



DRONE VOLT®

LINEDRONE

A REVOLUTION IN POWER LINE INSPECTION
AND MAINTENANCE

www.dronevolt.com



LineOhm
Joint Integrity Assessment



LineCore
Corrosion Evaluation

The ultimate solution for **Power Line Inspection**

With the support of Hydro-Québec, Canada's largest producer of electricity and one of the world's largest producers of hydroelectricity, DRONE VOLT has developed an industrial drone, designed to land on and inspect energized transmission lines.

When used on high-voltage lines in operation, it enables highly **accurate measurements of electrical resistance** across splices and **corrosion of ACSR conductors**. Its simple deployment allows for inspections over hard-to-access sections whilst limiting human risks and without greenhouse gas emissions.

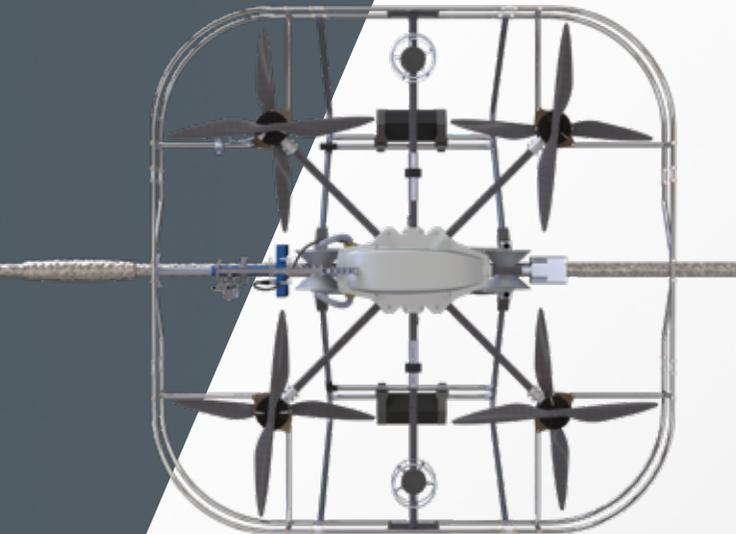
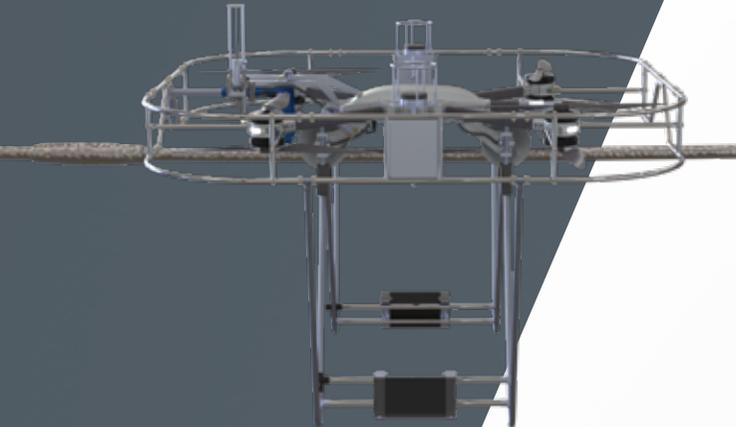
The LineDrone thus provides grid operators with **reliable data** for better analysis of technical risks, **optimisation of investments** and **prioritisation of work on lines** requiring intervention.

A line with deteriorated splices or corroded conductors will be more likely to eventually fail, a risk that large networks must manage in conjunction with the ageing of the installed assets, and their consideration for line uprating projects.

- **Hybrid - flying and rolling** : Lands on an active line and moves along thanks to a motorized rolling system.
- **Robust** : Resists electromagnetic fields induced by voltages up to 315kV.
- **Piloting assistance** : Its architecture allows an excellent flight stability and resistance, no matter the payload it carries.

BENEFITS

- AVOIDANCE OF POWER OUTAGES
- PRECISION DATA FOR LINE RISK MANAGEMENT & UPRATING PROJECTS
- LIMITATION OF HUMAN RISKS
- REDUCTION OF GREENHOUSE GASES



— LINEOHM

ELECTRICAL RESISTANCE MEASUREMENT

Electrical resistance calculation of splice, prevents yield losses and risks of breakage.



FEATURES

- Off and On power operations, with a **minimum current of 2.5 Amps** (transit and/or capacitive)
- Assured electrical contact with the conductor
- No need to clean or brush the line to get reliable results
- Uniformity and repeatability of results
- User interface integrated into the ground station
- Lightweight and accurate device

— LINECORE

CORROSION EVALUATION

Real time evaluation of zinc layer thickness.



FEATURES

- Quantification and qualification of residual zinc thickness
- Off and On power operations: **no interruption of service**
- Operation and data analysis software
- Consistency and repeatability of results independent of the carrier
- Ability to pass over splices

TECHNICAL SPECIFICATIONS



Drone weight (inc. battery)
20 kg (44 lbs)



Max operating time
Fly & Inspect : 3 hours



Max. payload weight
Up to 2 kg (4,4 lbs excluding sensors)



On-board camera
Sensor position validation camera (720 p)



Dimensions
135 cm x 135 cm x 110 cm
(53,1 inch x 53,1 inch x 43,3 inch)



Electromagnetic compatibility
No interference up to 315 Kv



Protection Index
IP43 index



Propulsion
8 motors T-Motors



Resistance
Voltage : up to 315 kV
Electrical : up to 2000 A



Wind resistance
20 km/h (12 mph) and up to
40 km/h (24 mph) wind gusts



Software
Mission planner or
QGround Control



LINEDRONE + LINEOHM SENSOR



LINEDRONE + LINECORE SENSOR

Conductor Specifications

Travel speed on conductor	1,6 m/s (5,2 ft/s)
Operating time on the line	Up to 3h
Voltage resistance	Up to 315 kV
Electrical resistance	Up to 2000 A
Positioning accuracy	+/- 1 cm (0,4 inch)
Diameter of the element on which the linedrone rolls	10 mm to 70 mm (0,4 inch to 2,7 inch)
Max crossable splice diameter	70 mm (2,7 inch)
Conductor tilt	15° max



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GICAT
MEMBER

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Our drones are based on more sustainable electrical technology. They generate 0% CO2, in use, and thus help reduce the environmental impact of our partners.