

# Complete substation Thermal & Corona monitoring



integrated

The screenshot displays the PowerView software interface for substation monitoring. The main view shows an aerial 3D model of a substation with a semi-transparent blue wireframe overlay. On the left, a sidebar lists various monitoring parameters with status indicators (OK, WARN, FAIL). On the right, there are control panels for 'Electrical noise' and '10 DGA monitoring', including graphs and status indicators for different assets. A physical sensor device is shown in the foreground, pointing towards the substation model.

# Complete substation Thermal & Corona monitoring



Complete substation monitoring



Intelligent element recondition and reporting



Description

The Power View Substation Thermal and Corona monitor monitors real-time temperature and corona values on each substation elements (covering cca. 400 sqm). The system has advanced software which recognizes each element type, so results are presented per individual elements AC temperature and corona values. Limits and alarms can be individually set for each individual element or by element type.

Each element is presented with a dot which turns color to orange or red depending on the temperature and corona levels.



The system is interconnected to visual inspection and regular thermal and corona inspection. All substation elements can be monitored such cable joint, knife contact, high voltage switchgear contact or copper platoon connection point, cable connectors, copper connections, switch contacts, reactors, capacitors, arc-suppression coil etc. insulators, VT's, CT's , power transformers , circuit breakers bushings , insulators etc.

When faults in these components happen - the temperature or corona change is detected instantly. The faults caused by overheating of electrical equipment or materials are mostly related to large current due to insulation failure, bad contacts poor craftsmanship or material imperfection etc.

Our Complete process monitoring uses multiple thermal and corona UV cameras which are installed to cover a wider substation angle and distance up to 60 meters.

## BUILT-IN ANALYSIS & ALARM



This system is installed as turnkey solution for monitoring complete substation (all elements including power lines, insulators, circuit breakers, transformers, bushings etc.). The non-contact thermal and corona monitoring provides the most complete substation protection by early fault indication and outages prevention.

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Our Complete process monitoring uses multiple thermal and corona UV cameras which are installed to cover a wider substation angle and distance up to 30 meters.

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The Power View Substation Thermal and Corona monitor monitors real-time temperature and corona values on each substation elements (covering cca 250 sqm2). The system has advanced software which recognizes each element type, so results are presented per individual elements AC temperature and corona values . Limits and alarms can be individually set for each individual element or by element type.

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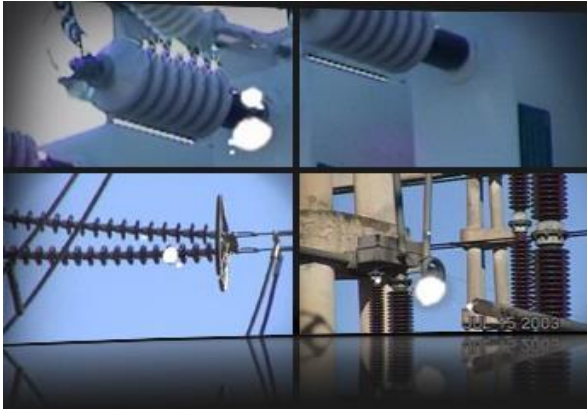
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## CORONA MONITORING

Corona is an electrical phenomenon that occurs the air around a conductor is ionized which causes an electric discharge. Corona is an important phenomenon to be monitored, because it can cause severe problems. Some of the problems that can be caused are:

- Power loss
- Noise
- Electromagnetic Interface
- Insulation and equipment damage

The corona discharge is manifested in ultrasound and UV Light. Our monitoring system uses UV light as least interference affected technology providing false alarm free full substation monitoring coverage. Modern software and acquisition system is used to process the measured data.



## TEMPERATURE MONITORING

High temperature is one of the most common problem in the electrical industry. Higher temperature generally leads to fast material degradation which often causes insulation breakdown and losses This is the first system that Modern software and acquisition system is used to process the measure data. The technical specifications of the sensors are:



### IR Temperature module

Measurement Range:	0-1000 deg c.
resolution	0.1 deg C
Distance to spot	50:1
Accuracy	0.1 deg C
Operating temp	-45 to +90 deg C

### UV Corona module

Operating Voltage	24V
UV range	180—250 nm
Sensitivity	10pC / 10 m
Operating temperature	-40 to +125 deg C



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