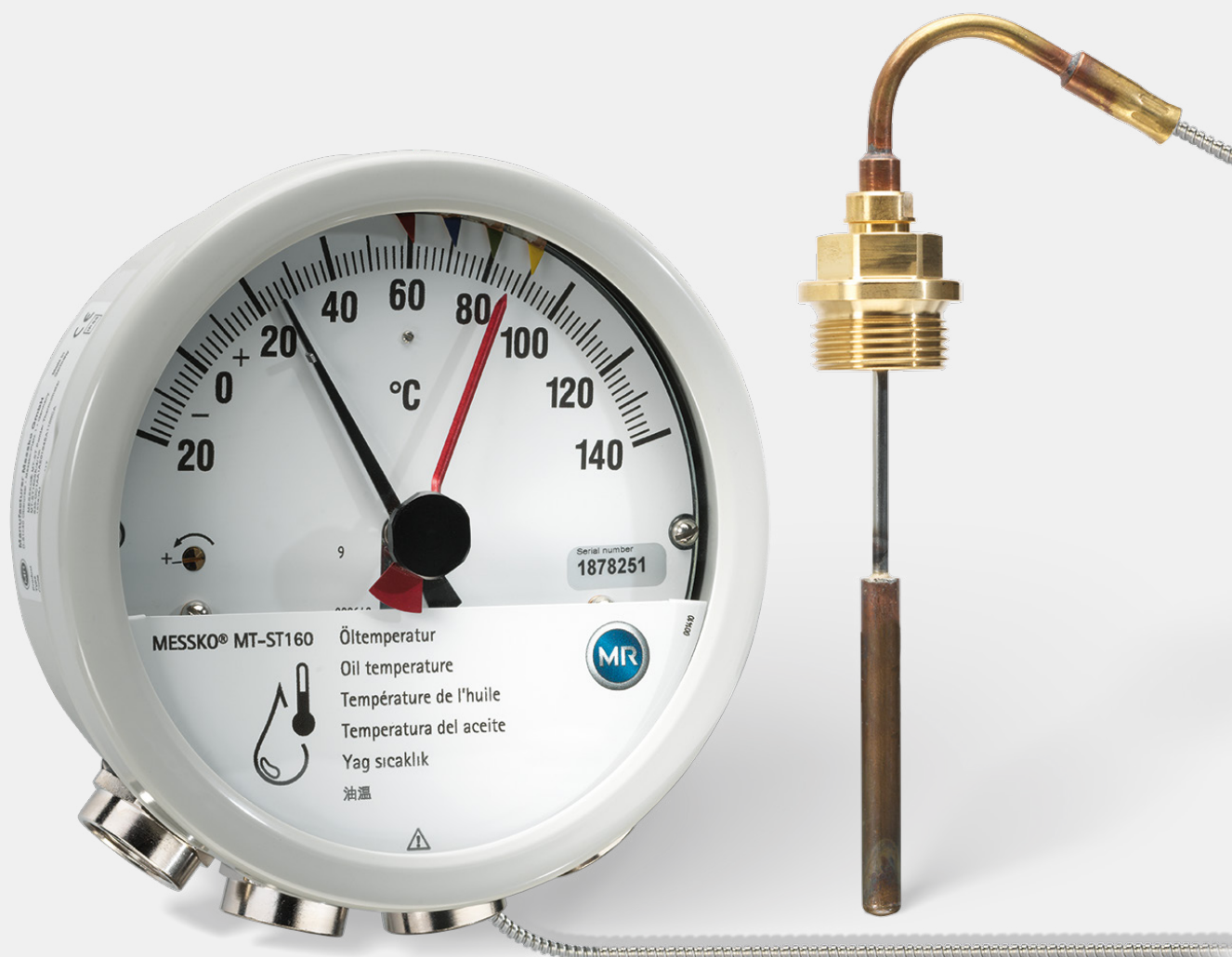




MESKO® COMPACT

Temperature measurement system for transformers

reinhausen.com



Modular temperature measurement system with direct display

In order to ensure the functionality of transformers, continuous monitoring of the oil and winding temperatures is crucial. It is therefore important that the thermometers used for this purpose are robust, durable, functionally reliable and accurate, low-maintenance, and resistant to vibration and shaking.

