

MECH HYDRO-MET SYSTEM

Applications

- Measurements of Hydrological & Metrological parameter data such as Rainfall, Atmospheric Temperature, Atmospheric Pressure, Relative Humidity, Wind Speed, Wind Direction, Solar Radiation, Water level.
- Target Cliental: WRD, IMD, CWC, Agriculture, Irrigation, Tropical metrology etc.

Features

- Self-Reporting at predefined time interval.
- Selectable Station ID.
- Local Data Storage for one year having Data retrieval facility
- Local Display facility using VGA graphics LCD display
- Two RS-232 ports, One RS-485 port, One SDI-12 port, One Ethernet Port & Two USB ports.
- Long range data Transmission--- Using VHF / UHF / GSM / GPRS / VSAT / INSAT/GOES / Lease Line networks.
- Easy to Read & Calibrate
- Auto Reset facility after one year.
- Improved accuracy.
- Input power voltage 12-19 V Solar power supply.
- GPS Receiver (Optional)
- Remote Programmable



Description

This unit is designed for collection, storage and transmission of Weather data such as Rainfall, Air temperature, Relative Humidity, Wind Speed, Wind Direction, Air pressure, Solar radiation from remote Stations to control room.

Rainfall for current hour, Today's, Yesterday's and cumulative rainfall from defined date of start of monsoon (Generally 1st of June), Air temperature, Relative Humidity, Wind speed, Wind direction, Air pressure & Solar radiation, water level are continuously displayed.

Operate in harsh environment. Local data is stored for one year on predefined time period with facility for local retrieval of data

It powered with 12 VDC Hybrid (mains & Solar) power source.



Specifications

| | | |
|--------------|---------------|----------------------|
| Input Power: | Charger input | 12-20 VDC Solar |
| Solar Panel: | As required | 30/40/50/...100 watt |

| | | |
|----------|--------------|-----------------------------|
| Battery: | Type | SMF (Not included) |
| | Support Cap. | 20-180 A-h. |
| | Protections | Reverse polarity connection |
| | Battery U/V | Automatic load Disconnect |
| | Connection | Screw clamp wire terminal |
| | Wirw size | 28-14 AWG |

| | | |
|----------------|-----------------|------------------|
| Charging Rate: | 20-180 A-h cap. | Regulated to 4A. |
|----------------|-----------------|------------------|

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|---------|----------------------|------------------------|
| Display | Monochrome, graphics | for local data display |
| | Language | English |

I/O lines:

| | |
|-----|------------------------|
| D/I | 08 optically isolated |
| D/O | 08 optically isolated |
| A/I | 04 transient protected |
| A/O | 01 transient protected |

| | | |
|----------------|----------------------|--|
| Communication: | Serial Port | RS-232 – 2 Nos RS-485 – 1 No SDI-12 – 1 No |
| | USB Host | USB Port – 1 No. |
| | USB Device | USB Port – 1 No. |
| | Ethernet (Optional)* | 10/100 Base T – 1 No. |

| | | |
|---------------------|--------|------------|
| Data Transfer Rate: | RS-232 | 115200 bps |
| | SDI 12 | 1200 bps |

Memory:

| | | |
|------------------|--------------|--------------------|
| Program Memory | 256 KB Flash | Internal |
| Storage Memory: | 4 MB Flash | Expandable to 8 MB |
| Removable Memory | 16 GB Flash | SD card/ USB Host |

GPS (Optional)*

| | | |
|-------------------|-------------------------|------------------|
| | Frequency | 1.57 Ghz. |
| | Antenna | Passive |
| | Format | NMEA-0183 format |
| | Acquisition sensitivity | -160 dBm |
| | Tracking sensitivity | -160 dBm |
| | Time PPS | + 61 ns |
| Acquisition time: | Hot Start | > 01 Sec |
| | Warm Start | > 35 Sec |
| | Cold Start | > 35 Sec |

Mechanical:

| | | |
|----------------|-------------------|---------------|
| Finish (Color) | | RAL 7032 |
| Environmental: | Temperature | -20° to 60° C |
| | Relative Humidity | 0 to 100 %. |
| Protection | Enclosure | IP 65 |

| Sensor | Range | Resolution | Accuracy |
|----------------------|----------------------------|--------------------|----------|
| Rainfall | Unlimited | 0.2/0.5/1 mm | 2 % |
| Atmospheric Temp | -5 to 60°C | 0.05°C | 0.1°C |
| Relative Humidity | 0 to 100 % | 0.5 % | 3 % |
| Wind Speed | 0 to 65 m/s | 0.1 m/s | 0.5 m/s |
| Wind Direction | 0 to 359 | 1° | 3° |
| Atmospheric Pressure | 600 to 1100 hPa | 0.1 hPa | 0.2 hPa |
| Solar Radiation | 0 to 1500 w/m ² | 3 w/m ² | 3 % |

Note:

- 1) Sensors with higher accuracy will be provided as required (**Optional***)
- 2) Solar Panel & Batt. capacity will be selected as per power requirement at site

Ordering Information

| Model No. | Description |
|----------------|---------------------------|
| MECH_HYDRO-MET | Hydro-Metrological System |



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