

Wireless Universal 2-Channel Thermocouple Adapter - 117

Part Number: SS3-117

Overview

Swift Sensors Wireless Universal 2-Channel Thermocouple Adapter can connect up to two traditional thermocouples (types K, J, T, N, R, S, E, and B) to the Swift Sensors wireless network. You can connect any standard, 3rd-party thermocouple sensor to the SS3-117 to meet a wide range of requirements, including harsh or industrial environments, different physical form factors, and extended temperature ranges. You can connect up to two thermocouples to the SS3-117 using standard mini-plug connectors for fast, easy integration. A K-Type Thermocouple with a range of -200°C to +260°C (-328°F to +500°F) is included with the package for immediate out-of-the-box use.

Simple, Plug-and-Play Deployment

Place the small battery-powered sensor in the location or on the equipment you need to monitor. Sensors are powered with 2 AAA lithium polymer batteries with an average lifespan of 6 - 8 years. The Swift Sensors Gateway instantly identifies the sensor and establishes secure communication. No wires to connect. No software to install.

Secure, Scalable, Cloud Architecture and Analytics


The system is 100% cloud-managed. The gateway securely transmits sensor data to the Swift Sensors Cloud using 256-bit AES encryption. The system is scalable from a single sensor, one site application to multi-site enterprises with thousands of sensors. SMS text, email, and phone call notifications can be set based on customizable threshold values and complex rules by individual sensors or sensor groups. Built-in analytics provide historical reporting and operational insights.

Applications

- ✓ Manufacturing and Production
- ✓ Facility Monitoring
- ✓ Museums
- ✓ Datacenters
- ✓ Warehouses
- ✓ Greenhouses
- ✓ Restaurants and Food Service
- ✓ Cold Chain Monitoring
- ✓ Transportation
- ✓ Building Management

Operational Specifications:	
Power	3.3VDC, 0.165mW Average
Battery Type	AAA x2 Replaceable "L92" Lithium Polymer
Operating Voltage	1.8VDC - 3.6VDC
Avg. Current Consumption	50uA (Single Channel, Active), 52uA (2x Channel, Active) 500uA (Command ACK), <5uA (Sleep)
Operating Temperature	-40°C to +60°C (-40°F to +140°F) (Defined by batteries)
Operating Environment	Indoor/Outdoor, 0-90% Relative Humidity (Non-Condensing)
Battery Life (Average)	2-3yrs+ (~3yrs average)
Communication Protocol	BLE/BT5 2.4Ghz
BLE Chipset	nRF52840
TX Strength	+8dBm (Default)
Range	70m - 90m (250ft - 300ft) Line-of-Sight 30m - 45m (100ft - 150ft) Non Line-of-Sight
Encryption	128-Bit AES Encryption
Button Press	Click to turn on. Press and Hold 2 sec to put in sleep mode
LED	Green LED: 2 sec. blinking when turning on Green LED: 2 sec. solid when entering sleep mode
Find My Sensor	Command from Console to blink sensor LED
Weight	56g (2oz) without Probes Connected
Dimensions	80mm x 60mm x 47mm (2.36in. x 1.85in. x 0.8in.)
Enclosure Material	ABS PA-765+
IP Rating	NA
Connections	2-Channels of Thermocouple via TC "Miniplug" Supports nearly all TC "Miniplugs" from Omega, Fluke, and all else with the same pin form-factor.

Operational Specifications Cont.:

Certifications 	FCC ID: X8WBT840F IC ID: 4100A-BT840F CE Compliance: 2014/35/EU, 2014/53/EU, 2014/30/EU
EMC Compliance	FCC Part 15 Class B, CE EMC Directive
Flammability Rating	UL94-0V
Warranty	2-years

Measurements Specs:

General Use Indications	Monitoring Measurements Temperatures in any Environment
Thermocouple Types Supported (ANSI Rec.)	K(Default), J, T, N, R, S, E, B
Measurement Range*	-210°C to +1798°C (-346°F to +3268°F) (Depending on TC Type)
Default Configuration	Channel 1 Active (Type K), Channel 2 Disabled. Customers may change configuration inside Swift Sensors' Console
Resolution	19-Bit
Cold-Junction Accuracy	+/- 0.7C
Total Accuracy	+/- 0.7C + Linearity Error (see Chart), Total Error +/- <1C
Precision	Up to 0.001C
Linearity Error	+/- 0.15% maximum**
Config. Inspection Rate	1 - 30 Minutes (Default 5 Minutes)

*See Linearity Chart on Page 4 for Specific Ranges for TC Types + Error

Applications:

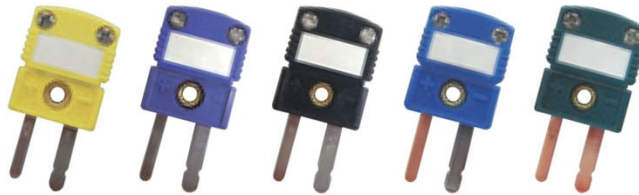
Main Use Applications	General Temperature Monitoring Extreme Temperature Monitoring Cryogenic Temperature Monitoring Industrial Temperature Monitoring
Application Environment	Indoor/Outdoor
Application Restrictions	Avoid Applications which would Submerge the Sensor Body in water, or have constant exposure to 100% humidity.

Thermocouple Type Ranges + Chip Accuracy

Thermocouple Linearity Correction Error	Type B, TA = 0°C to 125°C (32°F to 257°F) TTC = 95°C to 1798°C (203°F to 3268.4°F)	-0.24 to +0.25	°C
	Type E, TA = -55°C to 125°C (-67°F to 257°F) TTC = -200°C to 1000°C (-328°F to 1832°F)	-0.14 to +0.06	
	Type J, TA = -55°C to 125°C (-67°F to 257°F) TTC = -210°C to 1200°C (-346°F to 2192°F)	-0.11 to +0.10	
	Type K, TA = -55°C to 125°C (-67°F to 257°F) TTC = -200°C to 1372°C (203°F to 2501°F)	-0.13 to +0.12	
	Type N, TA = -55°C to 125°C (-67°F to 257°F) TTC = -200°C to 1300°C (203°F to 2372°F)	-0.09 to +0.17	
	Type R, TA = -50°C to 125°C (-58°F to 257°F) TTC = -50°C to 1798°C (-58°F to 3268.4°F)	-0.19 to +0.17	
	Type S, TA = -50°C to 125°C (-58°F to 257°F) TTC = -50°C to 1798°C (-58°F to 3268.4°F)	-0.16 to +0.20	
	Type T, TA = -55°C to 125°C (-67°F to 257°F) TTC = -200°C to 400°C (203°F to 752°F)	-0.07 to +0.07	

Supported Plugs: TC Miniplug

From Omega, Fluke, or any equivalent TC miniplugs with same Pin Size. (Examples below).



Swift Sensors Gateway

The Swift Sensors Gateway collects encrypted data from sensors located within the specified communication range (< 90m/300ft) and then transmits the sensor data to the Swift Sensors Cloud through either Ethernet, Wi-Fi, or cellular. The gateway auto-detects all sensors within range and will immediately establish secure communication without any user configuration or setup. Each gateway can support up to 150 Series 3 sensors.

Swift Sensors Console

All sensor data is logged and stored in the Swift Sensors Cloud. The Swift Sensors Console is configured to monitor and track all sensor data in the cloud. Multiple thresholds and alerts can be set separately for each sensor to supply notification via SMS text, email, or phone call. The console can be viewed in a web browser on a computer, tablet, or smartphone.

No programming is required to configure the console. An API to the Swift Sensors Platform allows integration with other data sources and 3rd-party data analytics tools.