MESSKO® COMPACT series devices prove their quality under extreme climatic conditions. The closed system allows measured values to be read off clearly even after decades – without readjustment or recalibration. The pointer thermometers with adjustable micro-switches reliably measure the oil and winding temperature (thermal image) in distribution and power transformers, reactors or similar applications. The mechanical measuring system functions without power and the compact design integrates all functions, including remote transmission – without any additional devices!

MESSKO® COMPACT thermometers are optionally available with integrated analog and digital outputs (4...20 mA and Modbus RTU) as well as a CT current input, all of which operate based on Bourdon technology, the heart of which is the Bourdon spring. In addition to the spring, the temperature sensor, the capillary tube and the pointer are essential components.

Your advantages at a glance

- Bourdon tube measuring system without additional mechanical parts
- Extremely durable and reliable without readjustment or recalibration
- Safe function even in case of vibrations and extreme outdoor conditions
- Can be installed in all common thermometer pockets; easy integration into ETOS® – Embedded Transformer Operating System
- Optional outputs: RS485 Modbus RTU or 4...20 mA analog output
- Simple configuration of gradients for the thermal image (WTI)
- Sight glass consists of laminated safety glass with UV filter
- Independent compensation for ambient temperature

Additional products



MESSKO® TRASY2
Temperatur measurement system with Bourdon tube



MESSKO® BETECH®
Temperature measurement system with expansion bellows

Example configurations

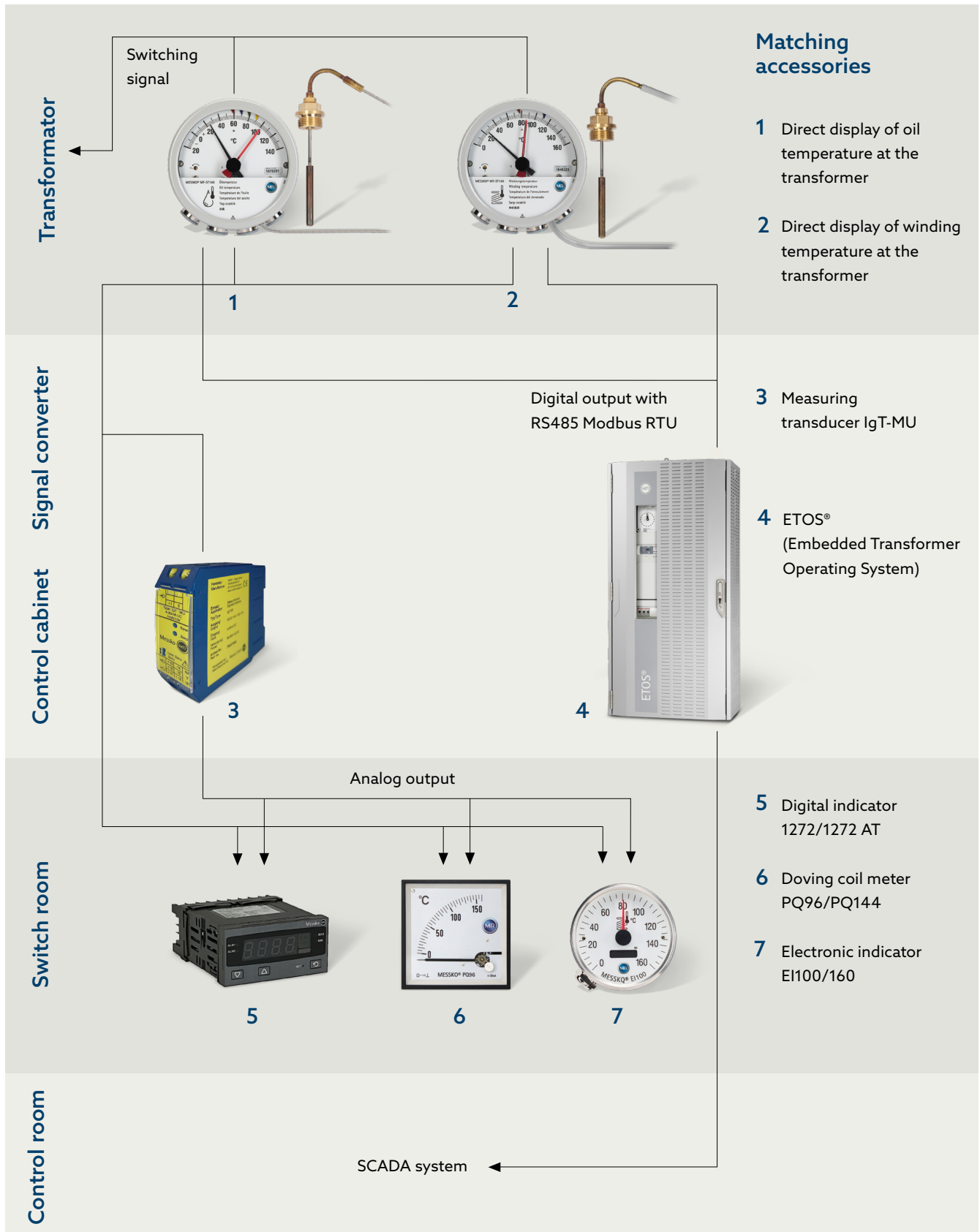


Electronic display EI 100
with clamping bracket
Analog indicator instrument with digital LCD display



Multi-ballast transformer
Conversion of the CT current

The function module for temperature measurement



MESSKO® pointer thermometer

MESSKO® COMPACT	Technical data
Front ring and housing	Galvanized sheet steel, painted RAL 7033 in accordance with DIN EN ISO 12944-9; corrosion protection class C4H
