

Technical Specification for 5 KW On-Grid Solar PV System

Sl. No.	Component	Quantity	Specification	Bidders Specification
01	Solar PV Panels	15 Nos	335 W Monocrystalline, efficiency up to 22–26%	
02	Grid-tie Inverter	01 No	5 kW, MPPT type, 230/415 VAC single phase/Three phase	
03	Mounting Structure	01 Set (Suitable for 5KW system)	Hot-dip galvanized iron (GI), suitable for flat RCC roof	
04	DC Cables (4 mm ²)	As per the site requirement	UV-resistant flexible copper cable	
05	AC Cables (4mm ²)	As per the site requirement	Flexible copper cable for single-phase/three-phase AC connection	
06	MC4 Connectors / Junctions	10 Pairs	IP67-rated, compatible with standard PV panels	
07	ACDB	01 unit	Suitable for 5 kW grid-tied PV system	
08	DCDB	01 unit	Suitable for 5 kW PV system with SPD, MCB & fuses	
09	Earthing Kit (for DC side)	01 unit	Chemical or GI pipe earthing for DC system	
	Earthing Kit (for AC side)	01 unit	Chemical or GI pipe earthing for AC side	
10	Installation & Commissioning		Includes installation, wiring, mounting, & net-metering support	
11	Net-meter	01 No	Installed by DISCOM (state electricity board)	

Site Requirements

1. Roof Area Required: 35 – 40 m² (approx.)
2. Panel Orientation: South-facing (preferred)
3. Tilt Angle: As per site latitude for optimal solar gain (usually 20°–30° in India)

General Terms and Conditions for the Supplier

1. Scope: Supplier shall ensure complete Survey, supply, delivery, installation, testing, and commissioning of the 5 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.
 - 5 years on inverter.
 - 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.