

Temperature calibrator TP 3M255E.2 // TP 3M255E.2i

TP Premium // Multifunction // Room temperature...255 °C // RT...491 °F



TP 3M255E.2



TP 3M255E.2i
Integrated measuring instrument



Highlights

- Patented control technology - Fastest stabilisation times on the market - Time savings of up to 50 %
- Four functions in one calibrator (dry block / calibration bath / infrared / surface)
- Large calibration volume / large calibration insert for simultaneous calibration of many devices under test
- Patented touch screen function for simple and convenient operation
- Automatic generation of the calibration certificate
- Optional as pharmaceutical and food industry version with stainless steel housing
- Accessories: device under test management with barcode scanner
- Available with integrated measuring instrument → TP 3M255E.2i

TP Premium

The calibrators of the TP Premium series are characterised by their **unparalleled performance** and **outstanding operating comfort**. By means of the **intuitive menu structure**, all necessary inputs can be made quickly and easily. The **large touch screen** has plenty of room to display the reference, target and devices under test temperatures. At the end of a calibration process, the

TP Premium **provides the complete calibration certificate**. The continuously growing bandwidth of supported temperature ranges supports an increasing number of temperature sensors on the market. They can be calibrated with a resolution of up to 0.001 °C / K and thus meet the highest requirements, e.g. of the **food and pharmaceuticals industry**.

SIKA temperature calibrators

Temperature calibrators are used for the verification of the functionality and calibration of temperature measuring devices and temperature sensors. As the sole German manufacturer of these devices, we develop and produce our "Made in Germany" temperature calibrators with a special focus on **long-term reliability** and **utmost accuracy** in combination with **easy operation**. We can rely on more than 40 years of experience in doing this: SIKA's **first dry block temperature calibrator** was launched all the way back in 1980.

Every SIKA temperature calibrator is meticulously tested for **accuracy** and **stability**. This is attested by our standard calibration certificate, which we issue with every temperature calibrator, or by means of an optional DAkkS calibration certificate [German accreditation body]. This is to guarantee that you receive a **perfect product** which can be traced back to national and international temperature measurement standards.

Features

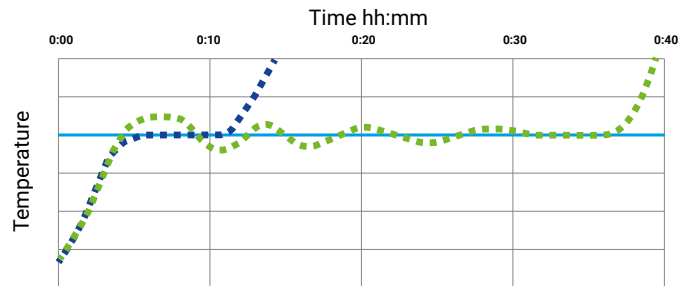
Four functions in one temperature calibrator

- Covering all calibration tasks with only one model: Dry block, infrared and surface calibration as well as calibration by means of a calibration bath
 - Cost savings due to a reduction in the number of versions required
- Quick and easy change between the calibration functions
- Additional calibration functions for your application
 - Dry block for aseptic sensors
 - Air Shield Insert for the best measurement uncertainties
 - Different media for liquid calibration

