



INTERNATIONAL ORGANIZATION FOR SUBSTATIONS DIGITAL DEVELOPMENT



SUBSTATION DIGITAL

Complete substation maintenance application software with all electrical tests with diagnosis , all inspections and wireless monitoring cloud SCADA with diagnosis for complete reliable HV asset risk assessment





Smart Substation Maintenance

Open Source free software for HV substation maintenance and support.

[Read More](#)

100+
TRANSFORMER
INSTALLATIONS

250+
POWER PLANTS

1000+
SATISFIED CLIENTS

450+
AREA COVERED



**Free opensource
software and platforms**

About Us

PowerView is open Organization of Engineers and professionals. All platforms including Membership, software usage and professional network are all free of charge. The organization mission is to bring good practices, expertized knowledge , and professional support available to the industry on different platforms using the most advanced technology , software and know how.



Membership – Who can become part of this organization? Anyone who has over 18 years of age provided and is interested in electrical maintenance or is interested in supporting the organization. Professional Companies, Technical Universities, Science centers are also welcomed to join the organization.

[Read More](#)

— MANUFACTURERS WHO'S

Monitoring units integrated in the Software

— TEST REPORTS INTEGRATED

Test Instruments whose Test Reports can be imported on the platform



and many more....

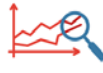
and many more....



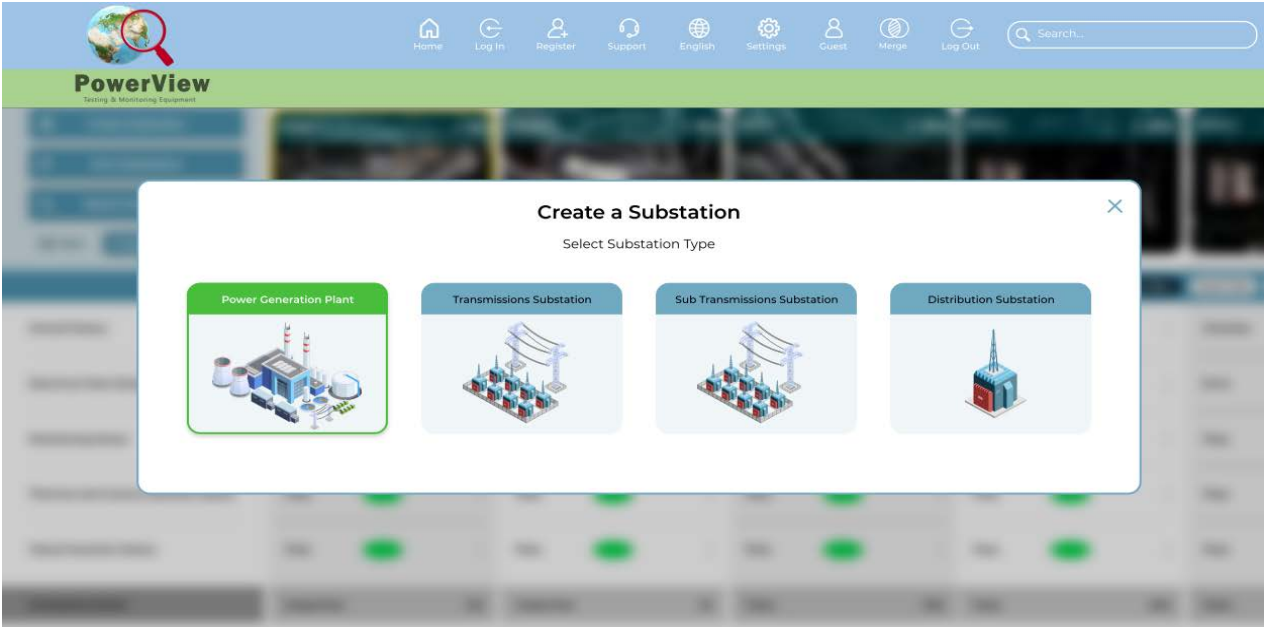
PowerView



Build your digital substation



True Digital Electrical Substation with all existing substation element real electrical test, visual inspection, thermal and corona inspection and monitoring.



