

## BLUETOOTH LOW ENERGY

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## Temperature logger with external probe

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Wireless temperature loggers measure and transmit temperature over Bluetooth Low Energy. You can use a free mobile application to configure the device and read the data from its memory. If you add Efento Gateway, you can build a [remote temperature monitoring system](#) for objects which need supervision such as [medical refrigerators](#) or [pharmaceutical warehouses](#). The logger is equipped with an external, waterproof probe.

## Key features

- **Works with Efento Cloud**  
Together with Efento Cloud, the sensors enable constant monitoring, alerting about exceeding safe limits, generating reports and analyzes.
- **Long battery life**  
Loggers have been designed to work for up to 5 years on battery. You can forget about changing the battery frequently or troublesome battery charging.
- **Lower costs**  
Choosing wireless sensors and a cloud platform reduces the installation and maintenance costs.
- **Wide range of sensors**  
Efento sensors can measure various physical and chemical values. If you decide on one sensor today, you can expand your sensors fleet to another types anytime you want.
- **Integration**  
Standard communication protocols allow integration with any cloud platform or mobile application.
- **Easy set up**  
All you need to set up a logger is a smartphone with a free mobile application. The whole configuration takes no more than 15 minutes.

## Technical data

### Temperature sensor

- Range: -55 to +125°C
- Accuracy up to 0.5°C in the range from -10°C to +85°C and up to 2°C in the range -55 to -125°C
- Resolution: 0.1°C
- Drift: <0.1°C / year
- Memory size: 60 000 measurements
- Measurement interval: 1 minute to 10 days, (configurable by the user)

### Bluetooth Low Energy interface

- Communication: Bluetooth Low Energy (BLE)
- Radio module frequency: 2,4 GHz
- Power: 2,5 mW (4 dBm)
- Range: up to 100 m (LOS)
- Communication standard: Bluetooth Smart (Bluetooth Low Energy, Bluetooth 4.0)
- Transmission period: 1 s

### Battery

- Battery: 3,6 V, size AA, capacity 2 700 mAh (replaceable)
- Battery operating time: at least 5 years (measurement interval: 15 min)

### Mechanical

- Sensor is equipped with 1 m long external probe
- Dimensions: 27 x 71 x 71 mm
- Weight: 80 g (including batteries)
- Enclosure: plastic ABS, color white
- Enclosure IP rating: IP30, IP42 with a dedicated silicone cover

### Environmental

- Operating
  - ◆ Temperature: -55 to 70°C
  - ◆ Humidity: 0 to 99% non-condensing
- Storage and transportation
  - ◆ Temperature: -40° to 70°C

## Additional information

### Calibration certificate

At the customer's request, each Efento sensor can be supplied with a calibration certificate in accordance with ISO / IEC 17025. The test is performed in an ILAC certified laboratory. The calibration date is saved in the logger's memory and it notifies the user about the suggested date of the next calibration.

### Data security

Data transmitted wirelessly between the sensor and smartphone / Efento Gateway can be encrypted. Thanks to that, unauthorized persons cannot hijack the communication between sensors and other devices. Efento sensors' software can be updated over the air, which will allow you to easily install any security patch that is released.

### Integration

If you want to integrate Efento loggers with your software, cloud platform or mobile application, we will provide you with the necessary documentation, libraries and / or SDKs.

### Sensor's passport

Sensor's passport documents the entire lifecycle of a device. By accessing the data on Efento Cloud platform, the user can check all information about the sensor: date of sale, warranty status, date of calibration, information on all service activities. In addition, the user can download all documents regarding the device – a duplicate of calibration certificate or service protocols.

### Dedicated silicone cover

Loggers can be equipped with dedicated silicone covers which protect the devices against mechanical damages and water splashes. Silicone cover increases the protection level of the enclosure to IP42 level.