# Temperature calibrator TP M255S
## TP Solid // Calibration bath // Room temperature...255 °C // RT...491 °F



TP M255S

## TP M255S - Highlights

- Very easy operation with 4-button control and integrated reference temperature sensor
- PC interface with connection cable to USB for use with SIKA calibration software
- Low weight and stable handle for easy transport
- Optional accessory: Transport case with or without trolley
- Qualified for SIKA Gold Service
- Especially suitable for calibration of devices under test with special sensor geometry. DUTs are simply immersed in the calibration liquid, no calibration insert with specific bore hole pattern is required.

## TP Solid

With the temperature calibrators of the TP Solid series, the main focus is on flexibility: In addition to dry block calibrators, they also include calibration baths, with which almost any temperature sensor can be calibrated irrespective of its shape. Both can be operated easily and intuitively. When being used as fluid bath calibrator, the temperature sensors are directly immersed into the calibration liquid. This creates a direct temperature link between the calibrator and the devices under test without insulating air gap. All TP Solid temperature calibrators are additionally equipped with a serial interface for computer-assisted monitoring of the calibration process. This flexibility in combination with the easy operation make the TP Solid series ideal for use in machinery and plant engineering.

## 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.

Technical datasheet

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SIKA®

# Features

### Easy operation

- The TP M255S can be operated with only four buttons: Two arrow buttons for setting the target temperature, one button for confirmation and one return button

- Thus, temperatures can be set as easily as, for example, in the air conditioning system in your car

- Any operational errors can be nearly excluded. You do not need any specifically trained staff or time-consuming briefings

### 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 and the temperature calibrator are connected to a PC or laptop on which the temperatures of the DUTs are output via our PC software and evaluated.

- 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 M255S | | |
|---|---|---|
| **Temperature range** | Room temperature...255 °C | Room temperature...491 °F |
| **Calibration volume** | Ø 60 x 170 mm | |
| **Calibration bath** | | |
| **Display accuracy** | ±0.2 °C | ±0.36 °F |
| **Temperature stability** | ±0.05 °C | ±0.09 °F |
| **Resolution of the temperature display** | 0.01 °C in the range -9.99...99.99 °C, else 0.1 °C | 0.01 °F in the range -9.99...99.99 °F, else 0.1 °F |
| **Reference temperature sensor** | internal, fixed installation | |
| **PC interface** | RS485 (calibrator) to USB (PC) | |
| **Dimensions** | | |
| → Width<br>→ Height<br>→ Depth | 150 mm<br>330 + 70 mm<br>270 mm | |
| **Weight** | Approx. 7.5 kg | |
| **Power supply**<br>→ Standard<br>→ Optional | <br>230...240 VAC, 50 / 60 Hz<br>100...230 VAC, 50 / 60 Hz | |
| **Power consumption** | Approx. 1000 W | |
| **Display** | | |
| **Display** | 2-line, 4-digit digital display, red / green, unit °C / °F | |

# Article numbers

To order a complete calibrator, you need two order numbers:

1. Calibrator

2. Linearisation

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** | **Article number** |
| Room temperature...255 °C　RT...491 °F | Calibration bath | Ø 60 x 170 | 230 V | EPMB250S601500 |
| Room temperature...255 °C　RT...491 °F | Calibration bath | Ø 60 x 170 | 100...230 V | EPMB250S601503 |

**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** |
| Calibration bath (Direct filling) | 20 cSt | 7...220 °C | 44.6...428 °F | internal | R |
| | 50 cSt | 50...270 °C | 122...518 °F | internal | T |

| Example article number linearisation | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Function:** | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **Article number:** | EK1 | T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| 3. Calibration certificate - Select your calibration certificates as needed<br>Each calibrator is already delivered with a standard calibration certificate (3 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 |
| 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 |
| Each additional test point DAkkS calibration certificate | EKTPDAKKSZUSP |
| SIKA Gold Service works calibration certificate | EKTPGOLDWP |
| SIKA Gold Service DAkkS | EKTPGOLDDAKKS |

| 4. Accessories | Article number |
|---|---|
| Transport case without trolley | EZTPKOFFER20 |
| Transport case with trolley | EZTPKOFFER20TG |
| Tripod (holder for devices under test) | EZTPMSG0000000 |
| Calibration liquid (silicone oil), 50cSt | EZSÖ0500000000 |
| PC software (without TT-Scan) | EZ999999999971 |
| PC software (with TT-Scan) | EZ380000000001 |
| PC connection cable: temperature calibrator (RS485) to USB | EZ170000000002 |

# 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 indust-rial 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. Air Shield Insert Calibration bath Infrared Surface | ±0.2 °C ±0.3 °C ±0.099 °C ±0.1 °C ±0.5 °C ±1 °C | ±0.36 °F ±0.54 °F ±0.1782 °F ±0.18 °F ±0.9 °F ±1.88 °F | TP Premium | 60 x 170 | TP 3M165E.2 |
| -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. Air Shield Insert Calibration bath, tub insert, ext. Calibration bath, tub insert, int. Calibration bath, direct filling, ext. Calibration bath, direct filling, int. Infrared Surface | ±0.25 °C ±0.5 °C ±0.08 °C ±0.35 °C ±0.53 °C ±0.18 °C ±0.46 °C ±0.5 °C ±1°C | ±0.45 °F ±0.9 °F ±0.144 °F ±0.63 °F ±0.954 °F ±0.324 °F ±0.828 °F ±0.9 °F ±1.8 °F | TP Premium | 60 x 170 | TP 3M255E.2 |
| 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 Infrared Surface | ±0.3 °C ±0.2 °C ±0.5 °C ±1 °C | ±0.54 °F ±0.36 °F ±0.9 °F ±1.8 °F | TP Premium | 60 x 150 | TP 37450E.2 |
| 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