

## Data Sheet of **Weather Station** (SMKB-MET-ROAD-FS1)



This Met Station is specially designed for Road weather monitoring applications. This system employs low power data logger system and rugged sensors for extreme road conditions. The system uses 12V operating voltage with a SLA battery backup while energy is harvested from a 12V/40W solar panel. Ethernet Interface is provided for Real time sensor monitoring. A stainless steel tripod stand is offered along with this system for robust mounting of data logger enclosure and sensors.



## Sensors Specification



### Rain Gauge Sensor

Operating Voltage: 5V DC  
 Interface: Digital Pulse  
 Range: 100mm/hour  
 Accuracy: 5%  
 Least Count: 0.2mm



### Road Temperature Sensor

Operating Voltage: 5V DC  
 Interface: Analog Linear o/p  
 Range: -10 to 100 degC  
 Accuracy: 0.2 degC  
 Least Count: 0.1degC



### Wind Direction Sensor

Operating Voltage: 12V DC  
 Interface: RS485  
 Range: 0 to 359 deg  
 Accuracy: +/- 3 deg  
 Least Count: 1 deg



### Temperature & Humidity Sensor

Operating Voltage: 5V DC  
 Interface: Digital & Analog

#### Temperature

Range: -40 to 85 degC  
 Accuracy: 0.2 degC  
 Least Count: 0.01 degC

#### Humidity

Range: 0 to 100%  
 Accuracy: 2%  
 Least Count: 0.01 %



### Visibility Sensor

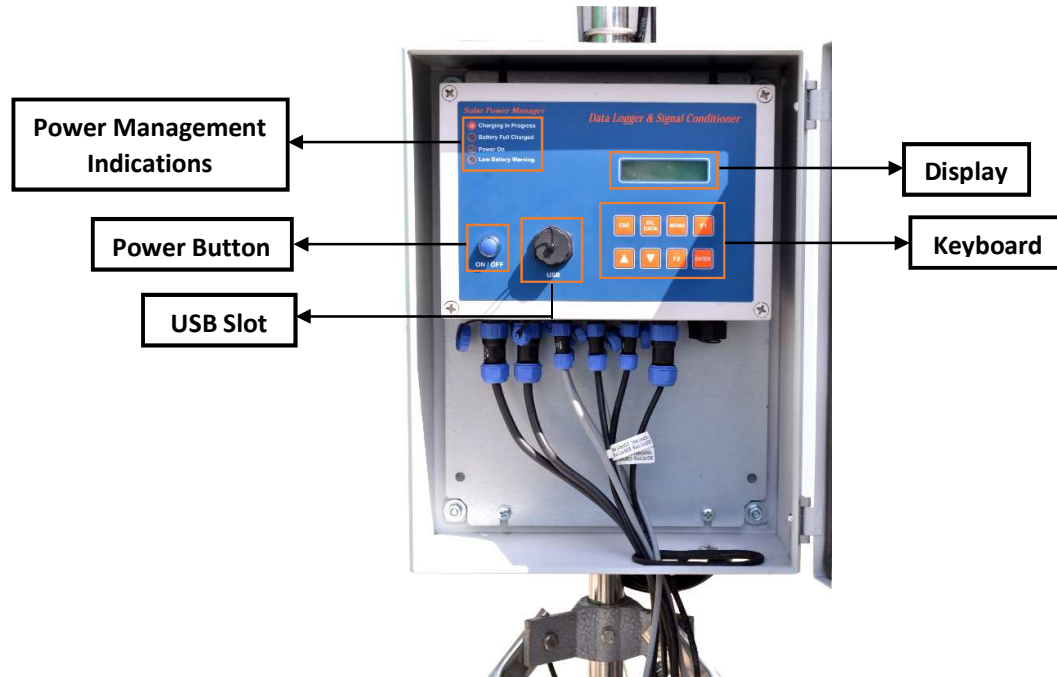
Operating Voltage: 12V DC  
 Interface: RS485  
 Range: 0 to 3000 mtrs  
 Accuracy: 5% full scale  
 Sensor type: IR  
 Wavelength: ~880



### Wind Speed Sensor

Operating Voltage: 12V DC  
 Interface: RS485  
 Range: 0 to 70 mps  
 Accuracy: 2%  
 Least Count: 0.1m/sec

