LAKSHMI ENGINEERING WORKS

Mfg & Supp of: Soil, Cement and Concrete Testing Equipment, Survey, Drawing, Hydrological, Metrological, Geological, Scientific Instruments **(All type of Water Current Meters)**

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Radar Type Water Level Recorder

LEW make Digital Water Level Recorder (Radar Type) is a fully computerized, digital and self contained power source system, fitted with Data Logger and battery charging solar panel with rechargeable, maintenance free batteries complete with sealed waterproof enclosure for Data Logger, Solar charger and battery. It comes with facility to transport Data from Data Logger to a P.C. through a pocket able data shuttle

/ Ethernet LAN / Wireless GSM Network (As per Customer requirement). 16x2 OLED alphanumeric display and 4x2 membrane keypad is provided at front panel of data logger for programming data logger and monitoring sensor reading at site without the help of computer.

Features & Specifications:

- Sensor Input – Radar type Water level Sensor.
- Measured Parameter – Date, Time, Water Level, Battery Voltage.
- Display: 16 X 2 OLED display for instrument status (With Night Visibility)
- Suitable for mounting in a variety of locations.
- User Programmable Logging Interval from 1 min to 24 Hour
- User-friendly LEW application software,
- Data retrieval to your computer by pocket able data shuttle / Ethernet LAN / Wireless GSM Network (As per Customer requirement)
- Operating Temperature: -40 to 70 °C.
- Operating Humidity: 0 to 95 % non-condensing.
- Memory range more than 16000 data sets (extendable to more at extra cost),
- 4x2Membrane tactile Keyboard is provided for onsite programming without help of computer.
- Comes with weatherproof enclosure (IP-65)

- Rechargeable SMF batteries with integral solar panel, which will easily keep the batteries charged.
- Compact system with analogue output 4 - 20 mA

Radar based Water Level Sensor Specifications:

- Output: 4-20mA/HART
- Signal resolution: 0.3uA
- Damping: 0...999 secs
- Max Measuring Range: User Specified
- Measuring range: 0 - 15 / 35 / 70 meter
- Accuracy: ± 2 mm
- Resolution: 1 mm
- Measuring principle: pulse runtime procedure
- Current consumption: 22.4 mA
- Radiation angle: 10°
- Sensor protection: horn antenna (75 mm Ø)
- Operating Temperature: -40 to +85°C

Data Retrieval options: The standard System Comes with data retrieval option through Data Shuttle. But you can also choose following data retrieval options – Thought Ethernet / GSM Modem At Extra Cost.

1. **Data Shuttle:**

The data shuttle is a pocket-sized device that can be used to download & transport the data from Digital WaterLevel Recorder to a computer (USB Port), allowing the instrument to stay in place for continuous monitoring/recording. The shuttle connects to a PC and is used with the LEW to download data.

2. **Ethernet LAN :**

Through Ethernet LAN to Computer. You can enter IP Address of your computer and connect to the Digital Water Level Recorder. You can also get instantaneous data just press Monitor Menu. Used with the "LEW" software to download data.

3. **SMS Based Telemetry:**

For Wireless data transfer from "LEW" make Data Logger to your computer.

An arrangement of Two Post-paid Active GSM SIM Cards is in your work of scope. There should be Network Coverage Availability at the installation site

Communication Unit & Software

1. Data transmission will be through GSM based SMS Service, with ability to accommodate different service providers.
2. The GSM module shall have proper IMEI number with no patent violation/infringements.
3. Data fetching from Data Logger to Computer.
4. Auto retransmission of failed packets of data to the server.
5. The transmitted data will include the time stamp and necessary details that helps in clear interpretation of information.
6. The software will be able to retrieve the data transferred, store it in a format easily retrievable, and reproduce the same report will be generated in MS-Excel file format.

Specification of GSM Transmitter (Logger End Modem):

The GSM Transmitter is a tailor made GSM Modem to transfer data to remote modem connected to PC end via SMS. The SMS is sent every logging interval to the entered mobile number of the Modem. This GSM Transmitter requires a standard mobile sim card, preferably post paid to avoid data loss on account of insufficient balance in prepaid SIM.

Specification of GSM Modem (PC End):

The GSM modem is a standard RS232 port based GSM modem to receive data on the PC side which sent by the loggerend through SMS.

This Modem works with LEW GSM Ware Software to collect SMS & Convert the SMS encoded information into database & finally into a presentable MS-Excel Report. A RS-232 cable , Power Adopter & Antenna is shipped along with the modem. This modem too requires a GSM SIM card to function.

4. **GPRS Based Telemetry**

Specifications of GSM/GPRS Terminal

The LEW terminal (GSM/GPRS Modem IPR paid with valid IMEI) is a general purpose intelligent device for various remote monitoring applications. This device can be used for different applications and the embedded software loaded to this device determines the usage of the device.

Features of embedded Software

a) A GSM/GPRS enabled SIM is supposed to be installed in the Terminal. Based on the Operator, the GPRS settings have to be configured in the terminal.

b) Once a proper SIM card is inserted and the terminal is switched ON, it will register to the GSM/GPRS network using public APN.

c) The terminal will continuously monitor RS-232 port for messages received from the device connected.

d) When modem receives a valid command in the RS-232 port it will take appropriate action based on thecommands. (Send SMS/Send Email/Send HTTP/Provide Network Status).

e) Whenever the modem receives any SMS, it will be pushed through RS-232 port.

f) Stores Failed GPRS packets in non-volatile memory until system re-stores proper GPRS connection toserver (zero data loss).

LIST OF EQUIPMENTS AVAILABLE WITH US:

- Automatic Weather Station
- Digital Rainfall Recorder
- Digital Rain Gauge
- Digital Evaporation rate recorder
- Automatic Soil Erosion Monitoring System
- Digital Snow Water Equivalent recorder
- Digital Solar Radiation Recorder (Pyranometer)
- Digital Water level Recorder
- Digital Water level Recorder (Pressure type)
- Digital Water level Recorder (Ultrasonic type)
- Water velocity indicator without sensor
- Water Current Meter
- Soil moisture indicator with sensor
- Soil moisture and temperature recorder
- Leaf Wetness, Air temperature and Humidity recorder
- Plant Canopy Analyzer
- Suspended Solids Indicator
- Digital Soil Tensiometer
- Soil Infilltrometer
- Water Level Indicator
- Cup Counter Anemometer (Mechanical Type)
- Wind Vane (Mechanical Type)
- Open Pan Evaporimeter

- Ordinary Rain Gauge
- Tree Height Gauge
- Stevenson Screen (Single)
- Stevenson Screen (Double)
- Aneroid Barometers
- Sunshine Recorder
- Punjab type Silt Sampler
- Winch (80 Kg)
- Maximum - Minimum Thermometer
- Wet & Dry Thermometer
- GPS
- Temperature and humidity sensor
- Wind speed sensor
- Wind direction sensor
- Rainfall sensor
- Water temperature sensor
- Soil temperature sensor
- Solar radiation sensor (Silicon)
- Atmospheric pressure (Barometer) sensor
- Water level sensor (Shaft encoder)
- Water level sensor (pressure)
- Water level sensor (Ultrasonic)
- Evaporation sensor
- Soil moisture sensor
- Snow Water Equivalent (Snow Gauge)
- Leaf Wetness sensor
- Digital Soil Tensiometer sensor