Based

Maximum Load: 5600 W

Battery Backup: 1 hour

Annual Electricity Generation: 9100 kWh

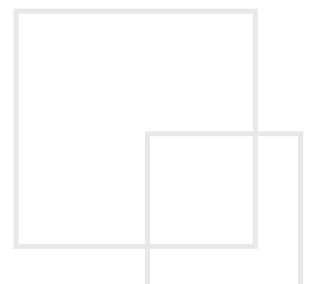
Annual Savings On Electricity Bill: Rs 60900

Annual Savings On CO2 Emission: 7280 kg

Space Required for Installation: 700 Square Feet



HYBD7A				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	22	Nos
2	Solar Inverter	Hybrid Inverter 3P with Inbuilt MPPT Charge Controller (Transformer Based) Size: 7000 W Make: Luminous/UTL/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-100Ah Make: Exide/Luminous	10	Nos
4	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
5	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	210	m
6	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	30	m
7	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
8	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
9	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
10	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
11	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 2 Nos Pit at AC Side: 2 Nos	4	Set
12	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD7B

Model Number: HYBD7B

Solar Power Plant: 7 kW

Connection Type: 3-Phase

Charge Controller: MPPT

Transformer: Transformer Less

Maximum Load: 5600 W

Battery Backup: 1 hour

Annual Electricity Generation: 9100 kWh

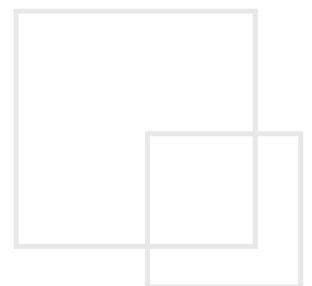
Annual Savings On Electricity Bill: Rs 60900

Annual Savings On CO2 Emission: 7280 kg

Space Required for Installation: 700 Square Feet



HYBD7B				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	22	Nos
2	Solar Inverter	Hybrid Inverter 3P with Inbuilt MPPT Charge Controller (Transformer Less) Size: 7000 W Make: Flin Energy/Growatt/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-100Ah Make: Exide/Luminous	10	Nos
4	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
5	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	210	m
6	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	30	m
7	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
8	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
9	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
10	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
11	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 2 Nos Pit at AC Side: 2 Nos	4	Set
12	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD10A

Model Number: HYBD10A

Solar Power Plant: 10 kW

Connection Type: 3-Phase

Charge Controller: MPPT

Transformer: Transformer Based

Maximum Load: 8000 W

Battery Backup: 1 hour

Annual Electricity Generation: 13000 kWh

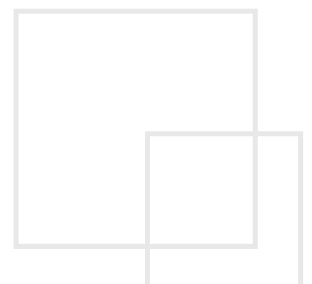
Annual Savings On Electricity Bill: Rs 87100

Annual Savings On CO2 Emission: 10400 kg

Space Required for Installation: 1000 Square Feet



HYBD10A				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	30	Nos
2	Solar Inverter	Hybrid Inverter 3P with Inbuilt MPPT Charge Controller (Transformer Based) Size: 10000 W Make: Luminous/UTL/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-150Ah Make: Exide/Luminous	10	Nos
4	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
5	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	300	m
6	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	30	m
7	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
8	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
9	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
10	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
11	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 2 Nos Pit at AC Side: 2 Nos	4	Set
12	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: HYBD10B

Model Number: HYBD10B

Solar Power Plant: 10 kW

Connection Type: 3-Phase

Charge Controller: MPPT

Transformer: Transformer Less

Maximum Load: 8000 W

Battery Backup: 1 hour

Annual Electricity Generation: 13000 kWh

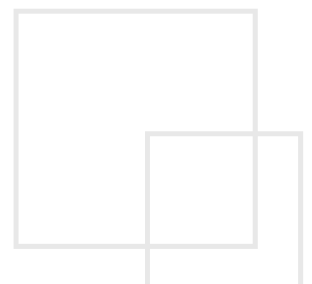
Annual Savings On Electricity Bill: Rs 87100

