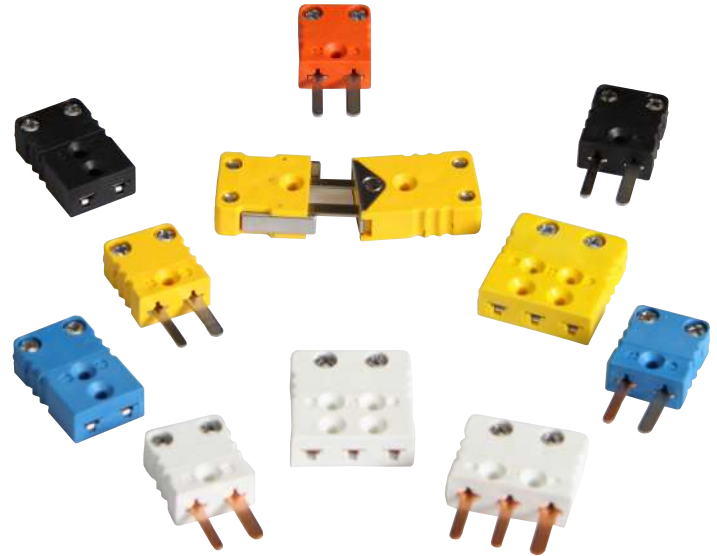




# Miniature Thermocouple Connectors

## High Quality Miniature Connectors Ideal for a Wide Range of Temperature Sensing Needs



Watlow's line of miniature connectors offer a wide range of solutions for your temperature sensing needs. These miniature connectors feature a rugged glass-filled thermoplastic body, captive terminal plates that allow for faster wire termination and locking connectors. Some offer ultra-high temperature capabilities as well. Listed below are the various miniature connectors and systems from which to choose:

- Miniature thermocouple connectors
- Locking miniature thermocouple connectors
- Three-pin miniature connectors for RTD and grounded thermocouple applications
- Miniature panel jacks
- Locking connector clips
- High temperature miniature connectors up to 800°F (425°C)

Watlow's miniature thermocouple connectors accept solid or stranded wires up to 24 AWG, are available in Type E, J, K, N, T, U and R/S calibrations and are ASTM E 230 color coded.

The connector is made with matching thermocouple alloy materials to ensure accuracy in measurement and the new captive terminal plate design allows for a strong connection. Watlow's miniature connectors and accessories offer both a high quality and compact solution to your thermal sensing needs. All of these new miniature connectors will mate with all ANSI spec miniature connectors.

### Features and Benefits

#### Rugged, glass-filled thermoplastic body

- Provides high impact strength

#### Captive terminal plates

- Allow faster wire termination

#### ASTM E230 color coded

- Ensures easy identification

#### Matching thermocouple alloy materials

- Ensures accuracy

#### Molded-in contacts

- Ensures precise alignment and prevent wobble in the connection system



## Miniature Thermocouple Connectors 400°F (200°C)

Watlow's miniature connector is for both thermocouple and RTD circuits. This connector is suited for small wires or small diameter mineral insulated cables. The connector features a glass filled high quality thermoplastic body that makes for a more rugged and durable connector. Matching thermocouple alloys and spring loaded pin inserts ensure an accurate and strong signal. Captive terminal screws and molded polarity signals make for faster and easier wire termination with less error. Watlow's new miniature plugs and jacks will mate with previous Watlow miniature connectors and any other ANSI spec miniature connector.

### Ordering Information

#### Part Number

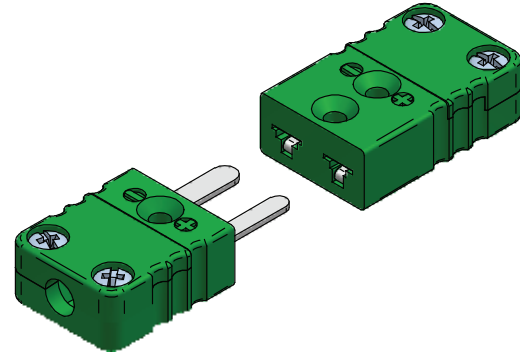
① ②	③	④	⑤	⑥ ⑦
	Style	Calibration	Name Plate	Color Code
<b>MC</b>			<b>N</b>	<b>AT</b>

