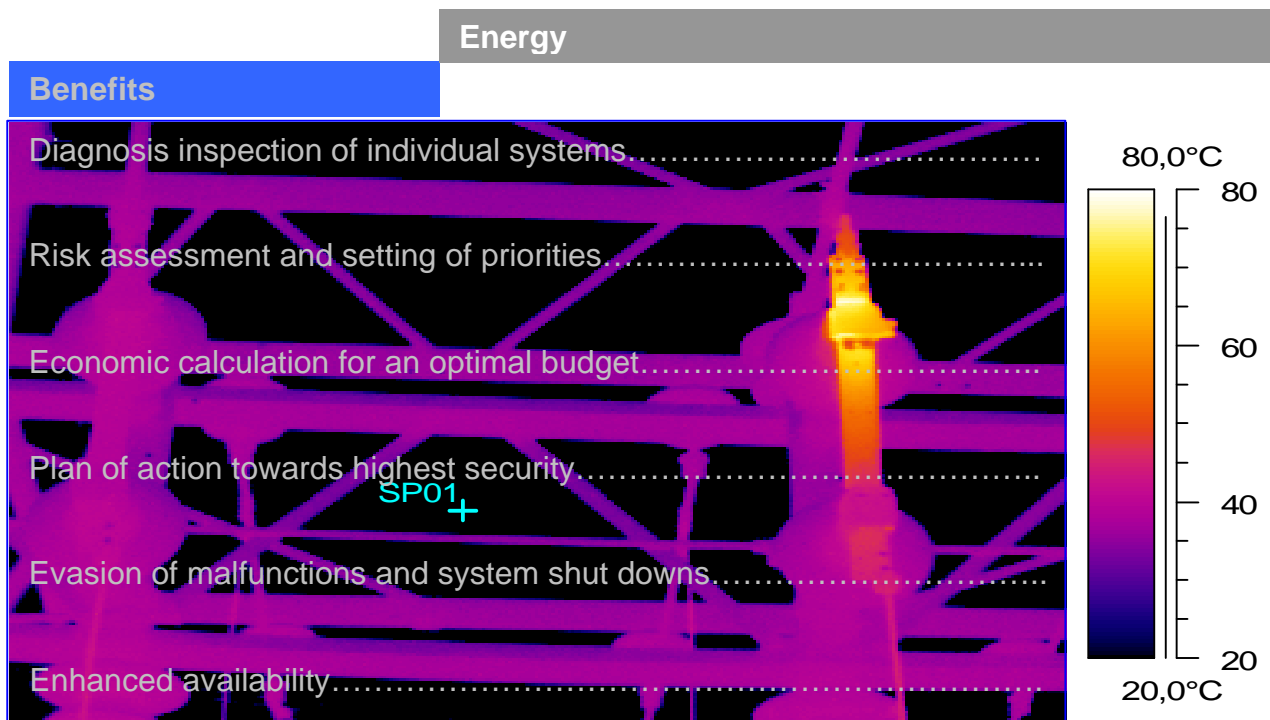


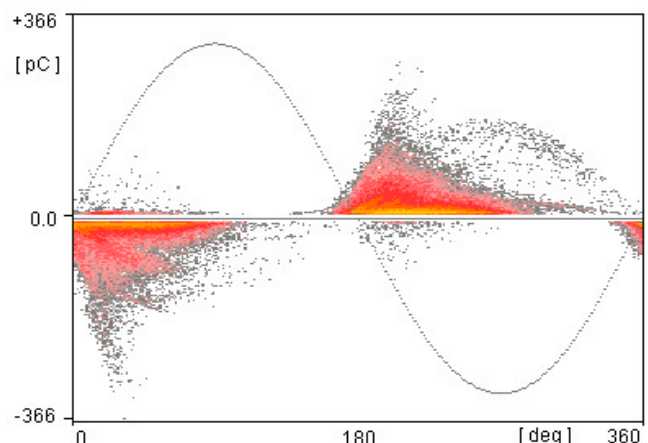
# DIAGNOSTICS

- the smart way to save money

A wide range of measuring methods, enables us to objectively assess the condition of all MV and HV systems which in turn creates a solid basis for investment planning.



Palm Pilot



PD-measurements

# Overview of Diagnosis measurements:

	Power Transformer	Instrument Transformer	Circuit Breaker	Disconnecter	Cables and Accessories	Bus Bars / Bus Ducts	GIS	Turn-Key Substations	Controls
<b>Visual Inspection</b>									
<b>Palm Pilot</b>	L1	L1	L1	L1	L1	L1	L1	L1	L1
Endoskopia							L2		
<b>Isolation</b>									
<b>PD-Measurement ...</b>									
... ultrasonic	L1	L1	L1	L1		L1	L1	L1	
... conventional (IEC 270)	L2	L2					L2		
... VHF		(L1)			(L1) / L2				
... UHF							(L1) / L2		
Oil Analysis	L1	L1	L1		(L1)				
Gas Analyse / Leakage Test			L1				L1		
HV-Test with AC Resonant Set		L2			L2		L2		
Return Voltage Measurement	L2								
C, tan delta	L2	L2			L2				
<b>Function</b>									
Analysis of Voltage Quality								(L1) / L2	
Accuracy		L2							
Saturation Curve		L2							
Coil Resistance	L2	L2							
Contact Resistance			L2	L2		L2			
<b>Infrared</b>	L1	L1	L1	L1	(L1)	(L1)	(L1)	L1	L1
<b>Switching Times</b>			L2	L2			L2		
<b>Travel-Curves RDM</b>			L2	L2			L2		
Dynamic Resistance Measurements			L2				L2		
<b>Vibration Analysis</b>			(L1) / L2	(L1) / L2					
<b>Earthing</b>									
Measurements of Grounding Resistance	L2	L2	L2	L2	L2		L2	L1	
Grounding Measurements								L2	
<b>EMC-Measurements</b>								L1-3	

Abbreviation: L1: Level 1, in service  
L3: Level 3, deassembling required

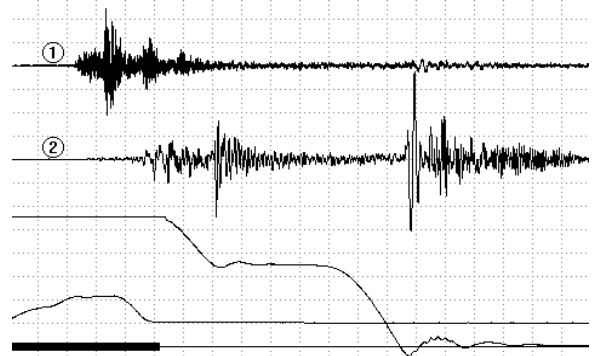
L2: Level 2, deenergizing required  
red: measurements as shown on the front page



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Switching-time measurements-, Travel-curve measurements / Vibration analysis