ELEMER

«ELEMER» RESEARCH AND PRODUCTION ENTERPRISE

PRODUCT CATALOG 2018

- pressure measurement
- temperature measurement
- flow measurement
- process data instrumentation
- metrology

25 years

CONTENTS

NUCLEAR POWER SECTOR

HEAT AND POWER SECTOR

CHEMICAL INDUSTRY

DIGITAL MANOMETERS

MTI-100

The MTI-100 Stand-alone High Accuracy Digital Manometer measures and displays manometric pressure, absolute pressure, and negative pressure in industrial, field, and lab environment. To operate as a stand-alone device, MTI-100 has integrated lithium-thionyl-chloride (ambient temperature to –40 °C) or alkaline batteries.

The service life is 2 years for one sample per 5 s rate, and 5 years for 1 sample per 60 s rate (at normal ambient temperature 23±2 °C).

The MTI-100/M4 models have a built-in memory in the form of a bounded buffer. The capacity is 8 Mb (18 days for 1 sample per second rate) with USB port for data export.

To configure the device use the keypad on the front panel

Accuracy: 0.1%; 0.2%, 0.4% and 0.6%

Verification interval: 3 years

Display: an Integrated digits and graphics LCD screen with programmable backlight timer

Full Scale Values:

- absolute pressure (AP): 16 kPA…2.5 MPa
- manometric pressure (MP): 1 kPA…60 MPa
- manometric negative pressure (MNP): ±30 kPa…(–0.1…2.4) MPa
- Indicator Scaling Range: 1:10
- Ingress protection rating: IP65

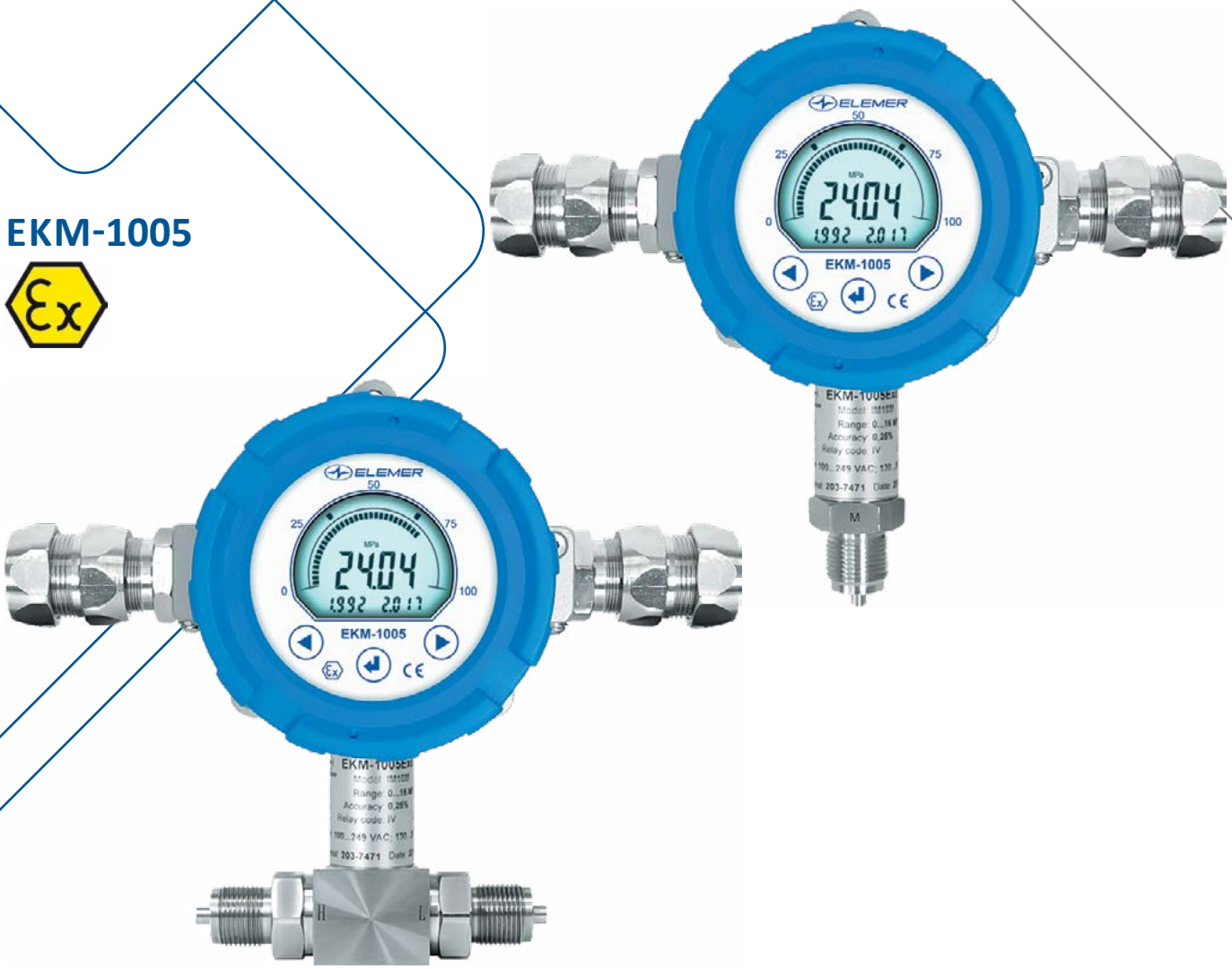
Climatic versions: –40…+70 °C

Vibration resistance: 150 Hz / 2g / 0.35 mm

Versions: standard, Ex (ExiallCT6 X), nuclear industry grade (enhanced reliability) with acceptance tests

Warranty period: 5 years

EKM-1005



Digital manometer with control functions measures and monitors absolute pressure, manometric pressure, manometric negative pressure and differential pressure in fluids. It can be used in aggressive environment

Power: 15…36 V DC

Alarms: 2 optical relays, switching capacity: 220 V AC/DC × 0.3 A

Output interface (optional): 4…20 mA

To configure the device use the keypad on the front panel

Accuracy: ±0.25% and better

Verification interval: 3 years

Display: a multiple-digit and graphics LCD screen with backlight

Full Scale Values:

- absolute pressure (AP): 25 kPA…6 MPa
- manometric pressure (MP): 4 kPA…60 MPa
- manometric negative pressure (MNP): ±30 kPa…(–0.1…2.4) MPa
- differential pressure (DP): 0.25 kPA…2.5 MPa

Indicator Scaling Range: 1:4

Ingress protection rating: IP65

Climatic versions:–40…+70 °C

Electromagnetic compatibility (EMC): high group of electromagnetic compability

Vibration resistance:100 Hz / 2g / 0.15 mm

Versions: standard, Ex (ExiaIICT6 X), Exd (1ExdIICT6)

Warranty period: 5 years

EKM-2005

Digital manometer with control functions measures and monitors absolute pressure, manometric pressure, manometric negative pressure and differential pressure in fluids. It can be used in aggressive environment

Power: 110…249 V AC (40…100 Hz); 150…249 V DC; 24…36 V DC (power is supplied over the commutation circuits, electrically isolated power and commutation circuits, lockup relays)

Alarms: 2 electromagnetic relays, switching capacity: 220 V AC × 5 A, 220 V DC × 0.1 A

Output interface (optional): 4…20 mA

To configure the device use the keypad on the front panel

Testing function and relay activation delay timer from 0.1 to 250 s

Accuracy: ±0.25% and better

Verification interval: 3 years

Display: a variable-color LED, a multiple-digit and graphics LCD screen with backlight

Full Scale Values:

- absolute pressure (AP): 25 kPA…6 MPa
- manometric pressure (MP): 4 kPA…60 MPa
- manometric negative pressure (MNP): ±30 kPa…(–0.1…2.4) MPa
- differential pressure (DP): 0.25 kPA…2.5 MPa

Indicator Scaling Range: 1:4

Ingress protection rating: IP65

Climatic versions: –50…+70 °C

Electromagnetic compatibility (EMC): IV-A

Vibration resistance: 120 Hz / 2g / 0.15 mm

Versions: standard, Ex (1ExiallCT6), nuclear industry grade (enhanced reliability)

Warranty period: 5 years (7 years for the nuclear industry grade instruments)

NUCLEAR POWER SECTOR

HEAT AND POWER SECTOR

CHEMICAL INDUSTRY

PRESSURE TRANSMITTERS

AIR-20/M2-H

AIR-20/M2-H is designed to continuously convert absolute pressure, manometric pressure, manometric negative pressure, differential pressure, hydrostatic pressure into a standard 0...5 mA current output or a 4...20 mA+ HART output. The instrument has a double integrated 0...5 / 4...20 mA current output

Power: 12...42 V DC

Output signal: 4...20 mA + HART, 0...5 / 4...20 mA concurrently, Modbus RTU

The device can be configured with the keypad on the front panel or over the HART protocol

Restore factory defaults function available

Accuracy: ±0.075% and better

Verification interval: 5 years

Display: LCD screen with backlights, LEDs red, green, white) (the screen is rotatable by 90°, 180°, 270°)

Full Scale Values:

- absolute pressure (AP): 1.0 kPA...6.0 MPa
- manometric pressure (MP): 0.16 kPA...60 MPa
- negative pressure (NP): 0.4 kPA...100 kPa
- manometric negative pressure (MNP): ±0.125 kPa...(–0.1...+2.4) MPa
- differential pressure (DP): 0.063 kPA...16 MPa
- hydrostatic pressure (HP): 1.6 kPA...250 kPa
- hydrostatic pressure (HP) for immersion-type devices: 4 kPa...250 kPa

