Product Overview
1911
Dr. Albert Hauser founds the fine mechanical institute for precision scales and weights. He produces scales for laboratories, the precious metals industry and colleges which offer extreme measuring precision.

1925
Bourdon Spring
At the early years the production was focused to manufacture radiator thermometers and pressure gauges for motor vehicles. In 1932 Messko developed the first thermometer with a “Bourdon Spring”. Today this reliable application is still the basis for Messko thermometers.

1935
The brand name Messko Hauser is created from the German words for measuring and monitoring. It was entered and protected as a trademark. Messko celebrates huge success with measuring instruments for the automotive industry.

1960
First Transformer Thermometer
Messko successfully opens a new market with the development of the first measuring instruments for transformer engineering. The foundation for a whole series of measuring instruments for power supply companies is created.

1999
Subsidiary of MR
Messko becomes the subsidiary of MR Maschinenfabrik Reinhausen. This strong partnership makes Messko one of the primary suppliers of measuring instruments for utility companies and industries worldwide.

2008
New facility
Messko moved to the new large facility in Oberursel, Germany. All thermometers, oil level indicators, pressure relief devices and dehydrating breathers are produced here.

2011
Anniversary
The Messko celebrates its anniversary. 100 years of experience and precision.
Oil Level Indicators

Product specifications
- Up to three switching contacts
- Radial/axial drive shaft models
- Laminated safety glass with sunshine protection (UV filter)
- Integrated remote transmission (TT) (RS 485 interface)
- Integrated digital signal
- Extra indicator devices, for improved legibility at eye level (EI models)
- Analog output signals (0 – 1 mA, 0 – 20 mA or 4 – 20 mA)

Application areas
- Monitoring of the oil level in the expansion vessel (conservator with or without rubber bag)
- Pump control during transformer filling process
- 160 mm model for distribution and power transformers
- Remote indication (EI 100/160) for bigger transformer
- MMK retrofit solution for conventional glass indicators
- MMK oil level indicator without float mounting inside the expansion vessel (conservator)

Product description
Magnetic oil level indicators are used for measuring the oil level in the expansion vessel (conservator) of transformers. Oil leakage from the expansion vessel is safely prevented by the separate arrangement of sensor element and display element.

OLI at a glance
- Extremely long-lived and functionally reliable
- Adjustable scales or fixed switching contacts
- Customized scales and float lengths
- No need of re-adjustment and/or recalibration during lifetime
- Integrated remote indication
TRASY2 - Thermometer Series

Modularity has a name - TRASY2

**Product specifications**
- Oil and winding temperature (-20 to +140°C and 0 to +160°C)
- Thermal image of the winding temperature
- Measured value remote transmission, PT 100, Cu10, 4 to 20 mA
- Installation in thermometer pocket acc. to EN 50216-4
- Up to 6 switching contacts
- Bourdon tube measuring system
- Laminated safety glass with sunshine protection (UV-filter)

**Application areas**
- Medium and large distribution transformers, power transformers, reactors or similar equipment
- Oil and winding temperature indication
- Pump/fan control, alarm, trip
- Remote transmission of oil and winding temperature

**Product description:**
Pointer thermometers are used to indicate oil and winding temperature. They always consist of a temperature sensor which is connected to the measuring device (Bourdon spring) with a capillary tube. The measuring device is equipped with a pointer which turns to show the temperature on a scale.

**TRASY2 at a glance**
- Extremely long-lived and functionally reliable
- Two redundant measuring points in combination with Combi well or winding temperature sensor ZF-F2.1 (modular-type system)
- Quick and easy gradient setting with DIP switches (thermal image)
- Ambient temperature compensation even for extreme environments
- In combination with the signal converter: analog signals: 0 ... 1 mA; 0 ... 20 mA, 4 ... 20 mA, 0 ... 5 V, etc. relay output digital signals: RS 485
- No need of readjustments and/or re-calibration for entire lifetime
- Vibration-proof and outdoor-proof

Multi-Ballast Transformer

Temperature

MT-ST160F
MT-STW160F2

Thermometer pocket
EN 50216-4

Bourdon tube measuring system

Combi well
ZF-F2.1

Thermo well

MT-ST160F

MT-STW160F2
Compact - Thermometer Series

Compactness has a name - COMPACT

Application areas
- Medium and large distribution transformers, power transformers, reactors and similar equipment
- Oil and winding temperature monitoring
- Pump/fan control, alarm, trip
- Remote transmission of oil and winding temperature
- Retrofit solution for old measuring systems with different thermometer pockets/threads

