

OMNI TRAFO

Transformer Monitoring System



OMNI TRAF0

Description

The Omni Trafo HVEX Transformer Monitoring System was developed to integrate electrical power transformers in distribution networks with smart grids.

This equipment sends information in real time, allowing remote monitoring of important network data such as voltage, current, power flow, energy, overload, temperature, and others. This makes it possible to map the transformer's operation, evaluate its lifespan, and identify technical and non-technical losses.

As a semi-distributed meter, the equipment allows for energy balancing between the feeder and consumption centers. It transmits data remotely, contributing to more efficient management, with predictive analyses and support for time-of-use billing.

Characteristics

- Consumption and spending history;
- Transformer self-diagnosis;
- It proposes a new meter standard ideal for commercial and industrial consumers, and networks with non-technical losses.



Features

- Power outage detection: immediate identification of power supply interruptions, ensuring a rapid response to system failures.
- Low voltage supervision and measurement: continuous monitoring of transformer voltage and current, with accurate readings for real-time analysis.
- Power factor: measurement and analysis of the power factor, allowing for optimization of consumption and reduction of penalties.
- Harmonic analysis: detailed evaluation of current and voltage harmonics.
- Imbalance verification: monitoring of voltage, current, and load imbalances, with identification of anomalies for preventive maintenance.
- Energy balance: Precise measurement of the energy balance, enabling comparison between the feeder and consumption centers, as well as the detection of technical and non-technical losses.
- Communication: 4G connection with a modem compatible with Brazilian mobile carriers, using the MQTT protocol for secure and efficient data transmission. Flexible integration with client platforms or with the proprietary platform - ShieldX.

