



New Features

MiAFAS™ LiveView

MiAFAS™ LiveView is a new add on product of MiAFAS™. It integrates the substation, tower and fault details above Google Map to give better visualization. Since the fault details are shown on the map, the crew members can easily navigate to the fault location using their mobile devices.

Following are the key features of LiveView:

1. View live faults on a Google Map
2. Provide feedback for the fault along with the option to upload feedback files
3. View fault statistics of a substation and element
4. Search faults using various criteria in the Fault History page
5. View heatmap based on fault count and other search criteria

Below are a few screenshots of MiAFAS™ LiveView...

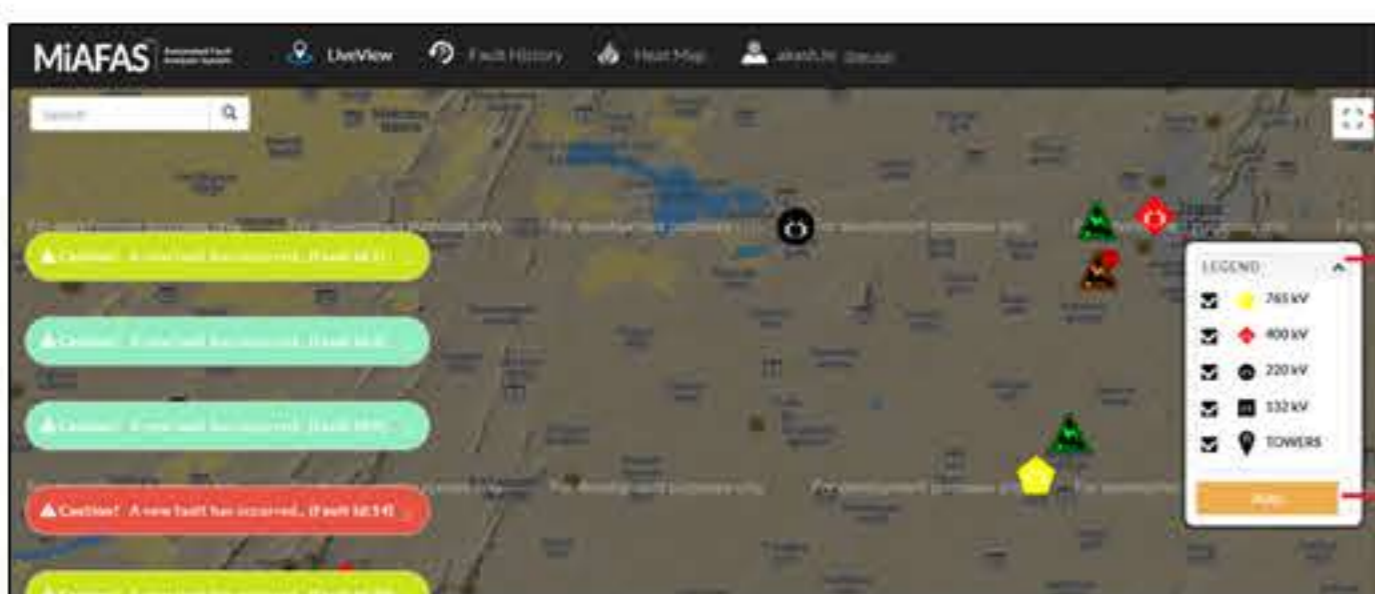


Fig-1 LiveView Page

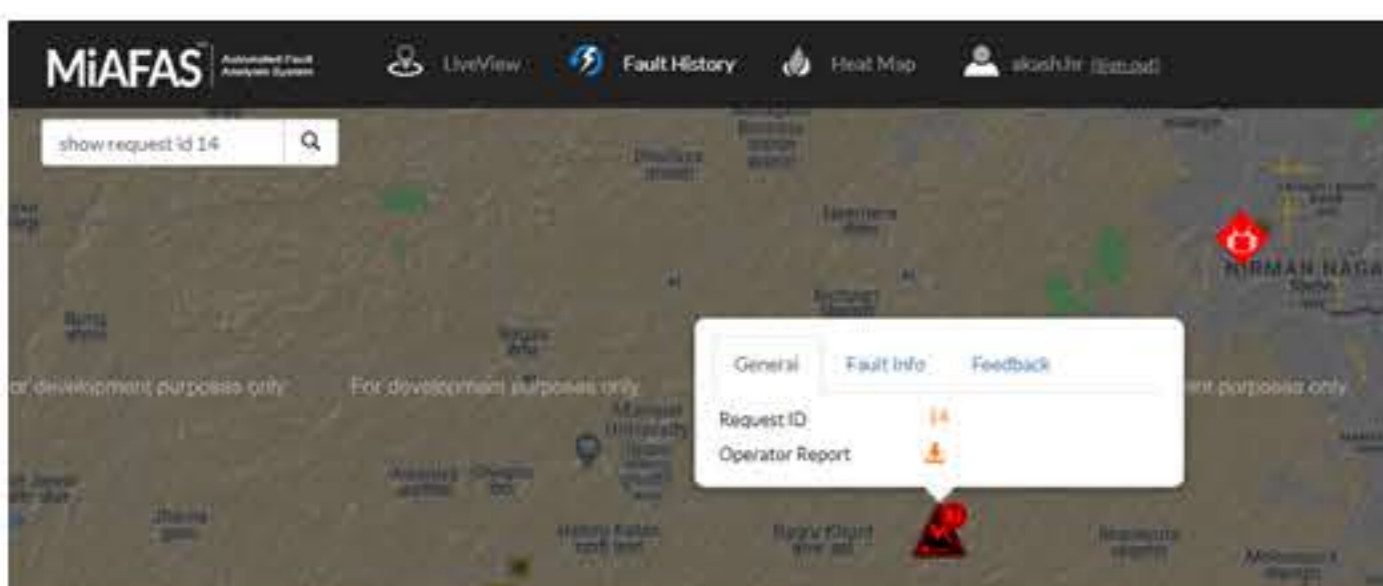


Fig-2 Fault History Page

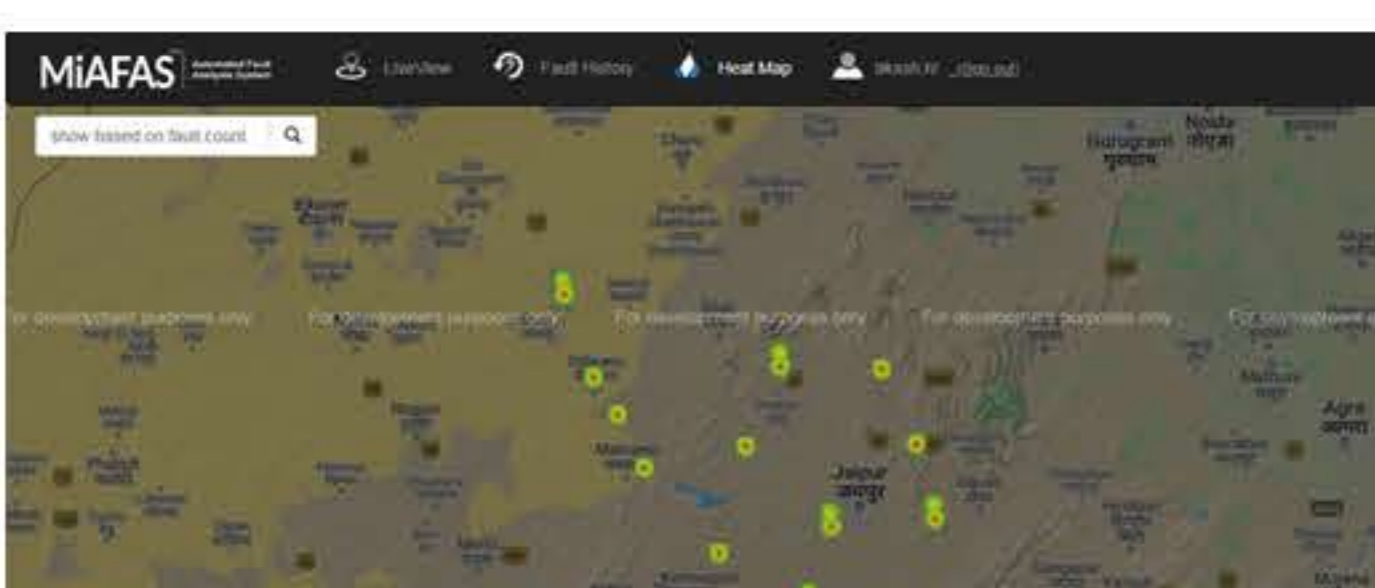


Fig-3 Heat Map Page

CVT Analysis Report

