

# proSense™ RTD Probes with Hex Nipple

by AUTOMATIONDIRECT



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RTD1-HXXL01-01



## Overview

- All temperature sensors are pre-built stock items
- 100 ohm platinum RTD 3-wire element
- Class A accuracy
- 1/4" diameter, 316 sealed stainless steel sheath to protect against harsh environments
- RTD element encased in alumina powder insulation provides excellent vibration dampening and heat transfer

- 6", 12", or 18" probe length
- 1/2" x 1/2" NPT hex nipple allows easy replacement of existing probes and connection to a wiring junction box
- Made in the USA



RTD Probes with Hex Nipple								
Part Number	Pcs/Pkg	Wt (lb)	Price	Type	Probe Diameter (O.D.)	Probe Length	Temperature Sensing Range	Mounting
RTD1-H06L01-01	1	0.5	<--->	PT 100, 3-wire	1/4"	6"	-50 to 300°C (-58 to 572°F)	Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS
RTD1-H12L01-01			<--->			12"		
RTD1-H18L01-01			<--->			18"		

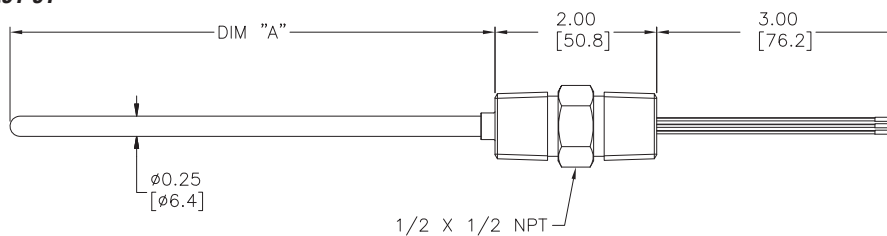
Technical Specifications	
Sensing Element	Single 100 ohm platinum (Pt 100), 3-wire; TCR = 0.00385 ohm/ohm/°C
Initial Accuracy	Class A $\pm[0.15 + 0.002  t ]$ °C
Probe	$\varnothing 1/4"$ , 316 stainless steel sheath, single RTD is embedded in alumina powder
Minimum Installation Depth	3" (76 mm)
Response Time	7 seconds, 63% of a 25 to 77°C step change (ASTM E1137)
Wiring	3-inch Kapton insulated wire leads with terminal pins



NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.  
[www.automationdirect.com/static/specs/prosensechemresistance.pdf](http://www.automationdirect.com/static/specs/prosensechemresistance.pdf)

## Dimensions

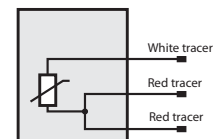
RTD1-HXXL01-01



PART NUMBER	DIM "A"
RTD1-H06L01-01	6.00 [152.4]
RTD1-H12L01-01	12.00 [304.8]
RTD1-H18L01-01	18.00 [457.2]

Dimensions shown inches [mm]

## Wiring Information



## Accessories

RTD extension lead wire available at the end of this section.

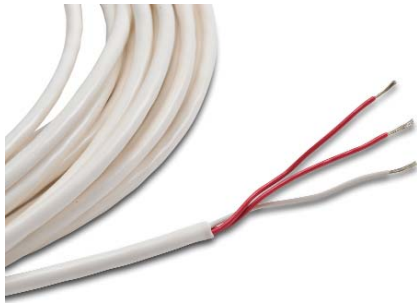
# proSense™ RTD Extension Wire

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RTDW-XX-01



RTDW-XX-02



## Overview

- Specialized construction for use as RTD extension wire offers superior performance compared to “off-the-shelf” cable
- Available insulation types include PVC and FEP Teflon with aluminum Mylar shield and copper drain wire
- Convenient 50 and 100 foot lengths



RTD Extension Wire												
Part Number	Wt (lb)	Price	Type	Length (ft)/Pkg	Gauge, AWG	Conductors	Insulation Type / Color			Ohms/Triple Foot@68°F (20°C)	Continuous Temperature Rating	Nominal Size (inches)
							Each Conductor	Inner Jacket	Outer Jacket			
RTDW-50-01	0.9	<--->	RTD	50	22	3, stranded tinned copper	PVC, 2 red, 1 white	None	PVC, white	0.044	-20°F to 221°F (-29°C to 105°C)	0.160 O.D.
RTDW-100-01	1.5	<--->		100								
RTDW-50-02	0.9	<--->		50	24	3, twisted, stranded tinned copper	FEP Teflon, 2 red, 1 white	Aluminum Mylar shield and copper drain wire	FEP Teflon, white	0.066	-328°F to 400°F (-200°C to 204°C)	0.150 O.D.
RTDW-100-02	1.5	<--->		100								



