Water

Sub Metering System

DENVIK
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Denvik Technology designs and manufactures High Quality, Feature Rich & Custom built Embedded Control Systems & Instrumentation Products in Indian and European Market.

DENVIK develops and provides core competencies in 8-bit and ARM based microcontrollers, mixed signal design, and popular industrial communication protocols. The capabilities of DENVIK encompass the complete product lifecycle, which includes concept development, requirement analysis, design & development, fabrication, testing, auditing and product sustenance. With these capabilities we deliver complete product engineering and manufacturing solutions that are customized to the specific requirements of our clients.

What is ***water sub metering?***

Sub metering is a system that allows large residential communities, hotels, malls & hospitals to monitor and track their piped water usage in various areas.

Why ***Submeter?***

In apartments where users are charged for their piped water usage, not only is this a more fair billing practice as each user pays for only what he consumes but also promotes conservation of water and hence energy.

In commercial establishments, understanding your water use, tracking your water efficiency helps in encouraging the staff to adopt water saving practices and improving your general maintenance.

Studies prove that sub-metering reduces consumption and overall costs by ***20%.***

Energy and Atmosphere (EA) is one of the LEED environmental categories. A Credit 5 awards up to three points for measurement and verification (M&V) of energy consumption to make sure the actual consumption meets proposed consumption guidelines established during the LEED certification process.

Water submetering encourages users to report leaks so you can take care of small problems before they become major repairs. Sub metering enables users to be directly responsible for their own energy and water consumption leading to a "greener" property.

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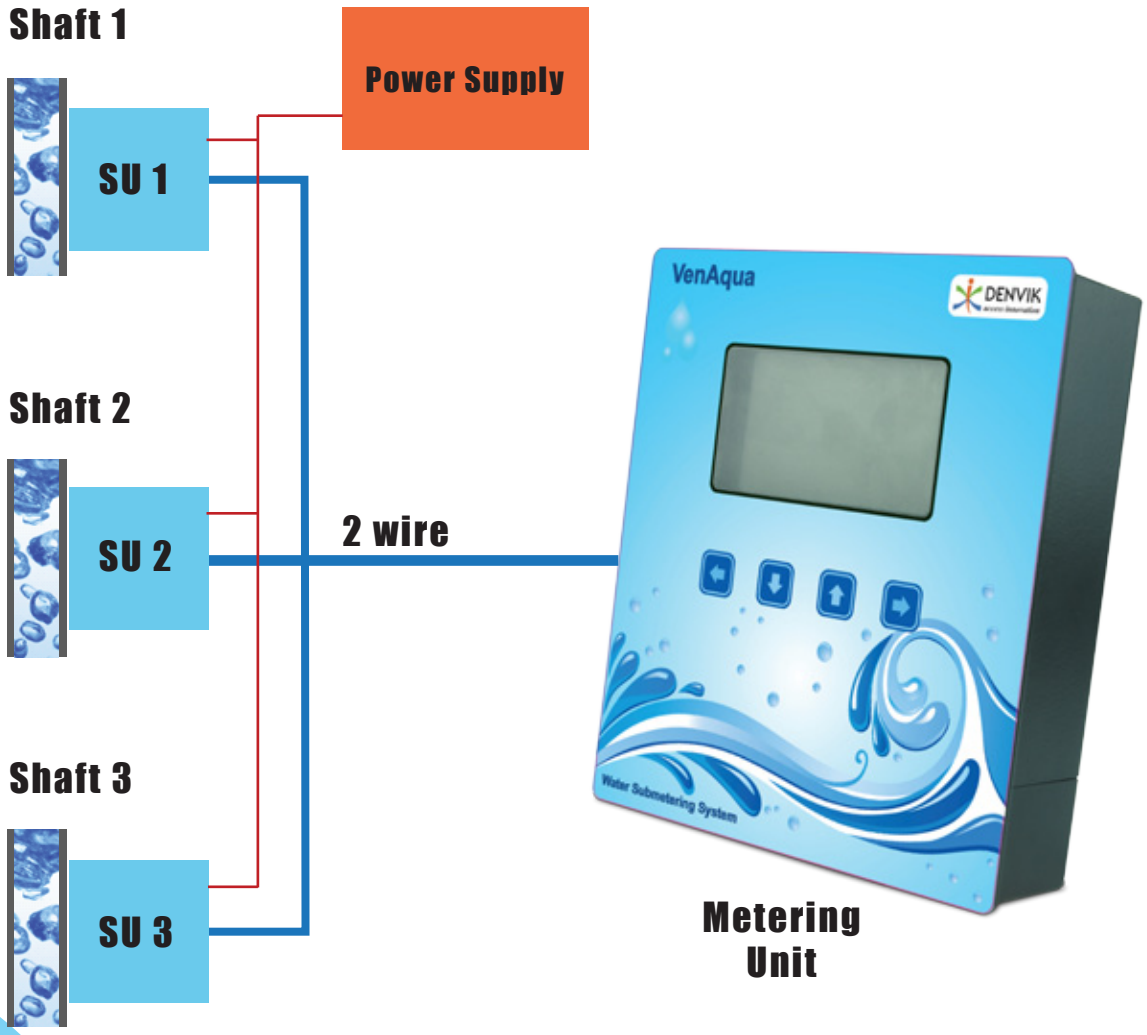
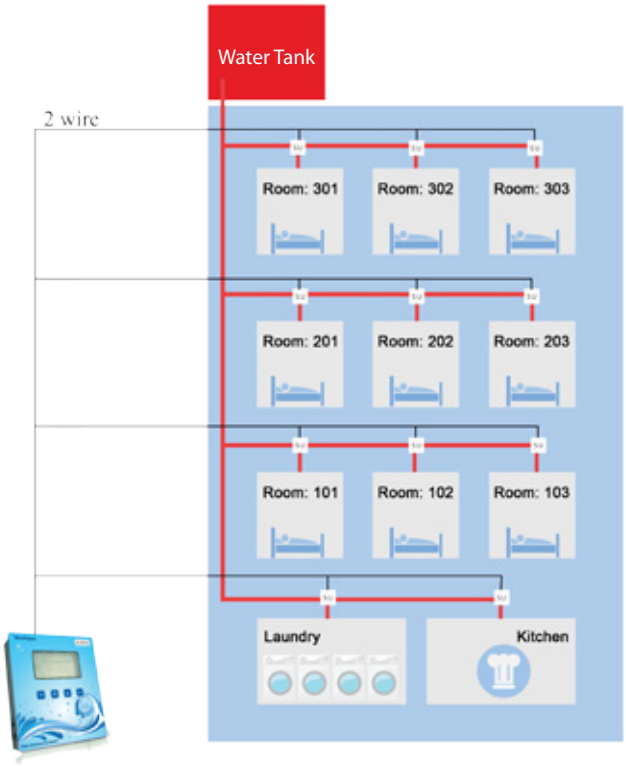
Denvik's sub metering system explained

