technology for network management and leakage control

NETWORK MANAGEMENT

DATA DELIVERY

LEAK DETECTION

LEAK LOCATION

technology and product guide

Primayer

www.primayer.nt-rt.ru

technology

The application of modern technology is essential for optimising water delivery. Primayer utilises innovative technologies to form an integrated approach to water system management. We offer a wide choice of technologies and our commitment is to the future needs of our customers.

Primayer has a proactive design team which continually pioneers new products. The manufacturing facility adheres to the highest standards at all stages of the manufacturing and quality control process. Our core business is to facilitate the reduction of wastage and to increase the provision of water.

Local Data Logging

PrimeLog

Portable data logger for surveying water distribution and wastewater networks

- Compatible with all common flowmeters
- High accuracy +/-0.1% pressure measurement
- High speed USB communication
- Logs minimum, maximum and average values
- Battery life 5 years (in most applications)
- Small, robust and waterproof to IP68

XAP Display

Portable USB display for use with all PrimeLog+ and XiLog+ data loggers, shows current values for each channel and minimum daily flow value.

Wide range of sensors

For use with PrimeLog+ and XiLog+

- Depth and pressure transducers - typically applications include reservoir, borehole and river levels plus level/flow conversion over weirs
- Ultra-sonic level transducer - for level measurement in part filled and open channels
- Doppler sensor - for detection of flow velocity in part filled pipes and open channels
- Water meter pulse units - for all major clean water supply meters
- Current clamp - monitors current supply to determine on/off times on pumps, etc.
- Overflow sensor - applications include monitoring times/duration of overflow on storm weirs and detection of full tanks
- Rain gauge - monitors the amount of precipitation over a period of time

PrimeProbe2 SMART

Electromagnetic insertion flowmeter for network flow surveys and checking in-situ meters

- Operation over wide flow range
- Simple installation and set-up
- Rugged - no moving parts
- Operation in low conductivity water

PrimeProbe2 system
Comprises probe, gauging rod, PrimeLog 2i, cables and hose in a ruggedised case

Flow profiling software
Profiles the velocity across the pipe diameter to improve calculation of flowrate

PrimeFlo-T

Compact transit-time flowmeter

- Survey application with 24 hour battery life
- Operation on pipe sizes from 25 – 2500mm (one pair of sensors)
- Non-invasive sensors, providing;
  - no flow disturbance
  - no process interruption
  - no water contact
- Easy set-up and installation
- Integral data logger

network management

Remote Data Logging

XiLog+

Data logger with GPRS and SMS communications

- 1, 2, 3 and 9 channel models
- Data transmission from every 15 minutes up to daily send
- High performance 'below-ground' antenna
- Wide range of sensors with high accuracy
- Powered for 5 years (dependent upon usage)
- 2 Gbyte memory for rapid logging and logs at multiple intervals

XiLog+*Mini*

With external antenna for installation into small chambers.

XiLog eco

Data logger powered by water pressure

- Regular 15 minute data transmission
- Environmentally friendly
- Minimises site visits
- PRV performance monitoring
- District/zone flow monitoring
- Boundary valve monitoring

Live Data Streaming

Xstream

Live data streaming for step testing, PRV commissioning, network re-zoning

- Real-time flow and pressure data viewed on internet browser
- Single user operation
- No radio range restrictions
- Annotate valve closure and other operations on graph

network management

Data Delivery

XAP Software

Basic programming, graphing and reporting for PrimeLog+ and XiLog+

- Multiple logger programming/readback
- Receive SMS and FTP data
- Graphical data display
- Tabular data reporting
- Statistics information
- Data export in .CSV format

PrimeWorks

Water data management software

- Comprehensive graphing and reporting
- Extensive database control
- Data import/export
- Auto-export of data
- Interfaces with corporate systems
- Daily statistics

PrimeWeb

XiLog+ (GPRS) and Phocus.sms on-line data availability

- Remote access to observe changes in network conditions, water usage, nightlines, etc.
- Remote alarm status for improved leak detection
- Multiple user access levels
- XiLog+ and Phocus loggers on Google Maps*. 'Street-view' at logger location
- Newly installed logger data automatically displayed
- Graphs, reports, meter readings

*Google maps courtesy of Google.

The OPC standard specifies communication of data between field devices and Windows based software. An OPC Server for one hardware device provides the same methods for an OPC Client to access its data as every other OPC Server.