Product specifications
- Oil and winding temperature: -20 to +140°C and 0 to +160°C
- Measured value remote transmission, 4 to 20 mA
- Installation in different thermometer bags possible (adapter screw connection)
- Up to 6 switching contacts
- Bourdon tube measuring system
- Laminated safety glass with sunshine protection (UV filter)

Product description:
Pointer thermometers are used to indicate oil and winding temperature. They always consist of a temperature sensor which is connected to the measuring device (Bourdon spring) with a capillary tube. The measuring device is equipped with a pointer which turns to show the temperature on a scale.

Compact at a glance
- Extremely long-lived and functionally reliable
- Vibration-proof and outdoor-proof
- Easy to install and commission
- Oil & winding temperature remote indication without additional devices
- Ambient temperature compensation even for extreme environments
- Output signal: 4 ... 20 mA
- In combination with the signal converter: analog signals: 0 ... 1 mA; 0 ... 20 mA, 4 ... 20 mA; relay output digital signals: RS 485
- No need of readjustments and/or re-calibration for entire lifetime

Multi-Ballast Transformer
MT-ST160SK
MT-ST160WR
MT-ST160RM
MT-ST160SK/TT
MT-ST160WR/TT
Digital Thermometer MTeC®

**Application areas**
- Pump/fan control, alarm, trip
- Temperature monitoring, water/oil and air/oil cooling
- Monitoring sensor (OLTC, transformer)
- Medium and large distribution transformers, power transformers
- External communication with the network protocols of the transformer substations

**Product specifications**
- Oil and winding temperature (-40 to +180 °C) indication
- Integrated oil level monitoring and up to 3 winding temperatures (EPT 202 OL/CT)
- Coolant control in accordance with IEC 60076-7 and ANSI
- Various analog output signals for oil- and winding temperature and oil level
- Up to 12 switching contacts
- Interfaces USB/RS485; RJ45 socket; fiber optic connector (EPT202 IM)
- Wide range power supply 100 VAC – 240 VAC, 50 – 400 Hz; 100 – 353 VDC
- Rail, "Flush panel" and 19" Sub-rack mounting

**Product description:**
An examination of the ageing behaviour of the insulation system of transformers and therefore the service life in particular shows that these are largely dependent on the temperature in the winding.

The new MTeC®-EPT202 equipment generation (digital thermometer with load-dependent fan control) combines a number of functions for monitoring the temperature of transformers.

**MTeC® at a glance**
- Measurement/display of the temperature of the oil and 1 to 3 windings
- Oil level display for on-load tap changer and transformer oil conservator
- Intelligent (cooling type- and load-dependent) cooling stage activation
- Cyclic (periodical) cooling stage activation
- Fan running alternating to equalize operation time of the fans
- Calculation of residual service life in line with international standards
- Remote transmission of the measured values
- Targeted monitoring and reduction of thermal load of transformer
- Extensive visualization software

**Modular structure**
Temperature

Thermometers for distribution transformers and industrial applications

Temperature measurement on the distribution side - MDiT

Product specifications
- Variable temperature ranges
- Up to four switching contacts
- Bourdon tube measuring system
- Installation in different thermometer pockets possible (adapter screw connection)
- Medium: Oil, water, cooling fluid, etc.
- Variable sensor lengths
- Variable scales

Reliable temperature measurement on industrial applications - Smart-IN

Application areas
- Small and medium distribution transformers
- Pump/fan control, alarm, trip
- Turbines, generators and compressors
- Die-casting machines
- Automotive industry
- Emergency power units
Pressure Relief Device MPreC®

Product description:
Pressure relief devices are protecting transformers against inadmissible and unsafe pressure surges. Once a specific predetermined degree of pressure has been reached, the pressure relief device will open, reduce the pressure, and tightly reseal itself after achieving the required reduction in pressure.