Substation Digital is integrated smart substation maintenance web application for digital HV asset management , risk assessment, inspections management , electrical tests management, processing and automated analysis according international standards and records keeping. A wireless maintenance Scada is also integrated in the app capable of connecting more than 1000 existing monitoring devices with alarms distribution . The app also features notification and access management for all elements. Everything can be arranged digitally as existing originally in HV substations. The features are also available as IOS and Android mobile app . The application functionalities are being divided as electrical tests, monitoring , visual, thermal and corona inspection on a cloud platform or on premises installation . This application allows power and big industrial companies to set up a virtual substation, assign authorizations within the company (staff can have different authorizations similar to the ones they have in maintenance such as: upload electrical tests, analyze tests, change limits, connect monitoring devices, analyze monitoring data, upload visual , thermal or corona status, comments and pictures, arrange meetings, edit inspection lists,

SMART decision making

Access for all the relevant information to the relevant people anytime anywhere. This app makes all information related to substation maintenance, inspections and monitoring available on web and mobile app from server access. This helps decision making , records keeping , information availability and ease of access .

Costs reduction

Cost reduction in monitoring installations, and HV assets life extension.

Down time reduction

The system evaluates all the data in a matter of seconds and does the most advanced artificial intelligence analysis and limits comparison to international standards.

The Smart affordable wireless monitoring enables commercially viable monitoring on all relevant parameters on one platform irrelevant of the equipment manufacturer with integrated alarms and notifications with single click and virtual intelligence data evaluation



PowerView



Bay status (each element individual status) for all types of tests such as Electrical test, Visual inspection, Thermal and Corona and Monitoring)



Complete maintenance SCADA system with complete wireless communication



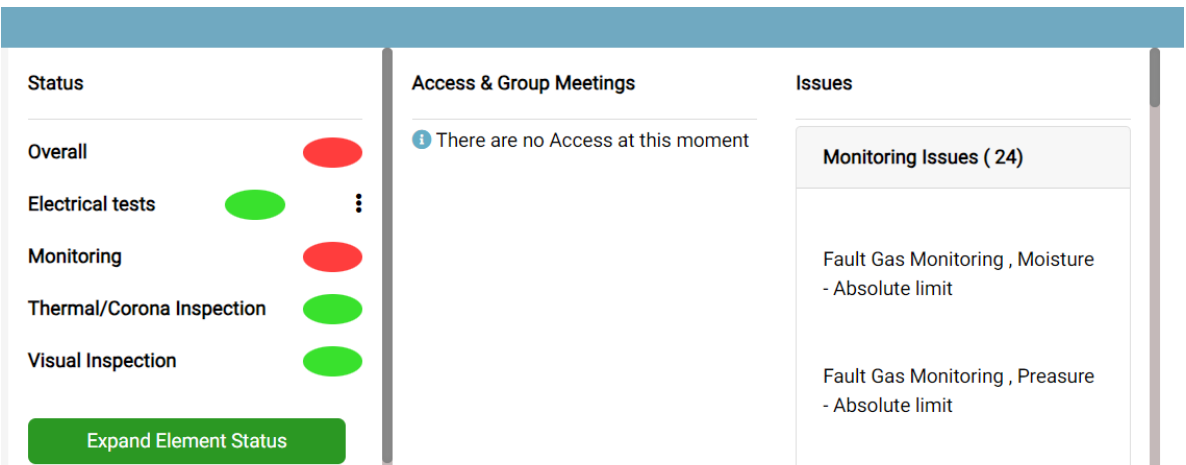
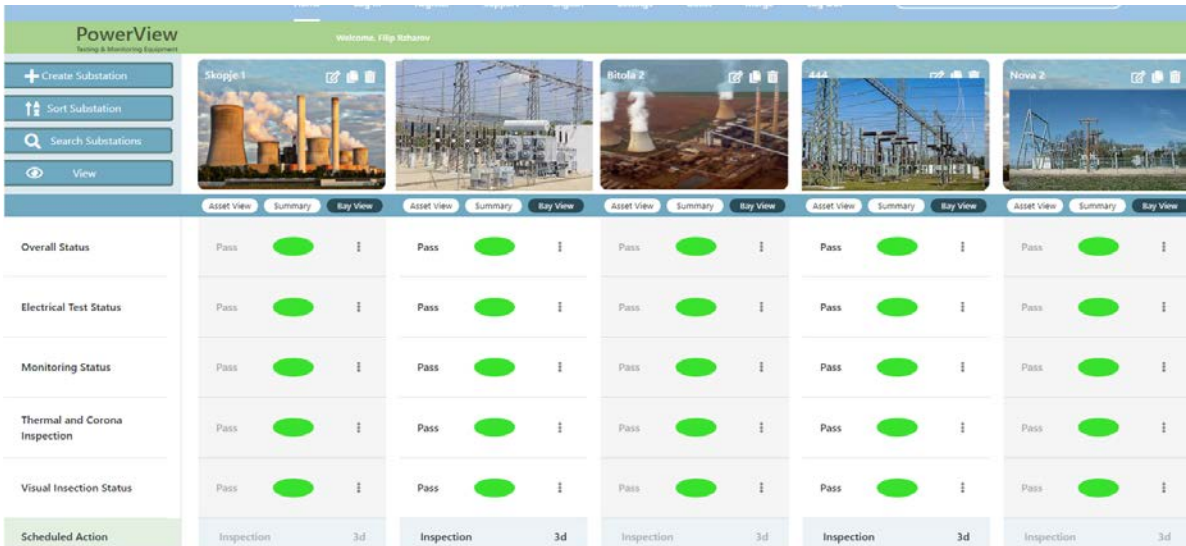
Cloud digital substation