- System has one sensing unit per Inlet Water Shaft.
- Water Sensing unit consists of a Flow sensor.
- Hot Water Sensing unit consists of a Flow sensor & a Temperature sensor.
- Sensing unit converts the sensor reading to a digital flow & temperature data and sends it to the Metering unit.
- Metering unit collects the data from various sensing units and calculates the net water flow for a particular apartment or area.
- Metering unit logs the Flow and temperature data periodically on to a micro-SD card in a date or month wise Excel Sheet.
- User can be billed on the monthly water usage based on the logged data.
- Graphs as shown below can be plotted from the logged data to study water usage patterns.
- An optional graphical LCD display unit is also available for the user to access and monitor his real time, daily or monthly water usage.
- Metering Unit can also be connected to a BMS system via MODBUS communication.
- Both Sensing unit & Metering unit are powered by a 230 VAC supply.
- Sensing unit is connected to the Metering unit via a 2 wire communication cable.





Sub-metering in Hotels:

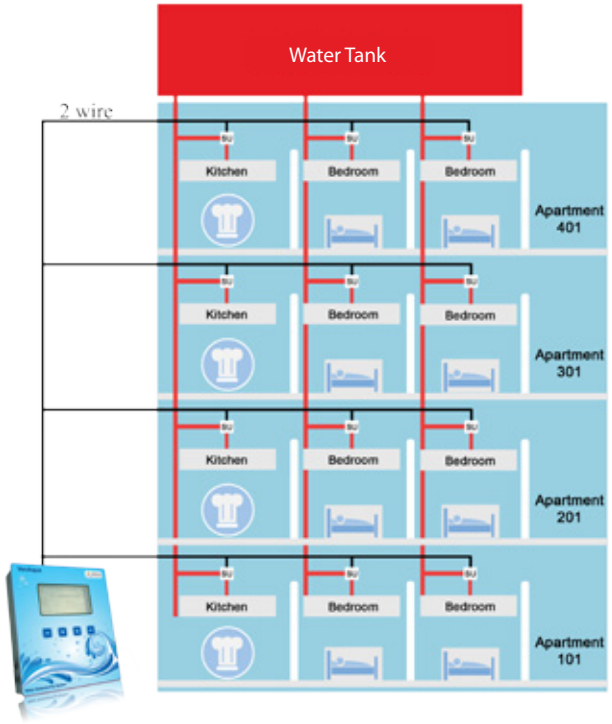
Sub-metering can be a valuable addition to Hotel owners to track & monitor the water usage in their guest rooms, kitchens, laundry etc.