XiLog+ OPC Driver

(Open Platform Communications)

- XiLog+ OPC Driver provides connectivity between XiLog+ GPRS files and any OPC compatible client software; typically SCADA packages
- XiLog+ GPRS delivered data can either be via the Primayer Web Server or any user FTP server
- The XiLog+ OPC server, once installed, will automatically become available within the client allowing viewing of XiLog+ historic data

Detection

Phocus3

Advanced wireless noise logger for leak detection

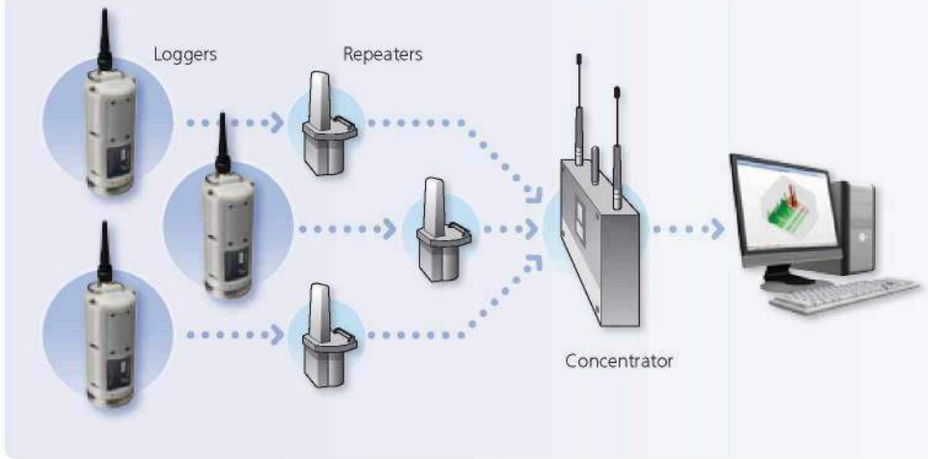
- Rapid overnight identification of leaks
- Phocus noise algorithm to reduce incidence of un-detected leaks
- Leak listening
  - real time (whilst on site)
  - recorded to aid remote leak identification
- GPS coordinates stored in logger
- Small size
- Two models available:
  - local IR contact (lift + shift operation)
  - radio contact (greater range for permanent installation)

Google maps courtesy of Google.

Phocus.sms

Leak detection logger with remote alarm via SMS

- Instant alarms - reduces time the leak 'runs'
- Three sample periods reduces incidence of false alarms
- Regular 'health-check' reports
- No 'drive-by' required



Phocus.hr

Leak detection via AMR radio

- Transmission of daily information
- Three sample periods reduces incidence of false alarms
- No 'drive-by' required
- Integrates with AMR network of Homerider Systems

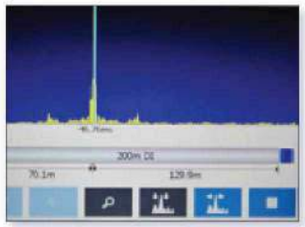
leakage control

Location

Eureka3

Innovative leak location correlator

- 16-bit digital correlation processing
- Interactive pipe model, correlation and coherence spectrum displays
- Velocity correction function
- Optional direct transmitter connection to pipe (street working friendly)
- Post-processing analysis using powerful *Enigma®* software
- Compact, with in-case battery charging



Clear correlation display of leak position

Mikron3

Wireless ground microphone for leak location

- Very high quality acoustic performance
- Wireless sensor communication for reduced wind noise
- Minimum noise level bar display
- Optional frequency analysis bar display
- Full frequency spectrum display
- Dynamic hearing protection
- Easy operation

Minimum noise levels + frequency.

PrimeTouch App's

Applications for network operations

Eureka3

Enigma - *program/readback*

Mikron3

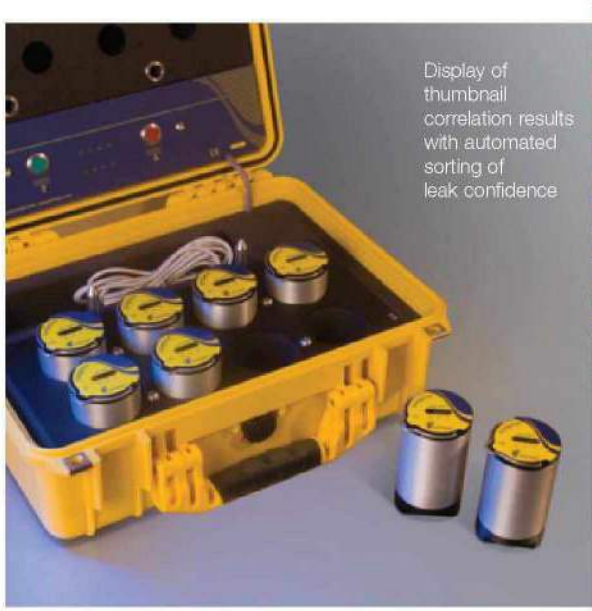
- High definition touch screen for easy operation
- Interactive displays via 'screen swipe' feature
- Multiple applications on one processor
- Large virtual buttons for use with gloves

