



## **Additional Information on Cable Line Diagnostic Services**

### **Why is Cable Line Diagnostics Important?**

Cable lines are critical components of power transmission systems, responsible for reliable electricity distribution. The reliability of their operation directly impacts the stability of energy supply to businesses and facilities.

Over time, cable insulation deteriorates, connections weaken, and other defects develop, which can lead to:

- Power outages and production downtime.
- Costly emergency repairs.
- Safety hazards.

Timely diagnostics helps prevent these problems and extend the service life of cable infrastructure.

### **Main Causes of Cable Line Defects**

Based on statistical data, 99% of all cable line failures are related to interference with the cable's structure. The primary areas of failure are cable joints (terminations, splices, etc.), meaning at points where the cable is stripped. Although modern cable stripping and joint installation technologies reduce human error, these areas remain the most vulnerable.



## Methods of Cable Line Diagnostics

We apply a comprehensive approach that provides a complete assessment of the condition:

- 1. Measurement of Electrical Discharge Activity (EDA)**
  - Detection of partial discharges
  - Identification of sparking in contact connections
- 2. Signal Source Location**
  - Determination of defect coordinates and precise localization of damaged areas. When the cable line is accessible, defects can be detected easily, while underground installation requires a special methodology. To check the line, a sensor is installed at the end of the cable or on the grounding. The type of problem is determined by the signal shape, and the distance to the defect is calculated based on the reflected signal and then refined from the other end of the line.
- 3. High-Frequency Reflectometry (for 110kV lines and above)**
  - Identification of irregularities
  - Localization of problematic sections
- 4. Thermal Imaging Control**
  - Detection of overheating points
  - Assessment of contact connection conditions

## Advantages of Our Diagnostics

- **Compliance with Standards**

Our EDA measurement and thermal imaging methods comply with international standards, including IEEE and IEC.

DIAKS cable line diagnostics technology has been tested in the U.S. and Canada on lines of 140 kV and above, including urban areas with high interference, as well as hydroelectric and thermal power plants and cable networks in Russia and Cuba.
- **Comprehensive Approach**

We consider operating conditions, load history, environmental factors, and maintenance records.
- **Advanced Equipment**

Utilization of state-of-the-art diagnostic tools for maximum accuracy.
- **Expert Analysis**

Extensive database and experience in cable diagnostics.



# ELECTRO GUARDIA

## What Benefits Do You Get?

- 1. Accident Prevention**  
Timely defect detection helps avoid serious breakdowns and downtime.
- 2. Resource Savings**  
Minimization of repair and maintenance costs through prevention.
- 3. Extended Service Life**  
Recommendations for operation and repair allow for maximum utilization of equipment resources.
- 4. Operational Stability**  
Guarantee of uninterrupted operation of cable lines and the entire system.

## Summary

Our company offers professional cable line diagnostics using advanced methods and technologies. We help our clients ensure the reliable, safe, and cost-effective operation of their cable infrastructure.

Contact us to order diagnostics and receive a detailed report on the condition of your equipment and recommendations on its efficient maintenance and repair.

## Contact Information

- ☎ Phone: +51 961 355 555
- ✉ Email: [info@electroguardia.com](mailto:info@electroguardia.com)
- 🌐 Website: <https://electroguardia.com>