③	Style
M =	Male (plug)
F =	Female (jack)

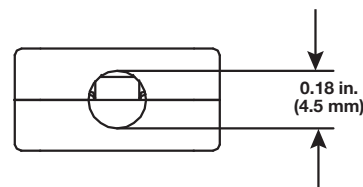
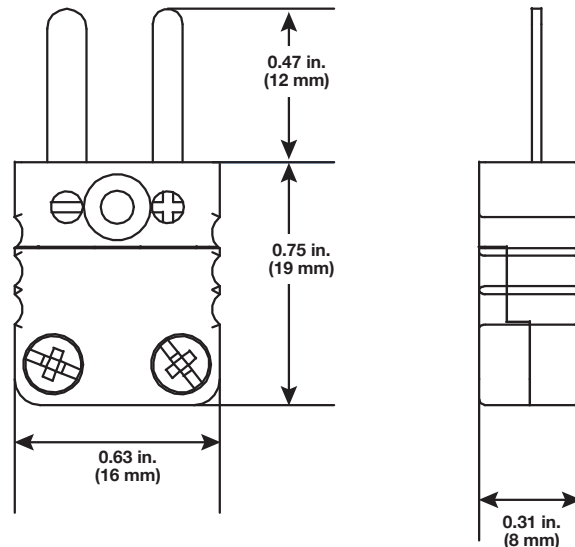
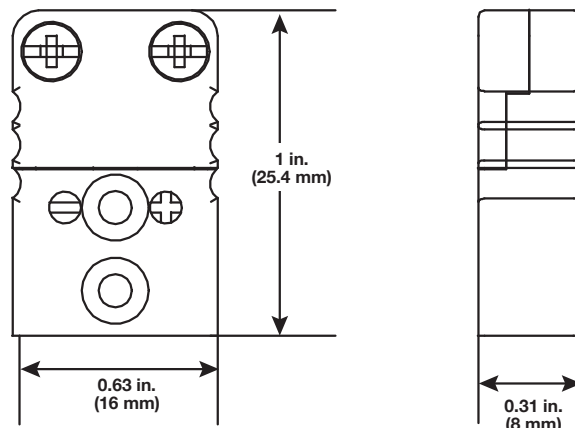
④	Calibration
E =	Type E
J =	Type J
K =	Type K
N =	Type N
R =	Type R
S =	Type S
T =	Type T
U =	Uncompensated

⑤	Name Plate
N =	Without name

⑥ ⑦	Color Code
AT =	ASTM E230 color code/uncompensated = white



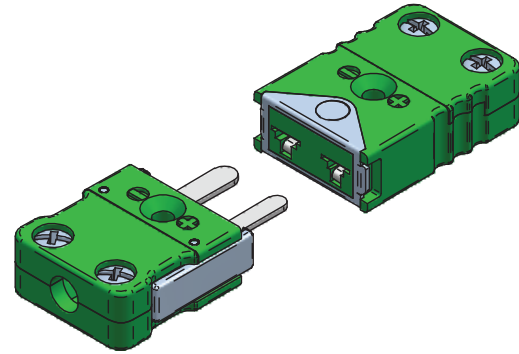
### Dimensional Drawings



## Locking Miniature Connectors 400°F (200°C)

The design of Watlow's locking miniature connector prevents the unwanted loss of signal that accompanies plug and jack separation. The bodies of the locking connectors are constructed of a high quality glass-filled thermoplastic that ensures a rugged design. Captive plate terminal screws allow for faster and easier wire termination. Both the plug and jack are marked for polarity to ensure proper assembly. Locking connectors are compatible with existing miniature thermocouples including Watlow's high temperature miniature connectors.

All of Watlow's locking connectors accept solid or stranded wires up to 24 AWG, are available in Type E, J, K, N, T, U and R/S calibrations and are ASTM E230 color coded.