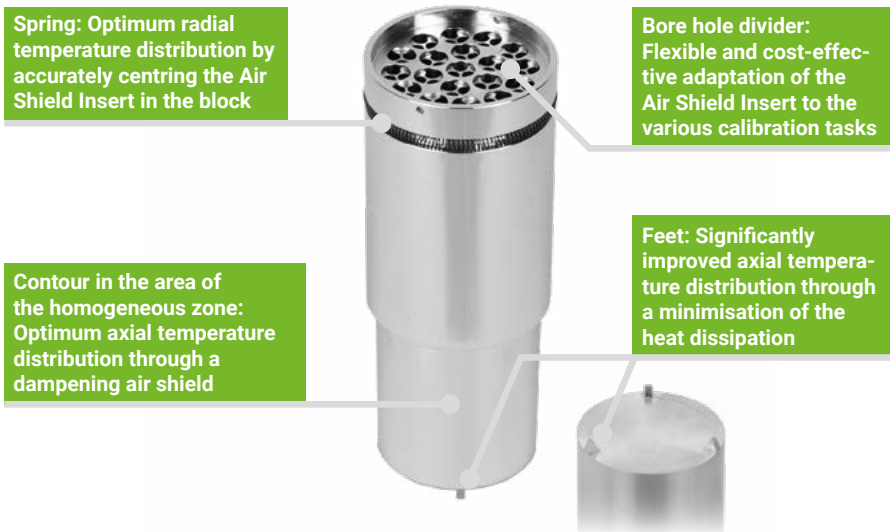


Temperature control with "rocket controller"

- Temperature regulator with model-based state control
- Special regulation algorithm based on knowledge and experience from space travel
- Unique temperature stability of < 0.001 °C / K
- Anticipatory activation of the heating and cooling elements
 - The settling time to the target temperature is reduced by approx. 90% at each calibration point
 - Time savings of up to 50% with each calibration process



Without rocket controller: Long settling time to the target temperature
With rocket controller: Settling time to the target temperature reduced by approx. 90%



Air Shield Insert

- Patented dry block version with optimum radial and axial temperature distribution
- Automatic centring of the Air Shield Insert in the block
 - User errors due to jiggling or twisting are excluded

Features

SIKA OS with touch screen

- Simple operation of the temperature calibrator via the integrated 7" touch screen
 - Intuitive operation of the calibration functions
 - Management of calibration data directly on the calibrator
- Clear display
 - All important information at a glance
- Completely paperless calibration
 - Value calculation and transmission errors are excluded
- Glass surface made of multi-panel safety glass
 - Extremely robust against damage
 - Easy cleaning of the surface
 - Suitable for use in the food industry



SIKA OS with touch screen: Child's play operation

Automatic calibration with camera

In calibration processes for devices under test with their own temperature display, the display of the DUT must be read for each calibration point. The read value is transferred by the user to the calibrator or the calibration certificate, and the subsequent calibration point is only approached after a manual acknowledgement. For this purpose, the user must return to the calibrator at each calibration point. In some cases, this can lead to long delays if the user carries out other tasks in between. With our automatic calibration with a camera, these time-intensive intermediate steps are no longer needed:

- The patented camera system automatically creates a recording of the DUT display at each calibration point. The subsequent calibration point is approached directly afterwards
 - No user interaction is required during the calibration process, as it is implemented automatically
 - All test points are approached without waiting times
- Upon completion of the entire calibration process, the user transmits the data of the created display records to the calibrator or calibration certificate
 - During the entire calibration process, the user is free to carry out other tasks
- The visual records of the device under test display at each calibration point are saved and attached to the calibration certificate as verification



Features

WebApp - Plug and play for your temperature calibrator

- With the WebApp, ongoing or completed calibration processes can be comfortably displayed on a PC or a smart phone
- The connection is made via LAN or WLAN (via router)
- The WebApp is opened via the browser of your PC or mobile phone. Installation of drivers or software is not required
- Compatible with all current operating systems (Windows, Mac OS, Linux, iOS and Android)



TT-Scan multi-channel measuring instrument

- To calibrate devices under test that do not have their own temperature display, you need to connect them to a measuring instrument
- This is done by our TT-Scan multi-channel measuring instrument: With this instrument, you can calibrate up to eight DUTs without a display unit of their own
- The TT-Scan is connected to a temperature calibrator, and the temperatures of the DUTs are directly shown on the display of the temperature calibrator.
- Compatible with DUTs with all common signals: Resistance thermometer, thermocouple and current signals
- The simultaneous calibration of several DUTs enables great time savings

SIKA Gold Service

SIKA Gold Service provides a comprehensive service package for the regular recalibration of your temperature calibrator. You will benefit from exclusive savings and discounts as well as special promotions reserved to SIKA Gold Service members.

