For more information about **Nanjing Automation Institute of Water Conservancy and Hydrology solutions, please call +91-674-2562506 or email on jay.rath@sunjray.com**

RAINFALL, WATER LEVEL, VELOCITY, DISCHARGE AND AWS

Rainfall, Water Level, Velocity, Discharge and AWS was developed with hydrographical services in mind, that are required to establish dense networks of rain gauge stations and others to improve flood warning and civil protection. This RTU is as suited to monitor rain and water level in other applications such as agriculture.

Rainfall, Water Level, Velocity, Discharge and AWS features ports to connect to a pulse output of e.g. a rain gauge or a water meter. The RTU can collect data in two different ways: either pulses are totalized over a user-programmable time slot, or every single pulse is time-stamped, a requirement for rain intensity monitoring. Data transmission is done through the integrated quad-band GPRS modem

FUNCTIONS

a : Automatic acquisition of hydro-meteorological data: it would be possible to set acquisition intervals independently for each acquisition channel, and configure the sensors as required

b : Data processing: it would be capable of doing local conversion of measured variables in order to provide reliable data in standard hydro-meteorological engineering units

c : Data storage: it would be possible to store in a memory at least six (6) months of 5-minute data for each parameter (rainfall, water level, and station health parameters such as battery voltage).

d : Self-diagnosis and supervision: it would be able to gather and report alarm conditions upon exceeding set rainfall and water level warning levels, or of failures with connected devices.

e : Programming and display: it would be able to program the unit at the field site and display live as well as stored data readings using a remote device. An integrated display and/or integrated keyboard are optional.

SPECIFICATIONS

Item	Technical specifications
Site conditions	• ambient temperature: 5 to 55 degrees C • relative humidity: 10% to 100%, • altitude: 10 to 1000 m
Data logger	• well proven and widely used model. • Open design, operating with a wide variety of sensors • multi tasking operating system capable of simultaneous data collection and transmission • change of setup do not affect logged data • plug and play ease of setup using a windows based graphical views • Non-volatile Flash memory that can one store year of data and expandable to a minimum of 1GB • ADC resolution ≥ 16 bit • individual recording intervals • user configurable alarms (triggering) • Multi-tasking operating system-must log data and transmit at same time • monitoring of voltage level • Internal clock with drift less than 2 seconds per day (can be accomplished with GPS specified below)
GSM/GPRS	• TCP/IP type capable of sending data based on threshold as well as responding to queries through GPRS
Input/ Output	• for use with AWS, 8 analogue channels and 8 digital input / output channels needed • for use with only rain gauge single counter input might be sufficient • for water level/velocity/discharge recorder digital input through RS485 or 4-20 mA • output needed for: permanent connection to transmission unit manual readout/connection to data retrieval computer
Housing for equipment	• protection IP65 (NEMA 4) or better • Chain link fence with barbed wire
Software	• Windows software for system configuration / communication • English language version • All required licenses included • Different user levels, system of user rights / passwords, access restricted to authorised personnel • Data security: Redundant storage, periodic automatic backup procedures

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