Location

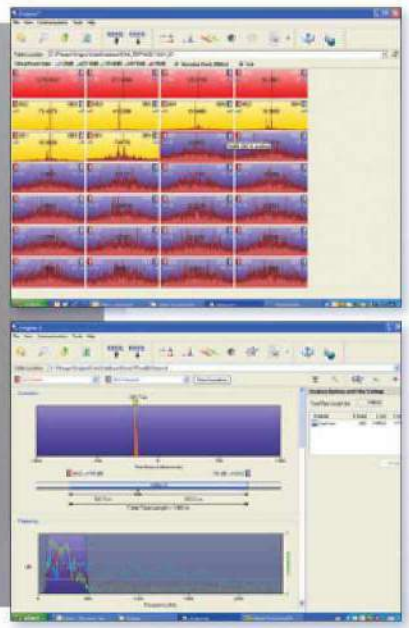
Eureka DIGITAL

Digital leak location correlator

- Optimum performance in difficult leak detection situations
- Operation not limited by radio range
- Re-analysis of digitally recorded sound
- Optional direct transmitter connection to pipe (street-work friendly)
- Three sensor input option for automatic velocity measurement
- Flexible operation



Display of thumbnail correlation results with automated sorting of leak confidence



Enigma

Multi-point correlation system for advanced leak location

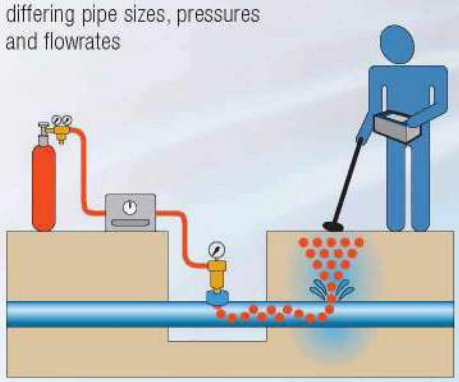
- Operation at night for optimum performance - but avoids costly night working
- Three sound samples to separate consumer use from leakage
- Can find multiple leaks
- Latest 24-bit digital processing
- Advanced correlation, coherence and filtering

Leak located on 1455 metres cast iron pipe

PrimeTrace

Leak location using hydrogen tracer gas

- Semiconductor sensor with resolution of 0.1ppm
- Incorporates powerful pump to aid tracer gas detection
- Compact, user friendly design
- Specialised probes for different applications
- Self-test feature to check sensitivity
- Injection box enables optimum control of gas injection with differing pipe sizes, pressures and flowrates



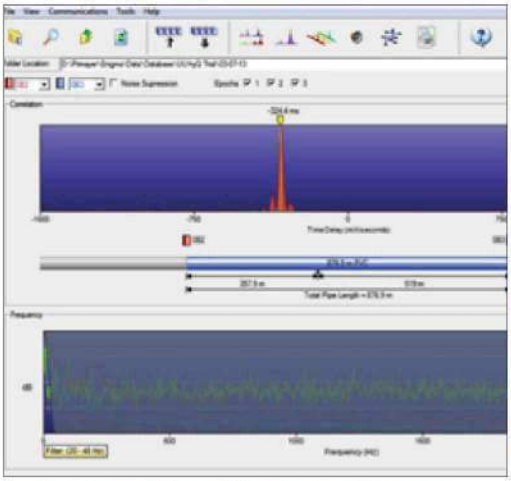
Trunk Main Leak Location

Enigma-hyQ

Optimized for leak location on large diameter pipes and over longer distances

- High sensitivity hydrophon directly detects pressure wave in the water
- Narrow band filtering technique
- No radio range limitation
- Records acoustic data at night - but avoids costly night working
- Auto-velocity determination
- Unwanted noise suppression

Trunk Main Leak Location



Leak located on 500mm PVC main over 876 metres

Listening and Confirmation

Hykron

Leak listening system

- High acoustic sensitivity
- Easy operation
- Low cost
- Durable construction
- Alkaline battery with easy field replacement

Mikron

Advanced acoustic leak listening system

- Ground microphone with wind-noise isolation
- *Minimum Noise Level* measurement
- Very high acoustic sensitivity
- Wide frequency range
- Lightweight amplifier with clear digital display
- Three models available

Pipe and Cable Location

CScope

High performance underground pipe and cable location

The MXL2 Locator and MXT2 Transmitter provide accurate detection and location of buried services. The latest digital signal processing enables pipe tracing in the most difficult of circumstances.

- Multiple operation modes
- Optional *All Scan* frequency mode
- Easy to use
- Rugged, lightweight,
- Optional depth measurement

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