

# Temperature calibrator TP 17165S

TP Solid // Dry block // -35...165 °C // -31...329 °C



## 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
- Particularly suitable for simple and fast calibrations, even below the ambient temperature and in the upper range up to above the often important temperatures such as 121 °C (249.8 °F) and 131 °C (267.8 °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 17165S 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



## Different dimensions of the calibration insert available

- Our TP 17165S temperature calibrator features a small calibration insert with a diameter of 28 mm
- The small calibration insert is ideally suited for quickly running up temperatures and calibrating 1 to 5 conventional temperature sensors at the same time.
- Another version with a calibration insert of  $\varnothing$  60 mm and an otherwise equal design is also available → **TP 17166S**
- The large calibration insert takes a bit longer until it reaches the temperature, but is able to calibrate 1 to 20 conventional temperature sensors at the same time
- We will be happy to help you select the ideal calibration insert for your application

## 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](http://gold-service.sika.net)



# Technical data

<b>TP 17165S</b>		
<b>Temperature range</b>	-35...165 °C at ambient temperature 20 °C	-31...329 °F at ambient temperature 68 °F
<b>Dimension of the calibration insert</b>	Ø 28 x 150 mm (calibration insert easily exchangeable)	
<b>Dry block</b>		
<b>Display accuracy</b>	±0.2 °C	±0.45 °F
<b>Temperature stability</b>	±0.05 °C	±0.09 °F
<b>Resolution of the temperature display</b>	0.01 °C between -9.99...99.99 °C, else 0.1 °C	0.01 °F between -9,99...99.99 °F, else 0.1 °F
<b>Reference temperature sensor</b>	internal, fixed installation	
<b>Interface</b>	RS485 (calibrator) to USB (PC)	
<b>Connectivity</b>	MODBUS	
<b>Dimensions</b>		
→ Width	210 mm	
→ Height	380 + 50 mm (Handle)	
→ Depth	300 mm	
<b>Weight</b>	Approx. 10 kg	
<b>Power supply</b>	100...240 VAC, 50 / 60 Hz	
<b>Power consumption</b>	Approx. 375 W	
<b>Display</b>		
<b>Display</b>	2-line, 4-digit digital display red / green, unit °C / °F	
<b>Approvals</b>		
     		

# 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
-35...165 °C -31...329 °F	Dry block	Ø 28 x 150	100...240 V	EP17160S281503

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 holes in the order	
Each additional bore hole	Dry block	Ø 28 x 150	Brass		

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
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 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