



SB-PT100 “Hockey Puck”

Wireless Sensor with PT100

The SB-PT100 family connects PT100 temperature sensors without the expense and hassle of cabling. Its integrated low power IEEE 802.15.4 transceiver provides long battery life and seamless wireless connectivity in hard to reach areas, when portability is essential, or in locations where running cables is inconvenient or not cost-effective. Enabled by our industrial-grade mesh networking protocol, the SB-PT100 provides highly reliable performance even in harsh environments to ensure delivery of critical temperature measurements.

The integrated PT100 interface incorporates a 24-bit ADC for accurate conversion of the PT100 ohm resistance value into temperature data, in accordance with the DIN EN60751 standard. When activated, the SB-PT100 adapter will automatically sample, log and transmit these readings in fully user-configurable intervals. Bi-directional communication is also supported, allowing the adapter to be wirelessly controlled and re-configured.

SB-PT100 electronics are sized to fit in standard sensor heads designed for wired “hockey puck” style transmitters providing a familiar form factor and can be supplied as transmitter only, transmitter mounted in sensor head or complete with PT100 sensor for single source simplicity



Features and Benefits

- Integrated PT100 measurement transducer for direct connection to PT100 probes and sensors
- Nodes run on batteries, with a battery life of multiple years
- Self-forming, self-healing mesh network topology for maximum resilience and ease of deployment
- Up to 90% installation and commissioning cost savings over traditional cable-based solutions
- Time synchronization of all nodes assures accurate time stamping of individual measurements
- Embedded software provides autonomous data logging and reporting, triggers/alarms, battery condition monitoring, over-the-air configuration, firmware upgrades, and many other advanced capabilities



Specifications are subject to change without notice.



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Specifications

Wireless		General	
Radio type	IEEE 802.15.4 compliant	Sample rate (max.)	1 kHz
Frequency band	2.4 GHz	Scan cycle (typical)	10 s - 1 day
Standby current	20 μ A	Scan cycle (min.)	100 ms
Active measurement current	2 mA	Sensor interface	1 x PT100, 2-wire
Transmit current	55 mA	Sensor temperature range	-100°C - +400°C
Receive current	50 mA	Resolution	0.1°C / 24-bit
Node-to-node hops (max.)	3 ¹	Battery lifetime ² @ 3000 mAh	<ul style="list-style-type: none"> ▪ 15 min heartbeat - up to 7 years (Leaf), 3 years (Router) ▪ 5 min heartbeat - up to 5 years (Leaf), 18 months (Router)
Line of sight range (max.)	250 m (820') node-to-node ³	Accuracy	\pm 0.25% of maximum range
In-building range (typical)	70 m (230') node-to-node	Power source	2 x AA batteries (3,000 mAh) or external 12 - 24 VDC
Receiver sensitivity	-92 dBm	Data log buffer	98 readings
Output power (max.)	2 dBm	Terminal cross-section	0.5 mm ² - 1.5 mm ²
Output power (typical)	0 dBm	EMC noise immunity	According to DIN-EN300328, DIN-EN50371
		EMC compatibility	According to DIN-EN60950
		Certifications	R/TTE, DIN-EN301489-1, DIN-EN301489-1, CE authorized for

¹ Extendable to up to 5 hops

² Longer battery life on request

³ Extendable to up to 2 km (6,500')

Complementary Products and Accessories

A Gateway device is required to establish and manage the wireless mesh network and to provide connectivity to backend systems and is specified separately

Accessory	Order Code	Accessory	Order Code
PT100 sensor, 2-wire	ACC-DS-PT100	Battery pack, 3,000 mAh	ACC-BP-S

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