



### Quick overview of the most critical problems early on

- Detects problems in power grid components before they start to heat up
- No direct line of sight is required

### Requires minimal training

- Light, hand-held, automatically displays detected partial discharge (PD) locations on its intuitive user interface

### Machine learning-powered NL Analytics

- Locates and distinguishes PDs from other sounds
- Classifies PD type and severity
- Suggests further corrective actions
- Easy reporting tool for sharing repair and maintenance needs

The NL Camera is an easy-to-use, stand-alone device for detecting and localizing partial discharges (PD) in medium- and high-voltage electrical systems during routine inspections. The NL Camera utilizes 124 microphones to detect and locate sounds emitted by partial discharges – even when they are completely inaudible to the human ear. PDs begin emitting sound before components start to heat up, and the NL Camera enables problems to be detected at an early stage.

The NL Camera instantly shows the located partial discharges on the screen, allowing users to pinpoint and report possible problems effortlessly. The NL Camera quickly scans large areas from a distance, locating problems in power grids from more than 130 meters away. The NL Camera detects 50 and 60 Hz partial discharges automatically and displays the phase-resolved partial discharge (PRPD) pattern in real time.

Is it a bad connection? Perhaps a faulty insulator? The NL Cloud software included with the camera instantly determines the partial discharge's severity and gives you action recommendations. The NL Camera Viewer and NL Camera Viewer Pro offline software are available for users where Wi-Fi is unavailable.

## 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
Measurement distance	From 0.3 m (1.0 ft) up to and above 130 m (430 ft)
SF6 leak detection	Under optimal conditions, an SF6 leak of 0.8 kg (1.7 lb) per day can be detected from a distance of 10 m (32.8 ft)

### User Interface

Display	5 in, 800 × 480 resistive touchscreen
Brightness	1000 cd/m <sup>2</sup> (adjustable)
Snapshot resolution	800 × 480
Frame rate	25 fps (optical image) / 30 fps (acoustic image)
Field of view	62.2° × 48.8°
Zoom	2x digital zoom

### Communication and Data Storage

Wireless data transfer	IEEE 802.11.b/g/n/ac
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	273 × 170 × 125 mm (10.7 × 6.7 × 4.9 in) 980 g (2.2 lb)
Total weight with Tracer battery	1.9 kg (4.3 lb)
Total weight with RRC2040 battery	1.2 kg (2.7 lb)

### NL Analytics & Features

Discharge localisation & recognition	Automatic detection 50/60 Hz without direct line of sight
Discharge classification & analysis	PRPD pattern In the NL Cloud and NL Camera Viewer Pro: negative & positive corona, floating discharge, surface or internal discharge
Severity assessment	In the NL Cloud and NL Camera Viewer Pro software: Recommends actions to fix the issue
Video recording	Up to 5 minutes
Audio recording	Up to 5 minutes
Video resolution	1640 × 1232
Video frame rate	15 fps

### Power Specifications

Camera power input	Nominal input voltage: 12 V <sub>DC</sub> Max input: 15 V <sub>DC</sub> , 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 <sub>DC</sub> Use time over 2 h Max output: 12.6 V, 4.0 A
Battery charger	Input: 100–240 V <sub>AC</sub> ± 10% ~ 50/60 Hz 1.70 A @ 100 V <sub>AC</sub> Max output: 19 V <sub>DC</sub> ± 5%, 3.40 A
Battery size & weight	87 × 65 × 129 mm (3.42 × 2.55 × 5.07 in) 250 g (0.55 lb)

### Battery Option Tracer

External battery	LiFePO <sub>4</sub> 84 Wh, 12 V <sub>DC</sub> 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 <sub>AC</sub> ~ 50/60 Hz 1.3–1.5 A Max output: 13.8–14.6 V <sub>DC</sub> , 4 A (depends on the charger provided)
Battery size & 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, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Thai, Traditional Chinese, Turkish, Vietnamese