- You will save 33% in the recalibration of your temperature calibrator
- You will receive a 10% discount on any repairs that may become necessary
- You will receive preferential invitations to product presentations, symposia, practice days and exclusive training offers

Register now and benefit from the SIKA Gold Service: gold-service.sika.net









Technical data

| TP 3M255E.2 / TP 3M255E.2i | | | | |
|---|--|--|---------------------------|--|
| Temperature range | Room temperature...255 °C | | Room temperature...491 °F | |
| Dimension of the calibration insert | Ø 60 x 170 mm (calibration insert easily exchangeable) | | | |
| Dry block Air Shield Insert | | External reference temperature sensor | | |
| Display accuracy | ±0.08 °C | 0.144 °F | | |
| Temperature stability | ±0.010 °C | 0.018 °F | | |
| Temperature distribution | | | | |
| → Axial | ±0.080 °C | 0.144 °F | | |
| → Radial | ±0.050 °C | 0.009 °F | | |
| Influence of load | ±0.025 °C | 0.045 °F | | |
| Dry block | | External reference temperature sensor | | Internal reference temperature sensor |
| Display accuracy | ±0.25 °C | 0.45 °F | ±0.5 °C | 0.9 °F |
| Temperature stability | ±0.020 °C | 0.036 °F | ±0.05 °C | 0.09 °F |
| Temperature distribution | | | | |
| → Axial | ±0.300 °C | 0.540 °F | ±0.300 °C | 0.540 °F |
| → Radial | ±0.150 °C | 0.270 °F | ±0.150 °C | 0.270 °F |
| Influence of load | ±0.100 °C | 0.180 °F | ±0.450 °C | 0.810 °F |
| Calibration bath (stirred), tub insert | | External reference temperature sensor | | Internal reference temperature sensor |
| Display accuracy | ±0.35 °C | 0.63 °F | ±0.53 °C | 0.954 °F |
| Temperature stability | ±0.05 °C | 0.09 °F | ±0.100 °C | 0.180 °F |
| Temperature distribution | | | | |
| → Axial | ±0.300 °C | 0.540 °F | ±0.300 °C | 0.540 °F |
| → Radial | ±0.150 °C | 0.270 °F | ±0.150 °C | 0.270 °F |
| Influence of load | ±0.100 °C | 0.180 °F | ±0.400 °C | 0.720 °F |
| Calibration bath (stirred), direct filling | | External reference temperature sensor | | Internal reference temperature sensor |
| Display accuracy | ±0.18 °C | 0.324 °F | ±0.46 °C | 0.828 °F |
| Temperature stability | ±0.040 °C | 0.072 °F | ±0.050 °C | 0.090 °F |
| Temperature distribution | | | | |
| → Axial | ±0.150 °C | 0.270 °F | ±0.150 °C | 0.270 °F |
| → Radial | ±0.150 °C | 0.270 °F | ±0.150 °C | 0.270 °F |
| Influence of load | ±0.100 °C | 0.180 °F | ±0.400 °C | 0.720 °F |
| Infrared calibration | | External reference temperature sensor | | Internal reference temperature sensor |
| Display accuracy | ±0.5 °C | 0.9 °F | ±0.5 °C | 0.9 °F |
| Temperature stability | ±0.05 °C | 0.09 °F | ±0.05 °C | 0.09 °F |
| Emission factor | 0,9994 | | | |
| Surface calibration | | External reference temperature sensor | | |
| Display accuracy | ±1 °C | ±1.8 °F | | |
| Temperature stability | ±0.2 °C | ±0.36 °F | | |