Indicator Scaling Range: 1:25

Ingress protection rating: IP65

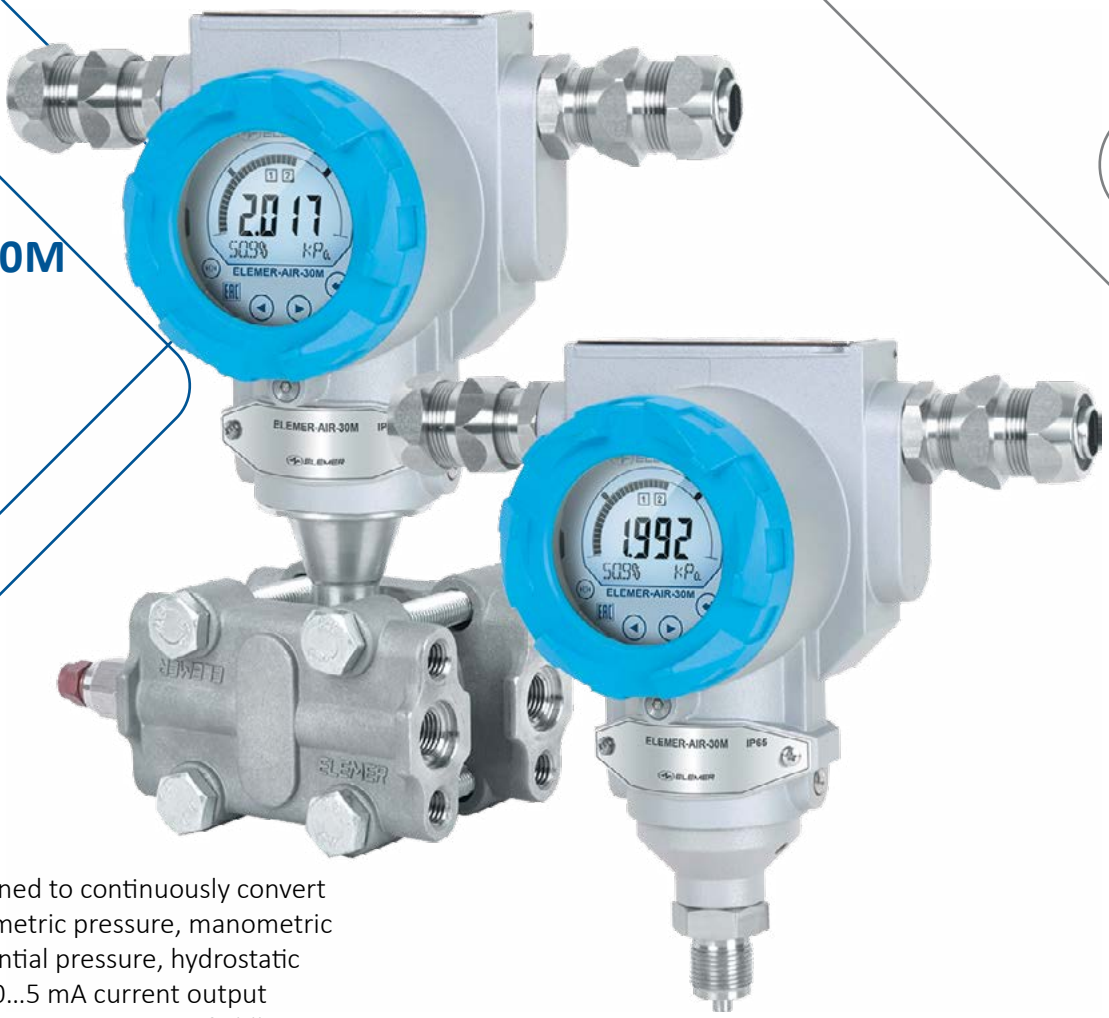
Climatic versions: –60...+80 °C

Electromagnetic compatibility (EMC): high group of electromagnetic compability

Versions: standard, Ex (ExiallCT6), Exd (1ExdIICT6), for oxygen applications, nuclear industry grade (enhanced reliability)

Warranty period: 5 years (7 years for the nuclear industry grade instruments)

ELEMER-AIR-30M



ELEMER AIR-30M is designed to continuously convert absolute pressure, manometric pressure, manometric negative pressure, differential pressure, hydrostatic pressure into a standard 0...5 mA current output or 4...20 mA+HART, 0.5...5 V, FOUNDATION fieldbus

Voltage: 12...42 V DC

Output signal: 4...20 mA+HART, 0...5 mA, 0.8...3.2 V; 0.5... 4.5 V; 1 ...5 V; FOUNDATION fieldbus

Alarms:

- 2 electromagnetic relays, switching capacity: 220 V AC × 5 A, 220 V DC × 0.1 A
- 2 optical relays, switching capacity: 220 V AC/DC × 0.3 A

The device can be Configuring Keypad (internal or external), HART protocol, FOUNDATION fieldbus protocol, configured with the keypad on the front panel or over the HART protocol

Restore factory defaults function available Basic Full-Scale Error: ±0.075% and better

Verification interval: 5 years

Display: Liquid-crystal display (LCD) with backlighting and graphic scale (2 × 39 segments) (the screen is rotatable by 90°, 180°, 270°)

Full Scale Values:

- absolute pressure (AP): 1 kPa...16 MPa
- manometric pressure (MP): 0.025 kPa...100 MPa
- negative pressure (NP): 0.03 kPa...100 kPa
- manometric negative pressure (MNP): ±0.03 kPa...(–0.1...+2.4) MPa
- differential pressure (DP): 0.025 kPa...16 MPa
- hydrostatic pressure (HP): 1 kPa...250 kPa

Indicator Scaling Range: 1:100

Ingress protection rating: IP67

Climatic versions: –55...+80 °C

Electromagnetic compatibility (EMC): high group of electromagnetic compability

Versions: standard, Ex (ExiallCT6), Exd (1ExdIICT6), Exdia (Ex ± Exd), for oxygen applications, nuclear industry grade (enhanced reliability)

Warranty period: 5 years (7 years for the nuclear industry grade instruments)

ELEMER-100

ELEMER-100 is designed to continuously convert the measured values into a standard current output or a digital HART-compatible signal

Power: 15…42 V DC

Output signal: 0…5 mA, 4…20 mA + HART

The device can be configured with the keypad on the front panel or over the HART protocol

Restore factory defaults function available

Accuracy: ±0.15% and better

Verification interval: 3 years for the standard version (0.15% accuracy), 5 years for 0.25% and 0.50% accuracy

Display: Integrated 5-segment LCD screen with backlight and graphical display, 330° rotatable

Full Scale Values:

- absolute pressure (AP): 2.5 kPA…16 MPa
- manometric pressure (MP): 0.04 kPA…100 MPa
- negative pressure (NP): 0.04 kPA…100 kPa
- manometric negative pressure (MNP): ±0.0315 kPa…(–0.1…2.4) MPa
- differential pressure (DP): 0.063 kPA…16 MPa
- hydrostatic pressure (HP): 4 kPA…250 kPa

Indicator Scaling Range: 1:25

Ingress protection rating: IP65

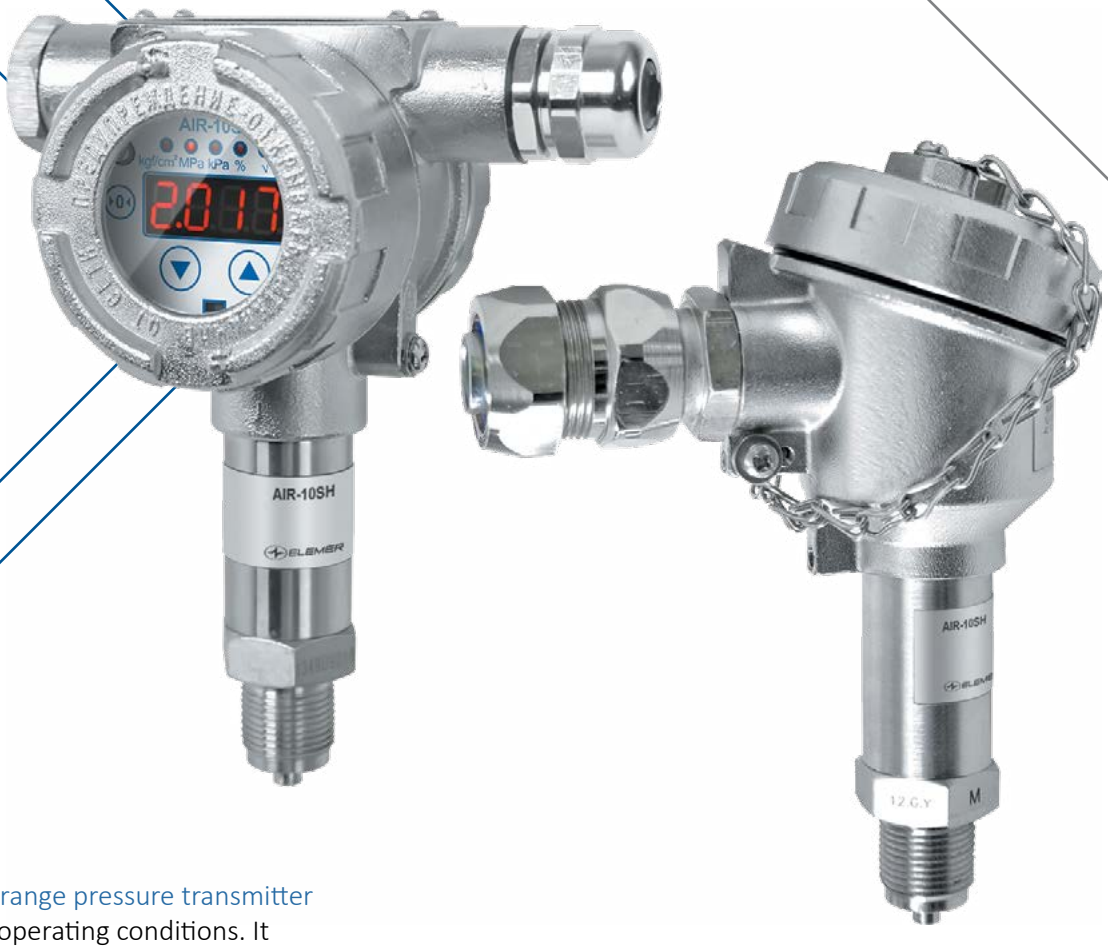
Climatic versions: –50…+70 °C

Electromagnetic compatibility (EMC): high group of electromagnetic compability

Versions: standard, Ex (ExiaIICT5 X, ExibIICT5 X), Exd (1ExdsIIBT4/H2X, 1ExdIICT6 X), for oxygen applications

