

Telemetric Weather Station (Data Logger with Internal GSM/GPRS Modem and Sensors)



Specifications:

Model: VARSHA-TWS

Data Logger:

- Data logger is an integrated microprocessor based data acquisition and storage system
- Adequate hardware configuration and software support to serve as an interface between sensors and the communication link
- Stand-alone and all functions carried out through system keypad and display independent of a PC/ Laptop
- Multi-tasking OS in data logger with unique station-ID for each site
- Keyboard/Display assisted field calibration facility for rain sensor.
- Remote/Field Configure settings for Unique station identification, Sensor Identification
- Over the air software update facility for remote firmware changes in device

Feature	Specification
Site Conditions	
Ambient Temperature	-10 to +55
Humidity	0 to 100 %
Sensor Interface	
Analogue Inputs	8
Digital Inputs	8
Pulse Input	2 Input for Rain Gauge impulse
I/O Interface	
Data Transfer	USB 2.0 for Data transfer
Port for Configuration	1 RS-232 Port for laptop/PC communication
Port for Telemetry	GSM Based Telemetry.
Analog to Digital Conversion	
Resolution	12 Bit
Conversion Accuracy	± 1 LSB
Sample Intervals	1 m. to 24 hr. in 1 m increments (user selectable)
General Features	
Flash memory	4GB/8GB/16GB
Firmware Operating System	Multitasking Operating System (RTOS) - logs data and transmit at same time
Display	Inbuilt Digital display 16 Characters
Power Supply	Power supply 12V DC, low current drain
Battery Voltage Monitoring	Battery Voltage monitored and reported
Internal battery	Internal battery backup for clock, Lithium Battery, storage: 2 years
Charge controller	External Charge Controller
User Permissions	Authorized user access
Internal clock	Internal Clock with drift less than 2 seconds per year
Keypad	Keypad for displaying or transferring data to memory stick, configuration of data-

	logger and sensors
Enclosure	Wall /Poll mountable IP65 Enclosure
Accessories	All accessories for fixing and connectivity
Tools	Complete tool kit for Assembly and Maintenance
Manuals	Manuals , Installation and operating procedures given

Power Source:

Feature	Specification
Battery	
Operating Temperature	From -20 to +60
Type	Sealed Maintenance free (SMF)
Capacity	12V/12Ah or suitable choice to achieve the backup requirement for site
Solar Panel	
Size	20 watt or suitable choice to achieve the backup requirement for site.
Mounts	Corrosion free mount and clamps provided to adjust and fix frames holding solar panels.
Charger	Smart Solar Charge controller included

Communication (GSM/GPRS Modem):

Feature	Specification
Technology	2G/3G/4G with Dual SIM Compatibility
Frequency	900MHz and 1800MHz
Operating Temperature	From -30 to +85
Type	The Transmitter is Integral part of data logger
Communication	Two way TCP/IP connection using GPRS
Transmission trigger	Transmission triggered by remote site
Power Saving	Power down mode available for non-Transmission duration
Communication Protocol	Data Transmission by HTTP Post and FTP File upload to Data Centre
Functionality	Multi level Alarm dial out, preprogrammed dial out, remote interrogation facilities
Remote Management	Switch over to any of the two SIM cards
Elect. Characteristics	Current: 30mA/12VDC (receipt) 0.5A (transmission)
Accessories	GSM Antenna, cable are provided
Antenna Features	
Frequency range	800-960 MHz , 1880-1930 MHz
Impedance	50 ohms
Connector	SMA Male
Cable length	3 meter

Sensors:

The following sensors can be interfaced in the weather station system.

- **Tipping Bucket Rain gauge:**
- **Temperature and Relative Humidity**
- **Wind Speed and Direction**
- **Solar Radiation**
- **Atmospheric pressure**