

Sensorium™ Sensor Node — BLE Smart Sensor Node Platform — Installation & Quick-Start Guide

Unbox, mount, power (battery), pair to the Gateway over BLE, and verify telemetry for the BLE Smart Sensor Node Platform — the low-power Sense layer of the Sensorium™ family.

[sensorium-sensor-node-installation](#) · Revision Draft (Preliminary) · 2026-07-08 · Status: **PRELIMINARY**

PRELIMINARY. This guide describes the intended installation procedure. Values marked **[TBD]** — battery type, torque figures, mounting clearances, sensor pinouts, RF range, and LED patterns — are pending engineering confirmation and must not be treated as final. Do not commission a production site from a preliminary procedure without verifying every **[TBD]** against the released manual and the unit's rating label.

About this guide

Product	Sensorium™ Sensor Node — BLE Smart Sensor Node Platform
Family / role	Sensorium™ · Sense
Audience	Competent installation and integration personnel
You will	Unbox → mount → fit battery → pair to Gateway (BLE) → verify telemetry
You need	This guide, the unit's rating label, and the site/pairing details from the 5Tech platform administrator (including the Gateway this node reports through)
Related	Datasheet datasheets/sensorium-sensor-node-datasheet/ ; full operation & maintenance in the product manual (see §8)

Conventions. Steps are numbered, one action each; a safety notice always appears **before** the step it governs. Signal words follow the 5Tech standard:

SIGNAL WORD	MEANING
DANGER	Imminent hazard that will cause death or serious injury if not avoided.
WARNING	Hazard that could cause death or serious injury.
CAUTION	Hazard that could cause minor or moderate injury.
NOTICE	Practice that could cause property or equipment damage, or a failed install.

1. In the box

IN THE BOX



Gateway unit
×1



DIN / wall bracket



Antennas
×[TBD]



Connector set



Quick-start card

Contents — verify against the checklist; contact info@5tech.ca if anything is missing.

Figure FIG-001 — Everything that ships in the Sensorium™ Sensor Node box. Confirm every item is present before you start.

Unpack on a clean surface and check each item against the list. Exact quantities and part numbers are [TBD] pending the released bill of materials.

#	ITEM	QTY	NOTES
1	Sensorium™ Sensor Node unit	1	Enclosure with integrated status indicator
2	Battery	[TBD]	Type per datasheet; may ship separately
3	Mounting kit (bracket / adhesive / magnet / screws)	[TBD]	Method per variant
4	Sensing element / probe (if separate)	[TBD]	Per variant
5	External antenna (if applicable)	[TBD]	Extended-range variant
6	Quick-start card	1	Points to this guide and the manual

NOTICE. Do not discard packaging until commissioning (§7) passes. Record the model and serial from the rating label — you will need them for pairing and your commissioning record.

Before you continue

1. Inspect the enclosure, battery hatch, and any sensing element for shipping damage.
2. Verify the box contents match the table above and the packing slip.
3. Record the model and serial number from the rating label.

If any item is missing or damaged, stop and contact 5Tech support (§8) before mounting.

2. Required tools & safety

Read this entire section before starting. Installation should be performed by **competent personnel** familiar with the site's rules for the assets being instrumented.

2.1 Tools & materials

Exact fastener sizes, torque values, and sensor pinouts are [TBD] — confirm against §3–§4 and the rating label before tightening or wiring anything.

- Screwdriver / bits to suit the mounting and battery-hatch screws — size [TBD].
- The specified battery type ([TBD]) if not pre-fitted.
- Mounting hardware / anchors suited to the surface, or the supplied adhesive / magnet.
- Small tools for the sensing-element connection, if separate (per variant, [TBD]).
- A laptop or mobile device with access to the 5Tech platform / Gateway for pairing (§6).
- Personal protective equipment per site rules.

2.2 Battery safety

WARNING — Battery hazards. Use only the specified battery type ([TBD] — see the datasheet and rating label). Observe polarity. Do not short, crush, puncture, disassemble, heat, or incinerate the battery. A damaged or wrong-type battery can leak, overheat, vent, or rupture.

NOTICE — Storage. If the node will not be commissioned immediately, leave the battery out until install to avoid depletion and leakage.