Warranty period: 5 years

AIR-10SH



This compact digital 8-range pressure transmitter is designed for severe operating conditions. It continuously converts absolute pressure, manometric pressure, manometric negative pressure, differential pressure into a standard 4...20 mA current output with a HART output

Power: 9...42 V DC

Output signal: 4...20 mA + HART

The device can be configured over the HART protocol

Accuracy: ±0.1% and better

Verification interval: 3 years for the standard version (0.1% and 0.2% accuracy), 5 years for 0.5% accuracy

Indicators: red LED (AG-15 and NG-15 bodies)

Full Scale Values:

- absolute pressure (AP): 4 kPA...2.5 MPa
- manometric pressure (MP): 0.4 kPA...60 MPa
- manometric negative pressure (MNP): ±5 kPa...(–0.1...+2.4) MPa
- differential pressure (DP): 0.4 kPA...2.5 MPa
- hydrostatic pressure (HP): 1.6 kPA...250 kPa

Indicator Scaling Range: 1:40 AM

Ingress protection rating: IP65

Climatic versions: –60...+80 °C

Electromagnetic compatibility (EMC): high group of electromagnetic compability

Versions: standard, Ex (ExiallCT6), Exd (1ExdIICT6), OM (approved by the Russian River and Shipping Register), nuclear industry grade (enhanced reliability)

Warranty period: 5 years (7 years for the nuclear industry grade instruments)

AIR-10H

A compact digital 8-range pressure transmitter with HART support can be integrated into modern process control systems

Power: 9...42 V DC

Output signal: 4...20 mA + HART

The device can be configured over the HART protocol

Square root calculation available

Accuracy: ±0.1% and better

Verification interval: 3 years for the standard version (0.1% and 0.2% accuracy), 5 years for 0.5% accuracy

Display: ITTs 420(Ex)/M4-1, ITTs 420(Ex)/M4-2 (for GSP connector only)

Full Scale Values:

- absolute pressure (AP): 4 kPA...2.5 MPa
- manometric pressure (MP): 0.4 kPA...60 MPa
- manometric negative pressure (MNP): ±5 kPa...(–0.1...+2.4) MPa
- differential pressure (DP): 0.4 kPA...250 kPa
- hydrostatic pressure (HP): 1.6 kPA...250 kPa

Indicator Scaling Range: 1:25

Ingress protection rating: IP65

Climatic versions: –60...+70 °C

Electromagnetic compatibility (EMC): high group of electromagnetic compability

Vibration resistance:

- Standard delivery — 150 Hz/2 g/0,35 mm
- Vibration-proof model — 2000 Hz/10 g/0,75 mm

Versions: standard, Ex (ExiaIICT6 X), Exd (1ExdIICT6)

Warranty period: 5 years

NUCLEAR POWER SECTOR

HEAT AND POWER SECTOR

CHEMICAL INDUSTRY

TEMPERATURE TRANSMITTERS

ТКР-100

The ТКР-100 Electrical Contact Display Thermometer for automated process control systems

- measures and displays temperature range –50...500°C
- graphics LCD screen
- single-sensor Pt100 RTD
- industrial, field and laboratory conditions
- standalone working for 3 years
- built-in lithium thionyl chloride 9 V battery
- sampling rate from 1 to 255 sec
- 2 programmable setpoints
- 2 relays control alarm signals

Using the keypad on the front panel you can edit:

- range
- set value
- backlight
- max min temperature detector

Verification interval: 2 years

Monoblock or modular mounting method

Ingress protection rating: IP65

Ambient temperature range: –40...70 °C

ТКР-100(А)

The ТКР-100(А) Electrical Contact Display Thermometer for automated process control systems

Temperature ranges: –50…+200 °C, 0…+500 °C

Multiple-digit and graphics LCD screen

Power: 220 V AC, 24 V DC

2 relays, 2 programmable setpoints, switching capacity: 220 V AC × 5 A, 220 V DC × 0.1 A

Relay response time: 0.3 s

Programmable relay activation delay timer: 0.1 to 250 s

Accuracy category: ±0.25% and better

Verification interval:

- 4 years for the –50…+200 °C temperature range
- 2 years for the 0…+500 °C temperature range

Climatic versions: –40…+70 °C

Electromagnetic compatibility: IV-A

Versions: standard, nuclear industry grade (enhanced reliability)

TKP-150(A)

The TKP-150(A) Electrical Contact Display Thermometer for automated process control systems

Temperature ranges: –50…+500 °C

Output: 4…20 mA

Multicolor LED indicator

Power: 220 V AC, 220 V DC, 24…40 V DC

Output interface (optional): 4…20 mA

2 relays, 2 programmable setpoints

Relay response time: 0.3 s

Programmable relay activation delay timer: 0.1 to 250 s

Accuracy category: ±0.25% and better

Verification interval:

- 2 years
- 4 years for the –50…350 °C temperature range

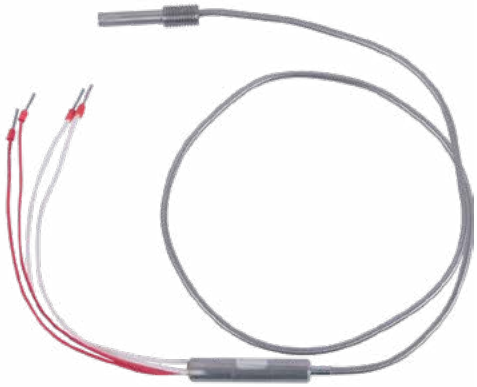
Climatic versions: –60…+70 °C

Electromagnetic compatibility: IV-A

Versions: standard, Exd (1ExdIICT6 X), nuclear industry grade (enhanced reliability) with acceptance tests

Cable Glands for Armored Cables and Metal Hoses

RESISTANCE THERMOMETERS



Resistive Temperature Transducers (RTD) measure the temperature of liquid, solid, gaseous, and loose media which are non-aggressive to the Case material

Temperature range: –196...+600 °C

Sensor type: Pt50; Pt100; Pt500; Pt1000

Verification interval:
2 years, 4 years for the –50...350 °C temperature range

Versions and Intended Use:

- **RT-1088:** measuring the temperature of fluids, solids, and loose materials
- **RT-1187Exd:** measuring the temperature of fluids in explosive zones and premises (1ExdIICT6 X)
- **RT-1288:** measuring the temperature of liquid, gaseous and loose media, solids, air in refrigerator railway cars
- **RT-1288F:** measuring the temperature of concentrated alkaline and acid solution (PTFE shell)
- **RT-1388:** measuring the temperature of small bearings and solid surfaces
- **RT-0295:** measuring the temperature of heated and frozen food
- **RT-1088A, RT-1288A, RT-1388A:** nuclear industry grade (enhanced reliability)
- **RT-1088Ex, RT-1288Ex, RT-1388Ex, RT-0295Ex:** explosion-proof version
- **RT-1088B, RT-1187ExdB, RT-1288B, RT-1388B:** Vibration proof version

RTDs can be custom made to a customer drawing

Cable Glands for Armored Cables and Metal Hoses

RT-1388/XXM W/O MPI

The RT-1388/xxM Resistive Temperature Transducers (RT) measure the temperature of solids, bearings, electric coils. They are also suitable for hindered access areas (e.g. bacteriological contamination or radiation pollution areas)

Their key feature is a single required calibration (after manufacturing). No more regular calibrations over the entire service life! The service life is 15 years

MTBF is 150,000 hours

Average service life: 15 years

The manufacturer performs the primary calibration prior to shipping

No regular calibration required

THERMOCOUPLES

Thermoelectric transducers (thermocouples, TC) measure and monitor the temperature of liquid, solid, gaseous, and loose media which are non-aggressive to the transducer Case material

Temperature range: –40...+1,800 °C
(a –200 °C customized version can be ordered)

