

SIGNAL LONG RANGE™

TECHNICAL DATASHEET

OVERVIEW

The **Signal Long Range™** sensor is a fully embedded, wireless device that provides real-time temperature and maturity data for concrete. Built for the toughest construction environments, it features a **rugged, IP68-rated enclosure** that's both waterproof and weatherproof. When paired with the **Converge Gateway: Long Range™**, data is automatically collected from sensors up to **300 m (1,000 ft)** away. It also includes **Bluetooth connectivity** for quick local data download via smartphone, an extra layer of convenience. Available with **fixed** or modular **Thermal Tails™**, engineered for accuracy, flexibility, and ease of use.

FEATURES

- **Long-Range network communication** up to **300 m (1,000 ft)**, even when embedded 100 mm in concrete
- **Automatic data collection** via the Converge Gateway: Long Range™
- **Bluetooth connectivity** for quick, local data access (up to 10 m)
- **IP68-rated** rugged, waterproof design.
- Fully embeddable in concrete and built for outdoor conditions
- **Compact and robust form factor**, fits easily in your pocket
- The extremely thin 1" (26mm) profile makes it ideal for low cover pours and slipform applications
- **Quick installation** with proprietary lock-in attachment notches
- **High-accuracy thermal tails** for precision temperature measurement
- **Optional connector** for custom Thermal Tail™ configurations
- Measure temperature in up to **4 points per device**
- **Extended temperature operating range** for global deployment



SAFETY INSTRUCTIONS

WARNINGS

- This device is intended for use as a construction monitoring sensor, to be used outdoors, and not for use in domestic or commercial settings
- The connection of incompatible devices to the Signal Device connector may affect compliance or result in damage to the unit and invalidate the warranty

INSTRUCTIONS FOR SAFE USE

- Avoid using metal fixings, this may impair the functionality and safety of the device
- Install the device away from areas which may be saw cut, cored or drilled through
- Do not attempt to open or modify the device, any modifications will void the warranty and may impair the functionality and safety of the device
- Do not store at a temperature greater than +55°C (131 °F) or lower than -10°C (14 °F)

TECHNICAL SPECIFICATIONS

	SKU	CSS3xxxxx-FE1P3M	CSS3xxxxx-CE
	Description	Embedded Long Range Concrete Sensor with Thermal Tail	Embedded Long Range Concrete Sensor with Connector
	Tail Options	3m (~10ft) Single-Probe	Single-Probes & Multi-Probes Customisable lengths
Mechanical Specifications	Dimensions (LxWxH)	102x64x26mm + 3m tail (4.0"x2.5"x1.0" + 10 ft tail)	102x64x26mm (4.0"x2.5"x1.0") +connector lead
	Weight	197g (6.95 oz)	110g (3.88 oz)
	IP Rating	Outdoor, IP68	
Temperature Specifications	Operational Range	-40°C to +85°C (-40 °F to +185 °F)	
	Body Measurement Accuracy	±0.2°C [-20°C to 80°C typ] ±0.5°C [-40°C to 85°C typ] (±0.36 °F [-4 °F to 176 °F typ] ±0.9 °F[-40 °F to 257 °F typ])	
	Tail Measurement Accuracy	±0.5°C [-10°C to 85°C typ]	
	Measurement Frequency	Every 20 mins [Default] Configurable [By Request]	
Bluetooth Specifications	Bluetooth Range	Up to 10m (30ft)	
Long Range Wireless Specifications	Range	Up to 300m (1000ft)	
	Operational Frequency (May be Limited by Local Regulations)	902 MHz to 928 MHz [US] 863 MHz to 870 MHz [UK/EU/ME]	
Battery Specifications	Active Battery Life	4 months	
Storage Specifications	Maximum Recommended Shelf Life	2 years	
	Ideal Storage Conditions	Indoor, 20°C to 30°C (68°F to 86°F)	
	Humidity	0 to 100%RH	
Compatible Products	Compatible Gateways (sold separately)	Converge Gateway: Long Range (Previously Helix Hub v2)	
	Applicable Products	Converge ConcreteDNA	
Embedment Depth	Maximum depth	Maximum of 100mm (4") concrete cover over sensor	

