

FALCON MK II

TECHMP
ALTANOVA GROUP

Designed for large-scale monitoring switchgears

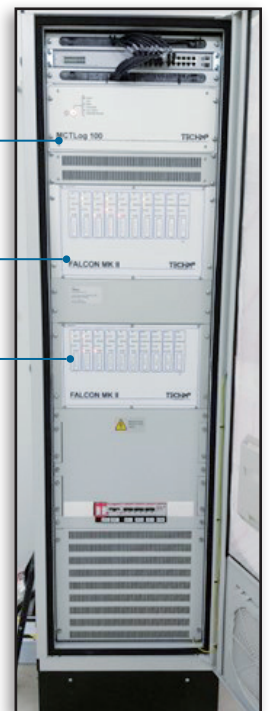


- ✓ Comprehensive solution to monitor Partial Discharge, enclosure contact temperature, and humidity
- ✓ Designed to monitor large clusters of switchgear
- ✓ Non-intrusive
- ✓ Centralized installation
- ✓ Ultra-Wide Band, fast integrated processing capability
- ✓ Automatic partial discharge data acquisition and analysis
- ✓ Reliable alarms based on the trending of every phenomenon acquired

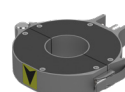
MTCLog 100



FALCON MKII UNIT



SENSORS



HFCT



TEV Antenna

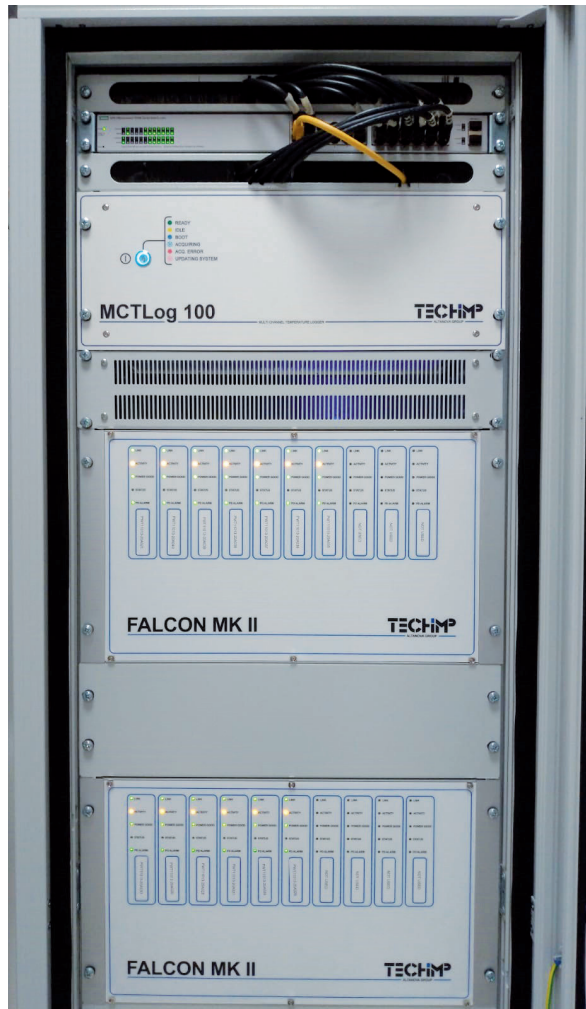


Ultrasonic Airborne



Ultrasonic Contact

FALCON MK II



FALCON MKII System is an ultimate solution for global monitoring of medium voltage assets. This system is dedicated to monitor a large-scale cluster of assets.

Condition monitoring and diagnostic system provided with FALCON MKII combines measurement done with different technologies and types. The monitoring system is able to receive the following information:

- UHF sensors
- Electromagnetic field wave
- Acoustic wave
- Enclosure contact temperature
- Humidity

FALCON MKII UNIT

Falcon MKII is a Partial Discharge acquisition instrument for Medium Voltage electrical assets. The device can acquire, elaborate and store partial discharge signals coming from the field.

The instrument is modular and up to 40 channels can be hosted in a standard 19" rack mount 6U module, to monitor up to 20 switchgears in a MV substation. Falcon MKII acquires full signal waveforms and it process them exploiting the patented T/F-Map technology, able to increase the signal to noise ratio and to separate different signal sources.

MCTLog 100 UNIT

FALCON Monitoring system comes with MCTLog 100, a unit able to monitor the temperature of the switchgear. The aim is to cover any potential overheating. When monitoring multiple electrical assets, the panel temperature measurement is useful to correlate possible defects or faults with the heat that they produce.

In particular, the monitoring of the cabinet temperature is important within the MV Switchgears where the overheating of their components could result in faults and even fire hazard.

Techimp MCTLog 100 is designed to monitor up to 40 temperature channels. The system can support PT100 Type A and Type B according to IEC 60751. Techimp MCTLog 100 is an OPC-UA server and it can be directly integrated into the Techimp TiSCADA platform.

