

Ref No. INKEL/RED/2022-23/NIQ-INVERTER-220KWp Tvm District panchayat/01

Date:06.12.2022

Notice for Inviting Quotations

INKEL Ltd. Invites sealed quotations from financially and technically sound reputed suppliers for the Supply of 10kWp ON-Grid Solar Inverter with cumulative quantity of 220kWp at 03 site locations in Thiruvananthapuram District, Kerala.

Name of Work	Quotations invited for Supply of 10kWp ON-Grid Solar Inverters with cumulative quantity of 220kWp at 03 site locations in Thiruvananthapuram District, Kerala.
Date of publishing bid documents	06.12.2022
Last Date & Time of Submission of Quotation document	13.12.2022,3:00PM
Opening of Quotation Cover	13.12.2022,04:00PM
Nature of Contract	Supply
Time of Completion of Supply	07 Days from the Date of PO

Eligibility Criteria

The bidder must fulfil the following eligibility criteria.

- a) The bidder must be a firm registered under GST.
- b) The bidder must be OEM manufacturer or Authorised Distributor.
- c) The bidder must supply the minimum quantity of 2MWp of ON-Grid Inverters.
(Proof to be attached)

The Scope of Supply & Technical Specifications to be followed is scheduled in Appendix – 1

All the Quotation documents are to be submitted by Speed post only and in the designated covers on the below address by mentioning name of work.

**To,
Managing Director
INKEL Limited, Door No. 7/473ZA – 5 & 6,
1st Floor, Ajiyal Complex, Kakkanad, Cochin, Pin: 682030**

Note: Please sign and seal all the pages in the Notice Inviting Quotation and return the same.

The quotation shall be valid for 120 days reckoned from the date of opening of quotation. No correspondence would be made with the bidders once the quotation is submitted. The decision taken in the INKEL Committee will be final.

INKEL Ltd reserves the right to modify/cancel any or all quotations without assigning any reasons.

Further details can be had from the office of the General Manager – Renewable Energy Division, INKEL Limited, Door No. 7/473ZA – 5 & 6, 1st Floor, Ajiyal Complex, Kakkanad, Cochin, Pin: 682030 Phone: 0484-2978101,Ext code:300

Bid Submission Checklist

The bidder shall submit the following:

1. The entire NIQ signed and sealed as a token of acceptance of terms and conditions.
2. Price Bid as per Appendix 2.
3. Copy of GST registration certificate.
4. Document to prove previous experience.
5. Documents to prove eligibility criteria and IS/IEC standards specified in Technical specification.

Sd/-
Managing Director

NIQ Annexures:

1. Appendix 1 - Scope of Supply and Technical Specifications
2. Appendix 2 - Format for Price Bid

Appendix-1

Scope of Supply & Technical Specifications to be followed:

1. Scope of Supply

The scope includes the Supply of On-Grid (Grid Tied) Solar Inverters as per given Specifications and Standards

Schedule of Supply:

- The On-Grid (Grid Tied) Solar Inverters should be delivered at 3 Locations in Thiruvananthapuram, Kerala
- The bidder should complete the Supply of On-Grid (Grid Tied) Solar Inverters within 07days from the date of issue of purchase order.

2. Technical Specifications

The Technical Specifications for On-Grid (Grid Tied) Solar Inverter are given below;

Sl No	Item Description	Specification	Standard
1	Solar PV Inverters with Wi-Fi Module	Type: Grid Tied MPPT with BIS Certifications	As per MNRE standards 1. IEC 62109 2. IEC 62116 3. IEC 61683 4. IEC 60068-2 (1, 2, 14,30)

The inverter output shall be 415 VAC, 50 Hz, 3 phase.

