



E-Senza[®]
Technologies

Leveraging Power of Wireless[®]

SenzaBlock SB110-NTC/NTC3 **Wireless Temperature Sensor (NTC)**

The SenzaBlock SB110-NTC is a wireless sensor in the growing SenzaBlock family. This integrated battery powered sensor can measure temperature using Thermistor and send it over wireless. Its integrated radio provides seamless wireless connectivity and an efficient power management algorithm enables long battery life.

When flexibility is essential, or in locations where running cables is inconvenient or not cost-effective, this wireless sensor is then your ideal solution. Based on our industry leading SenzaNET mesh networking protocol, the SB110 family delivers reliable performance even in harsh environments.

The integrated Thermistor sensor provides quick and reliable measurement at lower price compared to its pt100 compatriots. The measurement range is limited to -55°C to 125°C but is ideal for ambient temperature measurement applications like refrigeration, data center, and environmental conditions. SB110-NTC 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 configured or calibrated. Configurable Set-points allow for a very flexible monitoring of temperature for predictive maintenance applications.



Features and Benefits

- Thermistor sensor allows for quick reaction to temperature changes at lower measurement accuracy.
- SB110-NTC supports setting limits of alarm points
- 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
- Autonomous data logging and reporting, triggers, battery condition monitoring, over-the-air configuration and many other capabilities are given

Ideal for Monitoring Temperature in:

- Cold Chains / Truck trailer
- Refrigerators & Freezer
- Healthcare Equipments
- Hospitals
- Museums
- School Food Service Equipments
- Laboratories, Blood & Tissue Bank
- Pharmaceutical Warehouses

SB110-NTC is available with a choice of enclosure options, antenna types to suit most applications.



Antenna type	External	External	External	External
Antenna connector	Reverse-SMA	Reverse-SMA	Reverse-SMA	Reverse-SMA
Enclosure rating	IP65	IP54	IP65, rugged aluminum	IP40, temper proof ¹
Dimensions ²	126 x 64 x 38 mm (5 x 2.5 x 1.5")	126 x 64 x 38 mm (5 x 2.5 x 1.5")	126 x 64 x 35 mm (5 x 2.5 x 1.4")	126 x 64 x 38 mm (5 x 2.5 x 1.5")
Weight ³	160 grams (5.6 oz)	160 grams (5.6 oz)	280 grams (9.9 oz)	180 grams (6.4 oz)
Operating temperature range	-20° C to +55° C ⁴ (-4 to 131° F)	-20° C to +55° C ⁴ (-4 to 131° F)	-20° C to +55° C ⁴ (-4 to 131° F)	-20° C to +55° C ⁴ (-4 to 131° F)
Order code	SB110-NTC-E65	SB110-NTC-E54	SB110-NTC-A65	SB110-NTC-TP40



Antenna type	External	External	External	Internal
Antenna connector	Reverse-SMA	Reverse-SMA	Reverse-SMA	-
Enclosure rating	IP65	IP65, rugged aluminum	IP40, temper proof ¹	IP54
Dimensions	126 x 64 x 38 mm (5 x 2.5 x 1.5")	126 x 64 x 35 mm (5 x 2.5 x 1.4")	126 x 64 x 38 mm (5 x 2.5 x 1.5")	107 x 67 x 21 mm (4.2 x 2.7 x 0.9")
Weight	160 grams (5.6 oz)	280 grams (9.9 oz)	180 grams (6.4 oz)	100 grams (3.5 oz)
Operating temperature range	-20° C to +55° C ⁴ (-4 to 131° F)	-20° C to +55° C ⁴ (-4 to 131° F)	-20° C to +55° C ⁴ (-4 to 131° F)	-20° C to +55° C ⁴ (-4 to 131° F)
Order code	SB110-NTC3-E65	SB110-NTC3-A65	SB110-NTC3-TP40	SB110-INTC


¹ IP65 on request

² Excluding antenna

³ Weight specifications of IP54 and IP65 include weight of batteries.

⁴ -40° C to +85° C available on request

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 µA	Scan cycle (min.)	100 ms
Active measurement current	12 mA	Sensor interface	Multi sensor interface, up to 3 sensors
Transmit current	55 mA	Sensor temperature range	-55 °C - +125 °C (-67 °F to +257 °F)
Receive current	50 mA	Resolution	<ul style="list-style-type: none"> SB100-NTC version 0.1 °C SB100-NTC3 version 0.5 °C
Node-to-node hops (max.)	3	Accuracy	±0.5 °C, from -10 °C to +85 °C (17 to 185 °F)
Line of sight range (max.)	250 m (820') node-to-node	Battery lifetime ⁵ @ 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)
In-building range (typical)	70 m (230') node-to-node	Power source	2 x AA batteries (3,000 mAh)
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	Certifications	
		EMC noise immunity	According to DIN-EN61000
		EMC compatibility	According to EN55011, Class A
		Certifications	 R&TTE 1995/5/EC, EN300 440-2 V1.1.2, ETSI EN301 489-03 V1.4.1, EN60950-1:2001 + A11:2006, EN50371:2002, CE, FCC Title 47 Part 15 authorized for use in Europe & USA

⁵ Longer battery life on request

⁶ Except SB110-INTC

Complementary E-Senza Products and Accessories

A SenzaGate device is required to establish and manage the wireless mesh network and to provide connectivity to backend systems.

Accessory	Order Code	Accessory	Order Code
Antenna extension cable, 1 m (3')	ACC-RC-S-100	Battery pack, 3000 mAh	ACC-BP-LT
Antenna extension cable, 3 m (10')	ACC-RC-S-300	Battery pack, 4800 mAh, high temperature	ACC-BP-HT
2 dB dipole antenna, IP54	ACC-AT-S-54	Battery pack, 7200 mAh, high temperature	ACC-BP-HTH1
2 dB dipole antenna, IP65	ACC-AT-S-65	Battery pack, 14400 mAh, high temperature	ACC-BP-HTH2
5 dBi dipole antenna, IP54	ACC-AT-H-54		
9 dBi dipole antenna, IP54	ACC-AT-H9-54		
2-way Antenna Splitter	ACC-AT-SP		

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