CLEAN WATER

Fcs

PermaNET SU

LTE-M & NBIoT-enabled Correlating Noise Logger

PermaNET SU is an innovative correlating noise logger that contains a leak noise sensor with our advanced modem (capable of connecting via LTM or NBIoT with 3G or 4G) for reliable and low-powered network monitoring.

Designed specifically for smaller and more challenging installation environments, PermaNET SU is robust and durable.

PermaNET SU is fully compatible with PermaNET Web, the online data viewing and analysis platform, combining to provide map-based display, GIS interface and full audio and correlation facilities.

Key Features and Benefits

- **Telemetry:** NB-IoT/LTE-M based cellular communication standard

- **Sensor detection indicator:** daily check to confirm no sensor movement: alarm if a movement is detected

- **Single compact unit:** combines leak noise sensor and telemetry technology into a single compact unit

- **Robust and durable:** designed specifically for smaller and more challenging installation areas

- **Quick response:** enables leakage teams to respond quickly to specific locations when a leak is detected

- **Secondary validation:**
  - Aqualog - detailed noise histogram to reduce 'false positives'
  - Remote leak audio file recordings
  - Remote correlation to localize leak position

- **Fully waterproof:** the IP68 rating has been tested at 10m depth over a 24 hour period

- **Easy to use:** compatible with the Deployment app and can also be programmed through PermaNET Web

- **PermaNET Web software supports:**
  - Correlation
  - Map view
  - Aqualog
  - Select GIS file formats
  - Remote reconfiguration
  - Filtering

- **Easy to use:** compatible with FCS Deployment app. Select features can be programmed through PermaNET Web

- **External antennas:** for improved signal strength (contact FCS for more information)

Applications

Once installed, leak data is calculated using the proven PermaNET algorithm, and data is transmitted via low cost NBIoT/4G LTE cellular telemetry. This removes the requirement for expensive site visits and "drive by" data retrieval.

PermaNET SU transmits data through an integral modem with 4G LTE-M (Cat-1) and other NBIoT cellular options available.
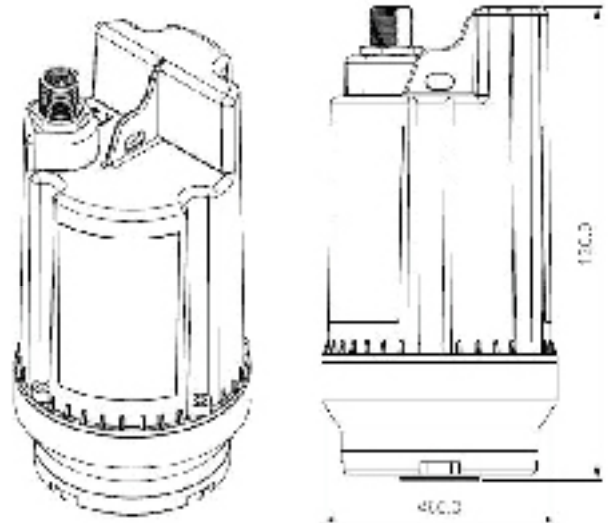
PermaNET SU allows leakage teams to monitor the status of each logger deployed from a map-based web dashboard using any internet enabled device.

Leaks are identified immediately. Once the presence of a leak has been identified, secondary measures can be used to verify and eliminate 'false positives' and correlate the position of the leak.

MONITORING ASSETS, DELIVERING DATA, BRINGING CONTROL

PermaNET SU

Correlating Telemetry Noise Logger

Operating Temperature	-20 to 60°C (-5 to 140°F)
Memory	Primary recording: 1 million readings
Dimensions	Height = 120mm, Diameter = 60mm
Weight	700g (1lb. 8.7oz)
Ingress Protection	IP68 submersible
Antenna	Multiple external options - contact FCS for more information
Expected Battery Life	5 years (depending on settings and signal condition)
Internal Cellular Modem	Cellular modem supporting NBIoT/LTE-M (Cat-1) - contact FCS for available options
Alarms	Leak/no leak Signal received/not received
Warranty	3-year limited warranty

PermaNET Web

Online Data Portal

PermaNET Web is a secure, web-based portal designed to support the PermaNET product range in the remote identification of network leakage.

Supporting acoustic correlation, leak detection and logger programming, PermaNET Web delivers connectivity with multiple loggers and provides the user with numerous ways to view and analyze collected data.

The North American **HWM** partner.

A **Halma** company.

connected by **verizon**✓

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