2.3 RF safety

NOTICE — Radio. The node uses low-power **Bluetooth Low Energy** (2.4 GHz). Radio type-approvals are region-specific and [TBD] pending certification — operate only where the radio is approved. Do not modify the antenna or enclosure in a way that alters the radio.

2.4 Environment & handling

CAUTION — Sensing element. Handle the sensing element with care; a damaged element gives false readings. Do not exceed the element's rated limits during install.

NOTICE — ESD & sealing. Observe ESD precautions when the battery hatch or connectors are open. Keep all seals and the battery hatch closed in service to maintain the (targeted) ingress rating.

3. Mounting

The node mounts by the method supplied with the variant — bracket, screws, adhesive, or magnet ([TBD]). Review the dimensions before drilling or bonding.

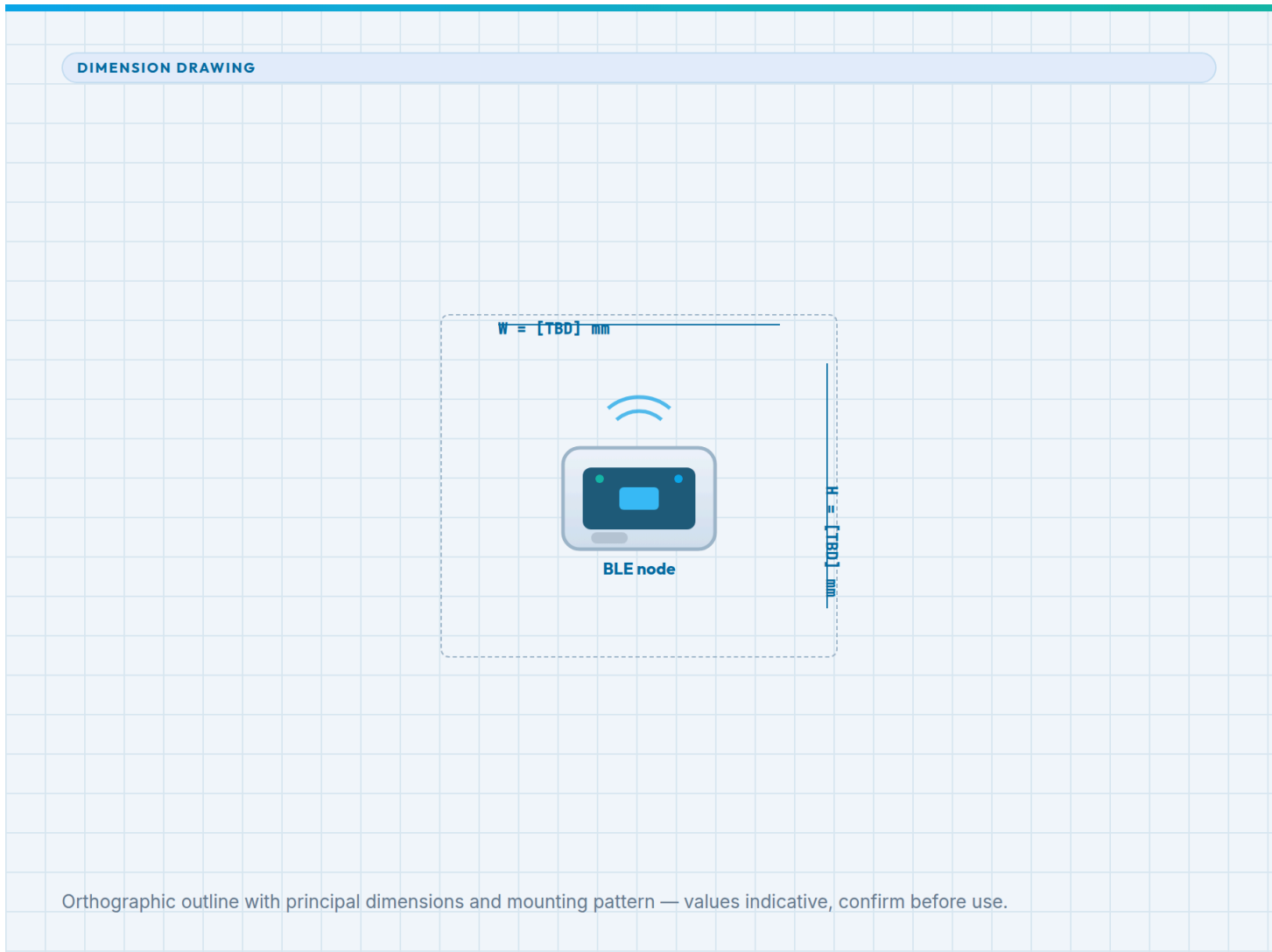


Figure FIG-002 — Overall dimensions and mounting provisions (mm). All values preliminary — [TBD].