**NOTE: MAXIMUM RECOMMENDED DISTANCE BETWEEN RTD AND CONTROL DEVICE IS 300 FEET.**

# Compression Mounting Fittings for Temperature Probes

Compression Mounting Fittings for Temperature Probes				
Part Number	Description	Pcs/Pkg	Wt(lb)	Price
<b>BCF18-125N</b>	Compression fitting, brass, for 1/8 inch diameter temperature probes, 1/8 inch NPT male thread	1	0.5	<--->
<b>BCF14-125N</b>	Compression fitting, brass, for 1/4 inch diameter temperature probes, 1/8 inch NPT male thread	1	0.5	<--->
<b>BCF18-25N</b>	Compression fitting, brass, for 1/8 inch diameter temperature probes, 1/4 inch NPT male thread	1	0.5	<--->
<b>BCF14-25N</b>	Compression fitting, brass, for 1/4 inch diameter temperature probes, 1/4 inch NPT male thread	1	0.5	<--->
<b>BCF18-50N</b>	Compression fitting, brass, for 1/8 inch diameter temperature probes, 1/2 inch NPT male thread	1	0.5	<--->
<b>BCF14-50N</b>	Compression fitting, brass, for 1/4 inch diameter temperature probes, 1/2 inch NPT male thread	1	0.5	<--->
<b>CF18-125N</b>	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes, 1/8 inch NPT male thread	1	0.5	<--->
<b>CF14-125N</b>	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes, 1/8 inch NPT male thread	1	0.5	<--->
<b>CF18-25N</b>	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes, 1/4 inch NPT male thread	1	0.5	<--->
<b>CF14-25N</b>	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes, 1/4 inch NPT male thread	1	0.5	<--->
<b>CF18-50N</b>	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes, 1/2 inch NPT male thread	1	0.5	<--->
<b>CF14-50N</b>	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes, 1/2 inch NPT male thread	1	0.5	<--->
<b>CFTF-18</b>	Teflon™ ferrule for brass or stainless steel compression fittings and 1/8 diameter temperature probes	5	0.5	<--->
<b>CFTF-14</b>	Teflon ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	0.5	<--->
<b>CF06-25N</b>	1/4 NPT stainless steel compression fitting for 0.24 inch (6 mm) diameter RTD probe with M12 connector.	1	0.18	<--->
<b>CF10-50N</b>	1/2 NPT stainless steel compression fitting for 10 mm (0.4 inch) diameter RTD probe with M12 connector.	1	0.20	<--->
<b>CF18-BC</b>	Bayonet compression fitting, for 1/8" diameter probe sheath sensors	1	0.1	<--->
<b>BB125N-50N</b>	Reducing bushing, brass, 1/2 MNPT x 1/8 FNPT, hex head	1	0.1	<--->

**BCF18-125N**



**BCF18-25N**



**BCF18-50N**



**CF14-125N**



**CF14-25N**



**CF14-50N**



**NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED. [www.automationdirect.com/static/specs/prosensechemresistance.pdf](http://www.automationdirect.com/static/specs/prosensechemresistance.pdf)**

