iReady

GANZ INTELLIGENT SOLUTIONS FOR NEW & EXISTING TRANSFORMERS

- A centralized solution that takes you to the digital world.
- Control and monitor your transformer through one unified interface.
- The combination of temperature and tap changer monitoring provides you with the most important information on your asset.
- Life consumption calculation and forecasting along with maintenance prediction.

FEATURES	TECHNICAL DESCRIPTION
Transformer Operating system	ETOS® - acquisition of all drive signals, auxiliary power supply, temperature monitoring, SensorBUS..etc.
I/O signals	8 digital inputs, 8 digital outputs, 2 analog inputs (4...20mA, PT100)
Motor drive	ED 6,5Nm - Size 1
Temperature range	-25°C...+50°C
Enclosure	Single-wall, temperature controlled (heater)
Corrosion protection class	C4H in accordance with ISO 12944-2 (2018)
HMI	Mechanical controls
Communication	RJ45 port
Visual and data aquisition	Through RJ45 port service/network connection allows remote access to the ETOS® web-server-based user interface and parameters adjustment with data import/export
Transformer monitoring	Event messages, data, time series correlation of data and visualization
Transformer values measurement	Monitoring and recording of voltage, current, frequency, active power, reactive power, apparent power, power factor, temperature monitoring (ambient temperature, temperature of top oil layer, calculation of hot-spot temperature, lifetime consumption and aging rate
OLTC Monitoring	Contact wear calculation (only for OILTAP®), maintenance period calculation oil carbonization (only for OILTAP®), switching statistics and status of the motor drive

iStandard

GANZ INTELLIGENT SOLUTIONS FOR NEW & EXISTING TRANSFORMERS

- Your transformer is now fully integrated into your information network thanks to the most advanced communication protocols.
- Thermal calculations are more accurate than ever with the use of direct temperature measurements.
- Integrate your cooling control to the digital world and enjoy the benefits of flexibility.
- Inclusion of an integrated dissolved gas analyser further increases your level of asset protection.

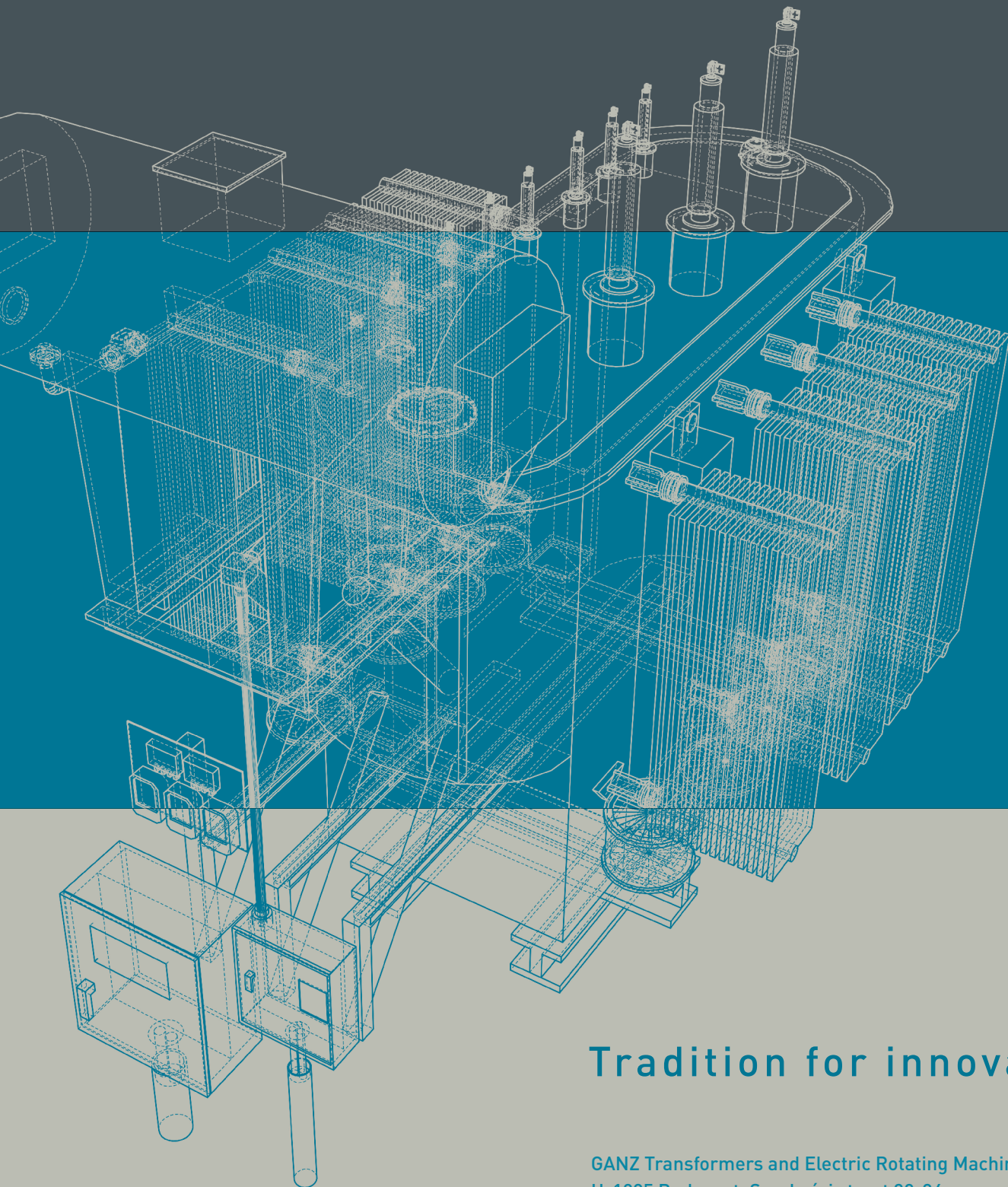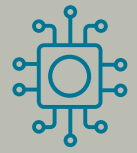| FEATURES	TECHNICAL DESCRIPTION
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OLTC Monitoring	Contact wear calculation (only for OILTAP®), maintenance period calculation oil carbonization (only for OILTAP®), switching statistics and status of the motor drive
SCADA communication protocol	IEC61850
Temperature Measurement FO-8 channels	Evaluation electronics for GaAs technology for fiber diameter 200µ for direct integration into ETOS® Control-cabinet mounting via DIN rail with 8 optical inputs ETOS® software functions: - 4 adjustable limit values for winding temperatures - Configurable event messages when limit values are exceeded - Central ETOS® measured-value memory - Time series visualization in ETOS® with optional comparison of further data (e.g. load current) - Data transfer to SCADA (optional) - Activation of cooling system control with measured FO winding temperatures (optional)"
Cooling Control Pro 2 Groups	Cooling system control PRO for 2 cooling stages. Cooling stages can be individually parameterized: Normal temperature-dependent switching point control with hysteresis and delay time. Configured modes: Load-dependent, Periodic, Alternating
Cooling monitoring BASIC	Cooling system monitoring: Operating status (active, inactive, error) of the individual fan groups, Number of starts, Operating time
MSENSE® DGA 2	Connection of an MSENSE® DGA 2 to ETOS® via MR sensor bus and add ETOS® software functions; Measurement of H2 + Moisture

iAdvanced

GANZ INTELLIGENT SOLUTIONS FOR NEW & EXISTING TRANSFORMERS

- Assess your transformers cooling performance by relying on the sophisticated calculation model included in this package.
- Your tap changer is now protected by the most advanced monitoring system available on the market.
- Dissolved gas analysis with additional gases for a higher level of safety.
- Create your own alarm and signal configuration with the help of the integrated logic editor!

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Enclosure	Single-wall, temperature controlled (heater)
Corrosion protection class	C4H in accordance with ISO 12944-2 (2018)
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Cooling Control Pro 2 Groups	Cooling system control PRO for 2 cooling stages. Cooling stages can be individually parameterized: Normal temperature-dependent switching point control with hysteresis and delay time. Configured modes: Load-dependent, Periodic, Alternating
Cooling monitoring PRO	Cooling system monitoring PRO: Operating status (active, inactive, error) of the fan groups, calculation of thermal resistance and upper oil temperature based on measured data of upper oil temperature, ambient temperature and load current
OLTC Monitoring PRO-VAM	OLTC Monitoring and Vibroacustic monitoring
Msense DGA3	Connection of an MSENSE® DGA 3 to ETOS® via MR sensor bus and add ETOS® software functions; Measurement of H2, CO + Moisture
Transformer Logic Editor	PLC Mode for programing and linking in- and outputs

GANZ

INTELLIGENT SOLUTIONS

Tradition for innovation

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