Integrated diagnostic tools



Online meetings, email and SMS notification for each alarm and element issue





Developed by an International Organization of electrical engineers



More than 4.000.000 different power transformer models alone



Individual electrical test limits developed for each individual element



Preset editable lists for visual, thermal and corona and electrical tests



GPS and substation details , overhead lines and cables traces and real images and models



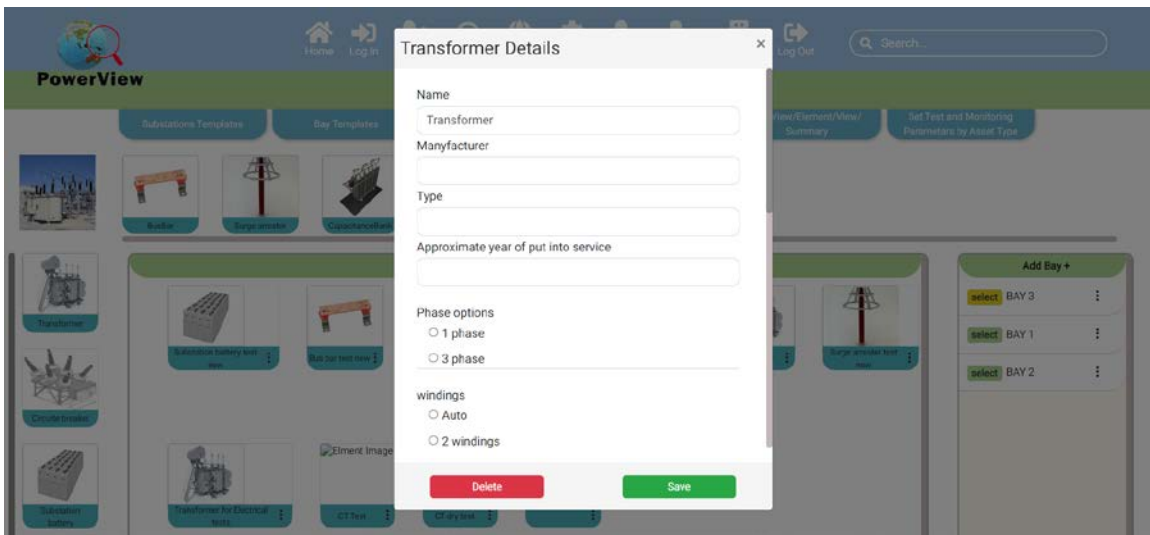
Simple digital elements build as Drag and Drop elements



QR codes containing all the relevant data for all electrical elements

Complete insight into the entire substation and each element (all the aspects of electrical tests, visual inspection, thermal and corona and monitoring) is crucial for proper decision making and that is what we offer. Everything is integrated with automated QR scan and 1 click).

The advantage of this solution is that it provides a complete solution with all parameters related to the substation equipment in a centralized system, with records keeping notifications and automatic analysis.



The application is a cloud service including a SCADA (Supervisory control and data acquisition) database of all the maintenance of Electrical substations.

The wireless communication which this system uses simplifies the monitoring installation.

This software offers the users the possibility to digitalize the high voltage assets maintenance data. The system offers multiple user access to the cloud with different levels of access permits and offers single click specific asset inspection results upload.



Cloud digital substation



True Digital Electrical Substation with all existing substation element real electrical test, visual inspection, thermal and corona inspection and monitoring and asset monitoring



Issues history



Integrated diagnostic tools



Integrated automatic element analysis
And data evaluation



Integrated 3rd party limited or unlimited substation data analysis

The first system offering one click specific element data upload, the first system which integrates different parameters (electrical, monitoring, visual ,thermal and corona inspections).