**CFTF-18**



**CFTF-14**



**CF18-BC**



**BB125N-50N**



**CF06-25N**



**CF10-50N**



# Compression Mounting Fittings for Temperature Probes

BCF18-125N



CF14-125N



BCF18-25N



CF14-25N



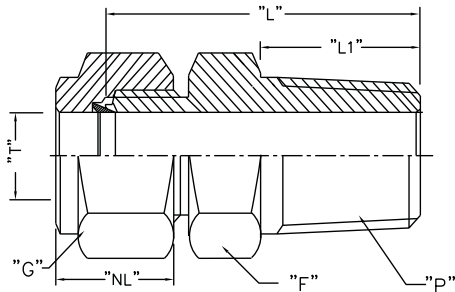
BCF18-50N



CF14-25N



## Dimensions



**Note: All threaded connections should be hand tightened and then turned 1 to 2 full turns for proper sealing.**

**Actual torque required for a proper seal of NPT threads is influenced by tolerance, sealant, lubricant, etc.**

ProSense Compression Fittings										
Part No.	Price	Weight (lb)	Description	"T" Tube O.D.	"P" NPT(M)	"L" Body Length*	"L1" Thread Length**	"F" Body Hex**	"G" Nut Hex**	"NL" Nut Length**
BCF18-125N/ CF18-125N	<-->	0.5	1/8" OD x 1/8" NPT(M)	0.128/0.132	1/8" NPT(M)	0.909"	0.393"	0.5"	0.433"	0.492"
BCF14-125N/ CF14-125N	<-->	0.5	1/4" OD x 1/8" NPT(M)	0.253/0.257	1/8" NPT(M)	1.0"	0.393"	0.5"	0.559"	0.5"
BCF18-25N/ CF18/25N	<-->	0.5	1/8" OD x 1/4" NPT(M)	0.128/0.132	1/4" NPT(M)	1.114"	0.551"	0.551"	0.433"	0.492"
BCF14-25N/ CF14-25N	<-->	0.5	1/4" OD x 1/4" NPT(M)	0.253/0.257	1/4" NPT(M)	1.188"	0.551"	0.551"	0.559"	0.5"
BCF18-50N/ CF18-50N	<-->	0.5	1/8" OD x 1/2" NPT(M)	0.128/0.132	1/2" NPT(M)	1.377"	0.748"	0.866"	0.433"	0.492"
BCF14-25N/ CF14-25N	<-->	0.5	1/4" OD x 1/2" NPT(M)	0.253/0.257	1/2" NPT(M)	1.437"	0.748"	0.866"	0.559"	0.5"
CF06-25N	<-->	0.18	6 mm OD x 1/4" NPT(M)	0.236/0.240	1/4" NPT(M)	1.174"	0.59"	0.67"	0.55"	0.587"
CF10-50N	<-->	0.20	10 mm OD x 1/2" NPT(M)	0.394/0.399	1/2" NPT(M)	1.458"	0.55"	1.06"	0.75"	0.608"

**Note: All dimensions are in inches**

\* ± 0.07

\*\* ± 0.03

**Note: Once the compression fitting has been fully tightened on the probe, the ferrule will be locked onto the probe and cannot be removed or reused.**

# Bayonet Mounting Adapter for Temperature Sensors

Bayonet Mounting Adapter for Temperature Sensors					
Part Number	Description	Pcs/Pkg	Wt(lb)	Price	
<b>BA-078</b>	Bayonet adapter, 7/8 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	0.5	<--->	
<b>BA-100</b>	Bayonet adapter, 1 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	0.5	<--->	
<b>BA-114</b>	Bayonet adapter, 1-1/4 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	0.5	<--->	
<b>BA-112</b>	Bayonet adapter, 1-1/2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	0.5	<--->	
<b>BA-200</b>	Bayonet adapter, 2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	0.5	<--->	
<b>BA-212</b>	Bayonet adapter, 2-1/2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	0.5	<--->	
<b>BA-300</b>	Bayonet adapter, 3 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	0.5	<--->	
<b>BA-312</b>	Bayonet adapter, 3-1/2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	0.5	<--->	
<b>CF18-BC</b>	Adjustable bayonet compression fitting, for 1/8" diameter probe sheath sensors	1	0.1	<--->	
<b>BB125N-50N</b>	Reducing bushing, brass, 1/2 MNPT x 1/8 FNPT, hex head	1	0.1	<--->	



**NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.** [www.automationdirect.com/static/specs/prosensechemresistance.pdf](http://www.automationdirect.com/static/specs/prosensechemresistance.pdf)

**BA-078**



**BA-100**



**BA-114**



**CF18-BC**



**BA-300**



**BA-112**



**BB125N-50N**



**BA-312**



**BA-200**



**BA-212**



# Thermocouple and RTD Connectors

## Overview

- Glass-filled high quality thermoplastic body with original thermocouple material pins and spring-loaded inserts
- Polarized pins
- Molded barriers prevent short circuit
- Captive central cover screw for easy assembly
- Easy wire connection pressure plate construction

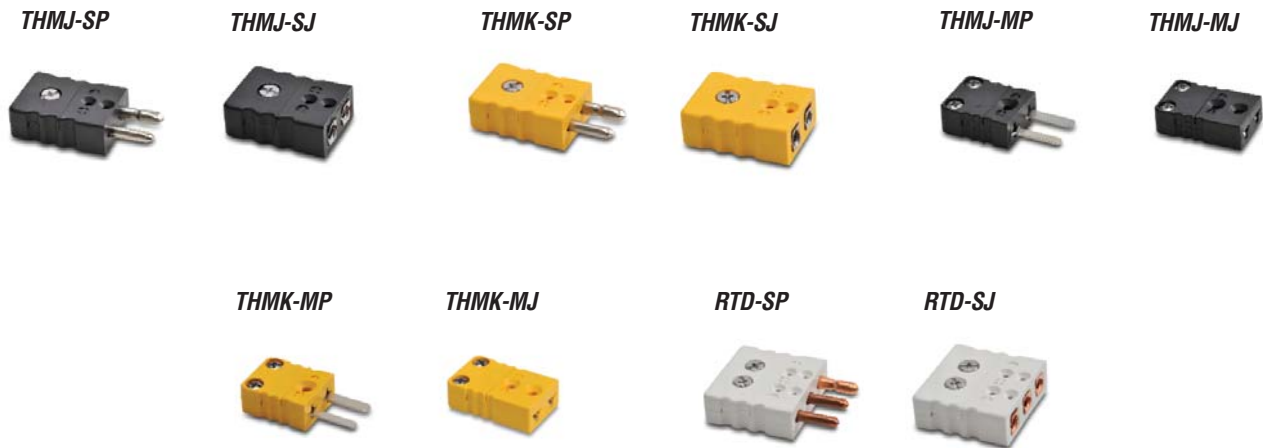
- Stainless steel screws with combination head (Slotted and Phillips)
- 3-Pin standard connectors have a third pin for ground or continuous shield, or for three wire RTDs



