FALCON 4

TECHIMP

The online Partial Discharge monitoring solution
for medium voltage distribution network

SCAN ME

- Partial discharge monitoring
- Fast, reliable, and cost-effective
- Non-intrusive installation
- No need of expert skills
- Automatic configuration
- Automatic separation
- Automatic Alarms

FALCON 4

An accurate knowledge of the condition of electrical assets is essential for the Condition Based Maintenance (CBM) strategies. Online monitoring is vital since this practice can provide timely information about asset conditions.

Partial Discharge (PD) analysis is an established instrument for the assessment of the condition of electrical systems. A reliable online PD monitoring device gives a powerful insight into the condition of the insulation system and it provides real benefits, allowing early fault detection and thus minimizing costly unplanned outages and equipment failures.

Techimp Falcon 4 is the ultimate solution for MV distribution electrical asset online PD monitoring: a compact and powerful state-of-art device, with onboard diagnostics.

FALCON 4 UNIT

Falcon 4 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.

SENSORS

A complete set of sensors covering all range of detection points on target electrical assets is available to grant diagnostic coverage and optimal sensitivity:

- HFTC Sensor: high frequency current transformer clamp allows installation without out of service
- TEV Antenna: sensor with a special design that maximizes the sensitivity and ease of installation.

TWO EXAMPLES OF SENSOR INSTALLATION ON MEDIUM VOLTAGE SWITCHGEAR

HFCT Sensor

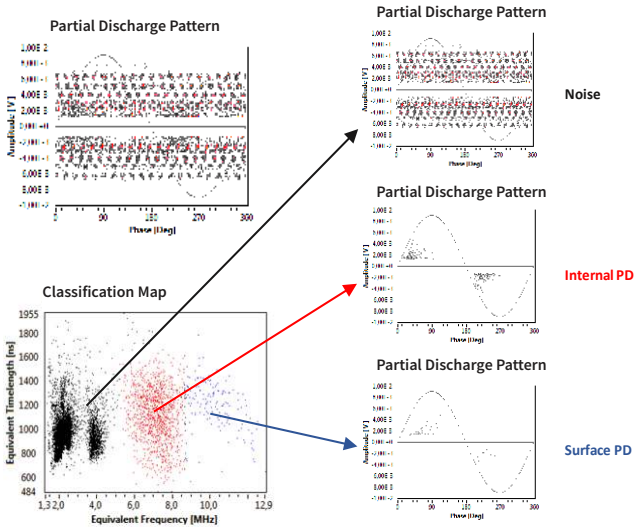
MV cable incoming into the switchgear (3-conductor cable)

MV cable terminations inside Switchgear connection compartment

TEV Antenna
placed on the metallic enclosure of the panel

AUTOMATIC IDENTIFICATION

FALCON, FALCON MKII and FALCON 4 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 T-F Map shows groups of pulses characterized by similar 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.



TECHNICAL SPECIFICATION		
Target Asset	Medium voltage assets: switchgears, cables, transformers, and motors	
Measurement type	Monitoring	
PD channels	Number	4
	Amplitude range [V_p]	0.001 ÷ 10
	Frequency bandwidth [MHz]	0.02 ÷ 30
	Resolution [bits]	12
	Sampling frequency [MSa/s]	125
	Input impedance [Ω]	50
	High pass filter	5 MHz selectable
	Power over coax	9V_{dc}, 0.2A selectable
Sync channel	Number	1
	Amplitude range [V_{rms}]	1 ÷ 30
	Frequency bandwidth [Hz]	5 ÷ 500
	Resolution [bits]	16
	Sampling frequency [MSa/s]	1
	Minimum input impedance [Ω]	1M
Communication	Port	RJ45
	Protocols	IEC 62451 (OPC-UA)
		IEC 61850 Ed. 1
Power supply	Rated voltage [V_{dc}]	12 ÷ 24
	Max current [A]	2
Dry contacts	Configuration	NC/NO
	Max ratings	24V_{dc}, 1A
Graphical user interface	Onboard web application	

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DS FALCON4EN - REV. 09/2024