PermaNET+ Trunk Main

Data logger

The PermaNET+ Trunk Main (TM) system combines a high performance hydrophone sensor and versatile telemetry data technology to create a continuous monitoring system for sensitive pipelines.

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

Key Features and Benefits

- **High performance hydrophones:** Better performance over long pipe lengths, large diameter pipes and plastic pipes.

- **Frequent logging:** Establishes the noise profile and profile alarms for precise immediate leakage alarms

- **Continuous sampling:** For leak detection and alarm

- **Determine leak size:** By matching daily alarms with flow data to enable leak alerts to be prioritised

- **Cost effective:** Remote leakage monitoring

- **Quick and Effective:** Problem zones brought quickly and effectively under control

- **External antennas:** Improved signal strength

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

- **Economic:** Communication module is smaller and more economic

- **Latest mobile technology:** Maximise dial in and minimise cost

- **Easy set up:** Easy programming and remotely programmable

Applications

PermaNET+ TM continuously monitors noise and will auto alarm when profile or threshold alarm levels are reached.

The system works with Google Maps technology to provide a live on screen tracking, allowing leakage teams to respond quickly to problem areas and bring them under control efficiently

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.

• Correlation – Audio files are used to correlate remotely to localise the leak position for follow up

• Aqualog – remotely retrieving the Aqualog detailed noise graphic, clearly indicates the consistent presence of a leak.

• Audio – For operators who prefer to 'hear' their leaks audio files are transferred to the host.

MONITORING ASSETS, DELIVERING DATA, BRINGING CONTROL

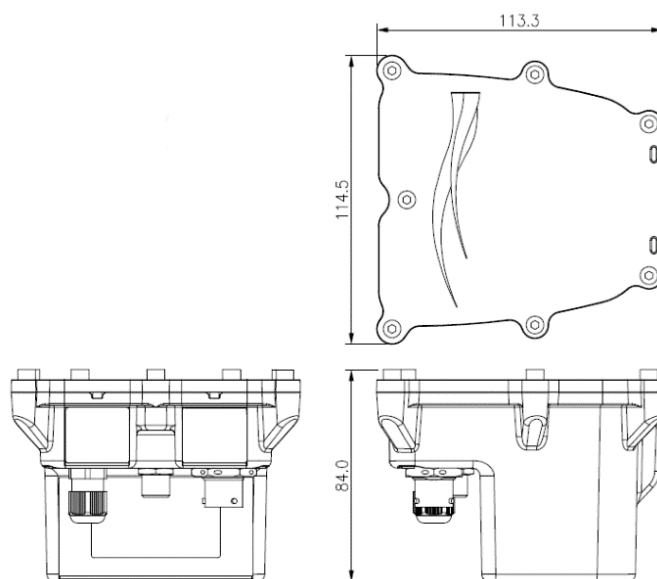# PermaNET+ Trunk main

Data Logger

Sensor Input options

Noise	HWM high performance Hydrophone sensor

Communication and programming

Serial	USB Cable for connection to PDA hand held programming and data collection unit, laptop, or desktop PC using 9600 Baud.
	Configurable message frequency 1/week to every 15 mins. GPRS site using HWM DataGate or customer specific data server.
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 potection	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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