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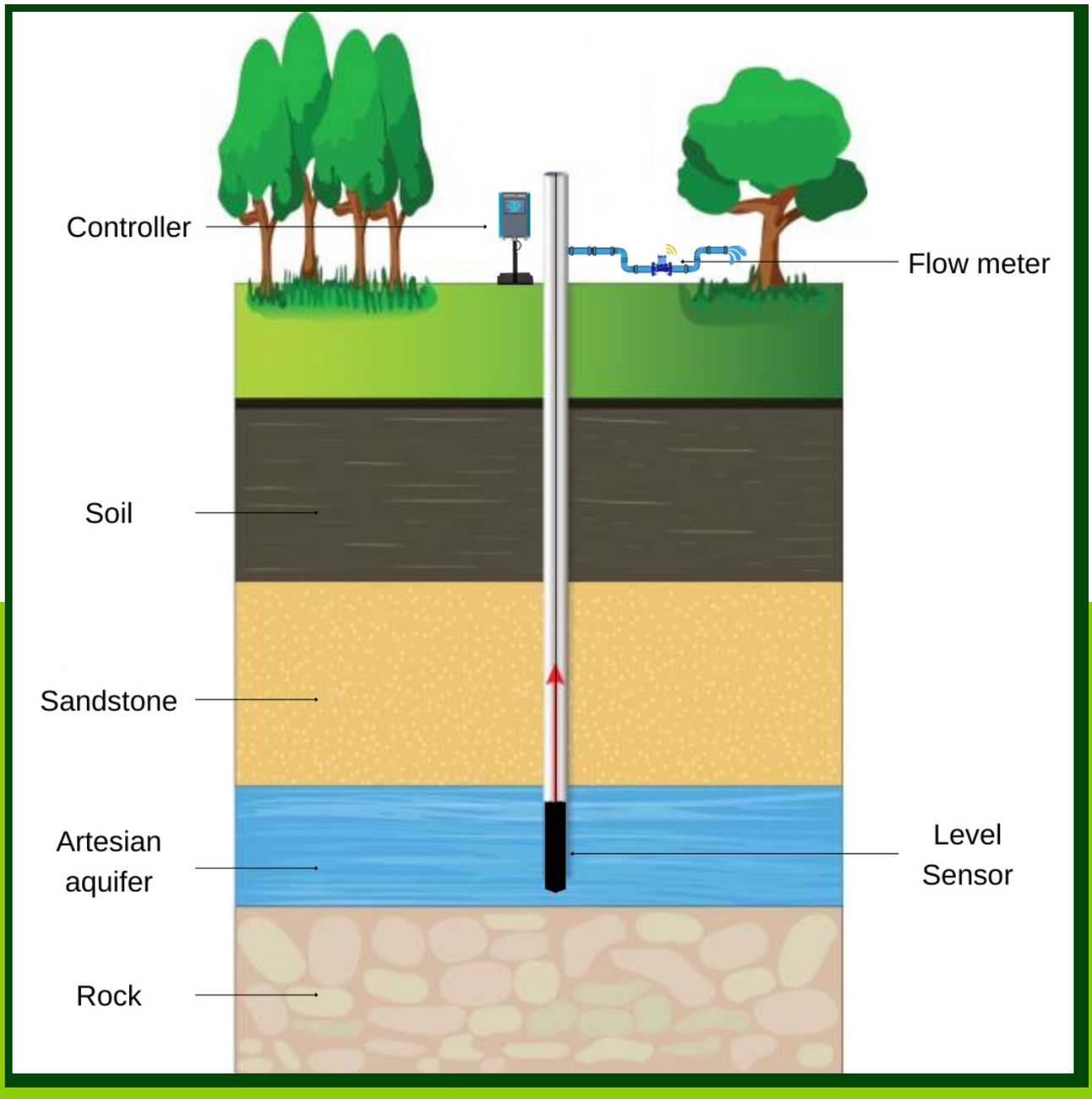

Groundwater Level Monitoring System

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Groundwater Level Monitoring System

Groundwater level monitoring is important to know the information of water column head under the earth's surface. As per the compliance, it helps to observe the changes in the quantity of groundwater level accordingly. The continuous groundwater monitoring provides the detailed data and helps to make the observations easily for future projections and development.

Level sensor also known as Piezometer plays the important role to provide all the information beneath the earth's surface. It monitors the level at which the water table starts. It can be installed in wells, bore wells and tube wells at the desirable depth to know the available water in sand pores and aquifers. Level sensor is connected with specific wires up to the surface level then connected to the electromagnetic flow meter and telemetry system which transmits the data to the server for real time access on data management software irrespective of location. Various changes in the groundwater can be observed with the help of different type of level sensors.

Collecting the accurate long term data of groundwater level monitoring will lead to make the proper planning for the development and management of groundwater level and will avoid the scarcity of water in the future.

Know What Compliance Says

Central Ground Water Authority (CGWA) has issued the guidelines to ground water users including industrial/ infrastructure/ mining projects to measure the amount of water extraction. According to the compliance, installation of online ground water monitoring sensor with data logger or telemetry system is mandatory, non-installation of the system will be considered illegal for the users withdrawing water from ground. For the withdrawal of water more than 100 KLD, users are required to submit the Impact Assessment Report/ Hydro-geological Report/ Water Audit Report. Non-issuance of required reports before the submission date for NOC will cause rejection of applications/NOC of the user as per the regulations. User not adhering to the submission dates are liable to pay the penalty/ Environmental Compensation amount according to the guidelines.