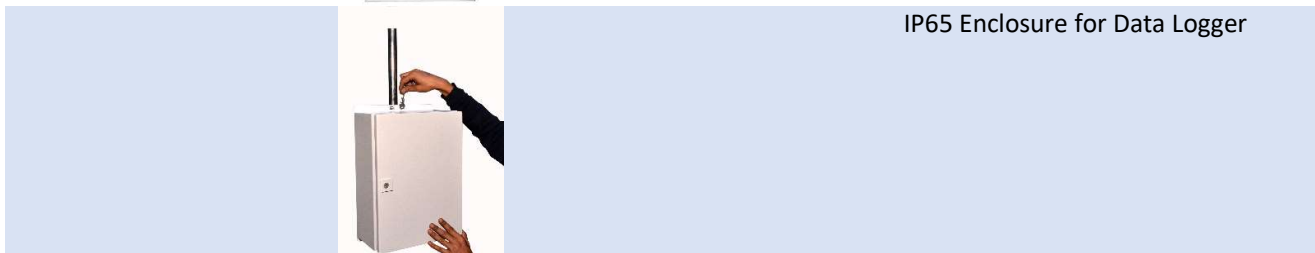
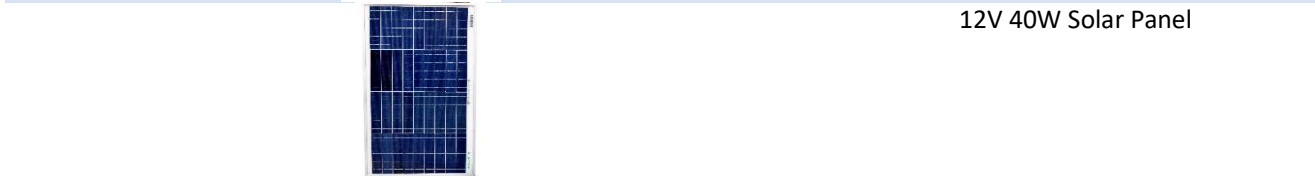
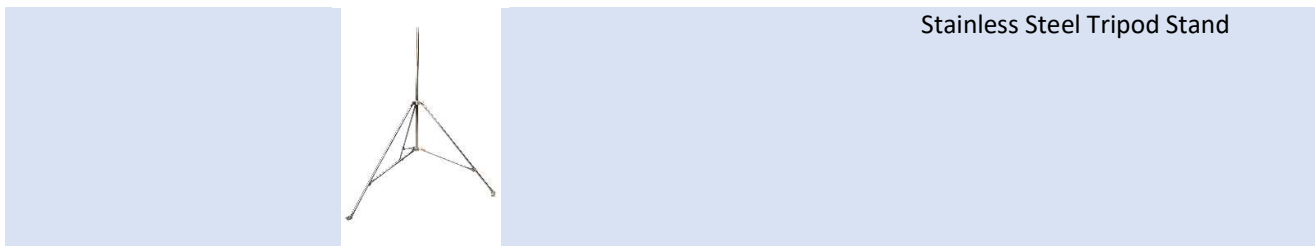
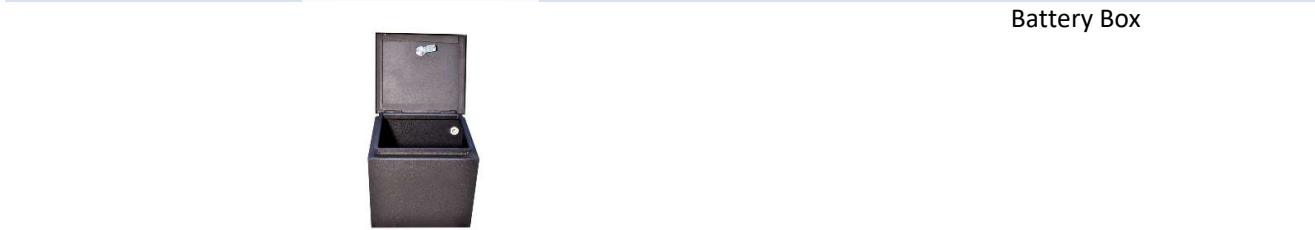
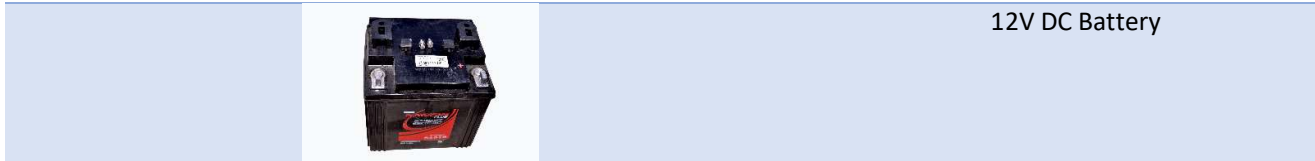
## Data Logger Specifications



This is a 32bit Micro controller based data logger reflect state of the art in micro controller based instrumentation design. All sensors can be attached with this data logger for the collection of real time data automatically. The micro controller converts the analog signals from these sensors to digital format. The micro controller has their individual operating software's programmed in their internal Flash & FRAM and the data acquired by them is stored in their internal data RAMS. This micro controller remains in the sleep mode and wake up only when either a signal from the sensors is available or when they receive control signals from the master controller for acquiring the stored data. The micro controller has its internal memory along with an additional memory for data logging, a real time clock with an LCD (16 X 2) to display the instrument status.

Display	:	16 Characters X 2 Lines LCD with momentary back light
Real Time Clock	:	Provided with 1PPM TCXO
Number of Channels	:	8/16
Data Storage	:	64M FLASH, up to 1M FRAM.
Power Supply	:	12V SMF batteries
Clock accuracy	:	±5 seconds per week
Weatherproof enclosures	:	Provided.
Logging Interval	:	User Programmable from 1 minute to 24 Hour.
Operating Temperature	:	- 40 to 85 °C.
Operating Humidity	:	0 to 95 % non-condensing.
Battery Charging	:	Through Solar Panel default or as opted by customer.
Data retrieval	:	Default Through USB Pend Drive to Computer or as opted by customer.
Sensor Channels	:	8 or more channels consisting of Analog, Digital, RS485, RS232, SDI-12 etc.
Optional Connectivity	:	Ethernet

## Accessories



Mounting Accessories for sensor installation and solar panel installation.