* Extended measurement uncertainty according to DAkkS-DKD-R 5-4

Technical data

| TP 3M255E.2 / TP 3M255E.2i | | |
|--|---|------------------------------------|
| Heating time | | |
| → 20 °C...245 °C | → 68...473 °F | 15 min |
| → 20 °C...255 °C | → 68...491 °F | 17 min |
| Cooling time | | |
| → 255 °C...30 °C | → 491...86 °F | 50 min |
| Resolution of the temperature display | 0.1 / 0.01 / 0.001 °C (selectable) | 0.1 / 0.01 / 0.001 °F (selectable) |
| Hysteresis | ±0.010 °C | ±0.018 °F |
| Temperature units | °C / °F / K (selectable) | |
| Reference temperature sensor | internal, fixed installation / external (selectable) | |
| Interfaces | Ethernet, 3 x USB | |
| Connectivity | OPC UA, serial communication, HTTP. Details and further possibilities on request. | |
| Dimensions | | |
| → Width | 210 mm | |
| → Height | 330 + 50 mm (Handle) | |
| → Depth | 300 mm | |
| Weight | Approx. 8.5 kg | |
| Power supply | 110...115 V 60 Hz / 230 V 50 Hz Protective conductor (PE) needed | |
| Power consumption | Approx. 1000 W | |
| Adjustable temperature range | 0...255 °C | 32...491 °F |
| Display | Brilliant color touchscreen (7 inches), multi panel safety glass | |
| Approvals | | |
|       | | |

The integrated measuring instrument in detail

Resistance thermometers, thermocouples and signals from temperature transmitters must be operated with an external measuring instrument which measures the output signals and displays them as temperature during the calibration. This temperature can then be compared to the set calibrator temperature.

Our integrated measuring instrument assumes the tasks of an external measuring instrument. It shows the temperature directly on the calibrator display and enables the fully automatic calibration of two devices under test at the same time.

Your benefits of the integrated measuring instrument at a glance:

- Temperature sensor calibration without additional measuring instrument
- Simultaneous calibration of several temperature sensors
- Fully automatic calibration and certification
- Enables the simplification of your work processes
- Offers great time savings compared to a temperature calibrator without integrated measuring instrument

The following DUTs can be connected to the integrated measuring instrument:

- Resistance thermometer (RTD): Pt100, Pt500 and Pt1000 in 2-,3- or 4-wire circuit
- Thermocouples (TC) of the types K, J, N, E, R, T, B, S, L and U
- 0(4)...20 mA current signals from temperature transmitters (mA), with and without supply voltage
- 0...10 V voltage signals
- Temperature switch (switch) with normally open and normally closed contacts



Temperature calibrator TP 3M255E.2i // Integrated measuring instrument

Technical data

| Device under test inputs - Resistance thermometers | | |
|--|-----------------------------------|-----------|
| Number of channels | 2 | |
| Connection | 4 mm safety socket, 4 per channel | |
| Connection type | 2-, 3-, 4-wire technology | |
| Resistance range | | |
| → Pt100 | 0...400 Ω | |
| → Pt1000 | 0...4000 Ω | |
| Accuracy | | |
| → Pt100 | ±0.03 °C | ±0.054 °F |
| → Pt500 | ±0.12 °C | ±0.216 °F |
| → Pt1000 | ±0.06 °C | ±0.108 °F |
| → Ni100 | ±0.02 °C | ±0.036 °F |
| → Ni500 | ±0.08 °C | ±0.144 °F |
| → Ni1000 | ±0.04 °C | ±0.072 °F |
| Device under test inputs - Thermocouple | | |
| Number of channels | 2 | |
| Connection | 2x thermocouple socket (mini) | |
| Measuring range | -10...100 mV | |
| Accuracy cold junction | ±0.3 °C | ±0.054 °F |
| Accuracy | | |
| → Type K | ±0.08 °C | ±0.144 °F |
| → Type J | ±0.07 °C | ±0.126 °F |
| → Type N | ±0.13 °C | ±0.234 °F |
| → Type E | ±0.06 °C | ±0.108 °F |
| → Type T | ±0.09 °C | ±0.162 °F |
| → Type R | ±0.78 °C | ±1.404 °F |
| → Type S | ±0.73 °C | ±1.314 °F |
| → Type B | ±0.5 °C | ±0.9 °F |
| Standard signal input (Current) | | |
| Number of channels | 1 | |
| Connection | 4 mm safety socket | |
| Measuring range | 0...24 mA | |
| Accuracy | 0.01 % of range | |
| Standard signal input (Voltage) | | |
| Number of channels | 1 | |
| Connection | 4 mm safety socket | |
| Measuring range | 0...12 VDC | |
| Accuracy | 0.01 % of range | |
| Switch test | | |
| Number of channels | 2 | |
| Transmitter supply | | |
| Output current | Max. 24 mA | |
| Output voltage | 24 VDC | |
| General technical data | | |
| Annual drift of all measuring inputs | Max. 30% of accuracy | |