Results upload permissions are arranged in the most natural way and are editable by account administrator.

Electrical tests

This software can directly import test reports from existing manufacturers, process the test reports and analyze test results and compare to preset limits against international standards. For each element there is a complete list for all possible electrical tests created according nameplate information (example voltage category , vector group and connections type etc) . All tests are divided depending on importance and the system only trends ones that user actually tests.

Special algorithms do most accurate temperature correction of the results and on import results from test reports. The software automatically compares all test results against international standards recommendations , rate of change limits , testing intervals performs risk assessment and automatically suggests further tests (if necessary)

The screenshot displays the PowerView software interface. At the top, there is a navigation bar with icons for Home, Log In, Register, Support, English, Settings, Guest, Invite User, Change Company, and Log Out. A search bar is also present. Below the navigation bar, the main content area is divided into several sections:

- Issues:** A sidebar menu with options like "List of Past Alarm Trigger Issues", "Each Status Change Activates", "Event and Gets", and "Stored as Issue".
- Street View:** A 3D rendering of a substation.
- Bay View:** A table-like view showing test results for different bays.
- Summary View:** An aerial view of the substation.
- QR code:** A QR code with the text "BT - 9000 - 36.75 - Blok 1" below it.
- Current Position:** A 3D thermal or vibration map of the substation.

Below these views, there is a table of test parameters:

PowerPlan electric tests	Temp	Test Results	Test Field 2	Test Conditions	Value with Temp correction	Trend	Test Files	Alarm Status	Percent in Relation to ROC Alarm	Percent in Relation to Limit Alarm	Test Field 2 Alarm Status	Percent in Relation to ROC Alarm Test Field 2	Percent in Relation to Limit Alarm Test Field 2
Insulation resistance test	Temp correction												
Polarization index test PI	Temp Value												
			5000	MO		5000V							

At the bottom, there are buttons for "Edit Limits", "Apply Test", and "Save Test".



PowerView



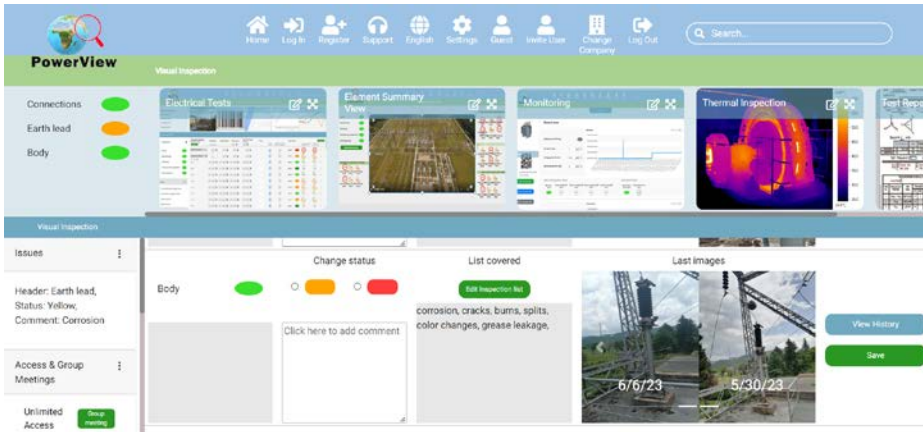
Thermal and corona inspection
 With history, comparison, meeting options, comments, predefined inspection lists and recommendations due, alarming and meeting options .



Mobile application for IOS and Android



Direct thermal pictures upload from existing thermal and corona cameras .