The Technical Specification of On-Grid (Grid Tied) Solar Inverter are summarized below:

Specifications of Inverters	
Parameters	Detailed specification
Nominal voltage	230V/415V
Voltage Band	Between 80% and 110% of V nominal
Nominal Frequency	50 Hz
Operating Frequency Range	47.5 to 50.5 Hz
Waveform	Sine wave
Harmonics	AC side total harmonic current distortion < 3%
Ripple	DC Voltage ripple content shall be not more than 1%
Efficiency	Efficiency shall be >97%
Casing protection levels	Degree of protection: Minimum IP-65 for outdoor units
Operating ambient Temp range	-10 to + 60 degree Celsius
Operation	Completely automatic including wakeup, synchronization (phase locking) and shut down
MPPT	MPPT range must be suitable to individual array voltages

Protections	Over voltage: both input and output Over current: both input and output Over / Under grid frequency Over temperature Short circuit Lightning Surge voltage induced at output due to external source Islanding
Ingress Protection	IP 65 for Outdoor
Recommended LED indications	ON Grid ON Under/ Over voltage Overload Over temperature
Recommended LCD Display on front Panel	DC input voltage DC current AC Voltage (all 3 phases) AC current (all 3 phases) Frequency Ambient Temperature Instantaneous power Cumulative output energy Cumulative hours of operation Daily DC energy produced
Communication Interface	RS485/ RS232/Wi-Fi (with or without USB)

The IEC Certifications of On-Grid (Grid Tied) Solar Inverter are summarized below:

Standard	Description
IEC 61683	Photovoltaic systems - Power conditioners - Procedure for measuring efficiency
IEC 61727	Photovoltaic (PV) systems- Characteristics of the utility interface
IEC/EN 62109-1	Safety of power converters for use in photovoltaic power systems - Part 1: General requirements
IEC/EN 62109-2	Safety of power converters for use in photovoltaic power systems - Part 2: Particular requirements for inverters
IEC/EN 61000-3-3/ 3-11/ 3-5	Electromagnetic compatibility (EMC) - Part 3-11; Limits; Limitation of Voltage Change, Voltage Fluctuations and Flicker in Public Low- Voltage Supply Systems; Rated Current <16A / >16A and <75A / >75A per Phase respectively
IEC/EN 61000-3-2/ -3-12/ -3-4	Electromagnetic compatibility (EMC) - Part 3-12; Limits; Limits for Harmonic Currents produced by equipment connected to the public low voltage systems with Rated Current <16A / >16A and <75A / >75A per Phase respectively
IEC 62116	Utility-interconnected photovoltaic inverters - Test procedure of islanding prevention measures
IEC 60068-2-1	Environmental testing - Part 2-1: Tests - Test A: Cold
IEC 60068-2-2	Environmental testing - Part 2-2: Tests - Test B: Dry heat
IEC 60068-2-14	Environmental testing - Part 2-14: Tests - Test N: Change of temperature
IEC 60068-2-30	Environmental testing - Part 2-30: Tests - Test Db:, Damp heat, cyclic (12 h + 12 h cycle)

Warranty:

- 10 years' warranty should be provided by the supplier for the On-Grid (Grid Tied) Solar Inverter.
- The Warranty Card to be supplied with the system must contain the details of On-Grid (Grid Tied) Solar Inverter supplied including serial number.

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Appendix – 2
(To be filled by bidder)

Price Details:

Sl No	Item	Model Number	Quantity Req	Unit	Rate/Unit	Amount(Rs)
1	Supply of 10kWp,3Phase 415V AC ON-Grid Solar Inverters with Wi-Fi module at 03 site locations in Thiruvananthapuram District, Kerala.		22Nos	Nos		
Total Basic Cost(Rs)						
GST @ 12%						
Total Cost(Rs)						
Rupees in words.....Only						

Terms and Conditions:

1. The above price inclusive of loading, Transportation to site, GST, all taxes and duties.
2. Supply will be completed within 07 Days from the date of purchase order.
3. Payment terms :
 - i. 10% of the contract value as advance against the submission of Proforma invoice.
 - ii. Balance 90% of the contract value shall be released within 15 days after the delivery of solar inverters at site in good condition verified by Senior Manager-Execution (INKEL LTD).
 - iii. Release of tax portion is only after the reception of Original tax invoice.
4. Validity of the Quotation is 120 days from the date of opening of quotation.
5. Warranty for the Inverters is 10 years from the date of commissioning.

Bidder Name:

Signature

Official Seal

Date: