



**Bluetooth** pressure and temperature data logger with range -40°C ÷ +140°C with filter for the pressure sensor and 30 cm bendable probe and 1,5 mm diameter for temperature. Receive data directly on your laptop (Bluetooth 5.0 required) or on your smartphone (\*) without additional accessories. Very easy to use: select the devices you need, start the acquisition, see the data in real time. You will no longer need cables and receivers or cumbersome interfaces and thanks to TS Manager 3 you can immediately analyze data and generate advanced reports.

The **battery** is **user replaceable** and is supplied with an **Accredia traceable calibration certificate**.

\* mobile available in Q4 2025.



## Applications



Validation



Sterilisation



Pharmaceutical



Medical



Healthcare



Cosmetics



Laboratories



Food & Beverages

## Main features

- No receiver or accessories needed
- Live data transmission
- With different lengths rigid probe for penetration
- Double channel for both parameters monitoring
- Completely food grade and waterproof
- **All software calculate lethality value (F0, PU, A0 ecc.)**
- Low battery consumption for an extended battery life (if used below -20°C the battery life could be significantly reduced)
- User replaceable battery (**software shows battery status**)
- Extremely easy to use
- Possibility of application to any type of packaging
- Accredia (NIST equivalent) traceable calibration certificate included
- Available **extended calibration from -40°C** (order extra calibration points; in case of wide calibration range the accuracy might be worse. Request the possible calibration ranges in advance)

## Plus

- Extremely high accuracy and precision for temperature and pressure: with an accuracy of  $\pm 0,1^{\circ}\text{C}$  and  $\pm 10$  mbar these devices can be employed in any application involving pharmaceuticals, validation, laboratory and medical field
- Real-time transmission
- Extreme ease of use
- High accuracy even outside the calibration range
- Fast response time thanks to the 1,5 mm diameter probe
- Printed reports compliant with health regulations and ISO (data are not editable in the software)

## The system

The system is made up by:

- BlueWave B1P pressure and temperature data logger
- TS Manager 3 software (compatible with the FDA 21 CFR Part 11, Annex 11, GAMP 5 regulations)

## Accessories

- TS Manager 3
- BlueWave battery kit

## Technical specifications

Dimensions	90 h X 23 Ø (mm) (filter 5 h X 9 Ø (mm))
Radial probe dimensions	20 l X 3 Ø (mm)
Probe dimensions	Probe base dimensions 4 h X 8 Ø (mm) - Bendable probe 300/on demand l X 1,5 Ø (mm) (l on demand: 100 / 1000 mm) (first and last 15 mm cannot be bent)
Weight	94 g
Materials	Stainless steel AISI316L, PEEK, FKM (o-ring)
Temperature range	-40°C ÷ +140°C
Standard calibration points (temperature)	25/50/75/100/121/140°C
Extra calibration points (temperature)	Within the range -40 °C ÷ +140 °C
Temperature resolution	0,01 °C
Temperature accuracy	± 0,1 °C (within the calibration range)
Pressure range	0 bar ÷ 5 bar absolute
Standard calibration points (pressure)	50/1k/2k/3k/4k absolute mbar
Extra calibration points (pressure)	Within the range 50 mbar ÷ 5 bar absolute
Pressure resolution	1 mbar
Pressure accuracy	± 10 mbar typical; ± 15 mbar maximum
Memory (n. of acquisitions)	65.500
Acquisition step	From 1 every second up
Protection degree	IP68
Battery life	+4.000.000 acquisitions at 1 second step continuously (calculated time @25°C. Battery life may be shorter if used in low temperatures)
Communication	Bluetooth BLE 5.0
Frequency	2.4 GHz
It requires	Windows Laptop Bluetooth 5.0
Real time mode	High Performance (secure reception, greater use of the battery), Normal (possibility of losing some data in real time, less use of the battery), standby (waiting for mission start)
Software&Mobile App	TS Manager 3