



E-Senza®
Technologies

SenzaBlock SB110-HT

Wireless Temperature and Humidity Sensor

The SenzaBlock SB110-HT is a wireless sensor in the growing SenzaBlock family. This combined battery powered sensor can measure humidity and temperature 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 MEMS sensor provides high stability and repeatability over complete measurement range of temperature and humidity. SB110-HT will automatically sample, log and transmit these readings in fully user-configurable intervals. Bi-directional communication is also supported, allowing the sensor to be wirelessly configured or calibrated. Configurable Set points allow for a very flexible monitoring of temperature and humidity conditions for predictive maintenance applications.



Features and Benefits

- MEMS Sensor technology enables high repeatability and reliability over long measurement periods
- 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 / Humidity in:

- Data Center
- Healthcare Equipment
- Hospitals
- Museums
- Service
- Laboratories, Blood & Tissue Bank
- Pharmaceutical Warehouses
- Production Halls
- Clean Room

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



Antenna type	External	External	External
Antenna connector	Reverse-SMA	Reverse-SMA	Reverse-SMA
Enclosure rating	IP65	IP54	IP65, rugged aluminum
Dimensions ¹	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")
Weight ²	160 grams (5.6 oz)	160 grams (5.6 oz)	280 grams (9.9 oz)
Operating temperature range	-20 °C to +55 °C ³ (-4 to 131 °F)	-20 °C to +55 °C ³ (-4 to 131 °F)	-20 °C to +55 °C ³ (-4 to 131 °F)
Order code	SB110-HT-E65	SB110-HT-E54	SB110-HT-A65



Antenna type	External	Internal
Antenna connector	Reverse-SMA	-
Enclosure rating	IP40, temper proof ⁴	IP54
Dimensions ¹	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 ²	180 grams (6.4 oz)	100 grams (3.5 oz)
Operating temperature range	-20 °C to +55 °C ³ (-4 to 131 °F)	-20 °C to +55 °C ³ (-4 to 131 °F)
Order code	SB110-HT-TP40	SB110-IHT


¹ Excluding antenna

² Weight specifications of IP54 and IP65 include weight of batteries.

³ -40 °C to +85 °C available on request

⁴ IP65 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 temperature range	Humidity: Range: 10% - 90% rH Temperature: Range: -40 to +125 °C (-40 to 257 °F)
Transmit current	55 mA		
Receive current	50 mA		
Node-to-node hops (max.)	3	Resolution	Humidity: 0.05 %rH Temperature: 0.01 °C
Line of sight range (max.)	250 m (820') node-to-node		
In-building range (typical)	70 m (230') node-to-node	Accuracy	Humidity: 3% rH, 5% @ rH < 20% and > 80% Temperature: +/- 0.4 °C @ 25 °C (77 °F)
Receiver sensitivity	-92 dBm		
Output power (max.)	2 dBm	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)
Output power (typical)	0 dBm		
		Power source	2 x AA batteries (3,000 mAh)
		Data log buffer	98 readings
		Terminal cross-section	0.5 mm ² - 1.5 mm ²
		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

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		

⁵ Longer battery life on request

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