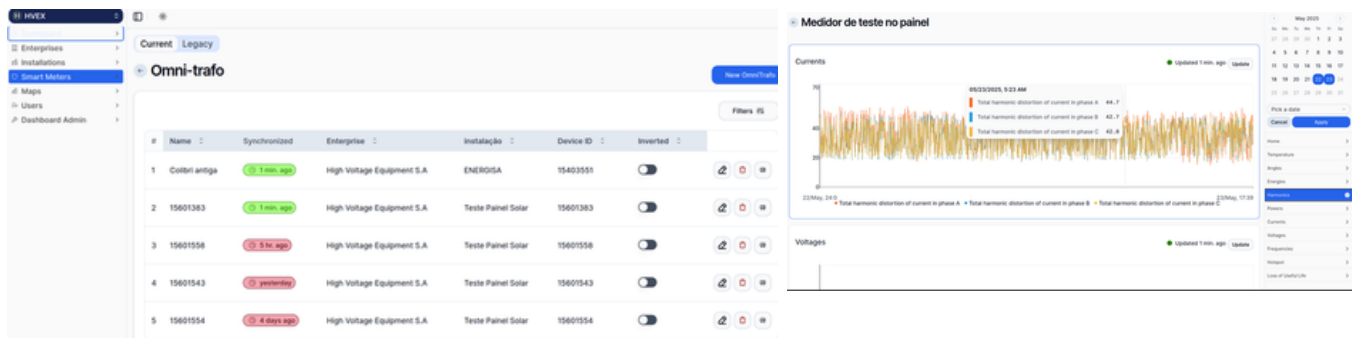
Advantages

- Low-cost measurement.
 - Improved analysis quality by reducing the sample space, enabling:
 - Clear identification of transformer capacity limits.
 - Evaluation of expected performance.
 - Possible reallocation of productive resources.
 - Measurement parameters integrated into a single platform and presented graphically in an easy-to-view format.
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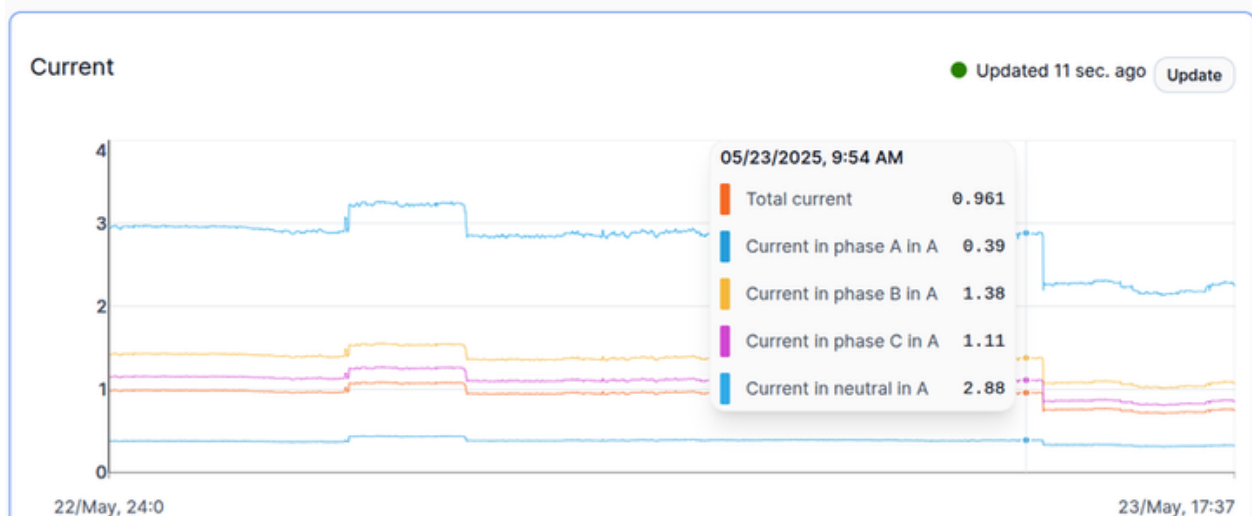
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Web Platform

- Customer, user, and installation management;
- Intuitive: It brings together information for the administrator;
- Business Intelligence (BI) tools;
 - Online platform for visualizing the data.
 - Consolidated data presented graphically.
 - It facilitates user analysis.
- Transformer Registration and Parameterization;
 - Configuration of the transformer's electrical and thermal data.
 - Allows adjustments such as nominal current, voltage, power, cooling type, and thermal parameters.
 - Ensures that monitoring and calculations are performed according to the actual characteristics of the equipment.
- Mapping of assets;
 - Through communication, it is possible to obtain technical data via a web interface.
- Energy management for consumers with mini or micro photovoltaic generation;
 - The meter is installed at the connection point with the utility company.



Medidor de teste no painel



OMNI TRAFO

Rubberized coupling magnets



Complete Set



Technical Specifications

Power supply	100–240 VAC
Connections	1P3W, 1P2W, 3P3W, 3P4W
Voltage	
Channels	4
Accuracy	0.2% (0–600 VAC)
Current	
Channels	3
Type	Rogowski (indirect), sensors included
Ratio	333 mV / kA (50/60Hz)
Accuracy	0.5%
Temperature	
Channels	2
Type	PT100, sensors included
Range	-50 ~ 450 °C
Withstand temperature	< 500 °C
Accuracy	1%
Insulation	
Surge capacity	CATIII 1000V
Insulation	IEC61010-1
Electromagnetic compatibility	
Electrostatic discharge	CATIV 600V IEC61000-4-2
Radiated immunity	CATIII 1000V IEC61000-4-3

Technical Specifications

EFT	CATIV 600V IEC61000-4-4
Surge immunity	CATIV 600V IEC61000-4-5
Conducted immunity	CATIII 600V IEC61000-4-6
Internal battery	
Voltage	7.4V
Capacity	5100 mAh
Communication	
Connection	4G
Communication protocols	MQTTs; DNP3.0 included, selectable via software.

We provide solutions for improving the efficiency and quality of the power generation, transmission, and distribution sectors. With a highly specialized team experienced in research, development, and innovation, HVEX has developed tailor-made solutions for the Brazilian market. A wide range of products with solutions focused on signal transduction for measurement and protection.



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