



Technology Solutions

TEK-TEMP 2100B

Temperature Transmitter



TEMPERATURE



Introduction

The Tek-Temp 2100B Temperature Transmitter is a precision-engineered device designed to improve temperature measurement accuracy, reliability, and system integration in industrial environments. It is built to convert a variety of sensor inputs into a stable 4–20 mA analog output, with optional HART® communication for enhanced diagnostics and remote configuration.

With universal input compatibility including RTDs, thermocouples, millivolt, and resistance-based sensors, 2100B provides flexibility across a broad range of process conditions. Its compact and rugged construction, combined with certifications for hazardous area use, makes it suitable for both standard and safety-instrumented installations.

Measuring Principle

An RTD operates on the principle that the electrical resistance of a metal changes with temperature. The resistance of the sensing element increases as the temperature increases.

A Thermocouple operates on the principle that two dissimilar metals connected at two separate junctions will produce a voltage when one of the junction temperatures is different than the other.

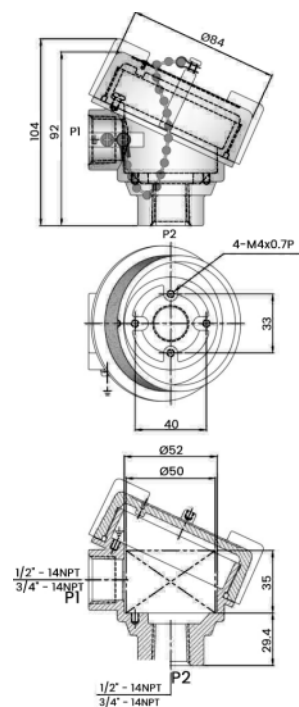
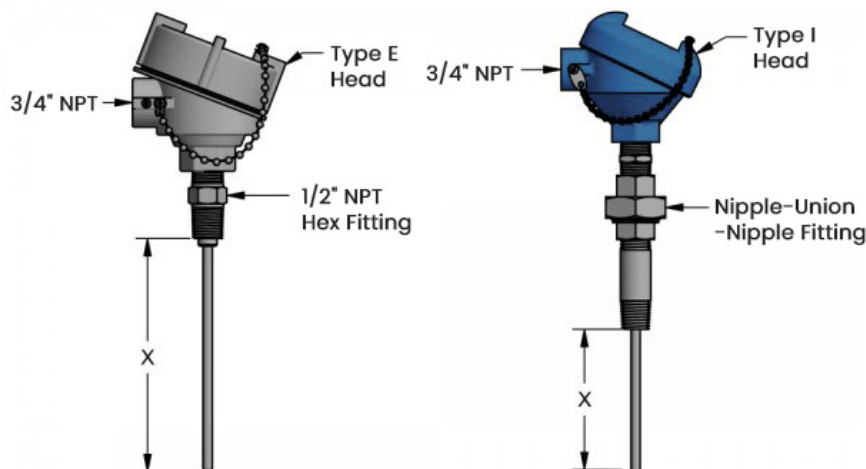
Benefits

- Accuracy: 0.36°F (0.20°C) or 0.1% of span
- IP68, Submersible level measurement
- Input 2, 3, 4 wire RTD's, thermocouple, millivolt, ohm
- Nema 4X IP66/68 rating
- DIN B style head mount or rail mount
- Less than 0.5 seconds update time
- 32 seconds maximum, 5 seconds default damping

Application

- Oil and Gas
- Chemical
- Power
- Pharmaceutical
- Petrochemical
- Food Processing

