Carrier

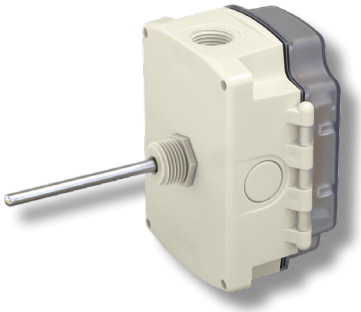
i-Vu® Building Automation System
ZSI Immersion Sensors

The Carrier communicating ZSI immersion sensors are designed to monitor water temperature in retrofit or filled pipe applications. The sensor is potted inside a 1/4" stainless steel probe with a thermally conductive compound. All immersion units are mounted in a thermowell and have etched Teflon® lead-wires and double encapsulated sensors to create a watertight package that can withstand a wide range of humidity and condensation.

The ZSI immersion sensors connect directly to the dedicated sensor network (Rnet) of a Carrier i-Vu controller. This communicating sensor network supports up to 15 x ZSI sensors through a single port, eliminating the need to consume multiple inputs on the controller.

BENEFITS

- **Effortless Retrofit:** Easily install and upgrade temperature monitoring without costly plumbing changes.
- **Reliability:** Durable construction with stainless steel probe and double encapsulation for long-lasting performance.
- **Efficient Network Integration:** Connect up to 15 sensors through a single controller port, minimizing wiring and maximizing efficiency.
- **Versatile Applications:** Monitor water temperature in chilled water, hot water, and boiler systems for comprehensive building coverage.
- **Reduced Costs:** Reduce installation and operating costs with simplified design and optimized energy consumption.
- **Enhanced System Uptime:** Dependable performance and minimized maintenance needs ensure continuous, accurate temperature monitoring.
- **Simplified System Design:** Streamlined wiring and reduced controller input usage simplify system design and installation.
- **Optimized Building Performance:** Precise temperature control capabilities optimize HVAC system efficiency and overall building comfort.



Immersion unit probes are required to be inserted into a thermowell.

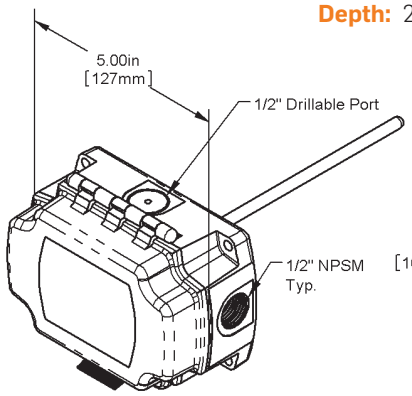
ZS Immersion Sensors

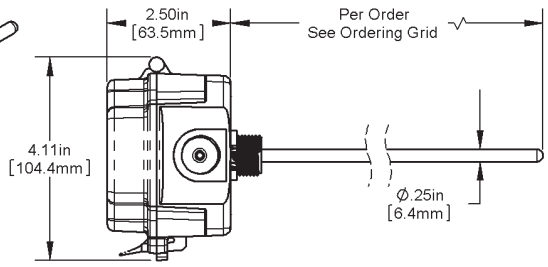
Sensor Part # (Back Probe)	Sensor Part # (Bottom Probe)	Description
ZSI-B-2-6-B	ZSI-S-2-6-B	ZS Immersion Sensor 2" in IP65 enclosure
ZSI-B-4-6-B	ZSI-S-4-6-B	ZS Immersion Sensor 4" in IP65 enclosure
ZSI-B-8-6-B	ZSI-S-8-6-B	ZS Immersion Sensor 8" in IP65 enclosure

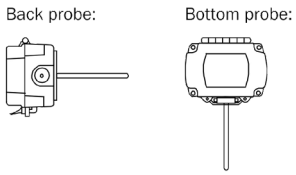
2" Thermowell Part #	4" Thermowell Part #	8" Thermowell Part #	Description
ZSI-T-2-WSS-B	ZSI-T-4-WSS-B		Insertion thermowell - Two-piece welded 304 stainless
ZSI-T-2-MSS-B	ZSI-T-4-MSS-B	ZSI-T-8-MSS-B	Insertion thermowell - One-piece machined 304 stainless
ZSI-T-2-MB-B	ZSI-T-4-MB-B		Insertion thermowell - One-piece machined brass

Specifications

Sensor	Range: -40° to 212° F (-40° to 100° C), Accuracy: ±1.3° F (0.72° C)
Enclosure Material	Polycarbonate, UL94V-0
Enclosure Rating	NEMA 4, IP66, UV rated
Probe	304 SS 0.25" (0.64 cm) diameter 2 or 4 in. (5.08 or 10.16 cm) length specified at time of order
Power Requirements	12 Vdc @ 6 mA
Power Supply	The 4-conductor Rnet cable from a controller supplies +12 Vdc @ 210 mA. For additional power, use an external power supply. Use the above power requirements to calculate the size of the external power supply. The controller and the external power supply must share a common ground.
Communication	115 kbps
Mounting	Sensor's 1/2 in. NPSM plastic threads are screwed into a thermowell
Regulatory	FCC Part 15-Subpart B-Class B, CE
Dimensions	**Enclosure** **Width:** 5" (12.7 cm) **Height:** 4.15" (10.54 cm) **Depth:** 2.5" (6.35 cm)







For more information, contact your local Carrier Controls Expert.

Controls Expert Locator:
www.carrier.com/controls-experts