SENSORS

FALCON MKII Monitoring System comes with a variety of sensors for the Partial Discharge detection:

- **HFTC Sensor:** high frequency current transformer to be installed on the MT cable terminals, the clamp version allows installation without out of service
- **TEV Antenna:** sensor with a special design that maximizes the sensitivity and ease of installation directly on the panels of the MT compartment
- **Ultrasonic Sensors (Airborne and Contact):** aimed at the detection of partial discharges and arcing at low frequency, for those signals having some kHz content. Ultrasonic sensors are designed to increase the signal to noise ratio, allowing also an easier installation some meters far from the detector.

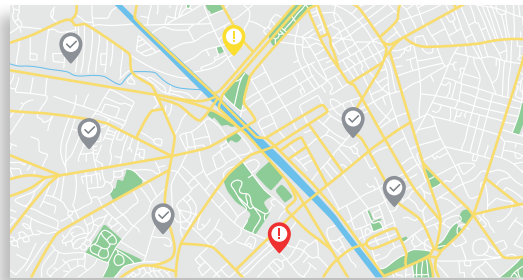
TISCADA SOFTWARE

- Centralized event summary list
- Ability to set two levels of alarms triggered by magnitude threshold settings, for all sensor signal alarms
- Ability to send out alarms email
- Ability to set the acquisition interval of each measurement to 30 minutes and 2 minutes
- Show the magnitude and trending of the signals recorded through TEV, HFCT and Ultrasonic sensors
- Ability to show the PRPD pattern for each recorded measurement for TEV and HFCT
- HFCT measurement remote capture of at least 4 pulse waveforms

The HMI reports partial discharge and temperature information. For each phenomenon, it is possible to display the relevant trending. The main page of the proposed web-based HMI is a geo-referencing of the area/city concerned. From the regional details, it is possible to access to the substation details, as a single switchgear.



- ✓ Grey tick: no PD activity detected.
- ! Yellow exclamation point: first alarm. The system detected a PD activity, but the value has not reach an alarm threshold yet.
- ! Red exclamation point: the most severe alarm. It means that the system detected PD activity and it requires a fast intervention.

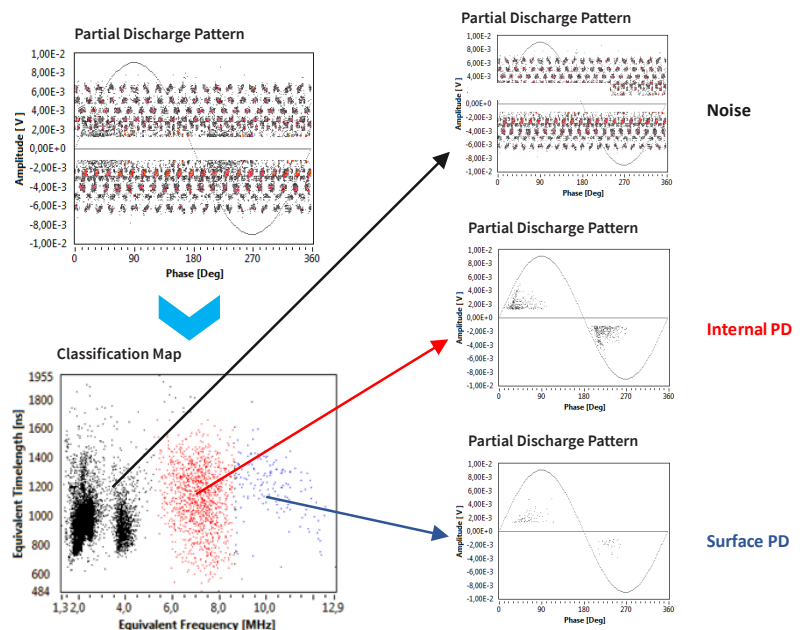


AUTOMATIC IDENTIFICATION

FALCON and FALCON MKII exploit the patented TECHIMP T/F - Map filter technology.

The fundamental innovation of TECHIMP PD diagnostic systems consists of the acquisition and processing philosophy. TECHIMP's acquisition units are provided with ultra-wide bandwidth acquisition system, which collects PD pulse peak, PD phase and PD pulse waveforms. Per each acquired pulse the acquisition unit automatically calculates its equivalent time and equivalent frequency content, building the patented "T-F map".

The map shows groups of pulses "clusters" characterized by same time and frequency content, i.e. homogenous pulses. An efficient separation of different discharge activities, including noise rejection, can be achieved through pulse shape analysis. It avoids identification to be affected by different phenomena overlapping, as well as noise superposition to real PD phenomena.



ALTANOVA

GROUP

www.altanova-group.com



TECHIMP

TECHIMP - ALTANOVA GROUP

Via Toscana 11,
40069 Zola Predosa (Bo) - ITALY
Phone +39 051 199 86 050
Email sales@altanova-group.com

isa

ISA - ALTANOVA GROUP

Via Prati Bassi 22,
21020 Taino (Va) - ITALY
Phone +39 0331 95 60 81
Email isa@altanova-group.com

IntelliSAW

IntelliSAW - ALTANOVA GROUP

100 Burt Rd
Andover, MA 01810 (USA)
Phone +1 978-409-1534
Email contact@intellisaw.com