

THERMOCOUPLE POSITIONING FIXTURE

The TC-Bridge™

- Securely positions eight thermocouples to monitor air and band temperatures
- Food safe stainless steel construction
- Designed for all thermocouples types and wire sizes
- Designed for low clearance food processing lines
- Adjustable span (39" & 60" standard)
- Compact stowage configuration for storage and travel
- Attaches to ThermoBlade™



TC-Bridge™ is a device designed to reliably position thermocouple probes while measuring temperatures in band ovens and freezer lines. TC-Bridge is easy to use since the factory routed thermocouples remain in place in both stowed and deployed configurations; the thermocouples simply fold neatly away as the device is stowed.

Mechanical & Electrical Interfaces

The TC-Bridge™ has three interfaces. A mechanical interface connects the TC-Bridge to the ThermoBlade™ using four standoffs and four 6-32 socket head cap screws. The electrical interface consists of 8 male high temperature ceramic thermocouple connectors which mate with corresponding female connectors on ThermoBlade™. The mechanical interface with the thermocouple probes consists of spring coils and nut plates on the TC-Bridge™ which hold the protected thermocouple beads at the desired locations.

Configuration

The TC-Bridge™ has two configurations, stowed and deployed. In its' stowed configuration the TC-Bridge folds into a compact 12"x8"x1.5" volume. For use it unfolds easily by removing two wing nuts on the top of the TC-Bridge™ control plate and pulling the TC-Bridge structural members apart until the

desired span is attained. The structure is then locked in the desired position by inserting the standoffs in the index holes and replacing the wing nuts. The maximum standard measurement span is 60 inches (152.4cm). Users can easily create additional index holes to accommodate a variety of band widths. Even wider spans can be attained by adding structural members. Please contact Magna Systems for additional information.

Additional Required Equipment

The TC-Bridge™ requires the use of:

- 1) ThermoBlade™, wireless temperature monitor (equipped with female ceramic thermocouple connectors).
- 2) GateWay™, wireless network access point.
- 3) DataLink™, integrated data acquisition & display environment



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TC-Bridge Specifications

Thermocouple Connections-

Number of Channels: 8

Thermocouple Types: T-type standard (E, J, K, N, R & S available by special order)

Thermocouple Connectors: 8 male subminiature high temperature ceramic connectors
(Omega Engineering P/N SHX-?-M or equivalent)

For T-type Thermocouples

Useful Temperature Range: -270 to 400°C

Thermocouple Error:	Temperature Range	Accuracy*
	-59°C to +93°C	±0.4167°C

*Accuracy is for Special Limits of Error (SLE) wire.

General Specifications-

Operating Environment: -200°C to 427°C (-328°F to 800°F)
5% to 95% Relative Humidity

Vibration: 10 g (rms 20 Hz to 2000 Hz)

Shock: 3 foot drop

Storage Temperature Range: -40 to 120°C

Weight: TC-Bridge only: ~681 gm (1.5 lbs.)
TC-Bridge with ThermoBlade: ~1271 gm (2.8 lbs.)

Members: Stainless Steel 304

Dimensions: (in inches)

