宁水科技

Every drop of water will create the value!

宁水集团
NWM

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PIPE LEAK
NOISE CORRELATOR

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01 PRODUCT INTRODUCTION

NWT-CNL100 Pipe Leak Noise Correlator is a sate of the art design for water supply network leakage monitoring and detection product that inegrates latest IoT and sensor technologies. The product can accurately detect and pinpoint leaks in the network using advance correlation and locating algrithm after years of research and development by our team at Zhejiang Ningbo Water Technologies Co.,LTD.

02 SOLUTION

- Online monitoring and offline detection dual mode;
- Monitoring time can be set flexibly;
- Solve traditional labor intensive issue, greatly improve the efficiency of pipeline leak detection;
- Pinpoint leak in the pipeline;
- Mobile APP and device interaction, convenient installation and setup;
- The SaaS platform is intuitive and easy to operate;
- Historical leak status and original audio are available for check;
- Leakage management enables customers to follow up on leaks.

03 PRODUCT SPECIFICATION PARAMETER

Voltage-sensitivity	10V/g
Sampling frequency	5120Hz
Communication mode	NB-IoT
Mounting and fixing method	Strong magnetic adsorption
Memory capacity	128Mb Flash，32 days historical data
Operating temperature	-20℃~60℃
Waterproof and dustproof grade	IP68
Power supply mode	Lithium battery, 3 years
Overall size	Φ 60mm × 130mm (Rings and antennas are not included)
Weight	885g

04 FUNCTION INTRODUCTION

ON-LINE MONITORING MODE

- Any number of NWT-CNL100 can be installed in the
- network ;
  Leakage monitoring and feedback in the early
- morning every day;
- Remote listening to leak noise;
  Remote correlation analysis and location functions.

OFFLINE (FIELD) DETECTION MODE

- Bluetooth connection, mobile phone operation, convenient and efficient;
- Real-time detection and display of leak location;
- Repeated tests do not require reinstallation.

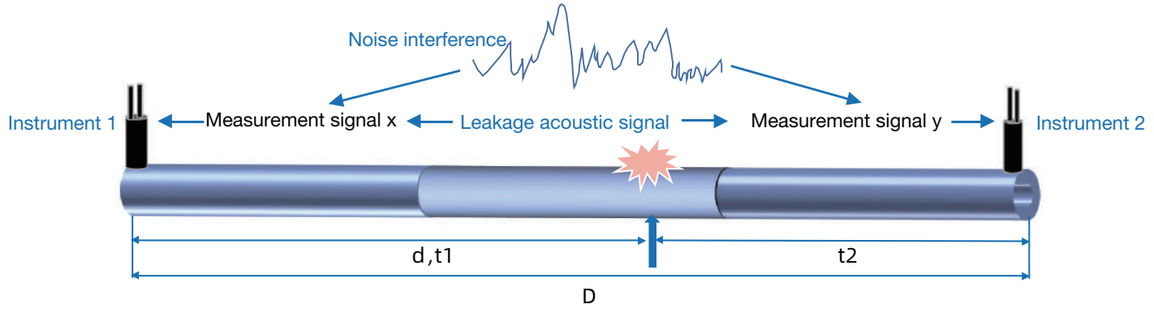
05 PLATFORM INTRODUCTION

▲ Monitoring Platform

▲ Leak Locating

06 CORRELATION ALGRITHM

The noise signals x and y are received by Pipe leak noise correlators, and analyzed by our correlation and locating algorithm that suppresses noise interference and accurately locate leaks.



Calculation formula: $d = \frac{D+v\cdot\tau}{2}$

v is the speed of nosie wave in the pipe,
τ is the time difference between the nosie signal of the devices,
τ = t1 - t2