Thermocouple and RTD Connectors									
Part Number	Pcs/ Pkg	Wt(lb)	Price	Sensor Type	Connector Type	Temperature Rating	Body Color	Wire Size	Wire Cable Clamp Bracket
THMJ-SP	1	0.5	<--->	J	Standard round pin plug	Max continuous 400°F (200°C)	Black	32 AWG (0.2 mm) to 14 AWG maximum (2.0 mm)	WCB-S
THMJ-SJ	1	0.5	<--->		Standard round pin jack				
THMK-SP	1	0.5	<--->	K	Standard round pin plug		Yellow		
THMK-SJ	1	0.5	<--->		Standard round pin jack				
THMJ-MP	1	0.5	<--->	J	Miniature flat pin plug		Black	40 AWG (0.08 mm) to 20 AWG maximum (0.6 mm)	WCB-M
THMJ-MJ	1	0.5	<--->		Miniature flat pin jack				
THMK-MP	1	0.5	<--->	K	Miniature flat pin plug				
THMK-MJ	1	0.5	<--->		Miniature flat pin jack				
RTD-SP	1	0.5	<--->	RTD	Standard round pin plug		White	32 AWG (0.2 mm) to 14 AWG maximum (2.0 mm)	WCB-S
RTD-SJ	1	0.5	<--->		Standard round pin jack				



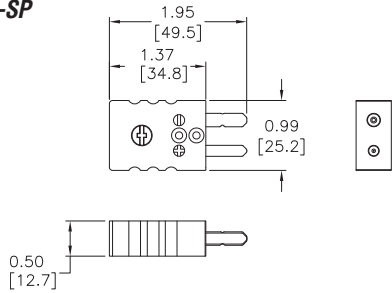
NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.  
[www.automationdirect.com/static/specs/prosensechemresistance.pdf](http://www.automationdirect.com/static/specs/prosensechemresistance.pdf)



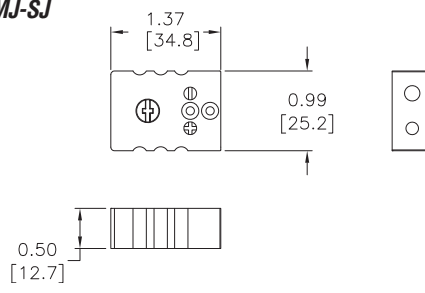
# Thermocouple and RTD Connectors

## Dimensions

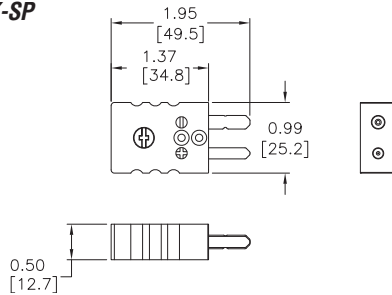
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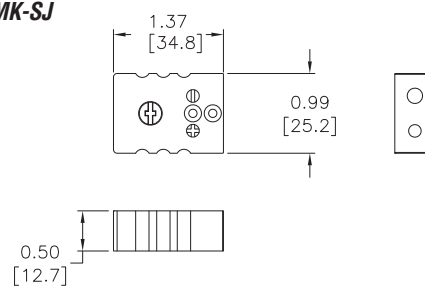
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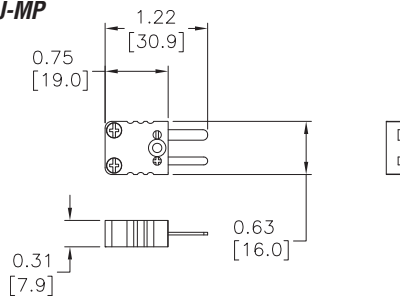
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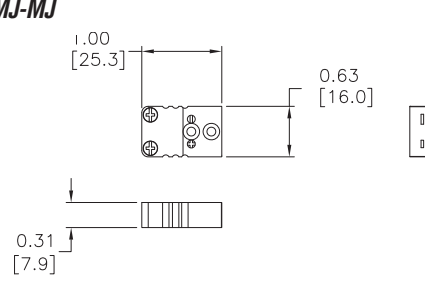
**THMK-SJ**



