Temperature calibrator TP M165S

TP Solid // Calibration bath // -30...155 °C // -22 °F...311 °F



TP M165S

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
- 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.

Grubatec AG - Gewerbehaus Ergolz, Wölferstrasse 5 - 4414 Füllinsdorf
Telefon: +41 (0)55 617 00 80 - www.grubatec.ch - sales@grubatec.ch

Features

Easy operation

- The TP M165S 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



5-Year Warranty:
Low Maintenance, Comprehensive Service!

With regular service and adherence to the SIKA recalibration recommendation, you receive a 5-year warranty.

- Instead of annual recalibration, recalibration is only necessary every 500 operating hours or every three years thanks to long-lasting SIKA technology.
- This results in only 1/3 of the usual maintenance costs.
- Significant reduction in the total cost of ownership.



Technical data

TP M165S		
Temperature range	-30...155 °C at ambient temperature 20 °C	-22...311 °F at ambient temperature 68 °F
	Lower temperatures possible with reduced ambient temperature.	
Calibration volume	Ø 60 x 170 mm	
Calibration bath		
Accuracy	±0.1 °C	±0.18 °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	
Interface	RS485 (calibrator) to USB (PC)	
Connectivity	MODBUS	
Dimensions		
→ Width → Height → Depth	210 mm 380 + 50 mm 300 mm	
Weight	Approx. 12.5 kg	
Power supply	100...240 VAC, 50 / 60 Hz	
Power consumption	Approx. 375 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. Linearisation

In addition, you can also order the necessary calibration certificates and other accessories.

1. Calibrator					
Temperature range		**Function**	**Calibration insert [mm]**	**Power supply**	**Article number**
-30…155°C	-22…311 °F	Calibration bath	Ø 60 x 170	100…240 V	EPMB160S601503

2. Linearisation					
Linearisation					
With linearisation	EPLIK				
Function					
Calibration bath (Direct filling)		LI			
Reference temperature sensor					
Internal			I		
Alignment to medium					
Water (2...95 °C / 35.6...203 °F)				01	
Silicone oil 10 cSt (-30...155 °C / -22...311 °F)				10	
Customer-specific medium				99	
Test points					
Standard					0
Customer-specific					K
Example article number	**EPLIK**	**LI**	**I**	**01**	**0**

3. Calibration certificate - Select your calibration certificates as needed 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)	EKWPEPLIKLII

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), 10cSt	EZSÖ0100000000
PC software	EZ999999999971
PC connection cable: temperature calibrator (RS485) to USB	EZ170000000002

Grubatec AG - Gewerbehaus Ergolz, Wölferstrasse 5 - 4414 Füllinsdorf
Telefon: +41 (0)55 617 00 80 - www.grubatec.ch - sales@grubatec.ch

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
-50 °C ... 200 °C -58 °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	±0.1 °C	±0.18 °F	TP Premium	28 x 150	TP 37200E.2
-35 °C ... 165 °C -31 °F ... 329 °F	Dry block	±1 °C	±1.8 °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	±0.1 °C	±0.18 °F	TP Premium	28 x 150	TP 37165E.2
-30 °C ... 155 °C -22 °F ... 311 °F	Calibration bath	±0.1 °C	±0.18 °F	TP Solid	60 x 170	TP M165S
-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
	Dry block Air Shield Insert Calibration bath Infrared Surface	±0.1 °C ±0.07 °C ±0.19 °C ±0.5 °C ±1 °C	±0.18 °F ±0.126 °F ±0.342 °F ±0.9 °F ±1.8 °F	TP Premium	60 x 170	TP 3M165E.2
-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	±1.8 °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 Air Shield Insert Calibration bath Infrared Surface	±0.25 °C ±0.08 °C ±0.18 °C ±0.5 °C ±1°C	±0.45 °F ±0.144 °F ±0.324 °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	±0.25 °C ±0.2 °C ±0.5 °C ±1 °C	±0.45 °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	±1.2 °C	±2.16 °F	TP Basic	13.5 x 110	TP Basic Marine
	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

Subject to technical modifications and errors

Grubatec AG - Gewerbehaus Ergolz, Wölferstrasse 5 - 4414 Füllinsdorf
Telefon: +41 (0)55 617 00 80 - www.grubatec.ch - sales@grubatec.ch