

	PURCHASE SPECIFICATION	REG1920-DATA LOGGER/LSCL	
Rudrapur	GROUP : REG	Rev no	00

**SPECIFICATIONS FOR SUPPLY AND INSTALLATION OF
REMOTE MONITORING DEVICE (DATA LOGGER) FOR
STRING INVERTER WITH 05 YEAR PORTAL/INTERNET
CHARGES.**

- ITEMS SHALL BE SUPPLIED AND INSTALLED AT LSCL-LUDHIANA.
- 05 YEARS OF WARRANTY SHALL BE APPLICABLE AT THE PLACE OF INSTALLATION.
- SIM AND INTERNET CHARGES FOR FIVE YEARS

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1. INTRODUCTION:

This specification defines the scope of the Bidder for **supply and installation of remote monitoring device (data logger) with SIM & respective internet charges for 05 years and warranty of 05 years at 12 Nos. sites of Ludhiana Smart City Limited-Ludhiana.**

2. BIDDER'S SCOPE:

The Scope of bidder is as follows:

- Supply and installation of Remote monitoring device (data logger) including related accessories.
- SIM and Internet charges of all 12nos SIMs for 05 Years.
- Freight & Transit insurance.
Delivery Condition : Free On Road (FOR) destinations.
- Warranty for 05 years after successful commissioning.

Table -1:

Sl. No	ITEM DESCRIPTION	Qty	UOM
1	Supply & installation of Data Logger and 5 years portal/internet charges with power connection adaptor, SIM or internet device, box for housing data logger and installation accessories. <u>Minimum 01 input is required i.e. single inverter installed at site.</u>	11	Nos.
2	Supply & installation of Data Logger and 5 years portal/internet charges with power connection adaptor, SIM or internet device, box for housing data logger and installation accessories. <u>Minimum 02 input is required i.e. 02 inverters installed at site.</u>	01	Nos.

NOTE:

- Inverter Make: PowerOne Micro System.
- Data loggers **MUST** be compatible with PowerOne Inverters.
- There **MUST** be single login ID to monitor all 12nos sites.

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3. Technical Specification of Data logger

The following parameters shall be accessible via the operating interface display in real time separately for solar power plant:

- AC Voltage.
- AC Output current.
- Output Power.
- Power factor.
- DC Input Voltage.
- DC Input Current.
- Time Active.
- Time disabled.
- Time Idle.
- Power produced
- Protective function limits (Viz.-AC Over voltage, AC Under voltage, over frequency, under frequency ground fault, PV starting voltage, PV stopping voltage.
- All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time) and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing through the internal microprocessor and should be read on the digital front panel. vii. PV array energy production: Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. Energy meter along with CT/PT should be 0.5 accuracy class.
- Computerized DC String/Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately. Computerized AC energy monitoring shall be in addition to the digital AC energy meter. It shall be taken care of by the Inverter itself and shall be available over data logger.
- String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.
- Computerized AC energy monitoring shall be in addition to the digital AC energy meter.
- The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS excel compatible. The data shall be represented in both tabular and graphical form.
- All instantaneous data shall be shown on the computer screen.
- Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant.
- Provision for instantaneous Internet monitoring and download of historical data shall be also incorporated.
- Remote Server access and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system.

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- Ambient/Solar PV module back surface temperature shall be also monitored on continuous basis.
- Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided.
- Remote Monitoring and data acquisition through Remote Monitoring System software at the owner with latest software/hardware configuration and service connectivity for online / real time data monitoring / control complete to be supplied and operation and maintenance / control to be ensured by the bidder.
- The bidders shall be obligated to push real-time plant monitoring data on a specified interval (say 15 minute) through open protocol at receiver location (cloud server) in XML/JSON format, preferably. Suitable provision in this regard will be intimated to the bidders.

Note:

- Login details (single Login ID) shall be provided by the Bidder to access the parameters as listed above.
- Web based Remote Monitoring system must be compatible with data logger. The system shall be provided with required accessories and required SIM card for wireless communication inside the premises. The server shall be arranged by the bidder. The rental and other costs of the SIM cards, IP address, Server charge (storage, access charge and other charges if any), and Rental charge of data communication for remote monitoring system for a period of Five (05) years shall be in bidder's scope.

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Special Terms & Condition:

1. **Price basis:** Firm i.e. from date of Purchase Order to Supply & Installaion of data logger at Ludhiana.
2. **Delivery:** Supply and Installation of data logger shall be done within 30 days from PO date.
3. **Term of Delivery:** Free On Road (FOR) destinations/Site at LSCL-Ludhiana.

Site Address: Ludhiana Smart City Limited,
Zone-A, mata Rani chowk
Ludhiana- 141 008
Punjab (India).

4. **Payment terms:**

100% of the payment shall be released after supply and Installation of the item at site.

Note: Payment shall be released within 45 days from the date of submission of verified bill subject to the acceptance of material.

Following documents will be required along with the invoice.

1. Invoice copy - 4 Nos
2. Warranty certificate & Guarantee Certificate
3. BHEL/Customer issued installation certificate.

5. **Performance Bank Guarantee(PBG):** A PBG of 05% of PO value shall be submitted along with invoice against 05 year warranty of product.
6. **Warranty and Guarantee:** The bidder shall warranty covering the rectification of any and all defects in the data loggers for a period of 5 years from the date of commissioning.

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Annexure-1 (Site Details)

S. No.	NAME OF BUILDING	SOLAR PV CAPACITY IN KWp BY BHEL	String Inverter-Powerone make					Total Inverter in Number	Data logger requirement
			50 KW	30 KW	20 KW	10 KW	5 KW		
1	MCL ZONE A office Mata rani chowk	51	1					1	Already installed
2	SUB ZONE DARESI BUILDING	10				1		1	1
3	central fire station	20			1			1	1
4	MCL ZONE B office	35		1				1	Already installed
5	SUBZONE-B KIDWAI NAGAR	8				1		1	1
6	SUNDER NAGAR FIRE STATION	8				1		1	1
7	MCL ZONE C office Gill road	55	1					1	Already installed
8	GILL ROAD OCTRAI BUILDING	10				1		1	1
9	GILL ROAD FIRE STATION	10				1		1	1
10	SUB ZONE DHOLEWAL BUILDING	5					1	1	1
11	MCL ZONE D Sarabha nagar	55	1					1	Already installed
12	FIRE STATION HUMBRA ROAD NIGHTSHELTER	8				1		1	1
13	MULTISTORY PARKING Zone A	75	1	1				2	1
14	SUB ZONE D-4 FOUNTAIN CHOWK	8				1		1	1
15	ZONE-D DOG STERILIZATION CENTER HUMBRA ROAD	5					1	1	1
16	SHASHTRI BADMINTON HALL	27		1				1	Already installed
17	Swimming pool	20			1			1	Already installed
18	Squash Court	20			1			1	1
19	Workshop	20			1			1	Already installed
20	Commisioner house	20			1			1	Already installed
	TOTAL	470	4	3	5	7	2		12

Note: data logger should be compatible with Powerone Micro system make inverters.

Final
31.01.2024