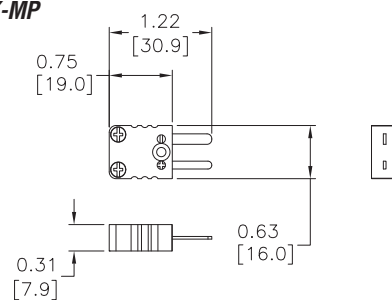
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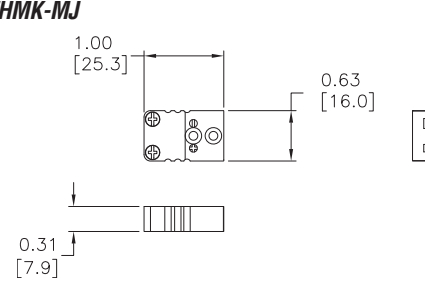
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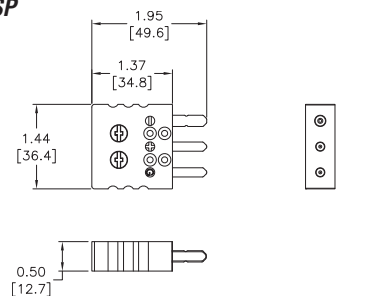
**THMK-MP**



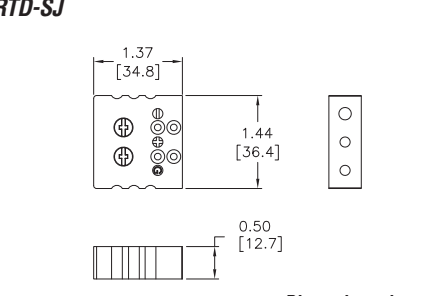
**THMK-MJ**



**RTD-SP**



**RTD-SJ**



Dimensions shown inches [mm]

# Thermocouple and RTD Connectors

WCB-S



WCB-M



WCB-S Application



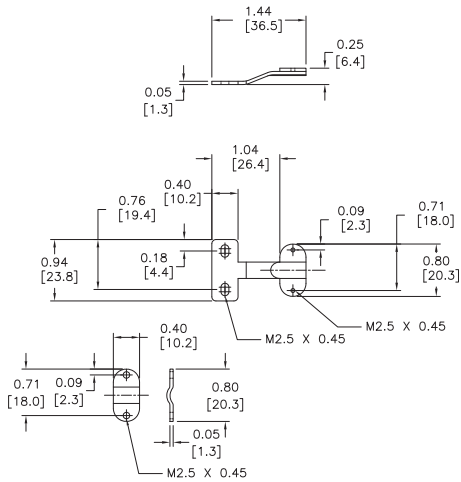
WCB-M Application



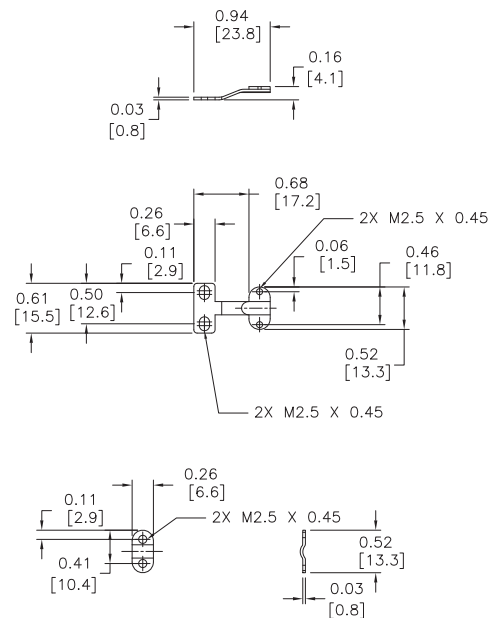
Thermocouple and RTD Connectors Accessories				
Part Number	Pcs/ Pkg	Wt(lb)	Price	Description
WCB-S	4	0.5	<--->	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors.
WCB-M	4	0.5	<--->	Wire / cable clamp bracket for use with miniature thermocouple connectors.

## Dimensions

WCB-S



WCB-M



Dimensions shown inches [mm]