Article numbers

To order a complete calibrator, you need three article numbers:

1. Calibrator
2. Linearisation
3. Calibration insert

In addition, depending on your individual calibration requirements, you can order additional calibration inserts, necessary certificates and other accessories.

| 1. Calibrator | | | | | | |
|---------------------------|-------------|---------------|-------------------------|--------------|---------------------------------|------------------|
| Temperature range | | Function | Calibration insert [mm] | Power supply | Integrated measuring instrument | Article number |
| Room temperature...255 °C | RT...491 °F | Multifunction | Ø 60 x 170 | 110...240 V | Without | EP3M25 0 26015U3 |
| Room temperature...255 °C | RT...491 °F | Multifunction | Ø 60 x 170 | 110...240 V | With | EP3M25 I 26015U3 |

Notice: Every "linearisation" article number with 13 digits starts with "EK1", while the following letters ("short designation") indicate the selected calibration function. You may also select several functions of one category. Please indicate the calibration functions in alphabetical order and fill in any possibly remaining positions with "0".

| 2. Linearisation | | | | | |
|--|---|-------------|---------------|------------------------------|-------------------|
| Calibration function | Calibration insert / calibration medium | | | Reference temperature sensor | Short designation |
| Dry block | Air Shield Insert* | | | external | A |
| | Cylindrical calibration insert | | | external | B |
| | Cylindrical calibration insert | | | internal | C |
| Infrared | Calibration insert for infrared calibration | | | internal | D |
| | Calibration insert for infrared calibration | | | external | E |
| Surface | Surface calibration insert* | | | external | F |
| Calibration bath (Tub insert) | 20 cSt | 7...220 °C | 44.6...428 °F | external | I |
| | 20 cSt | 7...220 °C | 44.6...428 °F | internal | J |
| | 50 cSt | 50...270 °C | 122...518 °F | external | K |
| | 50 cSt | 50...270 °C | 122...518 °F | internal | L |
| Calibration bath (Direct filling) | 20 cSt | 7...220 °C | 44.6...428 °F | external | Q |
| | 20 cSt | 7...220 °C | 44.6...428 °F | internal | R |
| | 50 cSt | 50...270 °C | 122...518 °F | external | S |
| | 50 cSt | 50...270 °C | 122...518 °F | internal | T |
| Dry block for aseptic sensors | Calibration insert for aseptic sensors** | | | external (Cable sensor) | W |

| Example article number linearisation | | | | | | | | | | | |
|--------------------------------------|-----|---|---|---|---|---|---|---|---|---|----|
| Function: | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Article number: | EK1 | A | C | D | F | G | W | 0 | 0 | 0 | 0 |