### Ordering Information

#### Part Number

① ②	③	④	⑤	⑥ ⑦
	Style	Calibration	Name Plate	Color Code
<b>ML</b>			<b>N</b>	<b>AT</b>

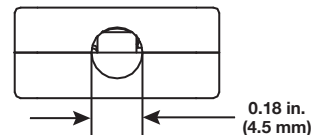
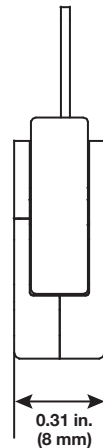
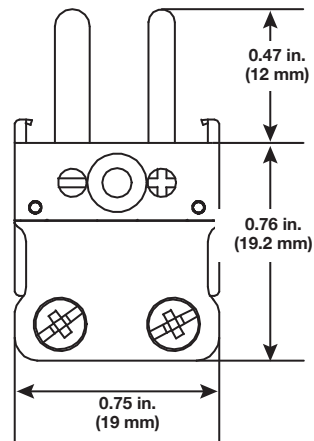
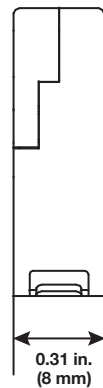
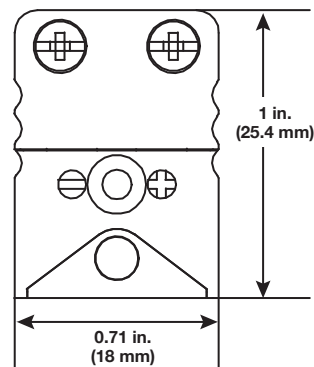
③	Style
M =	Male (plug)
F =	Female (jack)

④	Calibration
E =	Type E
J =	Type J
K =	Type K
N =	Type N
R =	Type R
S =	Type S
T =	Type T
U =	Uncompensated

⑤	Name Plate
N =	Without name

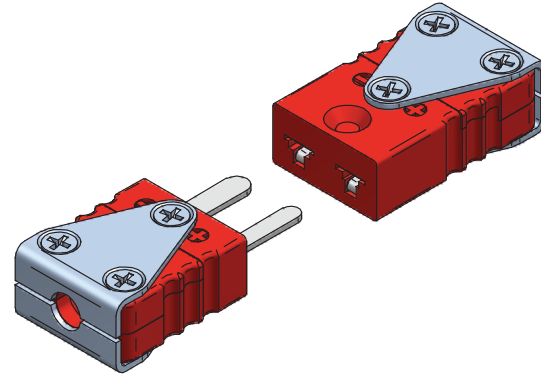
⑥ ⑦	Color Code
AT =	ASTM E230 color code/uncompensated = white

### Dimensional Drawings



## High Temperature Miniature Connectors 1000°F (540°C)

Watlow's high temperature miniature connectors are constructed of a thermoset compound with a stainless steel bracket that results in a durable connector. The calibration of the connector is stamped onto the bracket, ensuring easy identification. Watlow's high temperature mini connectors are capable of withstanding intermittent temperatures as high as 1000°F (540°C) and continuous temperatures of 800°F (425°C). These connectors feature the same captive plate technology as Watlow's standard miniature connectors and are capable of accepting stranded or solid wires up to 24 AWG. High temperature miniature connectors are available in Type E, J, K, N and R/S calibrations.



### Ordering Information

#### Part Number

① ②	③	④	⑤	⑥ ⑦
	Style	Calibration	Name Plate	Color Code
<b>MH</b>			<b>N</b>	<b>AT</b>