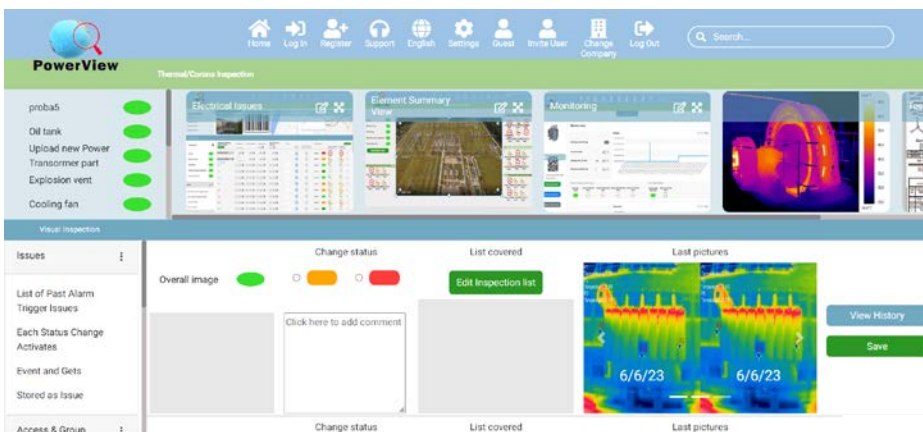
Visual inspection

A smart visual inspection app (integrated into the web app and mobile app) offers users the ability to keep track of visual inspection , and integrate the data into the asset records. With simple QR code scan user can directly upload a picture , change status and report an issue for visual inspection directly from the field . This application has dynamic preset editable list of visual inspections for each particular HV element in relation to it's nameplate (such as voltage level insulation type etc) . There is also help for each inspection which guides operators with suggestions and recommendations.


Thermal and corona inspection


A smart thermal and corona inspection app (integrated into the web and mobile app) offers users the ability to keep track of thermal and corona inspection and integrate the data into the asset records. With simple QR code scan user can directly upload a picture, change status and report an issue for thermal and corona inspection directly from the field.


This application has dynamic preset editable list of visual inspections with help for each particular HV element in relation to it's nameplate (such as voltage level insulation type etc) . There is also help for each inspection which guides operators with suggestions and recommendations.




 Combined monitoring view on all existing elements

 Simple 3 step monitoring connection in less than 10 minutes

 Monitoring integration of more than 1000 existing monitoring devices from various manufacturers such as ABB, Siemens, Iris POWER, Doble, POWER VIEW with alarms integrated

 Simple notification divided by elements Types , type of inspection , monitoring

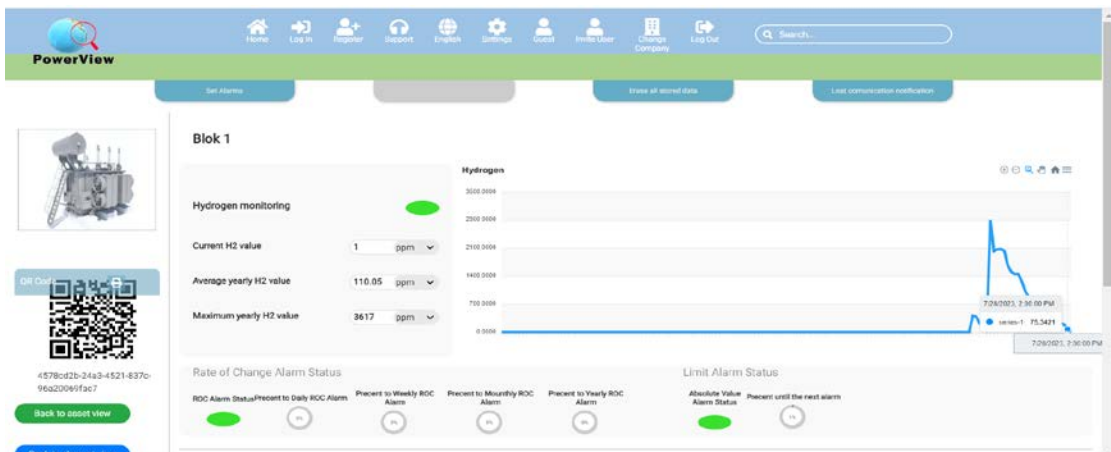
 Editable access list and online meeting platform

 Most advanced integrated power grids evaluation monitoring reporting, management and remote support solution

Monitoring

Centralized wireless monitoring, data management alarms and notifications. This feature currently integrates over 1000 different commercially available monitoring units from different manufacturers into the software. The wireless electronic devices communication includes one router which covers the entire substation and reads data from up to 1000 devices installed in the substation (area of several square kilometers).


This dramatically reduces expensive installations from several thousand EUR per unit to several hundred of thousand EUR per unit in terms of shielded cabling, expensive SCADA RTU's, and installation costs and reduces waist.



This software can also integrate and communicate with big number of existing monitoring devices. This was particularly important for users that already have monitoring equipment from different manufacturers. The software was developed in a way which made it possible for them to continue using the equipment that they already use .