* Only with external reference temperature sensor

** Only with W043P410400G3002 as external reference temperature sensor

Article numbers

3. Calibration insert

| Bore holes [mm] | Function | Calibration insert [mm] | Material | Article number |
|---|------------------|-------------------------|-----------|---|
| 1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5 | Dry block | Ø 60 x 170 | Aluminium | EZ16360C04AL05 |
| 2x Ø 3.5, 2x Ø 4.5, 2x Ø 6.5, 2x Ø 8.5, 2x 10.5 | Dry block | Ø 60 x 170 | Aluminium | EZ16360D10AL85 |
| 3x Ø 3.5, 3x Ø 6.5, 3x Ø 8.5, 3x 10.5 | Dry block | Ø 60 x 170 | Aluminium | EZ16360D12AL86 |
| 2x Ø 3.5, 1x Ø 4.5, 1x Ø 5.0, 1x 5.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 9.0, 1x Ø 9.5, 1x Ø 10.5 | Dry block | Ø 60 x 170 | Aluminium | EZ16360D10AL87 |
| Without bore holes | Dry block | Ø 60 x 170 | Aluminium | EZ16360000AL00 |
| Tub insert | Calibration bath | Ø 60 x 170 | | EZTPMBEK000000 |
| Calibration insert for infrared calibration | Infrared | Ø 60 x 170 | | EZ15060B03AL41IR |
| Calibration insert for surface calibration | Surface | Ø 60 x 170 | Aluminium | EZ20460B03AL05OF |
| Calibration insert for aseptic sensors | Aseptic sensors | Ø 60 x 170 | Aluminium | EZ17160C02AL59 |
| Air Shield Insert without bore holes | Dry block | Ø 60 x 170 | Aluminium | EZ16360000AL00F |
| Air Shield Insert incl. 1 bore hole of choice | Dry block (ASI) | Ø 60 x 170 | Aluminium | |
| Calibration insert incl. 1 bore hole of choice | Dry block | Ø 60 x 170 | Aluminium | Please indicate bore holes in the order |
| Each additional bore hole | Dry block | Ø 60 x 170 | Aluminium | |

4. Calibration certificate - Select your calibration certificates as needed

Each calibrator is already delivered with a standard calibration certificate (6 test points).

| | Article number |
|--|-----------------|
| SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 1st calibrator function | EKTPWP1FKT |
| SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 2nd calibrator function | EKTPWP2FKT |
| SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 3rd calibrator function | EKTPWP3FKT |
| SIKA works calibration certificate (similar to standard certificate + marking on the calibrator), 4th calibrator function | EKTPWP4FKT |
| DAkKS calibration certificate (3 test points + measurement uncertainty determination) for 1st calibrator function | EKTPDAKKS1FKT |
| DAkKS calibration certificate (3 test points + measurement uncertainty determination) for 2nd calibrator function | EKTPDAKKS2FKT |
| DAkKS calibration certificate (3 test points + measurement uncertainty determination) for 3rd calibrator function | EKTPDAKKS3FKT |
| DAkKS calibration certificate (3 test points + measurement uncertainty determination) for 4th calibrator function | EKTPDAKKS4FKT |
| Each additional test point DAkKS calibration certificate | EKTPDAKKSZUSP |
| SIKA Gold Service works calibration certificate | EKTPGOLDWP |
| SIKA Gold Service DAkKS | EKTPGOLDDAKKS |
| SIKA works calibration certificate integrated measuring instrument (Pt100, type K) | EKTPWPMI1 |
| SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J) | EKTPWPMI2 |
| SIKA works calibration certificate integrated measuring instrument (Pt100, type K, mA, V) | EKTPWPMI3 |
| SIKA works calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V) | EKTPWPMI4 |
| SIKA works calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V) | EKTPWPMIZUS |
| SIKA works calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V) | EKTPWPMIKOMPL |
| DAkKS calibration certificate integrated measuring instrument (Pt100, type K) | EKTPDAKKSMI1 |
| DAkKS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J) | EKTPDAKKSMI2 |
| DAkKS calibration certificate integrated measuring instrument (Pt100, type K, mA, V) | EKTPDAKKSMI3 |
| DAkKS calibration certificate integrated measuring instrument (Pt100, Pt1000 type K, type J, mA, V) | EKTPDAKKSMI4 |
| DAkKS calibration certificate for each additional measurement input of your choice (Pt500, Pt1000, type J/N/E/T/R/S, mA, V) | EKTPDAKKSIMIZUS |
| DAkKS calibration certificate complete (Pt100, Pt500, Pt1000, type K/J/N/E/T/R/S, mA, V) | EKTPDAKKSKOMPL |