Annual Savings On CO2 Emission: 10400 kg

Space Required for Installation: 1000 Square Feet

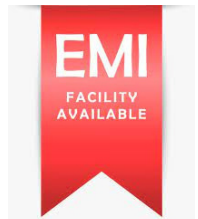


HYBD10B				
SN	Item	Description	Quantity	Unit
1	Solar Module	335 Wp Polycrystalline, Tier 1, BIS Certified Make : Waaree/Vikram/Panasonic/Canadian	30	Nos
2	Solar Inverter	Hybrid Inverter 3P with Inbuilt MPPT Charge Controller (Transformer Less) Size: 10000 W Make: Flin Energy/Growatt/Equivalent	1	No
3	Solar Battery	Solar Battery Lead Acid Tubular Size: 12V-150Ah Make: Exide/Luminous	10	Nos
4	Module Mounting Structure	Module mounting structure of Galvanized Iron / Anodized Aluminium with Adjustable Tilt for Shed / Flat Roof Make: Enersys/Strolar/Equivalent	1	Set
5	Solar DC Cable	DC Solar Cables 1*4 mm ² 1.1 kV Grade XLPO Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	300	m
6	LT Cable	LT Cables 2*6 mm ² 1.1 kV Grade PVC Insulated Copper Make: Havells/Polycab/Mescab/Equivalent	30	m
7	DCDB	DC Distribution Box with PV Fuse & DC SPD Type II	1	Set
8	ACDB	AC Distribution Box with AC MCB, AC SPD & Line Indicator	1	Set
9	Electrical Accessories	Rigid PVC Wiring Conduit, Cable Tray, MC4 Connectors, Saddle, Lugs, Bullets, Screw, Fasteners, Gland, Ferrule, Cable Tie & Other Electrical Accessories as Required for the Power Plant	1	Lot
10	Civil Material	Civil Material as Required for Pedestal/Foundation Work	1	Lot
11	Earthing Protection	1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber Pit at DC Side: 2 Nos Pit at AC Side: 2 Nos	4	Set
12	Lightning Arrester	12 mm Coper Lightning Arrester, 1m x 17.2mm Copper Bonded earth Electrode, Backfill Compound, 6 mm ² Flexible Copper Earthing Cable, FRP Pit Chamber	1	Set
13	Miscellaneous	Transportation, Caution Board, Safety Signage etc	1	Set
14	Installation and Commissioning	Design, Engineering, Supply, Testing, Installation & Commissioning	1	Set



Hybrid: Summary

Hybrid Solar Power Plant									
SN	Model	System Size	Connection Type	Maximum Load	Battery Backup	Space Required	Annual Generation	Annual Savings	System Price
1	HYBD1A	1 kW	1-Phase	800 W	1 hour	100 Square Feet	1300 kWh	Rs 8700	Rs 99000
2	HYBD1B	1 kW	1-Phase	800 W	1 hour	100 Square Feet	1300 kWh	Rs 8700	Rs 143000
3	HYBD2A	2 kW	1-Phase	1600 W	1 hour	200 Square Feet	2600 kWh	Rs 17400	Rs 200000
4	HYBD2B	2 kW	1-Phase	1600 W	1 hour	200 Square Feet	2600 kWh	Rs 17400	Rs 241000
5	HYBD3A	3 kW	1-Phase	2400 W	1 hour	300 Square Feet	3900 kWh	Rs 26100	Rs 273000
6	HYBD3B	3 kW	1-Phase	2400 W	1 hour	300 Square Feet	3900 kWh	Rs 26100	Rs 314000
7	HYBD4A	4 kW	1-Phase	3200 W	1 hour	400 Square Feet	5200 kWh	Rs 34800	Rs 363000
8	HYBD4B	4 kW	1-Phase	3200 W	1 hour	400 Square Feet	5200 kWh	Rs 34800	Rs 378000
9	HYBD5A	5 kW	1-Phase	4000 W	1 hour	500 Square Feet	6500 kWh	Rs 43500	Rs 418000
10	HYBD5B	5 kW	3-Phase	4000 W	1 hour	500 Square Feet	6500 kWh	Rs 43500	Rs 450000
11	HYBD7A	7 kW	3-Phase	5600 W	1 hour	700 Square Feet	9100 kWh	Rs 60900	Rs 530000
12	HYBD7B	7 kW	3-Phase	5600 W	1 hour	700 Square Feet	9100 kWh	Rs 60900	Rs 567000
13	HYBD10A	10 kW	3-Phase	8000 W	1 hour	1000 Square Feet	13000 kWh	Rs 87100	Rs 703000
14	HYBD10B	10 kW	3-Phase	8000 W	1 hour	1000 Square Feet	13000 kWh	Rs 87100	Rs 744000



Hybrid: Terms and Conditions

Warranty:

Solar Panels linear power generation warranty 25 years.

Solar inverter warranty 5 years.

Solar battery warranty 5 years.

Comprehensive system warranty 1 year.

Operations & Maintenance:

First, 1-year operations and maintenance are free. After 1-year charges will be applicable at Rs 1000 per visit.

Brand:

The product brand is subject to availability in the stock. Warranty remains the same.

Payment Terms:

40% advance, 40% before delivery of the solar panels, remaining 20% within one week of the completion of the solar power plant.

Project Timeline:

The whole solar power plant takes 2-4 weeks to complete.

Net Metering:

Net Metering can take 1-6 months for the DISCOM to process. During this time period, the solar power plant will be equipped with zero export devices and will be operating as usual without export. Once the net meter is available, the export will be activated.

Superstructure:

Solar panels are generally mounted on flat roofs. However, if someone wants to use the roof space, it is possible to install solar panels on the superstructure. Superstructure generally costs around Rs 250 / square feet.

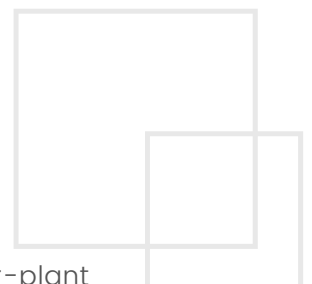
Annual Electricity Generation: 1300 kWh / kW

CO2 Savings: 0.8 kg / kWh

Grid Electricity Tariff: Rs 6.70 / kWh

Last Updated: 25/08/2021

For Latest Updates Visit: <https://www.aliensolar.com/hybrid-solar-power-plant>





Orrand Technologies Private Limited

www.aliensolar.com

contact@aliensolar.com



Registered & Corporate Office

Hatiara, Chinar Park,
New Town, Kolkata 700157,
West Bengal, India.

Phone: +91 98307 52673