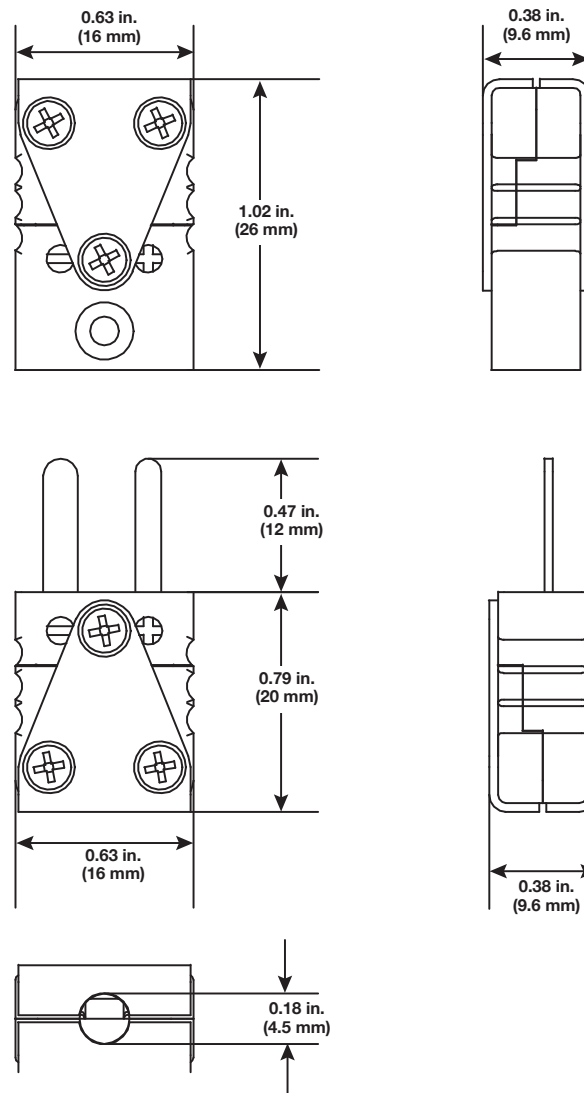
③ Style	
M =	Male (plug)
F =	Female (jack)

④ Calibration	
E =	Type E
J =	Type J
K =	Type K
N =	Type N
R =	Type R
S =	Type S

⑤ Name Plate	
N =	Without name

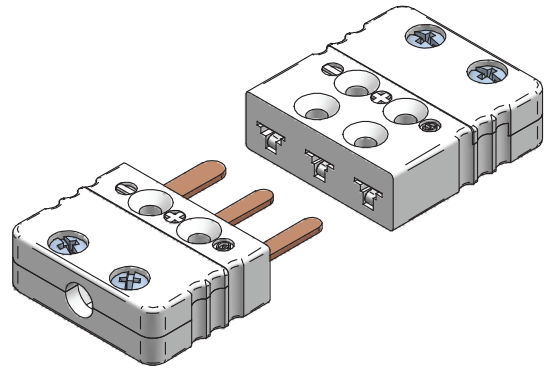
⑥ ⑦ Color Code	
ST =	No color code, calibration stamped on connector

### Dimensional Drawings



## Miniature Three Pin Connectors 400°F (200°C)

Watlow's three pin miniature connector brings the same high quality characteristics as our standard miniature connectors while adding the ability to ground or shield a thermocouple connection or connect a three wire RTD. New captive plate technology as well as molded polarity symbols allow for a quick and painless wire connection. These connectors have the ability to accept wire sizes up to 24 AWG. Available in ASTM E230 color coded Type E, J, K, N, T, U and R/S calibrations.



### Ordering Information

Part Number

① ②	③	④	⑤	⑥ ⑦
MT	Style	Calibration	Name Plate	Color Code
			N	AT

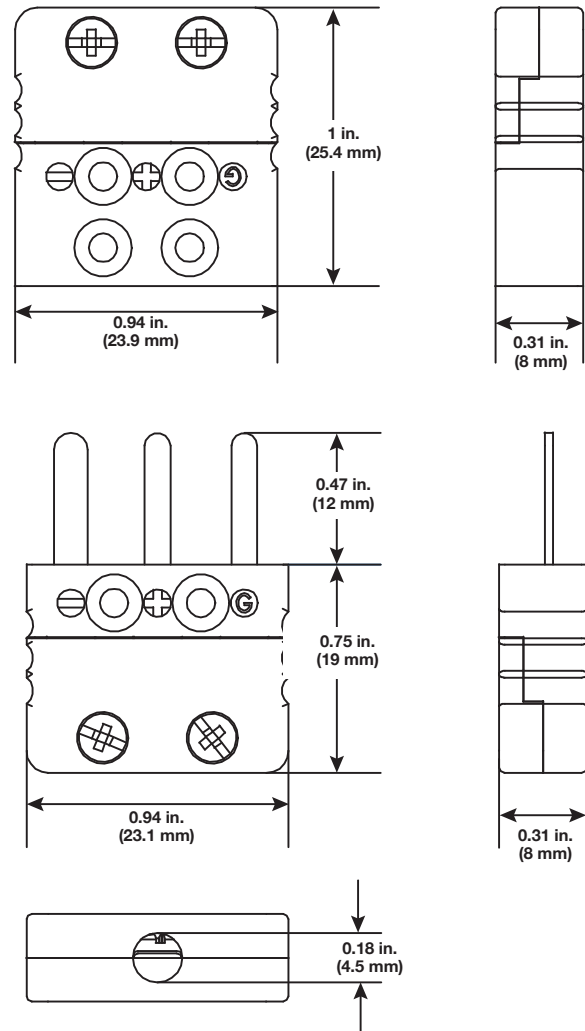
③ Style	
M =	Male (plug)
F =	Female (jack)