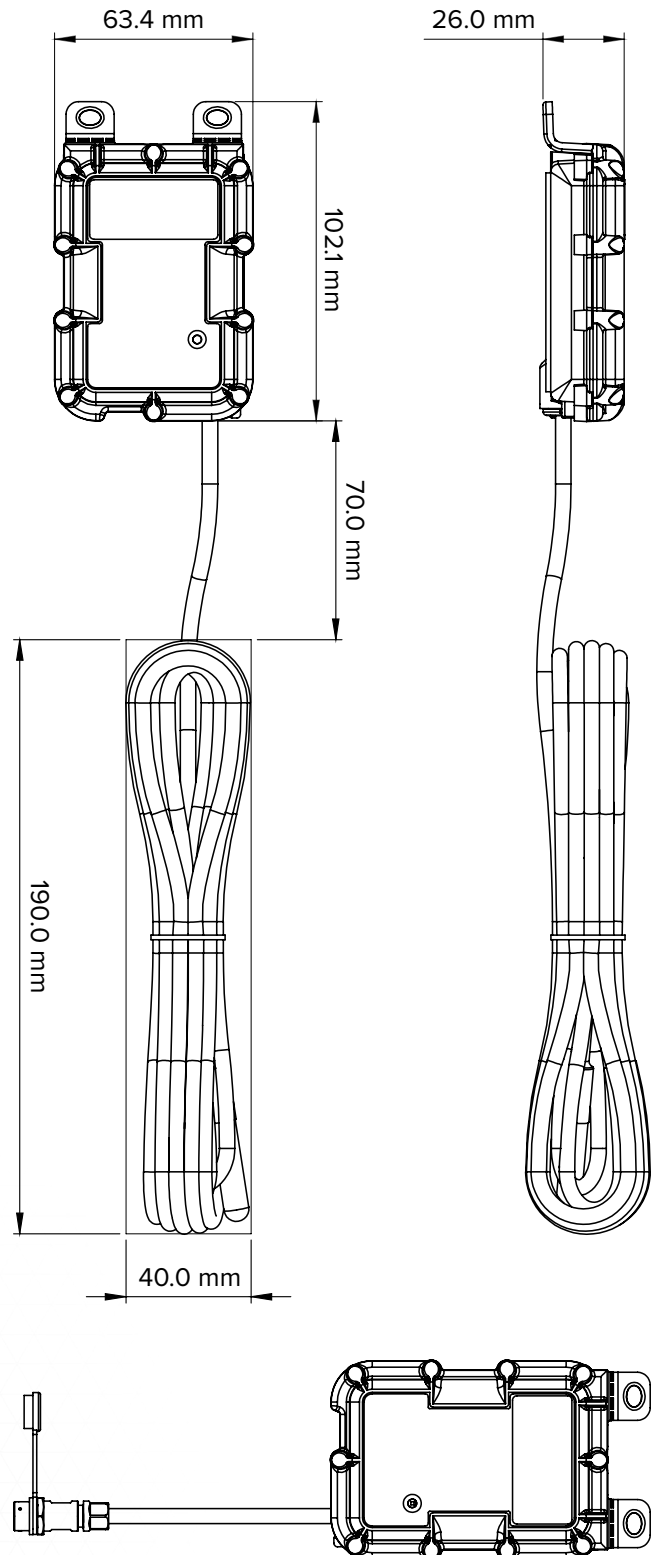


COMPATIBLE THERMAL TAILS™

Thermal Tails™
1m Single-Probe (3ft)
3m Single-Probe (10ft)
15m Single-Probe (46ft)
2m Multi-Probe x2 (6.5ft)
6m Multi-Probe x2 (20ft)
4m Multi-Probe x2 (13ft)
5m Multi-Probe x3 (16ft)
10m Multi-Probe x3 (32ft)
8m Multi-Probe x3 (26ft)
12m Multi-Probe x3 (40ft)
6m Multi-Probe x3 (20ft)

REGULATORY INFORMATION

Device certification pending



Designed and distributed by: