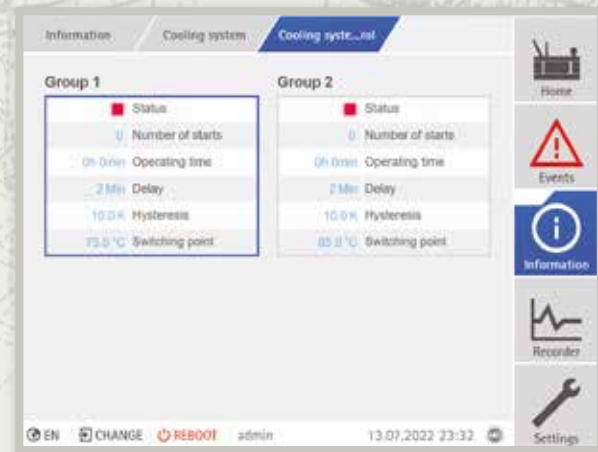


## iStandard

- 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.

### Direct Temperature Measurement with Fiber Optics

- Distributed multi-point winding temperature measurement
- High accuracy winding temperature information without delay
- 4 adjustable limit values and data transfer to SCADA (optional)
- Cooling control based on directly measured temperatures (optional)



### Cooling Control Pro and Cooling Monitoring Basic

Cooling Control with stage parametrization

- Normal temperature-dependent
- Load-dependent mode

Cooling system monitoring

- Operating status (active, inactive, error)
- Number of starts, Operating time

### Gas In-oil Analysis System - DGA 2

- MSENSE DGA 2 integration via bus communication
- Reliable measurement of H<sub>2</sub> and moisture content
- Oil sampling directly at the instrument
- Integrated temperature measurement
- Self-monitoring sensors
- No calibration gas required

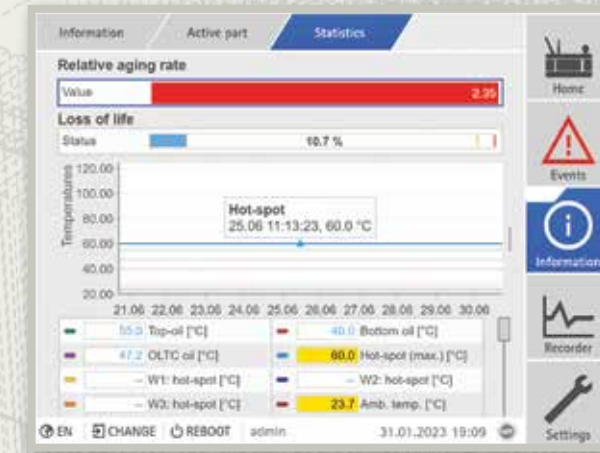


## iReady+

- A centralized solution that takes you to the digital world.
- Control and monitor your transformer through one unified interface.
- The combination of temperature, tap changer and bushing monitoring along with dissolved gas early warning provides you with the most important information.
- An all-rounder, cost effective solution to ensure asset availability and reliability.

### Temperature Monitoring Basic

- Visualization of all temperatures measured
- Relative aging rate calculation based on IEC standard
- Loss of life progression based on insulation ageing



### OLTC Monitoring Basic

- Status of the motor drive (protection switch, motor running)
- Status of tap changer protection devices
- Switching statistics of the on-load tap-changer
- Contact wear calculation (for OILTAP)
- Maintenance interval calculation

### Bushing Monitoring Basic

- Online monitoring solution for high voltage condenser type bushings (three phases)
- Prevention of bushing failures through early detection based on capacitance method
- A system that can be further upgraded with partial discharge monitoring capability



## iAdvanced

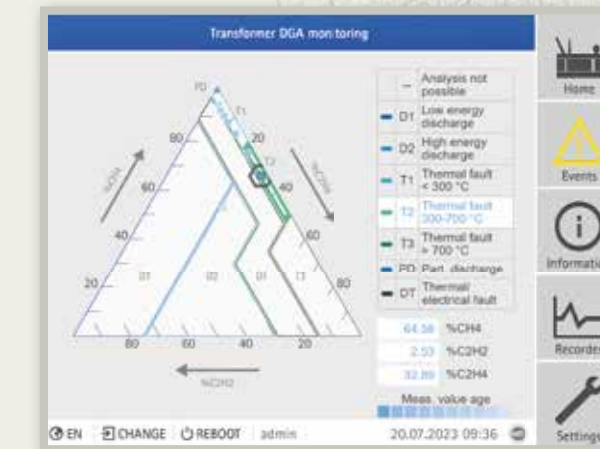
- Assess your transformers cooling performance by relying on the sophisticated calculation model included in this package.
- Your tap changer is now protected by the most advanced monitoring system available on the market.
- Dissolved gas analysis with additional gases and online assessment capability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

### Cooling Monitoring Pro

- Calculation of thermal resistance based on measured data (based on upper and bottom oil temperature, ambient temperature and load current)

### OLTC Monitoring Pro – with Vibro Acoustic Monitoring

- Earliest detection of tap changer impending failures
- Vibration profile comparison with reference
- Self-learning algorithm with adaptive limit curve
- Noise suppression



### Gas In-oil Analysis System – DGA 9

- Reliable measurement with constant starting point
- Two-stage measuring with initial air purging
- Inclusion of additional key gases (H<sub>2</sub>, CO, CO<sub>2</sub>, CH<sub>4</sub>, C<sub>2</sub>H<sub>2</sub>, C<sub>2</sub>H<sub>4</sub>, C<sub>2</sub>H<sub>6</sub>, O<sub>2</sub>)
- Calibration and carrier gases is not necessary
- Possibility to perform Duval assessment via user interface

### Further Intelligent Solutions available

HV Bushing Monitoring

- Capacitance
- TanD

PD Monitoring

- Detection
- Localization

Other possibilities

- Buchholz relays with monitoring
- High Accuracy thermometers
- Low noise EC cooling solutions



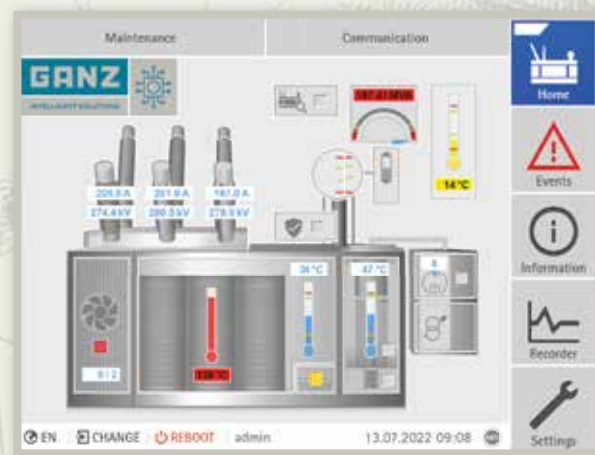


Ganz Transformers and Electric Rotating Machines Ltd.

Digitalize your transformer with a GANZ Intelligent Solutions!

### ETOS - (Embedded Transformer Operating System)

- Main operating parameters for transformers
- Quickly reachable submenus and functions
- Available locally with or without laptop or remotely
- Multi level configurable event messages
- Maintenance scheduling



A solution that is available for new and existing transformers regardless of brand or make.

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