 User editable alarms with log history

 6 individual preset monitoring alarms according international standards

 Automatic diagnostics and test reports

Limits

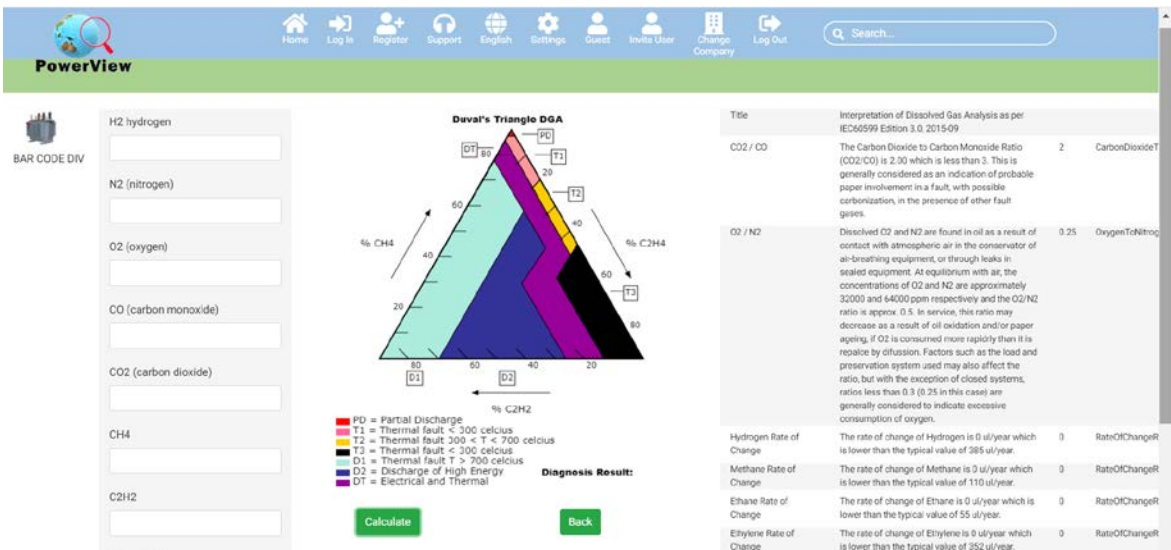
Preset limits are assigned in the software for each element type according International standards (having in mind elements nominal characteristics such as operating voltage, type of insulation, connection type etc.) These limits are automatically assigned to each new element. Users with adequate permissions can edit these limits. There are several million different models (with different limits which can be assigned to an element).



The screenshot shows the 'Alarm Limits' configuration screen in PowerView. It features a table for 'Insulation resistance test' with columns for 'Rate of Change Alarms', 'Alarm Limits', and 'Test Due Alarm (Months)'. The 'Rate of Change Alarms' section includes 'RDC Orange Alarm' and 'RDC Red Alarm' with input fields for values like -30 and -50. The 'Alarm Limits' section includes 'Orange Limit Alarm' and 'Red Limit Alarm' with input fields for values like 975 and 650. The 'Test Due Alarm (Months)' column has a dropdown menu set to '12 months'. The 'Limit Set By' column lists 'Bob Bobsky'.

Diagnostics

The software includes automated diagnostic tools such as Duval triangle .



The screenshot shows the 'Duval's Triangle DGA' diagnostic tool in PowerView. On the left, there are input fields for gas concentrations: H2 hydrogen, N2 (nitrogen), O2 (oxygen), CO (carbon monoxide), CO2 (carbon dioxide), CH4, and C2H2. In the center is a Duval's Triangle DGA diagram with a legend for fault types: PD (Partial Discharge), T1 (Thermal fault <math>T < 300\text{ }^\circ\text{C}</math>), T2 (Thermal fault <math>300 < T < 700\text{ }^\circ\text{C}</math>), T3 (Thermal fault $T > 700\text{ }^\circ\text{C}$), D1 (Discharge of High Energy), D2 (Discharge of High Energy), and DT (Electrical and Thermal). Below the diagram are 'Calculate' and 'Back' buttons. On the right, there is a table titled 'Interpretation of Dissolved Gas Analysis as per IEC60599 Edition 3.0. 2015-09' with columns for 'Title', 'CO2 / CO', 'CO2 / N2', 'Hydrogen Rate of Change', 'Methane Rate of Change', 'Ethane Rate of Change', and 'Ethylene Rate of Change'. The table provides detailed interpretations for each gas ratio and rate of change.

The test reports and inspections data are processing and automatic results analysis is performed with recommendations using artificial intelligence for further tests (if needed) or course actions



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