

# PermaNET+

## Data logger

PermaNET + combines a Leak Noise Sensor and our versatile telemetry technology to create a fixed network to monitor leakage.

PermaNET+ works in conjunction with Google Maps to provide live on screen tracking, allowing leakage teams to respond quickly to problem areas and bring them under control.



### Key Features and Benefits

- **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 localise leak position
- **Leak sizes can be determined:**  
By matching daily alarms with flow data to enable leak alerts to be prioritised.
- **Cost effective:** Remote leakage monitoring
- **Easy set up:** Remote set up via GPRS & 3G
- **Remote Viewing:**  
Viewing via server hosted software
- **Precise Logging:** Ability to log noise more frequently to establish the noise profile and profile alarms for precise immediate leakage alarm
- **Fully Waterproof:**  
The IP68 rating has been tested at 10m depth over a 24 hour period
- **External antennas:** To improve signal strength
- **Economic:** New communication module is smaller and more economic
- **Latest Technology:**  
Designed with latest mobile technology to maximise dial in and minimise cost

### Applications

Once installed, leak data calculated using the proven Permalog algorithm, and secondary data, is transmitted via low cost GPRS, 3G or SMS telemetry. This removes the requirement for expensive site visits and "drive by" data retrieval.

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

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

# PermaNET+

## Data Logger

### Sensor Input options

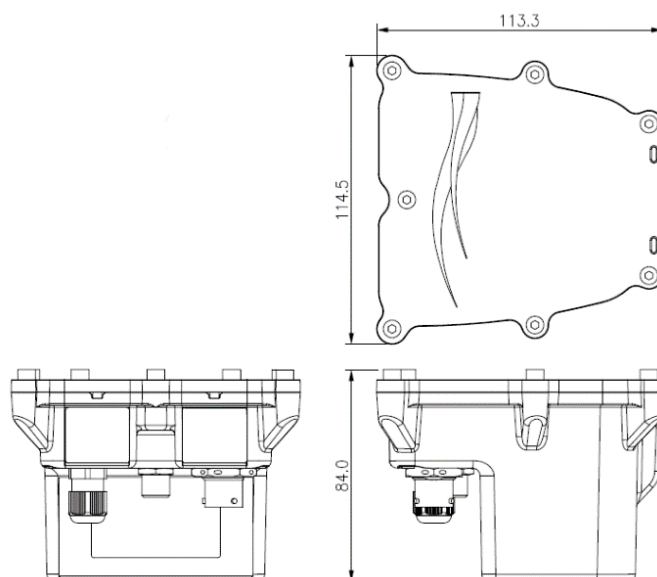
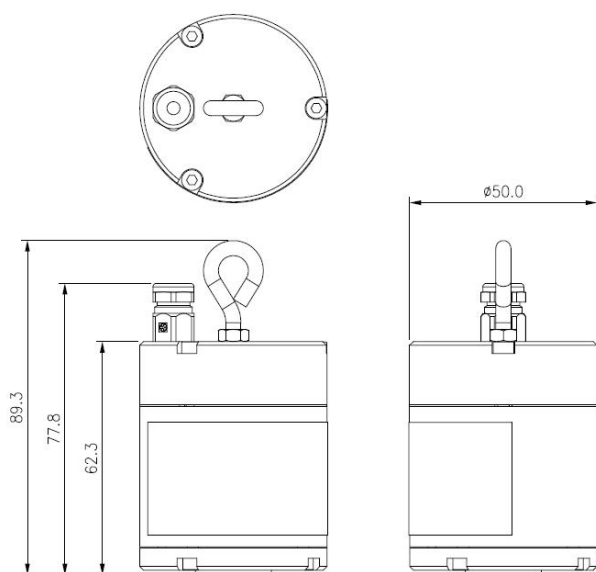
Noise	Permalog LNS Sensor
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### Communication and programming

Serial	USB Cable for connection to PDA hand held programming and data collection unit, laptop, or desktop PC using 9600 Baud.
Internal Cellular modem	Quad band modem supplying 850/900/1800/1900MHz bands

### Logger Features

Operating temperature	Logger: -20 to +60°C (-5 to +140°F) Leak Noise Sensor: -20 to +60°C (-5 to +140°F)
Memory	Primary recording 1 million readings
Dimensions	Logger without antenna = H = 84mm, W = 114.5mm, D = 113.3mm LNS: H = 89.3mm, W = 50mm, D = 50mm
Weight	Logger = 338 grams Leak Noise Sensor = 476 grams
Ingress protection	IP68 submersible
Clock	On board 24 hour real time clock with date facility. Automated synchronization
Logger ID	Up to 7 alphanumeric characters. Also readable factory set serial number in firmware
Alarms	Leak/no leak Signal received/not received



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