Sensor type: K; L; E; S; R; B; J; N; A-1

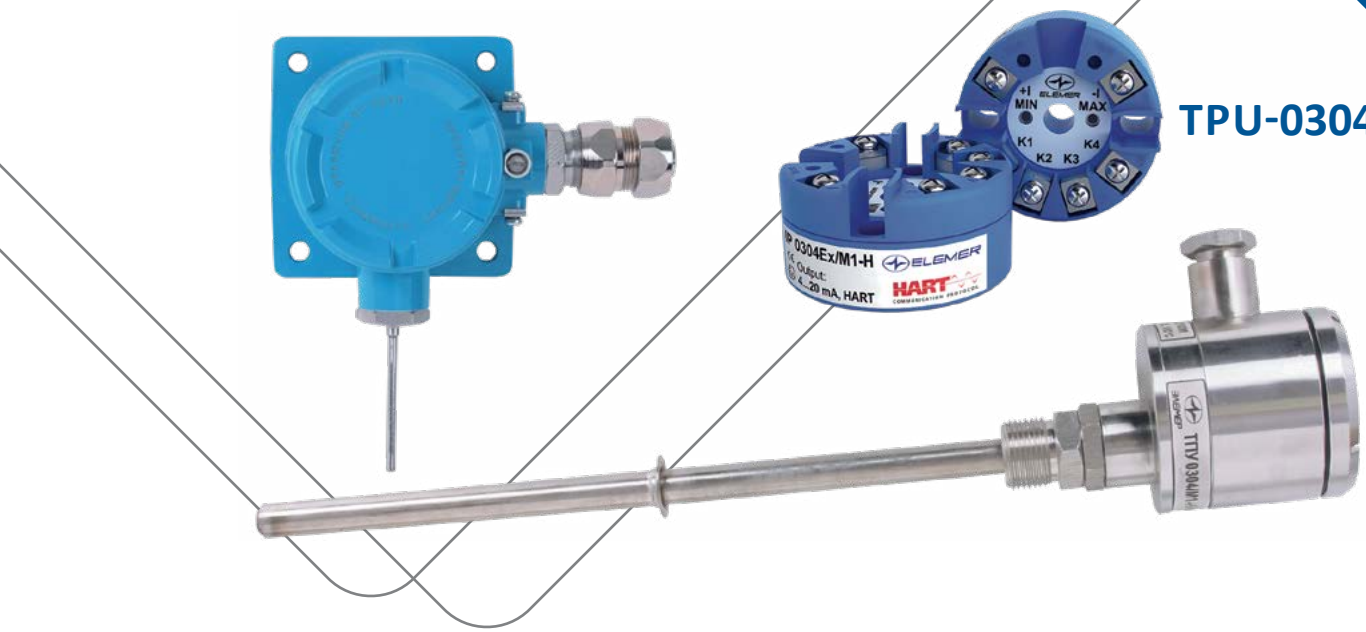
Verification interval:

- 4 years (–40 °C < t_{max} ≤ +850 °C)
- 2 years (+850 °C < t_{max} ≤ +1,100 °C)
- 6 months (+1,100 °C < t_{max} ≤ +1,800 °C)

Versions and Intended Use:

- **TC-1388:** measuring the temperature of small bearings, solid surfaces, air in drying ovens and climatic chambers
- **TC-2088:** measuring the temperature of fluids, solids, and loose materials. Sensor type: KTMS cable
- **TC-2088L:** light version of TC-2088 Sensor type: HA or HK wire
- **TC-2388:** measuring the temperature of fluids, solids, and loose materials
- **TC-2187Exd:** measuring the temperature of fluids in explosive zones (1ExdIICT6 X) Sensor type: KTMS cable
- **TC-1085:** measuring combustion products temperature
- **TC-1085/3:** measuring the temperature in high pressure chemical reactors (up to 350 MPa). Sensor type: KTMS cable
- **TC-2488:** measuring the in-process temperature of polymer and rubber mixtures Sensor type: KTMS cable dia. 1 mm and more
- **TC-0395:** can operate at high temperatures in O_2, SO_2, NO, H_2S-rich environments, in melted Al, Zn, Cu and in melts with copper
- **TC-0195:** high temperature cable-based transducers
- **TC-0188:** measuring the temperature of air and inert gases in ovens (beads, silica insulation)
- **TC-0198:** measuring the temperature of fluids and solids The transducer is used in confined spaces (flexible KTMS cable diam. 1 mm and more, a double junction version is available)
- **TC-0199:** measuring the temperature in heat treatment oven channels, crude oil catalytic cracking units
- **TC-2088A, TC-2488A, TC-0198A:** nuclear industry grade (enhanced reliability)
- **TC-2088Ex, TC-2488Ex, TC-0198Ex, TC-1085Ex:** explosion-proof versions
- **TC-1388B, TC-2088B, TC-2187ExdB, TC-2488B, TC-0295B, TC-0195B, TC-0198B, TC-1085B:** Vibration proof version
- TCs can be custom made to a customer drawing
- Cable Glands for Armored Cables and Metal Hoses

TPU-0304/M1-H



The TPU-0304/M1-H All-purpose Temperature Transmitters measure and continuously convert the temperature of solids, fluids, loose materials into a standard 4…20 mA DC current output and/or a HART digital output

Input type: Pt100, J, L, K, S, B, N

Output signal: 4…20 mA + HART

Power: 10…42 V DC

Accuracy: ±0.15% and better

Verification interval:

For instruments with RT:

- 4 years (–50 °C < t_{max} ≤ +350 °C)
- 2 years (+350 °C < t_{max} ≤ +600 °C)

For instruments with TC:

- 4 years (–50 °C < t_{max} ≤ +850 °C)
- 2 years (+850 °C < t_{max} ≤ +1,100 °C)
- 6 months (+1,100 °C < t_{max} ≤ +1,800 °C)

Galvanic isolation up to 1,5 kV

Connector block materials: aluminum alloy, stainless steel, polymer

Climatic versions: –55…+80 °C

Ingress protection rating: IP54, IP65

Electromagnetic compatibility: IV-A

Versions: standard, nuclear industry grade (enhanced reliability), explosion-proof: Ex (0ExiallCT6 X), Exd (1ExdIICT6), OM (approved by the Russian River and Shipping Register)

Setup via HART protocol version 7

DDs included in official HART DD Library

Sensor break monitoring

Programmable values of the sensor and hardware error

Simulation mode

Manual adjustment

Vibration resistance 10…2000 Hz 98 m/s

TPU-0304/M2-H

The TPU-0304/M2-H All-purpose Temperature Transmitters measure and continuously convert the temperature of solids, fluids, loose materials into a standard 4…20 mA DC current output and/or a HART digital output

Instrument type: CPU-based

Temperature range: –50…+1,800 °C

Input type: Pt100, J, L, K, S, B, N

Output signal: 4…20 mA + HART

Power: 24…36 V

Accuracy: ±0.15% and better

Verification interval:

For instruments with RT:

- 4 years (–50 °C < t_{max} ≤ +350 °C)
- 2 years (+350 °C < t_{max} ≤ +600 °C)

For instruments with TC:

- 4 years (–50 °C < t_{max} ≤ +850 °C)
- 2 years (+850 °C < t_{max} ≤ +1,100 °C)
- 6 months (+1,100 °C < t_{max} ≤ +1,800 °C)

Display: red, green, or white LED; LCD screen with backlight, rotatable in 90° increments

Electrically isolated input and output circuits

Connector block materials: aluminum alloy

Climatic versions: –55…+80 °C

Ingress protection rating: IP54, IP65

Electromagnetic compatibility: IV-A

Versions: standard, nuclear industry grade (enhanced reliability), explosion-proof: Ex (0ExiallCT6 X), Exd (1ExdIICT6), OM (approved by the Russian River and Shipping Register)

Equipped with a connector

Cable Glands for Armored Cables and Metal Hoses

TPU-0304/M3-MB

The TPU-0304/M3-N All-purpose Temperature Transmitters measure and continuously convert the temperature of solids, fluids, loose materials into a digital RS-485, MODBUS RTU signal

Instrument type: CPU-based

Temperature range: –60...+1300 °C

Input type:: Pt100, K

Output signal: digital over RS-485 interface, Modbus RTU

Power: 24 V DC

Accuracy category: ±0.15% and better (A order code), ±0.25% and better (B order code)

Verification interval:

For instruments with RT:

- 4 years (–50 °C < t_{max} ≤ +350 °C)
- 2 years (+350 °C < t_{max} ≤ +600 °C)

For instruments with TC:

- 4 years (–50 °C < t_{max} ≤ +850 °C)
- 2 years (+850 °C < t_{max} ≤ +1,100 °C)
- 6 months (+1,100 °C < t_{max} ≤ +1,800 °C)

Data transfer rate: up to 115,200 bit/s

The instruments can be connected to form a single network

Electrically isolated input and output circuits

Connector block material: aluminum alloy

Climatic versions: –60...+70 °C

Ingress protection rating: IP65

Electromagnetic compatibility: IV-A

Versions: standard, nuclear industry grade (enhanced reliability), explosion-proof: Exd (1ExdIICT6 X)

Cable Glands for Armored Cables and Metal Hoses

NUCLEAR POWER SECTOR

HEAT AND POWER SECTOR

CHEMICAL INDUSTRY

FUNCTIONAL EQUIPMENT

ELEMER-BREZ

The ELEMER-BREZ Isolated Signal Conditioners are mounted in control cabinets on DIN-rail. The instruments have a [Ex ia Ga] IIC, Ex nA [ia Ga] IIC T4 Gc X explosion-proof rating. They are perfectly suitable to replace competitive products in oil&gas transportation and storage control systems, in chemical industry, gas&oil refineries, and any facilities where instrumentation operates in explosive areas

The ELEMER-BREZ Isolated signal conditioners offer the following key benefits:

- Saving space in control box. The case size is 12.5 mm or 17.5 mm
- Fully compatible to replace similar products from other international suppliers
- Channels are mutually electrically isolated and isolated from the power circuit
- HART protocol support
- NAMUR signals processing