Article numbers

| 5. Accessories | Article number |
|--|------------------|
| Transport case without trolley | EZTPKOFFER007 |
| Transport case with trolley | EZTPKOFFER007TG |
| External reference temperature sensor TF 255 (-55...255 °C / -67...491 °F) | W033P413000GX0R2 |
| External reference temperature sensor TF 255 (-55...255 °C / -67...491 °F), 90° angle | W033P413000GX0RI |
| External reference sensor as cable sensor (for function EPLIKSDE000) | W043P410400G3002 |
| Tripod | EZTPMSG0000000 |
| Calibration liquid (silicone oil), 50cSt | EZSÖ0500000000 |
| Calibration liquid (silicone oil), 20cSt | EZSÖ0200000000 |
| Calibration liquid (silicone oil), 10cSt | EZSÖ0100000000 |
| Calibration liquid (silicone oil), 5cSt | EZSÖ0050000000 |
| Network switch | XE2103 |
| Barcode scanner | XE2102 |
| W-LAN router | XE2101 |
| DUT temperature sensor for demo purposes (Pt100 3-phase) for integrated measuring instrument | WMQMP31020050003 |
| Bore hole divider for Air Shield Insert 3 x Ø 3 mm sensors from Ø 9 mm bore hole | XE2194 |
| Spare part extension spring for Air Shield Insert | XE2267 |
| Instruction in the temperature calibrator by SIKA field service | EKTPEINWEISUNG |
| Frame packaging for return of calibrator (e.g. for recalibration) | |
| Please indicate the calibrator model when ordering. | 098V |

Overview of SIKA temperature calibrators

Our series: Basic. Solid. Premium.

- **Dry block calibrators** of the **TP Basic** series impress with their **uncomplicated operation** and **high cost-effectiveness**. They are particularly suitable for use on ships or in industrial applications.
- Equipped with a **PC interface**, the **dry block calibrators** and **calibration baths** of the **TP Solid** series cover a wide temperature range with high accuracy.
- For the highest demands on accuracy and flexibility: The dry-block and multi-function temperature calibrators of the **TP Premium** series represent the pinnacle of our technical development. Equipped with an **integrated touch screen**, a **PC interface**, an **external reference sensor** and **integrated measuring instrument**, this series offers **extreme accuracies** for **all calibration tasks**.