Sudden failure of a CVT could result in mal-operation of protective relays, leading to unwanted power system outages.

MiAFAS™ monitors the healthiness of CVT by performing voltage unbalance analysis, based on present and

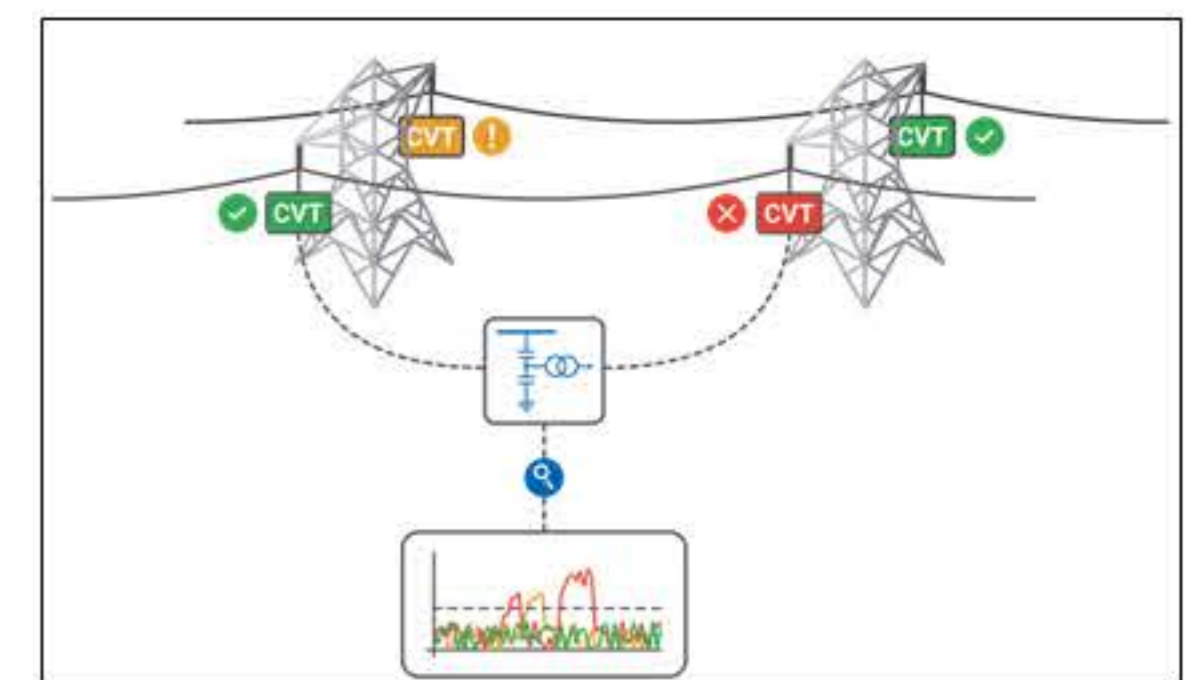


Fig-4 Analysis of Multiple CVTs

historical data of a particular relay. Fig-4 shows how the analysis of multiple CVTs in a transmission network can be done for determining their operational state (healthy/alarming/failure).

