

Technical specification for 8 kW On-Grid Solar PV System

Sl. No.	Name of Components	Quantity	Specification	Bidders specification
1	Solar PV Panels	15 Nos.	540W / 550W Mono PERC Half-Cut panels	
2	Grid-Tie Inverter	01 No.	8 kW, MPPT type, 230/415 VAC, single/three phase as applicable	
3	Mounting Structure	01 Set	Hot-dip GI structure, suitable for 8 kW, RCC/flat roof	
4	DC Cable	As required	4/6 mm ² UV-resistant flexible copper solar cable	
5	AC Cable	As required	6/10 mm ² flexible copper cable, sized according to inverter current and cable length	
6	MC4 Connectors	12–16 pairs	IP67/IP68, compatible with PV modules	
7	DCDB	01 Unit	Suitable for 8 kW PV system; DC isolator/MCB, Type-II DC SPD and string fuses as required	
8	ACDB	01 Unit	Suitable for 8 kW grid-connected system; AC MCB/MCCB, Type-II AC SPD, isolator	
9	DC Earthing Kit	01 Set	Chemical/GI pipe earthing for PV array/DC equipment	
10	AC Earthing Kit	01 Set	Chemical/GI pipe earthing for AC equipment	
11	Lightning Arrester	01 No.	Suitable air-terminal/lightning protection system with dedicated earthing	
12	Earthing for LA	01 Set	Dedicated LA earthing arrangement	
13	Installation & Commissioning	01 Lot	Survey, mounting, wiring, testing, commissioning and documentation	
14	Net Meter	01 No.	As per DISCOM requirement; supplied/installed through DISCOM	
15	Monitoring System	01 Set	Inverter Wi-Fi/RS485/data logger monitoring	

16	Labels & Warning Signs	01 Lot	DC/AC danger, PV, isolator, earthing and equipment identification labels	
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Area Requirements & Installation Notes:

- **Roof Area Required:** 55–65 m²
- **Orientation:** South-facing
- **Tilt Angle:** Based on location's latitude.
- **Expected Daily Generation:** ~32–36 units/day (varies by region)

General Terms and Conditions for the Supplier:

1. Scope: Supplier shall ensure complete Survey, supply, delivery, installation, testing, and commissioning of the 8 kW On-Grid Solar PV System as per specified components and standards.
2. Compliance: All materials must comply with relevant BIS/IEC standards. Any deviation requires prior written approval.
3. Warranty:
 - Minimum 15 years on solar PV panels.
 - 1-year comprehensive warranty on installation/workmanship.
4. Documentation: Supplier must provide all manuals, datasheets, and warranty documents at the time of handover.
5. Net Metering Support: Supplier shall assist with paperwork and coordination with DISCOM for net meter installation.
6. Required lightning arrester (LA) and Earthing shall be installed by the supplier.