Climatic version: –20…+70 °C

Excellent electromagnetic compatibility (EMC): III-A

Wide Power range: 18…42 V DC (optional) common power rail version for easy installation in control cabinets

ELEMER-BREZ TM-Ex Temperature

- 1x input analog signal: RT, TC, mV, potentiometric sensor (10 kOhm)
- 1x output active analog signal: 4…20 mA (+ HART)
- 1x output discrete signal: electromagnetic relay (30 V DC × 1 A; 125 V AC × 0.3 A)
- All channels are mutually electrically isolated and isolated from the power circuit
- The device can be configured over the HART protocol

ELEMER-BREZ NAM-Ex

- 1 or 2 input analog signals: NAMUR (range: 0.6…5.5 mA; of: ≤1.2 mA; on: ≥2.1 mA), relay contacts; sensor power supply: 8.2 V DC in each channel; open sensor line detection; short circuit sensor line detection
- 1 or 2 output discrete signals: electromagnetic relay (30 V DC × 2 A; 250 V AC × 5 A), optical relay
- All channels are mutually electrically isolated and isolated from the power circuit

ELEMER-BREZ 420-Ex Measuring Current to connect and supply power to sensors

- 1 or 2 input analog signals: 4…20 mA (+ HART); output channels are mutually electrically isolated and isolated from the power circuit; sensor power supply: 18…24 V in each channel
- 1 or 2 output active analog signals: 4…20 mA (+ HART)
- All channels are mutually electrically isolated and isolated from the power circuit
- Two-directional HART signal transmission

ELEMER-BREZ 420R-Ex Regulating Current

- 1 or 2 input analog signals: 4…20 mA (+ HART)
- 1 or 2 output active analog signals: 4…20 mA
- (+ HART); output Power: 18…24 V in each channel
- Input/output channels are mutually electrically isolated
- Two-directional HART signal transmission

RMT 19

The RMT 19 Touchscreen Process Recorder measures, controls (PID control supported) and stores information. The instruments are designed for various industry and energy processes

5.7” touchscreen

Electric panel opening size: 138 mm × 138 mm

OS Linux

Up to 8 electrically isolated general-purpose input channels and a built-in 24 V DC sensor power supply

Up to 24 electrically isolated general-purpose input channels w/o a built-in power supply

Up to 60 discrete inputs

Up to 16 relay outputs

Up to 16 current outputs

Control action profiles

Input signal processing

Input signals: Pt100; Ni100; Ni500; Ni1000; J; L; K; R; S; T; N; E; 0…20, 4…20 mA; –10…25, –10…100, 0…600 mV; 0…5, 1…5, 0…10, 2…10 V; 0…300, 0…3000 Ohm

Accuracy: ±0.1% and better

Verification interval: 4 years

Internal memory: 2 Gb

Display options: table, plot, bar diagram, dial, and combined diagrams

Interfaces (supported protocols): 2 × RS-485 (Modbus RTU), Ethernet (Modbus TCP), USB

External devices can be connected over RS-485 (Modbus RTU) interface in Master mode

Integrated WEB server

Secondary integrated power supply: 24 V DC, 200 mA

Power:130…249 V AC, 50…60 Hz; 150…249 V DC; 20…42 V DC

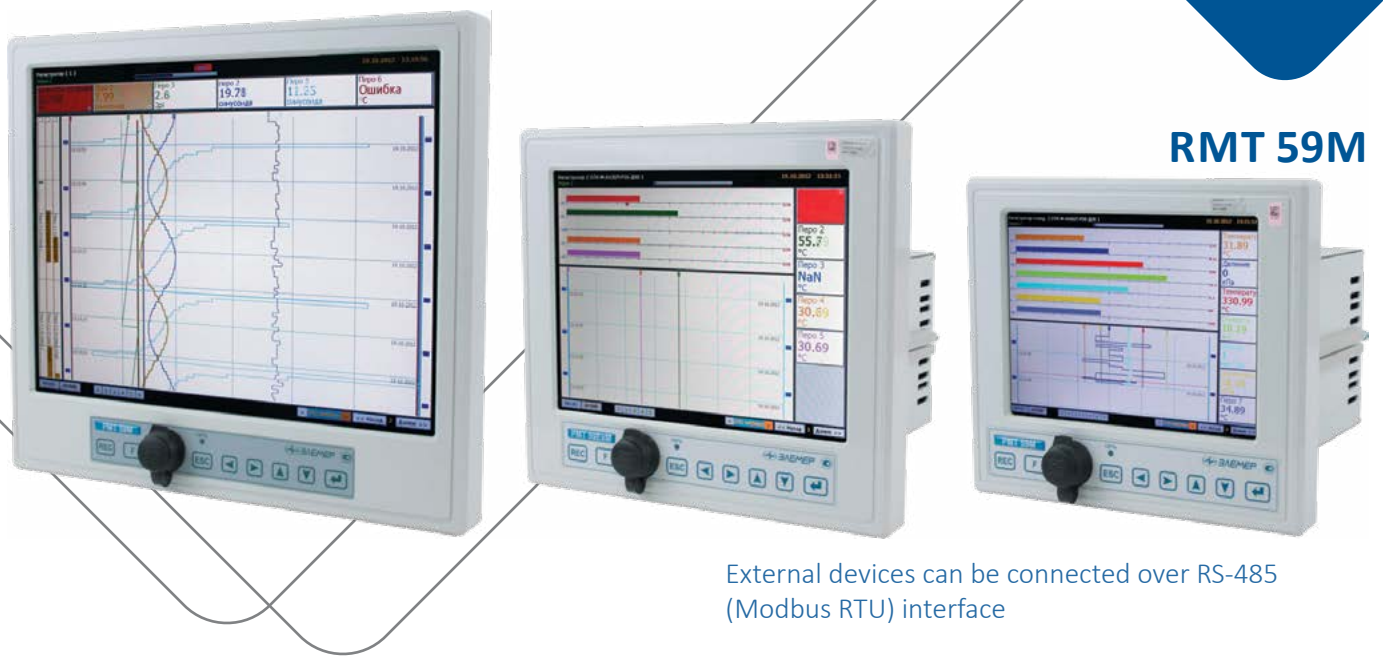
Climatic version: –10…+50 °C

Ingress protection rating:
IP54 (front panel), IP30 (case)

Versions: standard, explosion-proof (Ex ([Exia]IIC)

Warranty period: 3 years

RMT 59M



The RMT 59M Process Recorder measures, controls and stores information. Plugin communication modules (PCM) significantly expand the instrument's functionality

Number of electrically isolated channels: 6 or 12 analog inputs with integrated power supply; 0 or 8 discrete inputs; 8 or 16 relay outputs

Input signals: Pt100; J; K; L; S; R; B; A-1; T; N; 0…5, 0…20, 4…20 mA; 0…75, 0…100 mV; 0…10 V; 0…320 Ohm

LED screen size: 8"; 10"; 15"

Accuracy: ±0.1% (Class A), ±0.2% (Class B)

Verification interval: up to 4 years

Internal memory: 2 Gb

Display options: plot, table, bar diagram, process diagram, and combined diagrams

Up to 128 logged values

Up to 10 configurable screen forms

Up to 128 channels ("recording pens")

Ethernet, RS-485

External devices can be connected over RS-485 (Modbus RTU) interface

Supported protocols: Modbus RTU, Modbus TCP

Data transfer to PC: USB Flash drive, Ethernet, RS-485

Control: up to 10 setpoints per channel. The number of relay outputs is specified in the order

Relay specifications: 250 V AC × 5 A; 250 V DC × 0.1 A

Secondary integrated power supplies:
24 V DC, 36 V DC, 22 mA

Power: 130…249 V AC, 50 Hz

Backup power: 150…249 V DC

Case dimensions: 136 × 136 × 200 mm
(138 × 138 mm panel opening)

Metallic case

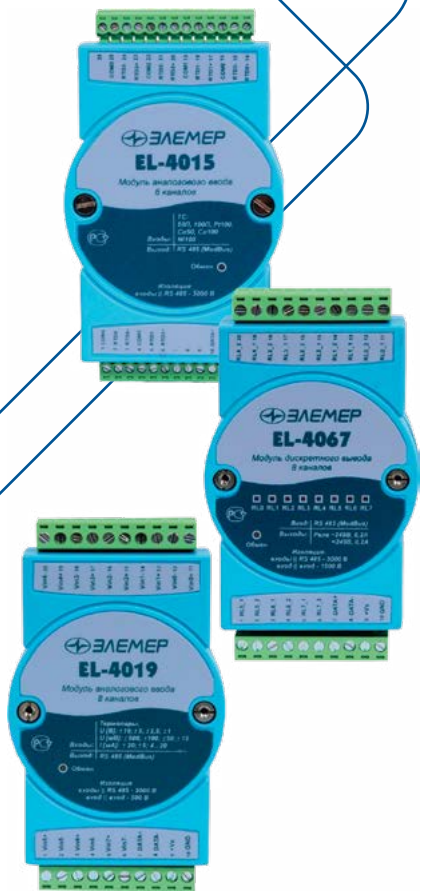
Climatic versions: –10…+50 °C

Ingress protection rating:
IP65 (front panel), IP20 (case)

Versions: standard, explosion-proof (Ex ([Exia]IIC), nuclear industry grade (enhanced reliability)

Warranty period: 5 years

ELEMER EL-4000 PCM



The Plugin Connection Modules (PCM) are used in distributed data acquisition and processing networks, process control systems. The instruments include analog and discrete modules, an interface converter, and a power supply module. The PCM modules are used with the RMT 59, RMT 59M, RMT 29, RMT 19 process recorders to expand their functionality