MOUNTING



- 1 Select mounting position
- 2 Fit DIN clip / wall bracket
- 3 Set orientation / field-of-view
- 4 Secure fasteners
- 5 Verify clearance

Figure FIG-003 — Mounting the node in the correct orientation and location relative to the sensed asset and the Gateway.

3.1 Choose the location

NOTICE — Range & orientation. Mount the node within reliable BLE range of its Gateway ([TBD] — line-of-sight, environment-dependent) and in the orientation shown in FIG-003. Keep the antenna area clear of large metal obstructions. Mount the sensing element in good contact with, or correct proximity to, the sensed asset.

1. Select a location within BLE range of the target Gateway and appropriate to the sensing element.
2. Confirm the mounting surface suits the supplied method and can carry the node.
3. Keep the antenna clear of metal for signal coverage.

3.2 Mount the node

NOTICE — Fasteners / adhesive. Use the supplied method and hardware. Fastener size and torque are [TBD]; do not exceed the released value. For adhesive mounting, prepare the surface per the adhesive instructions.

1. Position the node per FIG-003 and mark / prepare the mounting point per FIG-002.
 2. Fit the node using the supplied bracket, screws, adhesive, or magnet.
 3. Verify the node is secure and does not move under hand pressure.
 4. Confirm the sensing element is correctly coupled to the sensed asset.
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4. Connections (battery, sensor & options)

Unlike the Gateway, the node has **no mains or field power wiring** and **no cellular/satellite**. Its connections are the battery, the sensing element (per variant), and — where fitted — an external antenna or external-power option.

Terminal	Signal	Rating
PWR A	+ / - redundant input A	[TBD]
PWR B	+ / - redundant input B	[TBD]
ETH	network / PoE	[TBD]
FIELD	sensor / fieldbus	[TBD]

Terminal assignments — observe polarity on redundant inputs; ratings per the datasheet.

Figure FIG-004 — Battery fitment, sensing-element connection, and optional external antenna / power. Designations preliminary — [TBD].

Terminal and connector designations are preliminary; confirm against the rating label and the released manual.

CONNECTION	TERMINAL / PORT	NOTES
Battery	Battery compartment	Specified type only; observe polarity (§2.2)
Sensing element	[TBD]	Analog / digital / I ² C / SPI per variant
External antenna	[TBD]	If fitted, for extended BLE range
External power (option)	[TBD]	If the external-power variant is used

4.1 Sensing element

1. Connect or seat the sensing element per FIG-004; observe the [TBD] pinout / coupling.
2. Verify the connection is secure and strain-relieved.

4.2 Antenna (if fitted)

1. Fit the external antenna to its port; do not over-tighten.
2. Verify the connector is seated square and any seal is intact.

4.3 Battery

WARNING — Battery hazards. Observe §2.2. Use only the specified type; observe polarity.

1. Open the battery hatch.
 2. Fit the specified battery, observing polarity.
 3. Inspect the hatch seal; close and secure the hatch until the seal is fully seated.
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5. Power-on & indicators



Figure FIG-005 — Status-indicator states with a legend mapping each to a plain-language meaning. Indicator colours and blink patterns are preliminary — [TBD].

5.1 Apply power

1. Confirm the battery is fitted (§4.3) or external power is applied (if fitted).
2. Wake the node if required (function-button action [TBD]).
3. Allow the node to complete its start-up sequence (duration [TBD]) without interruption.

5.2 Read the indicators

Indicator purposes are as designed; exact colours, patterns, and timing are [TBD] and confirmed in the manual.