User can choose one or more DR files of the same bay of a substation and get the CVT analysis report, which provides useful information such as maximum, minimum and average voltage unbalance between phases. Fig-5 and 6 are the report content and graph.

MiAFAS Analysis Summary

1. MiAFAS CVT Analysis Summary

a. Voltage unbalance of **0.78%** is detected. It is less than alarm and failure threshold and hence CVT can be considered as healthy.

Instrument Transformer Ratios	
Description	Value
VT Ratio	400 kV/110 V (3636.36 V)

CVT Analysis

Summary of Maximum, Minimum and Average Unbalance

Factor	Maximum Value (%)	Minimum Value (%)	Average Value (%)
Unbalance [VR-VY]/V1	0.28%	0.22%	0.85%
Unbalance [VY-VB]/V1	42.60%	0.02%	42.61%

Fig-5 Sample Report of CVT Analysis

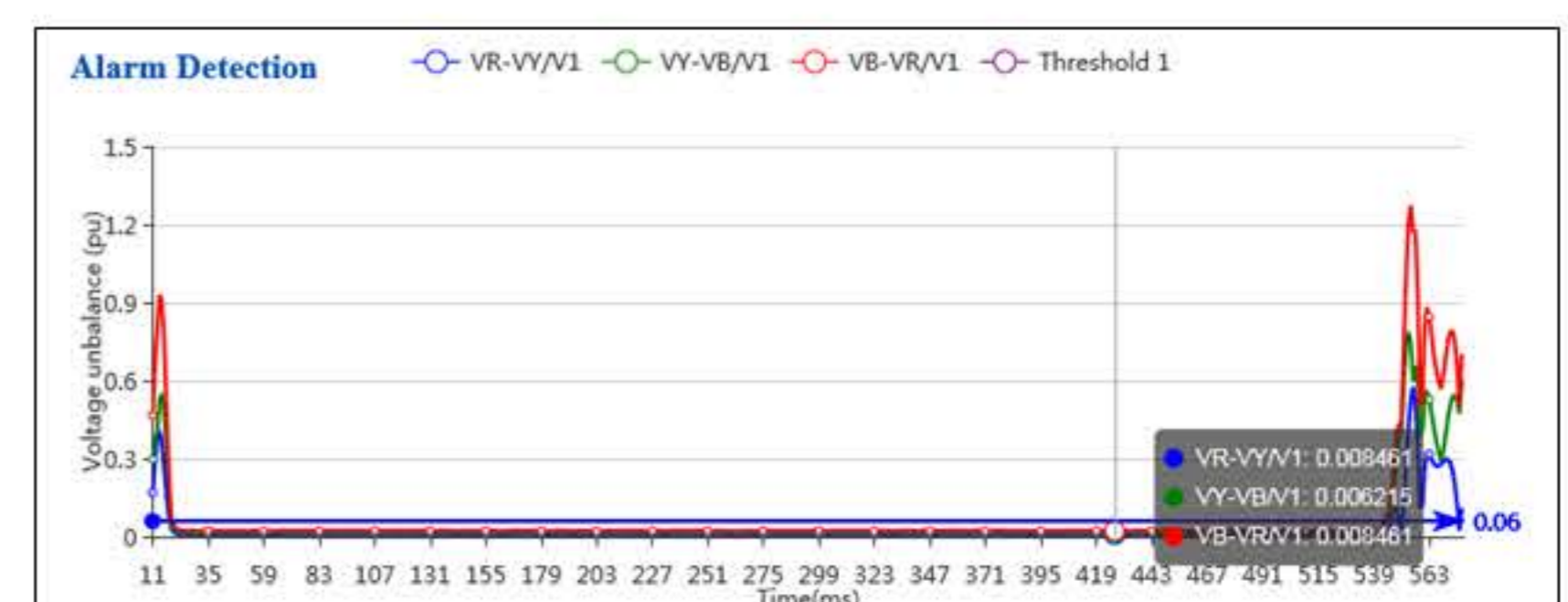


Fig-6 Sample Graph of CVT Analysis



Discrepancy Rules

Discrepancy configuration settings allow you to set values for predefined discrepancy rules. Whenever the analysis value violates a rule, the corresponding violation information is displayed in the operator and numerical relay reports. Fig-7 shows the supported rules.