EL-4015 (6 analog inputs)

- 6 inputs (resistive thermometers are connected with 2 or 3 wires)
- Each channel can be independently adjusted and calibrated

EL-4019 (8 analog inputs)

- 8 inputs (thermocouples, current, Power signals)
- Each channel can be independently adjusted and calibrated
- Electrically isolated channels (500 V)

EL-4024I (4 analog outputs)

- 4 outputs (current, Power signals)
- Each channel can be independently adjusted and calibrated
- Electrically isolated discrete outputs (500 V)

EL-4059 (8 discrete inputs)

- 8 inputs
- Individual input status LEDs
- Electrically isolated discrete inputs (500 V)

EL-4060 (4 discrete inputs, 4 relays)

- 4 inputs
- Number of switch channels: 2 double-contact NO relays; 2 triple-contact relays with full set of contacts
- Individual input/output status LEDs

EL-4067 (8 relays)

- 8 relays with NO or NC contacts
- Individual relay status LEDs
- Electrically isolated discrete outputs (500 V)

EL-4020RS (interface converter)

- The module converts RS-485 to/from RS-232 and USB
- Automated upstream/downstream data transfer selection
- Data transfer speed: 300…115200 baud

EL-4001PWR (power module)

Input: 220 V AC, 50 Hz

Output: 24±0.5 V

Min output current: 0.6 A

Short circuit and overload protection

Accuracy (EL-4015, EL-4019, EL-4024I models): ±0.1% and better

Verification interval (EL-4015, EL-4019, EL-4024I models): 2 years

DIN rail mount (35 mm), wall mount, or can be mounted on a similar module

Interfaces (supported protocols): RS-485/Modbus RTU, UAIL

Electrically isolated inputs, outputs, and power circuits (3000 V)

Power: 10…30 V DC (except for EL-4001PWR)

Climatic versions: –25…+75 °C

Ingress protection rating: IP20

Warranty period: 5 years

TM 510X (L)

The TM 5102 (S), TM 5103 (S), TM 5104 (S) Multichannel Data Loggers measure and control temperature and other non-electric values converted into DC current or Power signals and DC active resistance. The data are logged in internal memory

Number of all-purpose analog input channels: 4/8/16

Relays: 3 or 8 (250 V AC × 5 A; 250 V DC × 0.1 A)

Data are logged in the internal memory

Input signals: Pt100; J; K; L; S; R; A-1; A-2; A-3; E; T; N; 0…5, 0…20, 4…20 mA; 0…75, 0…100 mV; 0…320 Ohm

Accuracy: ±0.1% and better

Verification interval: up to 4 years

Input signals processing (subtraction, addition, multiplication, mean value for any two channels)

Relays and setpoint testing function

2 setpoints per each channel

The front panel is available in two versions:

- a 4-digit 3-color LED measured value indicator (the digit height is 20 mm)
- a 4-digit 3-color LED measured value indicator and a 3-color graphics LED indicator showing the measured value relative to the setpoint (the digit height is 14 mm)

Interface: RS-485 (Modbus RTU)

The device can be configured with the keypad on the front panel or from a PC

Power: 130…249 V AC, 50 Hz

Mounting size/installation depth:
88 × 88 mm / 170 mm

Climatic versions: –10…+50 °C

Ingress protection rating:
IP44 (front panel), IP20 (case)

Versions: standard, nuclear industry grade (enhanced reliability)

Warranty period: 2 years (7 years for the nuclear industry grade instruments)

PC 5922-MB

The PC 5922-MB Process Controllers measure and control temperature and other non-electric values converted into DC current or Power signals and DC active resistance. The PC can be integrated into Modbus RTU-based systems with the built-in interface module

Input signals: Pt100; Ni100; K; L; J; R; S; B; A-1; A-2; A-3; E; T; N; 0…5, 0…20, 4…20 mA; 0…75, 0…100 mV; 0…10 V; 0…320 Ohm

Current Output: 0…5 mA or 4…20 mA

Control functionality: 4 setpoints and 4 relays (250 V AC × 5 A, 250 V DC × 0.1 A)

Accuracy: ±0.1% and better (Class A), ±0.2% and better (Class B)

Verification interval: 2 years

Integrated power supply: 24 V DC, 22 mA

Multicolor indicators: a 4-digit current value indicator (the digit height is 20 mm), 30-segment bar indicator displaying the MV and the setpoint marks.

Interface/protocol: RS-485/Modbus RTU

Power: 130…249V AC, 40…100 Hz, 150…249 V DC

Case dimensions: 96 × 48 × 180 mm (88 × 46 mm panel opening)

Metallic case

Climatic versions: –10…+50 °C

Ingress protection rating: IP54 (front panel), IP20 (case)

Versions: standard, nuclear industry grade (enhanced reliability)

Warranty period: 7 years (10 years for the nuclear industry grade instruments)

PC 5940

The PC 5940 Process Controllers with Logging Functionality measure and control temperature and other non-electric values converted into DC current or Power signals and DC active resistance. The PC can be integrated into Modbus RTU-based systems with the built-in interface module

Versions:

- M1: horizontal case position
- M2: vertical case position

Input signals: Pt100; Ni100; K; L; J; R; S; B; A-1; A-2; A-3; E; T; N; 0…5, 0…20, 4…20 mA; 0…75, 0…100 mV; 0…10 V; 0…320 Ohm

Control functionality: 4 setpoints and 4 relays (250 V AC × 5 A, 250 V DC × 0.1 A)

Accuracy: ±0.1% and better (Class A), ±0.15% and better (Class B)

Verification interval: 2 years

Secondary integrated power supplies: 24 or 36 V DC, 22 mA

Interface/protocol: RS-485/Modbus RTU

Power: 90…249 V AC, 40…100 Hz

Case dimensions: 144 × 36 × 97 mm (140 × 31 mm panel opening)

Metallic case

Climatic versions: –25…+50 °C

Ingress protection rating: IP54 (front panel), IP20 (case)

Versions: standard, explosion-proof (Ex ([Exia]IIC)

Warranty period: 7 years

IPM 0499/M2-H

The IPM 0499/M2-H Signal conditioner with HART convers signals from resistive temperature detectors (RTD), thermocouple (TC) and transducers with current or voltage output signals into a 4…20 mA current output and (or) a digital HART signal

The explosion-proof Ex (0Ex ia IIC T6 Ga X), Exd (1Ex d IIC T6 Gb X), Exdia (1Ex d [ia] IIC T6 Gb X) versions are a perfect solution for chemical and gas industry, oil&gas refineries, and any other explosion hazard areas.1 input channel

Input signals: Pt100; Ni100; J; K; L; S; B; A-1; NN; 0…5, 0…20, 4…20 mA; 0…75, 0…100 mV; –100…+100 mV; 0…320 Ohm; 0,1…10 kOhm

1 output signal: 4…20 mA HART

Accuracy: ±0.1% and better

Verification interval: 4 years

Wall-mounted or mounted to a Ø50 mm pipe

Several types of cable entries

Climatic version: (–50…+80 °C)

Ingress protection rating: IP65

The device can be configured over the HART modem

Current loop is used as power supply

Versions: standard, Ex (0Ex ia IIC T6 Ga X), Exd (1Ex d IIC T6 Gb X), Exdia (1Ex d [ia] IIC T6 Gb X)

Warranty period: 3 years

IPM 0399/M0-H

The IPM 0399/M0-H Signal Conditioner with HART converts sensor signals into a standard 4…20 mA DC current output and HART digital output. The intrinsically safe version can be installed in explosion-hazard areas

Input signals: Pt100; Ni100; J; K; L; S; B; A-1; N; 0…5, 0…20, 4…20 mA; 0…75, 0…100 mV; –100…+100 mV; 0…320 Ohm; 0,1…10 kOhm

Output signal: 4…20 mA and a HART compatible signal

Accuracy: ±0.2% and better

Verification interval: 2 years

The device can be configured over the HART modem

Power: 10…42 V DC

Case dimensions: 22.5 × 78 × 81 mm

DIN rail mount

Climatic versions: –55…+80 °C

Ingress protection rating: IP20

Versions: standard, explosion-proof (Ex ([Exia]IIC, ExiaIICT6 X), nuclear industry grade (enhanced reliability)

Warranty period: 5 years

UPS 916

The UPS 916 Uninterruptable Power Supply Unit transforms the mains AC Power (220 V) or DC Power into stabilized 24 V DC Power. UPS 916 is used to power the ELEMER-BREZ signal conditioners, transducers (sensors) with standard output signal, and other devices with similar power requirements. The intellectual control system with an external battery provides reliable power supply for any industrial facility

1 output channel: 24 V DC

Max load current per channel: up to 5 A or up to 20 A

Two power options:

- AC mains, 110...249 V DC
- external battery

Instantaneous switch to backup battery without affecting the power supply

UPS 916 can be switched on and off remotely

Programmable stand-alone (battery powered) time

Comprehensive short circuit and battery drainage protection

Self-diagnostics with warnings

Battery charge indicator

UPS status signals

Cimatic version: –25...+70 °C

Ingress protection rating: IP20

Warranty period: 5 years

TDM 420/M3
TDM 420/M4-1
TDM 420/M4-2

The Technological digital meters are connected to a 4...20 mA current loop and displays the current value. The scale is customizable. The TDM 420/M4-2 model has a built-in relay and can be used in process control and warning systems

