NL LF10

Messtechnik & Datenerfassung ICO data Measurement & Data Capture

LF10 DATASHEET

Datasheet version 220824
Compatible with SW version 22H1

NEXT-GENERATION LEAK DETECTION

Saves money and improves energy efficiency

- Pinpoints one or more leaks simultaneously
- Shows leak size and cost estimates
- Faster and more accurate than other leak detectors and methods

Machine learning produces actionable data for maintenance and repairs in the NL Cloud

- ISO 50001-compatible reporting
- Analytics and reports powered by machine learning

Speeds up audits and requires minimal training

- Scans large areas quickly
- Simple and easy to use
- Fits any stage of your maintenance cycle

AI-driven smart functionalities ensure a seamless user experience

- AutoDistance: automatically detects the distance between the leak and camera
- AutoFilter: automatically filters out disturbances in noisy environments

The smart functionalities together provide precise, real-time leak size estimates

The LF10 smart acoustic camera locates and analyzes compressed air leaks in real-time, showing the leak size and cost estimate for each leak. Compressed air leaks can be located up to 10 times faster than with traditional methods. The camera utilizes smart functionalities for a seamless user experience and precise readings.

The camera's 124 microphones provide a wide detection area to pinpoint leaks over large distances. Since the lightweight device can be operated single-handedly, the camera user is more mobile and aware of their surroundings. It is easier and safer for the user to move in challenging environments.

The smart functionalities of the LF10 are driven by AI-enhanced machine learning. Automatic distance estimation (AutoDistance) and automatic filtering (AutoFilter) features work together to allow for a seamless user experience. The AutoFilter chooses the correct settings for each environment and eliminates typical industrial disturbances. The AutoDistance automatically sets the distance from leaks. These two smart functionalities work together to provide precise, real-time leak size estimates. The results are shown on the camera, on the NL Cloud or in a ISO 50001-compliant report.

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Technical Specifications

Acoustic Specifications

Acoustic measurement	124 low-noise MEMS microphones, real-time sound visualisation
Dynamic range, low limit	Below -15 dB (frequency-dependent)
Dynamic range, high limit	120 dB (frequency-dependent)
Bandwidth	2–65 kHz (Automatic filtering)
Sampling rate	130 kHz
Measurement distance	From 0.3 m (1.0 ft) up to and above 130 m (430 ft)
Leak rate	0.011 l/min @ 3 bar from 3 m (10 ft) 0.024 l/min @ 3 bar from 10 m (33 ft)
Minimum detection threshold	0.004 l/min @ 1.2 bar from <1 m (3.0 ft)

User Interface and Display

Display	5 in, 800 × 480 resistive touchscreen
Brightness	1000 cd/m2 (adjustable)
Snapshot resolution	800 x 480
Frame rate	25 fps (optical image) / 30 fps (acoustic image)
Field of view (FOV)	62.2° x 48.8°
Directional resolution	0.5°
Max. Directional resolution	0.25°
Zoom	2x digital zoom

Communication and Data Storage

Wireless data transfer	IEEE 802.11.b/g/n/ac
Data transfer	USB / Direct WiFi transfer / WiFi
Data storage	USB / Cloud
Storage, internal	32 GB/999 snapshots
Storage, external	8 GB USB mass storage, 500 snapshots (typical)

Environmental

Operating temperature	-10°C – +50°C (14°F – 122°F)
Storage temperature	-20 °C – +70 °C (-4 °F – 158 °F)
Charging temperature	0°C – +40°C (32°F – 104°F)
Humidity	Recommended 0–90%
Ingress Protection	IP51

Physical Data

Camera size & weight	315 × 170 × 161 mm (12.4 × 6.7 × 6.3 in) 980 g (2.2 lb)
Total weight with RRC2040 battery	1.2 kg (2.7 lb)
Total weight with Tracer battery	1.9 kg (4.3 lb)

NL Analytics & Features

Leak localisation and detection	Automatic, real-time leak recognition
Leak size and cost estimate	Automatic, real-time, on-device
ISO 50001-compatible reporting	In the NL Cloud and NL Camera Viewer Pro software
Video recording	Up to 5 minutes
Audio recording	Up to 5 minutes
Video resolution	1640 x 1232
Video frame rate	15 fps

Power Specifications

Camera power input	Nominal input voltage: 12 V_{DC} Max input: 15 V_{DC}, 2.5 A
Internal battery	Li-Ion 6 Wh (only for backup purposes)

Battery Option RRC2040

External battery	Li-ion 36.2 Wh, 10.8 V_{DC} Use time up to 2.5 h Max output: 12.6 V, 4.0 A
Battery charger power supply	Input: 100–240 V_{AC} ± 10% ~ 50/60 Hz 1.70 A @ 100 V_{AC} Max output: 19 V_{DC} ± 5%, 3.40 A
Battery charger	Input: 19–26 V_{DC}, 2.8 A, 50 W Output: 0–17.4 V_{DC}, 0–4.8 A, 50 W
Battery size and weight	85 × 59 × 22 mm (3.34 × 2.31 × 0.86 in) 170 g (0.37 lb)

Battery Option Tracer

External battery	$LiFePO_4$ 84 Wh, 12 V_{DC} Use time up to 7 h, charge time 4–6 h Max output: 13.8 V, 4.0 A
Battery charger	Input: 100–240 V_{AC} ~ 50/60 Hz 1.3–1.5 A
	Max output: 13.8–14.6 V_{DC}, 4 A (depends on the charger provided)
Battery size and weight	90 × 145 × 65 mm (3.5 × 5.7 × 2.6 in) 985 g (2.2 lbs)

Supported Languages

Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Indonesian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Thai, Traditional Chinese, Turkish, Vietnamese

For further details on best practices, certifications, safety protocols and warranty information, please refer to the **LF10 User Manual** published by NL Acoustics Ltd.