

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 LTE-M or NBIoT with 2G fallback, 4G or 2G) for reliable and low-powered network monitoring.

Designed specifically for smaller and more challenging installation areas, 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:** NBIoT/LTE-M based cellular communication as standard with fallback 2G capability
- **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'
 - Audio - remotely listen to the noise
 - Remote correlation to localise leak position
- **Fully waterproof:** the IP68 rating has been tested at 10m depth over a 24 hour period
- **PermaNET Web:** software supports
 - Correlation
 - select GIS file formats
 - Map view
 - Remote reconfiguration
 - Aqualog
 - Filtering
 - Threshold Modelling
 - Electrical Noise identification
- **Easy to use:** compatible with HWM Deployment app. Select features can be programmed through PermaNET Web
- **External antennas:** support improved signal strength (contact HWM for more information)

Applications

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

PermaNET SU transmits data through an integral modem with 2G, 4G, LTE-M (Cat-M1) and other NBIoT cellular options available.

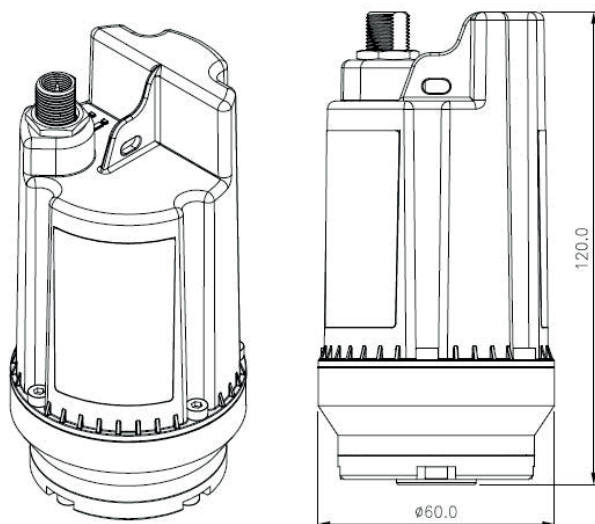
PermaNET SU allows leakage teams to monitor the status of each logger deployed from map based host software using any internet enabled device.

Leaks are identified immediately and once the presence of a leak has been identified, secondary measures can be used to check and remove 'false positives' and also to localise the leak position.

MONITORING ASSETS, DELIVERING DATA, BRINGING CONTROL

LTE-M & NBIoT-enabled Correlating 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
Ingress Protection	IP68 submersible
Antenna	Multiple external options - contact HWM for more information
Battery Life	Typical 5 years (depending on settings and signal condition)
Internal Cellular Modem	Cellular modem supporting 2G/4G/NB-IoT/LTE-M (Cat-M1) - contact HWM for available options
Alarms	Leak/no leak Signal received/not received



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 collected data.

With recently launched new features including Threshold Modelling and Electrical Noise Identification, as well as future improvements scheduled, PermaNET Web is an ever-evolving platform to support evidence-based decision making.



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