Versions	Design Features
TDM 420(Ex)/M3	4-segment LED screen, 14 mm digit height
TDM 420(Ex)/M4-1	4-segment LED screen, 10 mm digit height
TDM 420(Ex)/M4-2	4-segment LED screen, 10 mm digit height

Input signal: 4...20 mA

Relations between the indicated value and the input signal: linear, square root

Output Signal Type: optical relay, open collector with negative common (TDM 420/M4-2)

Accuracy: ±0.1% (Class A), ±0.2% (Class B)

Verification interval: up to 5 years

DIN rail mounted (TDM 420(Ex)/M3) or directly mounted to a primary transducer (TDM 420(Ex)/M4-1, TDM 420(Ex)/M4-2)

TDM 420(Ex)/M4-1(/M4-2) display rotation range: 330°

Climatic versions: –50...+80 °C

Ingress protection rating: IP65

Versions: standard, Ex (ExiaIICT6 X)

Warranty period: 3 years

TDM 420/M3-5

The TDM 420/M3-5 Technological digital meters is connected to a 4…20 mA current loop and displays the current value. The scale is customizable. The Ex version can be installed in explosion-hazard areas

Input signal: 4…20 mA

Two-directional HART signal transmission

Accuracy: ±0.1% (Class A), ±0.2% (Class B)

Verification interval: 2 years

To configure the device use the keypad under a cover

Relations between the indicated value and the input signal: linear, square root

Integrated 4-segment LED screen, 14 mm digit height

Several types of cable entries

Wall-mounted or mounted to a Ø50 mm pipe

Climatic versions: –50…+80 °C

Ingress protection rating: IP65

Versions: standard, explosion-proof Ex (ExiaIICT6 X), explosion-proof (1ExdIICT6)

Warranty period: 3 years

HM-10/B
HM-20/U1

The HM-10/B and HM-10/U HART Modems connect a personal computer (PC) or a process control system with any HART-compatible smart devices (pressure, temperature, level, flow rate transducers)

Data transfer speed: 1200 baud

Power and data transfer indicators

Standard version

Up to 15 devices can be connected to a single line

Current loop compatible (4...20 mA, up to 42 V)

Each device can be configured from any current loop position

HM-10/B

Bluetooth interface to PC

Power: 3V DC (2 × AA batteries)

Range: up to 10 m

Compatible to any Bluetooth adapter

Can be used as a interface module for handheld devices

HM-20/U1

USB 1.1, 2.0 interface to PC

USB powered

Data cable length: up to 5 m

Current loop is electrically isolated

METROLOGICAL EQUIPMENT

ELEMER-KT-150

TEMPERATURE CALIBRATORS

HART COMMUNICATION PROTOCOL

Reproducible temperature range: –45…+150 °C

Integrated tablet: easy to use, programmable mode, full instrument status info

Built-in 4-channel precise measuring device

HART-compatible: data acquisition, tested instrument configuration, current loop adjustment, primary transducer scale calibration

Thermostatic module channels depth: 180 mm

Isothermal zone size: 60 mm

Absolute temperature reproduction accuracy:

- ±0.02 °C and better (for ELEMER-KT-150/M1-A)
- ±0.03 °C and better (for ELEMER-KT-150/M1-B)
- ±0.03 °C and better (for ELEMER-KT-150/M2)

Least significant digit value: 0.001 °C

Verification interval: 1 year

ELEMER-KT-150/M2 has a mid channel for fixed point cells or a comparator module. More channels are designed for enhancing the accuracy

External software with temperature profile support

Calibrators with customized thermostat channel number and diameter are available on special order

Case dimensions: 330 × 290 × 360 mm

Max weight: 16 kg

Warranty period: 1 year

ELEMER-KT-200

TEMPERATURE CALIBRATORS

HART COMMUNICATION PROTOCOL

Reproducible temperature range: –10...+200 °C

Integrated tablet: easy to use, programmable mode, full instrument status info

Built-in 4-channel precise measuring device

HART-compatible: data acquisition, tested instrument configuration, current loop adjustment, primary transducer scale calibration

Thermostatic module channels depth: 165 mm

Isothermal zone size: 60 mm

Absolute temperature reproduction accuracy:

- ±0.02 °C and better (for ELEMER-KT-200/M1-A)
- ±0.03 °C and better (for ELEMER-KT-200/M1-B)
- ±0.03 °C and better (for ELEMER-KT-200/M2)

Fixed point cell temperature: ±0.002 °C (In)

Least significant digit value accuracy: 0.001 °C

Verification interval: 1 year

ELEMER-KT-200/M1: a version with angled thermostatic module channels

ELEMER-KT-200/M2 has a mid channel for fixed point cells or a comparator module. More channels are designed for enhancing the accuracy

External software with temperature profile support

Calibrators with customized thermostat channel number and diameter are available on special order

Case dimensions: 330 × 290 × 360 mm

Max weight: 20 kg

Warranty period: 1 year

ELEMER-KT-500

TEMPERATURE CALIBRATORS

HART COMMUNICATION PROTOCOL

Reproducible temperature range: +28...+500 °C

Integrated tablet: easy to use, programmable mode, full instrument status info

Built-in 4-channel precise measuring device

HART-compatible: data acquisition, tested instrument configuration, current loop adjustment, primary transducer scale calibration

Thermostatic module channels depth: 190 mm

Isothermal zone size: 60 mm

Absolute temperature reproduction accuracy:

- ±0.026 °C and better (for ELEMER-KT-500/M1-A)
- ±0.039 °C and better (for ELEMER-KT-500/M1-B)
- ±0.039 °C and better (for ELEMER-KT-500/M2)

Fixed point cell temperature accuracy:
±0.002 °C (In), ±0.003 °C (Sn), ±0.01 °C (Zn)

Least significant digit value: 0.001 °C

Verification interval: 1 year

ELEMER-KT-500/M1: a version with angled thermostatic module channels

ELEMER-KT-500/M2 has a mid channel for fixed point cells or a comparator module. More channels are designed for enhancing the accuracy

External software with temperature profile support

Calibrators with customized thermostat channel number and diameter are available on special order

Case dimensions: 380 × 220 × 380 mm

Max weight: 24 kg

Warranty period: 1 year

ELEMER-KT-650

TEMPERATURE CALIBRATORS

Reproducible temperature range: +28...+650 °C

Integrated tablet: easy to use, programmable mode, full instrument status info

Built-in 4-channel precise measuring device

HART-compatible: data acquisition, tested instrument configuration, current loop adjustment, primary transducer scale calibration

Thermostatic module channels depth: 190 mm

Isothermal zone size: 60 mm

Absolute temperature reproduction accuracy: ±0.039 °C and better

Fixed point cell temperature accuracy: ±0.002 °C (In), ±0.003 °C (Sn), ±0.01 °C (Zn)

Least significant digit value: 0.001 °C

Verification interval: 1 year

ELEMER-KT-650/M1: a version with angled thermostatic module channels

ELEMER-TC-650/M2 has a mid channel for fixed point cells or a comparator module. More channels are designed for enhancing the accuracy

External software with temperature profile support

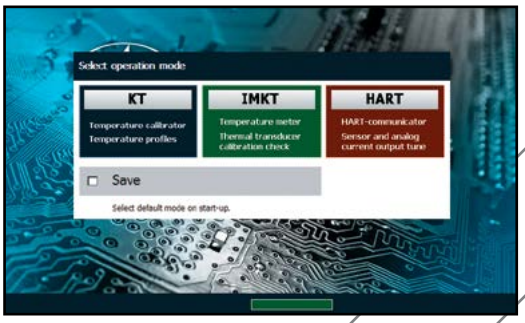
Calibrators with customized thermostat channel number and diameter are available on special order

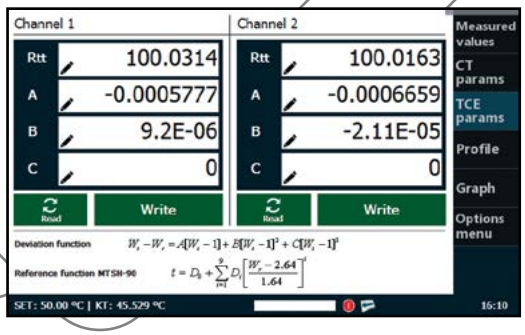
Case dimensions: 380 × 220 × 380 mm

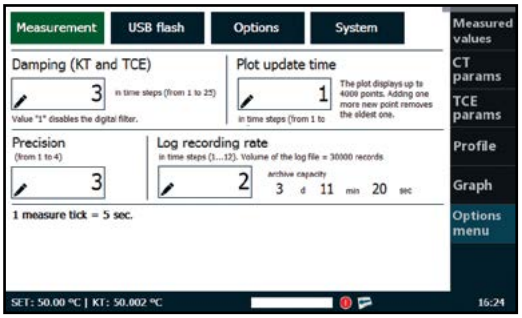
Max weight: 24 kg

Warranty period: 1 year

FEATURES







A touchscreen tablet

Easy to use

Full instrument status info

Programmable mode

Work modes:

- temperature calibrator, fixed point thermostat
- automated checks of RTD, TC, thermal transducers with standard output signal
- the device can be configured and scale calibrated over the HART protocol

Verification reports generation

Data viewing and storage (30,000 frames)

Built-in Precise Measuring Device

4x I, U, R measuring channels

UCS support for RTD, TC, thermal transducers with standard I, U output signal

4x electrically isolated power supplies

HART Communication Module

4 independent channels

Data acquisition and configuration of thermal transducers with standard output signal