Dimentional Drawing



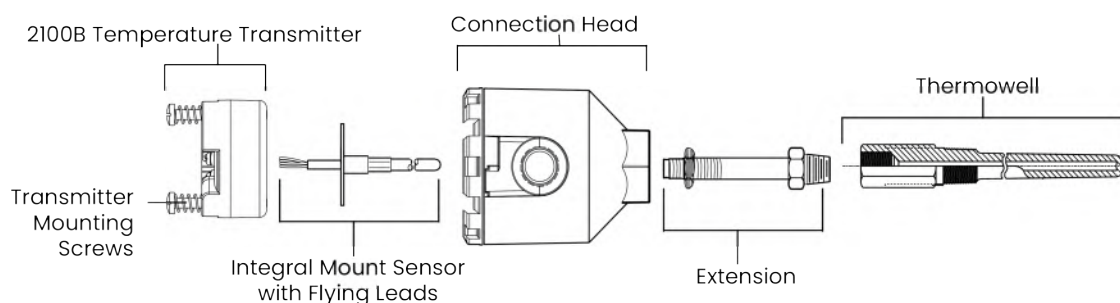
Specifications

Accuracy	Better than 0.1% of span
Sensor	RTD: Pt 100, Ni100, lin. R TC: B, E, J, K, L, N, R, S, T, U, W3, W5
Ambient Temperature	-40°F to 185°F (-40°C to 85°C)
Output	RTD, TC, 4-20mA, 4-20mA with HART
Process Connection	Threaded, Flanged, Tri-Clamp, Special
Update Time	Less than 0.5 seconds
Damping Time	32 seconds maximum. 5 seconds default amping
Material of Construction	Die-Cast Aluminum
Weight	0.5 KG (1.1 LBS)
Enclosure Rating	NEMAX IP66/68 rating
Approval	ATEX, IECEx, FM, CSA, DNV Inmetro, CE

Installation

The Tek-Temp 2100B can be supplied either as a complete assembly with a sensor and thermowell, or as a stand-alone transmitter. When the unit is provided without a sensor or thermowell assembly, please refer to the installation guidelines below for proper integration with your existing sensor configuration.

- Attach the thermowell to the pipe or process container wall, then install and tighten the thermowell before applying process pressure.
- Assemble the transmitter to the sensor. Push the transmitter mounting screws through the sensor mounting plate and insert the snap rings (optional) into the transmitter mounting screw groove.
- Wire the sensor to the transmitter.
- Insert the transmitter – sensor assembly into the connection head. Thread the transmitter mounting screw into the connection head mounting holes and assemble the extension to the connection head insert the assembly into the thermowell.
- Slip the shielded cable through the cable gland
- Attach a cable gland into the shielded cable
- Insert the shielded cable leads into the connection head through the cable entry then connect and tighten the cable gland.
- Connect the shielded power cable leads to the transmitter power terminals making sure to avoid contact with sensor leads and sensor connections
- Install and tighten the connection head cover making sure the enclosure covers are fully engaged to meet explosion-proof requirements.



Model Chart

Example	Tek-Temp 2100B	01	A	R	01	N	01	2.5	FC	Tek-Temp 2100B-01-A-R-01-N-01-2.5-FC
Series	Tek-Temp 2100B									Temperature Transmitter
Housing		1 2								General Purpose (NEMA 4X) Explosion-Proof
Transmitter			A B C							None 4–20 mA 4–20 mA HART
Sensor				R J K T						RTD (Pt 100) J Type Thermocouple K Type Thermocouple T Type Thermocouple
Type					1 2 3					Welded Spring Loaded Nipple Union
Thermowell						N W				No Thermowell Thermowell
Process Connection							1 2 3 4 5 6 7 X			½" NPT ¾" NPT 1" NPT 1" 150# Flange (Thermowell only) 1" 200# Flange (Thermowell only) 1" 300# Flange (Thermowell only) 2" 300# Flange (Thermowell only) Custom
U-Length								2.5 04 06 09 12 XX		2.5" 4" 6" 9" 12" Custom
Options									FC TAG CCI	Factory Configuration (HART only) Stainless Steel Tag Custom Range (1 Line, HART only)

Customer Service & Support



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www.tek-trol.com

Tek-Trol LLC

796 Tek Drive Crystal Lake,
IL 60014, USA



+1 847-857-6076



tektrol@tek-trol.com



www.tek-trol.com

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