Product Description

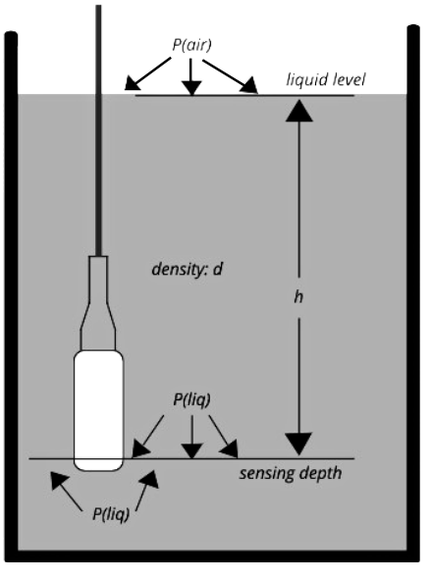

Fig. A

The IOT based groundwater level monitoring sensor measures the water level which is connected to the server for data acquisition and real time data access on data management software. It meets the compliance and helps to generate the required reports.

The human error free system and the reliable software is preferred solution for the issued guidelines.

The Hydrostatic level sensor is a submersible sensor made up of SS316L, having key feature to measure the level of liquid.

The sensor is made of aluminum pressure die-cast, coated with epoxy polyurethane which have protection class of IP68. It possess the ability to convert the signals into RS485 output and transmits the data on data logger for real-time data access.

The sensor is reliable and transmits the accurate data. Installation of the sensor at specific depth measures exceedance and falling of the water level.

The hydrostatic level sensor can be used to measure the ground water level, level in water tanks, wells, tube wells and bore wells. It is the most preferred solution to access the hydrostatic data.

Technical Specifications

Name	**Hydrostatic Level Sensor**
Model	**LPZO100**
Sensor Supply	**14 to 36VDC**
Output	**RS 485**
Load	**Load250 Ohm @14V to 1100 Ohm @ 36V**
Pressure Range	**B1: 0...1mH2O B2: 0...2mH2O B3: 0...3mH2O B4: 0...4mH2O B5. 0...5mH2O B6: 0...6mH2O B7: 0...7mH2O B8: 0...8mH2O B9: 0...9mH2O B10: 0...10mH2O B11: 0...11mH2O B12: 0...12mH2O B13: 0...13mH2O B14: 0...14mH2O B15: 0...15mH2O B20: 0...20mH2O B25: 0...25mH2O**
Accuracy	**± 0.25% (standard) ± 0.5% minimum % of Full Scale**
Long-Term Stability	**< ± 0.5% of Full Scale per Year**
Response Time	**<2 mili seconds**
Temperature	**1. Storage -40°C to +100°C 2. Usable 0°C to +80°C 3. Compensated 0°C to +50°C**
Sense Diaphragm Material	**SS316L**
Wetted Sensor Material	**SS316 / SS316L**
Cable Insulation	**Polycarbonate / Polyurethane**
Submersible Protection Class	**IP68**
Protection Head	1. Material **Aluminum Pressure Die-Cast** 2. Paint **Epoxy Polyurethane Coated** 3. Protection Class **IP-68** 4. Process Connection **NPT/BSP 1" to 2" Flanged: ANSI/JIS/DIN/ASA**

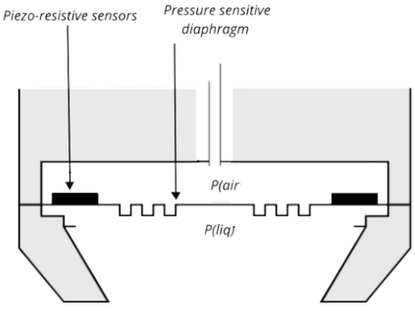

Fig. B

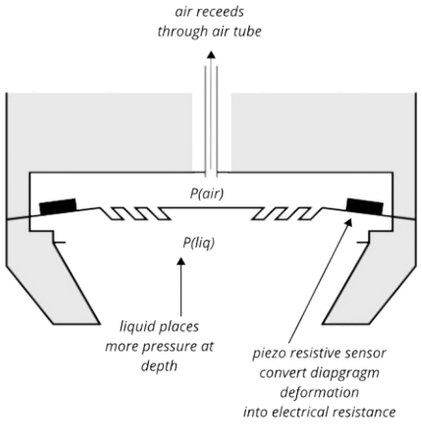

Fig. C

System Features

1. Measures the water level
2. Human-hassle free system
3. Real-time data access
4. Easy Installation in tank, bore wells and tube wells
5. Generation of hydrostatic reports according to the compliance

Visualization of Data

Ecolyser is the real-time data management software which can be handled simply. The sensors are connected to the server for data acquisition can be accessed on Ecolyser. The cloud based storage system provides the access to the historical data for information and analysis. Reports can be generated according to the compliance and for O&M of the system. It keeps the user notified by sending notifications whenever changes occur in monitoring.

Software Features

1. Real-time data access on smart devices
2. Enabled with site details respectively to sensor position for tracking multiple locations on one dashboard
3. Push notifications on alarming fluctuation according to the threshold set by user easily
4. Access to historical data for smart report generation

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