INDICATOR	PURPOSE	EXPECTED AFTER HEALTHY START-UP
Status LED — power	Battery / power present	On — state [TBD]
Status LED — advertising	Node is discoverable for pairing	Blink — state [TBD]
Status LED — paired	Paired to a Gateway	State [TBD]
Status LED — fault	Fault indication	Off in normal operation; fault pattern [TBD]

NOTICE — Fault indication. If the status LED shows a fault state ([TBD]) or does not indicate power, recheck the battery (§4.3) and consult the troubleshooting chapter of the manual before proceeding.

6. Initial configuration (pair to the Gateway)

The goal of this section is the minimum configuration to bring the node online: **pair it to a Sensorium™ Gateway over BLE** so its data reaches the 5Tech platform. Obtain the target Gateway and pairing details from your platform administrator first.

Pairing procedure, credentials, and any local service address are [TBD] — use the values issued for your deployment.

1. Confirm the target Gateway is online and within BLE range (§3.1).
2. Put the node into pairing mode (function-button action [TBD]); confirm the advertising state on the status LED (§5.2).
3. From the Gateway or 5Tech platform, accept / claim the node (procedure [TBD]).
4. Confirm the node shows as **paired** (status LED state [TBD]).
5. Set the reporting interval and any thresholds for this deployment ([TBD]).
6. Verify the node appears **online** for this site in the 5Tech dashboard, through its Gateway.

NOTICE — Identity. Record the node's serial / identity and the Gateway it is paired to in your commissioning file, and hand it to the site owner.

7. Commissioning verification

Complete every check before leaving the site. All items must pass; any [\[TBD\]](#) acceptance value is confirmed against the released manual.

- ☐ Box contents verified; model/serial recorded (§1).
- ☐ Node mounted securely in the correct orientation and within BLE range of its Gateway (§3).
- ☐ Sensing element correctly coupled / connected (§3.2, §4.1).
- ☐ Antenna fitted and seated, if applicable (§4.2).
- ☐ Specified battery fitted with correct polarity; hatch and seal closed (§4.3).
- ☐ Node powers on and reaches a healthy state on the status LED (§5).
- ☐ Node paired to the correct Sensorium™ Gateway over BLE (§6).
- ☐ Reporting interval / thresholds set for this deployment (§6).
- ☐ Node shows **online** for this site in the 5Tech dashboard, through its Gateway (§6).
- ☐ Telemetry verified: current, plausible readings visible in the dashboard ([\[TBD\]](#) confirm expected signals).
- ☐ Node identity and paired Gateway recorded and handed over (§6).

If every item passes, the installation is commissioned. If any item fails, resolve it using this guide and the manual's troubleshooting chapter before handover.

8. Next steps

This guide covers installation and quick-start only. For full operation, configuration, battery maintenance, and troubleshooting, use the product **manual**.

- **Manual:** [manuals/sensorium-sensor-node-manual/](#) — operation, BLE pairing, configuration, maintenance, troubleshooting.
 - **Datasheet:** [datasheets/sensorium-sensor-node-datasheet/](#) — full mechanical, electrical, wireless (BLE), and environmental specifications.
 - **Reports through:** the Sensorium™ Gateway → MQTT → the 5Tech platform (dashboard · pipeline · edge · rule-based automation).
 - **Modules on this platform:** SmartBolt (fastener sensing) and SafeZone (safety alerting).
 - **Support:** 5Tech — Vancouver, BC, Canada · info@5tech.ca.
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Figures

ID	TITLE	SUBFOLDER / FILE	ASPECT	PURPOSE
FIG-001	In the Box	figures/in_the_box.png	4:3	Unboxing checklist — confirm all shipped items
FIG-002	Dimension Drawing	cad/dimensions.png	4:3	Mounting dimensions & provisions (mm)
FIG-003	Mounting	figures/mounting.png	4:3	Mount method and correct orientation
FIG-004	Wiring Diagram	diagrams/wiring.png	4:3	Battery, sensing-element, and optional connections
FIG-005	Status Indicators	figures/indicators.png	4:3	Start-up indicator states and legend

Specifications and procedures are preliminary and subject to change. Figure source of truth: [figures.json](#). See [revision.md](#) for change control and [references.md](#) for sources. Web publication target: </resources/manuals/sensor-node-install>.