④ Calibration	
E =	Type E
J =	Type J
K =	Type K
N =	Type N
R =	Type R
S =	Type S
T =	Type T
U =	Uncompensated

⑤ Name Plate	
N =	Without name

⑥ ⑦ Color Code	
AT =	ASTM E230 color code/uncompensated = white

### Dimensional Drawings



## Miniature Panel Inserts

Designed for use with Watlow's "M" miniature connectors, these panel inserts are suitable for thermocouple circuits. These panel inserts mount by means of a stainless steel bracket with two screws behind the panel. These work especially well for instrumentation cases. Miniature panel inserts are offered in both circular and rectangular types. These miniature inserts accept wire sizes up to 22 AWG and are available in Type J, K and T calibration with ASTM E230 color standards.

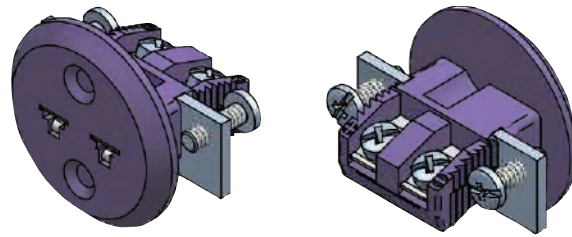
### Ordering Information

Part Number

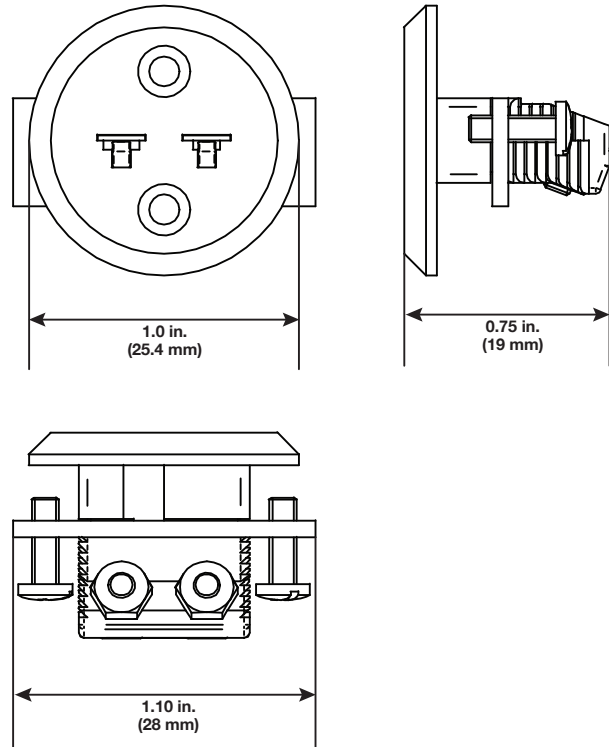
① ②	③	④	⑤	⑥ ⑦
MP	Style	Calibration	Name Plate	Color Code
			<b>N</b>	<b>AT</b>

③ Style	
C =	Circular panel insert
R =	Rectangular panel insert
④ Calibration	
E =	Type E
J =	Type J
T =	Type T
⑤ Name Plate	
N =	Without name
⑥ ⑦ Color Code	
AT =	ASTM E230 color code