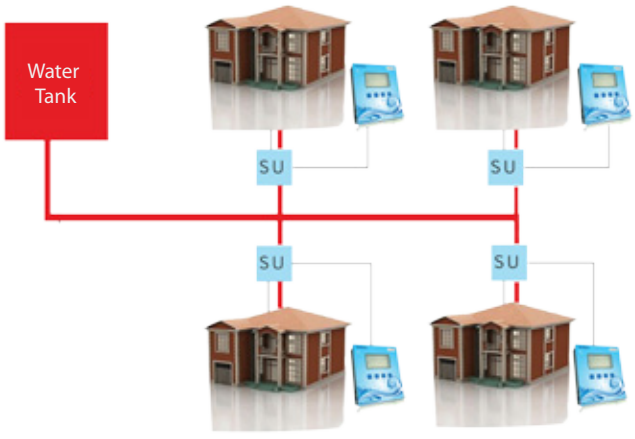
The management can provide its guests a QOS assurance as not only the flow of the water monitored, but also its temperature, hence assuring the guest that he is indeed supplied with water 24 hours a day.

Sub-metering in Apartments:

In apartments where centralized water supply is provided, sub metering can be used as a fair system of charging customers according to only their consumption.

Each apartment is fitted with sensing units at the inlet pipes of Kitches & bathrooms and all these units are in turn connected to the central metering unit.





Sub-metering in Gated Community:

In high end villa type gated community, each of the villa can be fitted with a VenAqua unit so that each villa owner can track his/her water consumption and they can be billed accordingly. Providing such metering can be an additional selling point for promoters.

The Reading and Billing Process:

Once the water sub-meters are all installed on each unit, the apartment management will begin the reading and billing. The management can read all the meters on a set date and once the meters are read, each homeowner will receive a water bill, for each unit's exact usage.

Water sub-metering is a fair and equitable solution for managing water expenses. It promotes water conservation, creates homeowner accountability for water usage, and increases property values.

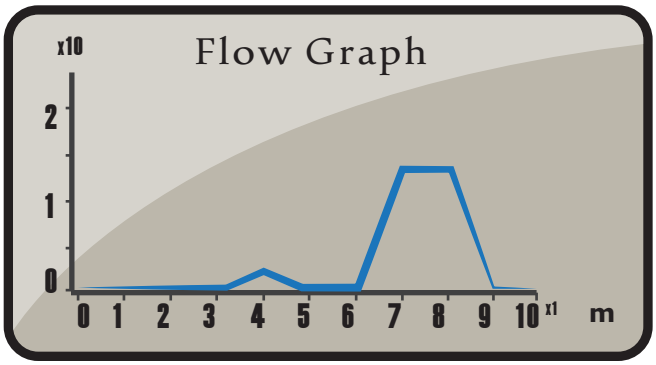
Informed property owners are instituting water sub metering at both new and existing properties.

Unique features in our system:

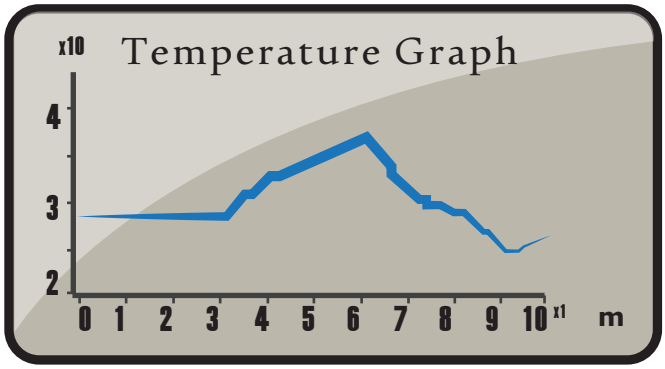
Leak detection: The system monitors the flow rate continuously, if it is found that there is always a low value of a constant flow on the line for an extended period of time, the system interprets it as a possible leak in the pipe and raises an alarm. The user can take appropriate action to stop the leak.

Burst Pipe detection: If the system detects a constant high flow for an extended period of time, it means that a pipe has burst or the user has forgotten to turn "off" his tap. The system then raises a burst pipe alarm.

Over temperature alarm & cut-off: If the system detects the temperature of water to be higher than a set limit, it at once raises an alarm. The user can take this alarm input and turn "Off" the hot water supply in the particular line.



Flow Graph



Temperature Graph

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For further details about the product including pricing & ordering information, please contact
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