tempmate.®

tempmate.®-B series

Self-Contained Mini Temperature and Humidity Data Loggers

LOGISTICS AND TRANSPORT

PROCESS MONITORING

FOOD & PRODUCE

Independent Mini Temperature and Humidity Data Logger for Process Monitoring.

tempmate.®-B data loggers can be used to monitor temperature and humidity in a wide range of applications. From simple office environment monitoring, through process monitoring and monitoring temperature sensitive products in transit. The compact size offers unequalled opportunities.

tempmate.com

IP 55 Protected

Temperature Range –40°C to +140°C

EX Protection

Stainless Steel Body

EN 12830 Compliant

GDP Compliant

FDA 21 CFR Part 11 Compliant

tempmate.®-B series
If size matters.

Curious about your cold chain? tempmate.®-B continuously monitors all relevant data.

The **temp**mate.®-B series are self contained single channel temperature data loggers with the ability to record up to 8,000 data points. Depending upon the model chosen, they will measure from -40°C to +140°C. They are very small (about the same size as a watch battery) which enables them to be inserted into small items and packages.

The **temp**mate.®-B4 loggers are 2-channel mini data loggers for temperature and humidity.

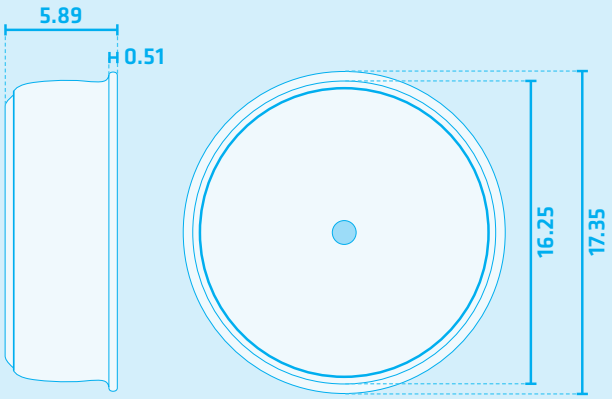
Your Benefits at a Glance

- Compact size
- Cost-effective
- Calibration certificates optionally available
- Robust and reliable
- Wide range of accessories
- Easy and intuitive operation
- Free Software
- Data export function

Technical Specifications

	tempmate.®-B1	**temp**mate.®-B2	**temp**mate.®-B3	**temp**mate.®-B5	**temp**mate.®-B4
					
	1-channel data logger for temperature [1]	1-channel data logger for temperature [1]	1-channel data logger for temperature [2]	1-channel data logger for temperature [3]	2-channel data logger for temperature and humidity [4]
Temperature range	-40 °C to 85 °C	-40 °C to 85 °C	0 °C to 125 °C	15 °C to 140 °C	-20 °C to 85 °C
Accuracy	± 1°C at -30 °C to 70 °C otherwise ± 1.3°C	± 0.5°C at -10 °C to 65 °C	± 0.5°C at 20 °C to 75 °C	±0.2°C at 110°C to 140°C ± 0.5°C at 80 °C to 140 °C ± 1°C at 15 °C to 80 °C	± 0.5°C at -10 °C to 70 °C ± 0.5 % RH ± 0.2 % RH (calibrated)
Power supply	Internal, permanently installed 3.0V lithium battery				
Battery life	10 years or 1 million samples	about 1 years at 80°C and about 5 years at 30°C (10 min sampling) see battery life calculator at our website www.imec.de			
Sampling	1 to 255 minutes	2 seconds to 24 hours			
Memory size	2048 readings	8192 measured values with 8 bits (4096 RH) or 4096 measured values for 11 bit (2048 RH)			
Resolution	0.5 °C (8 bits)	0.5°C (8 bits) or 0.07°C (11 bits) / 0.64 % RH (8 bits) or 0.04 % RH (11 bits)			
Response time	approximately 90 seconds (in the air)				
Dimensions	Ø 17 mm × 6 mm				
Weight	4 g				
Housing Material	305 stainless steel				
Protection class	IP55- splash proof; housing for higher protection classes are available				
Ex-fitness	Meets UL # 913 (4th Edit), Intrinsically Safe Apparatus, approval under Entity Concept for use in Class I, Division 1, Group A, B, C and D Locations				
PC Connection	USB interface				
Time, max. deviation	± 2 minutes per month				
Recording modes	Ring buffer or stop when full				
Start time delay	max. 45 days at 1 minute measurement frequency	max. 12 months at 1 minute measurement frequency			
Start with Alarm	no	possible			

1) Also available with a 3-point calibration at the factory.
2) Also available with a 3-point calibration at the factory. Then with a higher accuracy of ± 0.2°C in the range from 80°C to 125°C.
3) Will always come with a 3-point calibration at the factory.
4) The tempmate-B4 is also available with a factory calibration. Then with a higher accuracy of ± 2% RH.



Dimensions in mm

tempmate.®-B series accessories

We offer a range of waterproof enclosures that have been developed to protect the **temp**mate.®-B series in harsh environments. These are especially recommended when the logger is likely or expected to be subjected to pressure variations or is likely to into contact with fluids. Below you will see a small selection.