MPreC® at a glance
- Selected material
- Quality you can feel
- Response time within 2 ms
- Pressure protection in the harshest environments
- No leakage problems
- No erroneous releases and fatigue failure
- Clear signaling without back slide
- Computer controlled release test incl. test report
- Helium leakage test

Application areas
- Medium and large distribution transformers,
  power transformers
- On-load tap-changer head

Product specifications
- Full protection against environmental influences
- Clear and reliable signals
- 100% fool step protection
- Pressure range: 6 to 30 psi (0.41 to 2.07 bar)
- Up to two switching contacts
- Oil-directed cover and/or semaphore
- Cable gland, terminal box or ANSI/Westinghouse connection
- Used Material: Stainless steel, seawater resistant aluminium and synthetic coated spring steel
Maintenance Free Breather MTraB®

Watch your cost dry up – MTraB®

Application areas
- Expansion vessel (conservator) of medium and large power transformers
- Expansion vessel (conservator) of on-load tap-changers
- Expansion vessel (conservator) of arc suppression coils
- Industrial applications

Product specifications
- Sensor-controlled heating system (condition/time)
- Output of the air temperature via analog output
- Self-monitoring with remote output control system
- Full protection against environmental influences
- LED indication of the current status
- Measured values can be called up through a RS485 interface

Product description:
In normal operation the air flowing to the oil conservator has to pass the silica gel and is dried on the way. The humidity of the air in the pipe line is continually measured by a moisture sensor and the results are sent to the electronic controller.

When the humidity of the air in the pipe line exceeds a selected value, this is a sign that the silica gel is unable to absorb any more moisture. In this case the self-regulating heating element inside the silica gel container is activated. The water vapor that escapes from the silica gel condenses on the specially shaped bottom casting and drips out of the filter system.

MTraB® at a glance
- Extensive economies, as you leave out maintenance interventions and desiccant replacements (Asset management)
- Incrementation of operating reliability for your transformers and on-load tap-changers
- Reduction of life-cycle costs
- No pollution and disposal problems with the used-up desiccant
- Easy replacement (Retrofit)

Moisture DB100(HT) and DB100T(HT) DB200D-T(HT) DB200T(HT)
Accessories

Sensors/Signal converters/Indicators

Product specifications
- Signal converter with analog and digital outputs (Pt-MU, IgT-MU, TT 3D)
- Analog and digital indication of measured values in °C, %, etc.
- Digital temperature transmitter with RS 485 interface (TT-PWM 60)
- Power supply units (PSLC 242, SNT 36)

Application areas
- Control rooms
- Transformer Cabinet
- Medium and large distribution transformer
- Power transformer

D1272-AT
PQ 96
EI 100/160
Pt-MU
IgT-MU
PSLC 242
SNT 36
MR Group Product Range

Transformer Control
- OLTC type
- Motor Drives TAPMOTION®
- Measuring Devices TAPGUARD® 240, 260

Power Composites
- Voltage Regulators TAPCON® 230, 240, 250, 260
- Spare parts

Reinhausen Plasma
- Cold Coating PC1
- piezobrush plasma hand-held device
- PlasEt® catalytic plasma
- plasmabar PB-B1
- RPL-200, RPL-300
- laboratory equipment
- RPA automation plant

Asset Management
- Monitoring TAPGUARD® 240, 260
- Technical Service
- Training

Power Quality Management
- Reactive Power Compensation and Filter Circuits (a.o. POCOS®)
- Dynamic Compensation (System Solutions)
- Network Analyses, Studies
- Measuring Equipment and Reactive Power Regulators
- L.V. regulating plants and active filters

Messko
- Oil level indicators (MTO, MMK)
- Mechanical pointer thermometers (Compact, TRASY2, MDiT)
- Digital thermometers (MTeC® EPT202)
- Sensors, signal converters and indication devices
- MPreC® (Pressure relief devices)
- MTrab® (Maintenance-free dehydrating breathers)
- Impact recorders

Messko HIGHVOLT (HV)
- Electrostatic Filters
- Modular HV-Generators
- Testing Equipment

ReCoTec® hollow composite insulators
- ROTAFIL® FW-Tubes

Electrostatic Filters
- Modular HV-Generators
- Testing Equipment

HIGHVOLT (HV)
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We are Close to our Customers

Important note: The information contained in all of our publications may differ in detail from the actual equipment delivered. We reserve the right to make changes without notice.