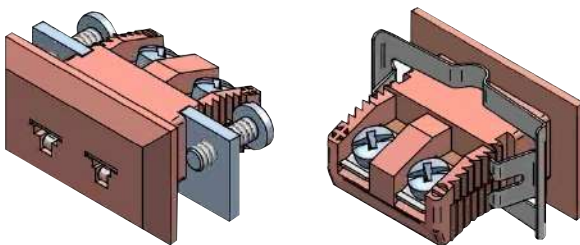
## Circular Miniature Panel Inserts



### Dimensional Drawings

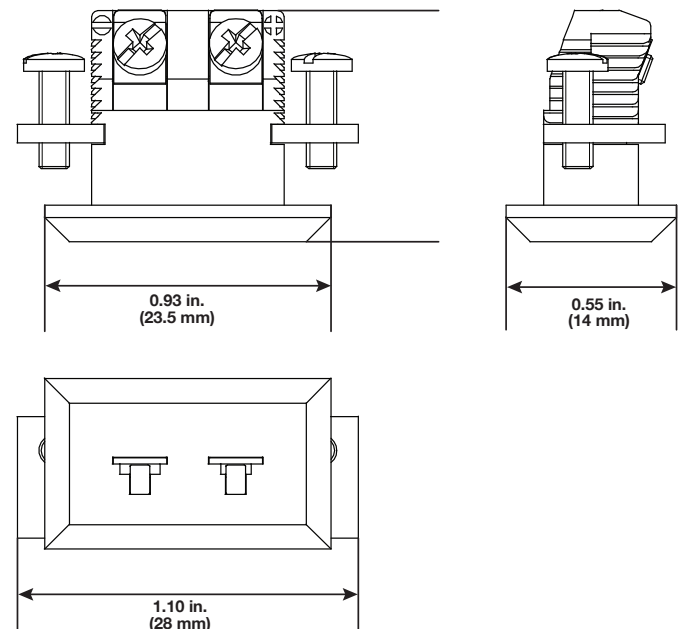


## Rectangular Miniature Panel Inserts



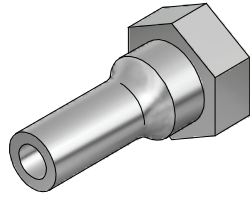
**Note:** Rectangular miniature panel inserts are shipped standard with a clip spring, and a bracket and screw mounting system.

### Dimensional Drawings



## Crimp/Braze Adapter

These adapters are designed for brazing, soldering or crimping on mineral insulated cable or crimping onto insulated wire.



### Ordering Information

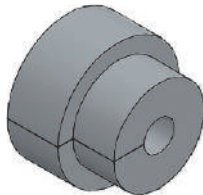
Part Number

① ② ③	④ ⑤ ⑥
<b>MHX</b>	<b>Sheath Size</b>

④ ⑤ ⑥	Sheath Size
032 =	0.032
040 =	0.040
063 =	0.063
125 =	0.125

## Grommets

Grommets can be fitted in the entrance hole of the connector to prevent moisture and dirt from entering the connector. All grommets are constructed from silicone with a maximum temperature of 400°F (200°C) and are pre-slit to allow for easy installation. These grommets will compress on the wire once the cover is fitted.

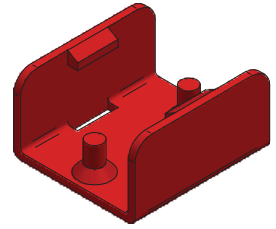


### Ordering Information

Part Number	Description
71305601	Grommet with 0.12 in. (3.0 mm) diameter
71305602	Grommet with 0.02 in. (0.5 mm) diameter
71305603	Grommet with 0.06 in. (1.5 mm) diameter

## Miniature Connector Locking Clips

Watlow's miniature connector locking clip is a cost efficient and effective means to prevent accidental disconnection. This locking clip is constructed from high quality thermoplastic that can withstand 400°F (200°C). Locking clips are compatible with all MC-series miniature connectors.

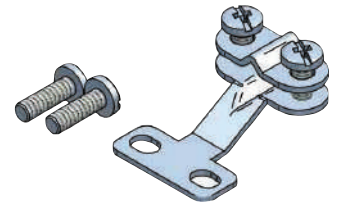


### Ordering Information

Part Number	Description
80441501	Locking connector clip

## Wire Clamp

Wire clamp brackets will provide optimum strain relief. Construction allows a large difference in maximum and minimum wire diameter.



### Ordering Information

Part Number	Description
80441301	Stainless steel wire clamp

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