Stainless steel enclosure that protects the data loggers in harsh environments or where there is likely to pressures in excess of 100mB.

↑ SL50-ACC01

Material	316 Stainless Steel
Protection	up to 10bar or 100m submersion
Response time in water	73 s (61% step change) 142 s (10% to 90% step change)
Response time in air	373 s (61% step change) 717 s (10% to 90% step change)
O-Ring	Silicone BS115

Constructed from blue anodised aluminium, the SL50-ACC10 is a fast response enclosure for use with all **temp**mate.®-B data loggers.

↑ SL50-ACC10

Material	Hard Anodised Aluminum Casing 316 Stainless Steel Screw
Protection	up to 3.5bar or 35m submersion
Response time in water	28 s (61% step change) 60 s (10% to 90% step change)
Response time in air	117 s (61% step change) 238 s (10% to 90% step change)
O-Ring	FDA Food Grade EPDM

Lightweight enclosure constructed from Polyphenylene Sulphide (PPS Ryton), that protects the data logger at pressures up to 1 bar or depths of 10 m. Maximum operating temperature +125°C.

↑ SL50-ACC03

Material	Polyphenylene Sulphide
Protection	up to 1bar or 10m submersion
Response time in water	118 s (61% step change) 237 s (10% to 90% step change)
Response time in air	407 s (61% step change) 827 s (10% to 90% step change)
O-Ring	Silicone S500-70 FDA Approved

The lowest cost waterproof enclosure for the **temp**mate.®-B series data loggers.

↑ SL50-ACC06

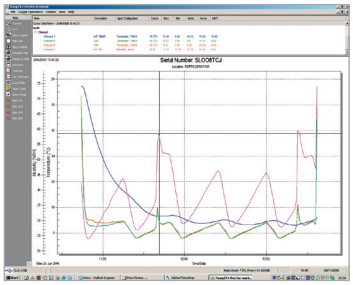
Material	Silicone Rubber
Protection	up to 0.5bar or 5m submersion
Response time in water	90 s (61% step change) 243 s (10% to 90% step change)
Response time in air	270 s (61% step change) 575 s (10% to 90% step change)

Other accessories on request.

tempmate.®-B series
If size matters.

TempIT Software

TempIT is our configuration and data analysis software and is available in two versions, TempIT-LITE and TempIT-PRO. TempIT-Lite which provides all essential graphing functions. TempIT-Pro which incorporates a data table, has export to spreadsheet functions. The TempIT-PRO software, can also be used as part of an FDA 21 CFR Part 11 validatable system.



TempIT-Lite

TempIT-LITE can be used to configure the data logger, download the stored readings, save them and produce a graph which can be printed. Graphical viewer for analysing data from the **temp**mate.®-B data loggers. A historical trace is produced which shows the alarm limits and the stored temperature profile. Full X-Y zoom is available. Holding the "shift" key down and clicking on the trace again will bring up a rate of change window where the change in temperature and the time over which the change occurred is clearly shown.

TempIT-Pro

The TempIT-PRO software contains all the functionality of the TempIT-LITE software but with the advantage of some additional features. TempIT-PRO is available as a single machine licence or can be supplied with a USB key, that unlocks the PRO functions when the key is present in the USB slot of the computer. The data table is presented on the right hand side of the main historical trace in a scaleable window that can be moved to hide the table is required. Likewise if a point on the data table is selected this also adds a cursor on the graph at the appropriate point. Data is easily exported on comma separated value format (CSV).

TempIT-Pro is available in two versions:

- Single User Licence: This enables TempIT-Pro to be installed on a single machine.
- USB key Licence: This enables TempIT-Lite to be installed on as many machines as required. To upgrade Lite to Pro on any machine, you simply insert the USB key into an available USB port. The software reverts back to the Lite version once then USB key is removed.

Software Specification

	TempIT Lite	TempIT Pro-V4
Issuing of tempmate.®-B loggers	⊕	⊕
View and set owner and user manifest	⊕	⊕
View Graph	⊕	⊕
X-Y Zoom	⊕	⊕
Rate of change calculation	⊕	⊕
Auto scale function on Y axis	⊕	⊕
Change units between °C and °F	⊕	⊕
Print Graph in PDF format	⊕	⊕
Export Data in CSV format		⊕
View Data in a tabular format		⊕
Open multiple logger files and overlay on the same graph		⊕
Add comments to the graph with pointers		⊕
„Show Measure" function to calculate rate of change		⊕
Automatic Calculation of F0, A0, PU´s		⊕
Automatic Calculation of Mean Kinetic Temperature(MKT)		⊕
Carry out „time above" temperature / value test		⊕
PDF Print out includes all data in tabular format		⊕
Can be used as part of a FDA21 CFR Part 11 system		⊕

SL 50-Interface-USB

USB communication interface for connecting all **temp**mate.®-B loggers to a computer. You will probably only need one interface, even if you have a number of data loggers.

MELIS-TEC
TEMPERATUR - MESSEN - ÜBERWACHEN

MELIS-TEC
Deutschland

Weststraße 33
59174 Kamen

T +492307 93145-0
F +492307 93145-99

info@melis-tec.de
www.melis-tec.de