Criteria	Condition	Value
Breaker Operating Time(ms)	>	80
Breaker Pole Discrepancy Time(ms)	>	100
Carrier Receive - Fault Detection Time(ms)	>	30
Abn(M1) Carrier Receive - M2 Carrier Receive(ms)	>	10
Auto Reclose Dead Time(ms)	<	700
Auto Reclose Dead Time(ms)	>	1200
DT Sent from other end- DT receive(ms)	<	10
Group A/B Operated > CB Operating Time	=	True

Fig-7 Analysis Discrepancy Configuration

When there is a violation, the discrepancies section appears to notify differences in values to the operator.

Discrepancy Criteria	Actual Value
Breaker Operating Time(ms) > 60	80

Fig-8 Sample Discrepancy Section in Report

Enhancements

1 PostgreSQL Compatibility – Now MiAFAS™ is compatible with PostgreSQL 10 database. Clients have a choice to choose between MS SQL Server or PostgreSQL. As PostgreSQL is an open source database, it reduces the cost of the overall solution.

2 Tower details can be provided for a transmission line, including support for CSV import.

Tower ID	Tower Name	Latitude	Longitude	Sequence	Description	Select
1	SHRIPY	26.106472	87.865861	1		
2	1	26.106472	87.865861	2		
3	2	26.104722	87.864333	3		
4	3	26.103917	87.861000	4		
5	4	26.105694	87.858722	5		
6	5	26.107323	87.855361	6		
7	6	26.109167	87.851417	7		
8	7	26.109528	87.848778	8		
9	8	26.101917	87.846250	9		
10	9	26.098972	87.845167	10		
11	10	26.095500	87.843889	11		
12	11	26.092111	87.842500	12		
13	12	26.088694	87.841133	13		
14	13	26.085278	87.839556	14		
15	14	26.081861	87.837978	15		
16	15	26.078450	87.836400	16		
17	16	26.075033	87.834822	17		
18	17	26.071617	87.833244	18		

Fig-9 Tower Details Dialog

3 To get LiveView over E-mail/SMS use keywords <LIVEVIEWLINK>, <GOOGLEMAPLINK> and <GPSLOCATION> in E-mail/SMS template as shown in the Fig-10.

LIVE VIEW: [LiveView Link](#)
 GOOGLE MAP LINK : [GoogleMap Link](#)
 GPS LOCATION : 25.657518,86.871000

Fig-10 E-mail/SMS Template

On clicking LiveView link, the MiAFAS™ LiveView page is displayed and the corresponding fault is displayed in Fault History page of LiveView.

On clicking GoogleMap link, Google Map is displayed with the marker pinned on the fault location. Crew members can find the directions to the fault location easily.

Configuring E-mail and SMS Templates

Did You Know?

1. E-mail and SMS templates are used to configure the content of notifications
2. Separate templates can be configured for E-mail and SMS
3. Any number of templates can be configured
4. Predefined keywords are provided for each parameter
5. Only one template can be assigned for a substation

Fig-11 shows E-mail and SMS Templates settings configuration.

Template ID	Fetch Templates >>
2	
Template Name	AFAS NOTIFY
Template Type	<input checked="" type="radio"/> Email <input type="radio"/> SMS <STATIONNAME>
Format	REGION: <REGION> SUBSTATION: <STATIONNAME> EQUIPMENT: <EQUIPMENT> TRIGGER DATE & TIME: <TRIGGERDATE> <TRIGGERTIME> FAULT TYPE: <FAULTTYPE> FAULT CURRENT: <FAULTCURRENT> LOCATION: <LOCATION> LIVEVIEW: <LIVEVIEWLINK> GOOGLE MAP LINK: <GOOGLEMAPLINK> GPS LOCATION: <GPSLOCATION>

Fig-11 E-MAIL/SMS Template Dialog