Viewing glass	Composite safety glass with UV filter
Temperature sensor	Brass, bright, angled
Mounting plate	Stainless steel
Capillary tube	Copper capillary with PVC protective sleeve or stainless steel protective sleeve
Cable gland	4 x M25 x 1,5 nickel-plated brass
Sensor gland	Double gland G1" B, brass, bright
Offshore optional	In accordance with requirements of DIN EN ISO 12944-9 with corrosion protection class CX
Key figures	
Measurement range	-20 ... 140 °C or 0 ... 160 °C (other measuring ranges available on request)
Accuracy	±3 °C in accordance with DIN EN 13190 Class 1 and DIN 16196
Installation height	2,000 m above NN
Operating temperature	-40 °C ... +80 °C
Degree of protection	IP 55 in accordance with IEC 60529
Aeration	The viewing glass resists fogging up to 80 % relative humidity thanks to an aerator
Drag indicators	All thermometers are equipped with resettable drag indicators, red
Weight	Approx. 2.5 kg (6 m capillary tube)
Micro switches	
Number	1...6 adjustable microswitches
Switching capacity	230 V AC – making capacity: 250 VA, $\cos \varphi > 0,5$ / breaking capacity: 60 VA, $\cos \varphi > 0,5$ 24...220 V DC – making capacity: 130 W, L/R < 40 ms / breaking capacity: 25 W, L/R < 40 ms 250 V AC – making capacity: 250 VA, $\cos \varphi > 0,5$ / breaking capacity: 60 VA, $\cos \varphi > 0,5$
Switching capacity with gold-plated contacts*	230 V AC – switching capacity: max. 6,9 VA, $\cos \varphi = 0,9$ 24...220 V DC – switching capacity: max. 6,6 W, L/R < 25 ms
Minimum switching distance	6% of the measuring range for standard switch arrangement; < 1K for narrowing
Contact material	Silver alloy (AgNi10) / optional: gold-plated contacts
Rated insulation voltage	2500 V AC / 1 min; terminals to ground 10000 V AC / 1 min; between open terminals
Switching hysteresis	approx. 5 K (with decreasing temperature)
Outputs	Digital - Modbus RTU via RS485 and analog - 4... 20 mA

*) Switching higher loads destroys the gold layer

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Please note:
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IN10143166/00 EN - MESSKO® COMPACT - F0413500 - uw - 05/23
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THE POWER BEHIND POWER.