Current loop adjustment

Primary transducer scale calibration

ELEMER-AKD-12K

HART COMMUNICATION PROTOCOL

ELEMER-AKD-12K Pressure Controller reproduce and measure reference pressures. ELEMER-AKD-12K can also measure standard pressure transducer signals, check DM relay status, calculate errors, and generate verification reports

Pressure range:

- 0…120 kPa (AP)
- 0…100 kPa (MP)
- 0…2.5 MPa (MP)
- 0…6 MPa (MP)
- 0…10 MPa (MP)
- –100…600 kPa MNP (0…600 kPa AP)
- –0.1…2.5 MPa MNP (0…2.5 MPa AP)

Basic Full-Scale Pressure Reproduction Accuracy: ±0.01% and better

Pressure measurement range: 1 or 2

4x measuring channels for I, U standard signals

4x discrete channels to test relay status

HART-compatible: pressure transducer configuration, current loop adjustment, sensor scale calibration

Programmable verification, calibration, and pressure transducer testing scripts

Verification report generation (with external software)

7” color touchscreen

Programmable pressure control

Data logging

Internal memory for data logging

USB-A interface

External software is complimentary

ELEMER-PKD-260-EX

The ELEMER-PKD-260-Ex Portable Pressure Calibrators measure and reproduce pressure, DC current signals and PDE-020 reference pressure transmitter signals

System Components:

- ELEMER-PKD-260-Ex portable pressure calibrator with built-in air pressure, auxiliary compressor and Li-battery
- One built-in Digital Test Gauge and plug-in external Digital Test Gauge PDE-020
- Cables and hoses included: measurement cables, hoses and adapters to connect different pressure transmitters

Summary:

- Versions:
  - standard
  - Ex (1ExibIIBT6 X)
- Manometric pressure reproduction: up to 16 MPa
- Climatic version: –20…+50 °C
- Input signals: 0…25 mA, 0…10 V
- Output signal: 0…25 mA
- Basic absolute current measurement accuracy: $\pm(10^{-4} \times I + 1)$ µA
- Basic absolute voltage measurement accuracy: $\pm(10^{-4} \times U + 0{,}3)$ mV
- Basic absolute current reproduction accuracy: $\pm(10^{-4} \times I + 1)$ µA
- 2, 3 or 4 wire connection
- 24 V power supplies for the tested pressure transmitters and the current reproduction channel
- Acquiring a reference pressure measured with a PDE-020 (acceptable basic full-scale measurement accuracy is ±0.02% or better)
- 2 channels for relay testing
- Nonvolatile memory: measurement results and modes are preserved with the power off
- Transferring calibration data to a PIC via a USB port or a USB flash drive
- Verification report generation (with external software)

PDE-020
PDE-020I
PDE-020IEX

DIGITAL TEST GAUGE

A Reference Pressure Instrument

Design options: PDE-020(Ex) (no screen; can optionally be used in explosion-hazard areas), PDE-020I (with screen), PDE-020IEx (with screen; to be used in explosion-hazard areas)

Accuracy category:
A0 (0.02%), A (0.03%), B (0.05%), C (0.1%)

Full Scale Values:

- absolute pressure (AP): 0…2,5 MPa
- manometric pressure (MP): 0…60 MPa
- manometric negative pressure (MNP): –0.1…600 kPa

Verification interval:
1 year (A0, A, B categories), 2 years (C category)

Displayed units (PDE-020I(Ex)):
MPa, kPa, kgf/cm^2, kgf/m^2, mm Hg, bar, psi

Max value memory (PDE-020I(Ex))

Screen backlight (PDE-020I(Ex))

Power supply:

- from multifunctional calibration systems
- from pressure calibrators
- USB port to connect to PC
- built-in battery or a mains power supply (RPT-010I, RPT-020IEx)

PDE-020I(Ex) continuous operation with the backlight on: at least 16 hours

RS-232 (USB) interface

External software is complimentary

Climatic version: –20…+60 °C

Ingress protection rating:

- PDE-020: IP54
- PDE-020I: IP20
- PDE-020IEx: IP65

Versions: standard, Ex (0ExiaIICT6 × for PDE-020Ex and 0ExiaIIBT6 × for PDE-020IEx), for oxygen applications

Warranty period: 2 years

ELEMER-KDM-020

PORTABLE PRESSURE CALIBRATORS

Standard DC Current Signal Measurement and Reproduction

PDE-020(Ex) external reference pressure transmitters can be connected

Discrete input for pressure transmitter relays, DM testing

Tested instrument error evaluation

Data storage

Versions:

- Standard
- Ex (1ExibIIBT6 X)

HART Communication Module:

- pressure transmitter acquisition and configuration
- current loop adjustment
- sensor scale calibration

USB-A, Bluetooth interface

External software is complimentary

Climatic version: –20...+50 °C

Case dimensions: 125 × 165 × 60 mm

Warranty period: 5 years

ELEMER-KDM-030

PORTABLE PRESSURE CALIBRATORS

Standard DC Current Signal Measurement and Reproduction

Built-in reference pressure measurement module

Absolute pressure (AP): 0...600 kPa

Manometric pressure (MP): 0...2,5 MPa

Manometric pressure (MP): 0...6 MPa

Manometric negative pressure (MNP): –0.1...600 kPa

Basic Full-Scale Pressure Measurement Accuracy: ±0.02% and better

PDE-020 external reference pressure transmitters can be connected

Discrete input for pressure transmitter relays, DM testing

Tested instrument error evaluation

Data storage

Versions:

- Standard
- Ex (1ExibIIBT6 Gb X)

HART Communication Module:

- pressure transmitter acquisition and configuration
- current loop adjustment
- sensor scale calibration

USB-A, Bluetooth interface

External software is complimentary

Climatic version: –20...+50 °C

Case dimensions: 125 × 225 × 40 mm

Warranty period: 2 years

ELEMER-IKSU-2012

MULTIFUNCTIONAL CALIBRATOR WITH HART ABILITY

A reference instrument for shop instrument verification, calibration, and adjustment

Measurement and reproduction of:

- RT signals
- TC signals
- DC current and Power signals and DC active resistance
- standard DC current and Power signals

Measuring signals from the PDE-020 Digital test gauge

Measuring signals from the RDT-005/M3 Reference Digital Transducer (reference resistive thermometers can be connected)

HART-compatible: data acquisition, tested instrument configuration, current loop adjustment, primary transducer scale calibration

Data logging and export to an external drive

Primary transducer channel: 24/36 V, electrically isolated from the input measuring circuits

2 relay test channels

Verification interval: 2 years

Internal memory for data logging

Color 7” touchscreen

USB-A, USB-B interface

Peripherals: keyboard, mouse, USB flash drives

Verification report generation (with external software): through connecting to PC

Power: built-in Li battery or a mains power supply

Case dimensions: 295 × 182 × 102 mm

Climatic version: –20...+50 °C

Ingress protection rating: IP20

Standard version

Warranty period: 5 years

ITS-90

ELEMER pure-metal fixed point cells are specially designed for dry-block ELEMER-KT calibrators

- Smaller dimensions of fixed point cells allows to decrease their cost and make it more transportable
- Stainless steel case cells much less fragile than quartz glass and suitable for industrial calibrating
- The realization of fixed point cells are easily automated through our programmable ELEMER-KT temperature calibrators

ITS-90 fixed point cells specifications

Cells	Temperature	Uncertainty	Calibrator model
Triple Point of Mecury (TPHg)	–38,8344 °C	±1,2 mK	ELEMER-KT-150
Melting Point of Gallium (MPGa)	29,7646 °C	±1,2 mK	ELEMER-KT-150
Freezing Point of Indium (FPIn)	156,5985 °C	±4 mK	ELEMER-KT-650
Freezing Point of Tin (FPSn)	231,928 °C	±4 mK	ELEMER-KT-650
Freezing Point of Zinc (FPZn)	419,527 °C	±10 mK	ELEMER-KT-650

Cell types

Type	Sealed metal	Resealable metal
Features	• Simplicity and convenience • Protected against contamination • Protected against ambient pressure variation (sealed to 1 atm with pure argon at the freeze emperature) • Transportable between labs (Robust stainless steel case)	• Closer to ITS-90 temperature • Sealed with port for gas supply Resettable pressure • Transportable between labs (Robust stainless steel case)

ETS

Reference thermometers

Highly accurate temperature measurementwith reference thermometers

Model	Sheath material	Temperature range	Uncertainty*						
			TPW (0,01 °C)	MPGa (29,7646 °C)	FPIn (156,5985 °C)	FPSn (231,928 °C)	FPZn (419,527 °C)	FPAl (660,323 °C)	FPCu (1084,62 °C)
ETS-1S-1 (ETS-1Q-1)	Leuco Sapphire (Fused quartz)	0...+660,323 °C	2 mK	2 mK	5 mK	5 mK	10 mK	10 mK	—
ETS-1S-2 (ETS-1Q-2)	Leuco Sapphire (Fused quartz)	0...+660,323 °C	10 mK	10 mK	20 mK	20 mK	20 mK	30 mK	—
ETS-2S-1 (ETS-2Q-1)	Leuco Sapphire (Fused quartz)	0...+419,527 °C	2 mK	2 mK	5 mK	5 mK	10 mK	—	—
ETS-3M-1	Inconel	0...+231,928 °C	2 mK	2 mK	5 mK	5 mK	—	—	—
ETS-4S-2 (ETS-4Q-2)	Leuco Sapphire (Fused quartz)	+419,527...+1084,62 °C	—	—	—	—	70 mK	100 mK	150 mK

**These are expanded uncertainties of measurement with a coverage probability of 95% and have a coverage factor of k = 2.*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