| Temperature range (RT=Room temperature) | Function | Accuracy | Features | Block dimensions [Ø mm x depth mm] | Type | |
|--|--|---------------------------------|------------------------|---------------------------------------|---------------|-------------|
| -55 °C ... 200 °C -67 °F ... 392 °F | Dry block | ±0.4 °C | ±0.72 °F | TP Basic | 28 x 150 | TP 17200 |
| | Dry block | ±0.2 °C | ±0.36 °F | TP Solid | 28 x 150 | TP 17200S |
| | Dry block | ±0.2 °C | ±0.36 °F | TP Premium | 28 x 150 | TP 37200E.2 |
| -35 °C ... 155 °C -31 °F ... 311 °F | Calibration bath | ±0.1 °C | ±0.18 °F | TP Solid | 60 x 170 | TP M165S |
| -35 °C ... 165 °C -31 °F ... 329 °F | Dry block | ±1 °C | ±1.80 °F | TP Basic | 28 x 150 | TP 17165M |
| | Dry block | ±0.4 °C | ±0.72 °F | TP Basic | 28 x 150 | TP 17165 |
| | Dry block | ±0.2 °C | ±0.36 °F | TP Solid | 28 x 150 | TP 17165S |
| | Dry block | ±0.2 °C | ±0.36 °F | TP Premium | 28 x 150 | TP 37165E.2 |
| | Dry block ext. Dry block int. | ±0.2 °C ±0.3 °C | ±0.36 °F ±0.54 °F | TP Premium | 60 x 170 | TP 3M165E.2 |
| | Air Shield Insert | ±0.099 °C | ±0.1782 °F | | | |
| Calibration bath Infrared Surface | ±0.1 °C ±0.5 °C ±1 °C | ±0.18 °F ±0.9 °F ±1.88 °F | | | | |
| -30 °C ... 165 °C -22 °F ... 329 °F | Dry block | ±0.4 °C | ±0.72 °F | TP Basic | 60 x 150 | TP 17166 |
| | Dry block | ±0.2 °C | ±0.36 °F | TP Solid | 60 x 150 | TP 17166S |
| -10 °C ... 100 °C 14 °F ... 212 °F | Dry block | ±0.05 °C | ±0.09 °F | TP Solid | 7 x 6.5 x 150 | TP 17Zero |
| RT ... 200 °C RT ... 392 °F | Dry block | ±1 °C | ±1.80 °F | TP Basic | 18 x 150 | TP 18200E |
| RT ... 255 °C RT ... 491 °F | Calibration bath | ±0.2 °C | ±0.36 °F | TP Solid | 60 x 170 | TP M255S |
| | Dry block ext. Dry block int. | ±0.25 °C ±0.5 °C | ±0.45 °F ±0.9 °F | TP Premium | 60 x 170 | TP 3M255E.2 |
| | Air Shield Insert | ±0.08 °C | ±0.144 °F | | | |
| | Calibration bath, tub insert, ext. | ±0.35 °C | ±0.63 °F | | | |
| | Calibration bath, tub insert, int. | ±0.53 °C | ±0.954 °F | | | |
| | Calibration bath, direct filling, ext. | ±0.18 °C | ±0.324 °F | | | |
| | Calibration bath, direct filling, int. | ±0.46 °C | ±0.828 °F | | | |
| Infrared Surface | ±0.5 °C ±1 °C | ±0.9 °F ±1.8 °F | | | | |
| RT ... 450 °C RT ... 842 °F | Dry block | ±0.6 °C | ±1.08 °F | TP Basic | 60 x 150 | TP 17450 |
| | Dry block | ±0.3 °C | ±0.54 °F | TP Solid | 60 x 150 | TP 17450S |
| | Dry block Air Shield Insert | ±0.3 °C ±0.2 °C | ±0.54 °F ±0.36 °F | TP Premium | 60 x 150 | TP 37450E.2 |
| | Infrared Surface | ±0.5 °C ±1 °C | ±0.9 °F ±1.8 °F | | | |
| RT ... 650 °C RT ... 1202 °F | Dry block | ±1 °C | ±1.8 °F | TP Basic | 28 x 150 | TP 17650M |
| | Dry block | ±0.8 °C | ±1.44 °F | TP Basic | 28 x 150 | TP 17650 |
| | Dry block | ±0.4 °C | ±0.72 °F | TP Solid | 28 x 150 | TP 17650S |
| RT ... 700 °C RT ... 1292 °F | Dry block Air Shield Insert | ±0.43 °C ±0.27 °C | ±0.744 °F ±0.486 °F | TP Premium | 29 x 150 | TP 37700E.2 |
| RT ... 850 °C RT ... 1562 °F | Dry block | ±1 °C | ±1.8 °F | TP Basic | 18 x 100 | TP 18850E |
| 400 °C ... 1300 °C 752 °F ... 2372 °F | Dry block | ±2 °C | ±3.6 °F | TP Solid | 28 x 200 | TP 281300E |

Subject to technical modifications and errors