

Temperature calibrator TP 17650S

TP Solid // Dry block // Room temperature...650 °C // RT...1202 °F



TP 17650S



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 simple and fast calibrations up to 650 °C (1202 °F)

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.

Features

Easy operation

- The TP 17650S 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

| TP17650S | | |
|--|---|---|
| Temperature range | Room temperature...650 °C | Room temperature...1202 °F |
| Dimension of the calibration insert | Ø 28 x 150 mm (calibration insert easily exchangeable) | |
| Dry block | | |
| Display accuracy | ±0.4 °C | ±0.72 °F |
| Temperature stability | ±0.05 °C | ±0.09 °F |
| Resolution of the temperature display | 0.01 °C in the range room temperature...99.99 °C, else 0.1 °C | 0.01 °F in the range room temperature...99.99 °F, else 0.1 °F |
| Reference temperature sensor | internal, fixed installation | |
| Interface | RS485 (calibrator) to USB (PC) | |
| Connectivity | MODBUS | |
| Dimensions | | |
| → Width | 150 mm | |
| → Height | 330 + 70 mm (Handle) | |
| → Depth | 270 mm | |
| Weight | Approx. 7.5 kg | |
| Power supply | 100...240 VAC, 50 / 60 Hz | |
| Power consumption | Approx. 1000 W | |
| Display | | |
| Display | 2-line, 4-digit digital display red / green, unit °C / °F | |
| Approvals | | |
|       | | |

Article numbers

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

1. Calibrator
2. 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 | Article number |
| Room temperature...650 °C | RT...1202 °F | Dry block | Ø 28 x 150 | 100...240 V | EP17650S281503 |

| 2. Calibration insert | | | | |
|--|-----------|-------------------------|----------|----------------------|
| Bore holes [mm] | Function | Calibration insert [mm] | Material | Article number |
| 1x Ø 3.5, 1x Ø 6.5, 1x Ø 13.5 | Dry block | Ø 28 x 150 | Brass | EZ15028B03MS17 |
| 1x Ø 6.5 | Dry block | Ø 28 x 150 | Brass | EZ15028065MS00 |
| 2x Ø 3.5 | Dry block | Ø 28 x 150 | Brass | EZ15028B02MS09 |
| 1x Ø 3.5, 1x Ø 4.5 | Dry block | Ø 28 x 150 | Brass | EZ15028F02MS80 |
| 1x Ø 3.5, 1x Ø 6.5 | Dry block | Ø 28 x 150 | Brass | EZ15028H02MS01 |
| 1x Ø 3.5, 1x Ø 8.5 | Dry block | Ø 28 x 150 | Brass | EZ15028B02MS67 |
| 1x Ø 3.5, 1x Ø 6.5, 1x Ø 8.5, 1x Ø 10.5 | Dry block | Ø 28 x 150 | Brass | EZ15028C04MS15 |
| Without bore holes | Dry block | Ø 28 x 150 | Brass | EZ15028000MS00 |
| Calibration insert incl. 1 bore hole of choice | Dry block | Ø 28 x 150 | Brass | Please indicate bore |
| Each additional bore hole | Dry block | Ø 28 x 150 | Brass | holes in the order |

| 3. Calibration certificate - Select your calibration certificates as needed | | Article number |
|--|--|----------------|
| Each calibrator is already delivered with a standard calibration certificate (6 test points). | | |
| SIKA works calibration certificate (similar to standard calibration certificate + marking on the calibrator) | | EKTPWP1FKT |
| DAkKS calibration certificate (3 test points + measurement uncertainty determination) | | EKTPDAKKS1FKT |
| 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 |
| Transport bag | | XE2193 |
| 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 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 | ±0.1 °C | ±0.18 °F | | | | |
| Infrared | ±0.5 °C | ±0.9 °F | | | | |
| Surface | ±1 °C | ±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 | ±0.5 °C | ±0.9 °F | | | |
| Surface | ±1 °C | ±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 | ±0.5 °C | ±0.9 °F | | | |
| Surface | ±1 °C | ±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 | ±0.43 °C | ±0.744 °F | TP Premium | 29 x 150 | TP 37700E.2 |
| | Air Shield Insert | ±0.27 °C | ±0.486 °F | | | |
| 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