

**THERMOELECTRIC COOLERS INDOOR/OUTDOOR**


Unshrouded  
60, 100 and 200 Watts



Shrouded  
60, 100 and 200 Watts

**INDUSTRY STANDARDS**

UR, cUR Recognized; Type 12, 3R, 4, 4X; File No. SA6453

CE  
IP 65

**APPLICATION**

Thermoelectric Coolers minimize downtime and component loss by removing heat around critical components within an enclosure. These compact, low-profile coolers using the Peltier effect allow for cooling of small indoor and outdoor enclosures. No condensers, compressors or filters are required making it a reliable solution for demanding low-maintenance environments.

**FEATURES**

- DC Powered operation for 24V and 48V applications
- Low profile design allows for mounting vertically and horizontally on any enclosure to avoid interference with internal components
- Filterless design reduces maintenance requirements
- Contains no refrigerant, making it earth friendly
- Prewired with simple terminal block for easy wiring connections
- Operates on the Peltier effect for cooling or heating
- Compressor-free air conditioning for demanding indoor and outdoor applications
- Shrouded and unshrouded models included in standard packages
- Operating temperature range -40 C (-40 F) to 55 C (131 F)
- Partial recess mount

**SPECIFICATIONS**

- Models  
60 Watt, 24 Volt  
100 Watt, 24/48 Volt  
200 Watt, 24/48 Volt

**FINISH**

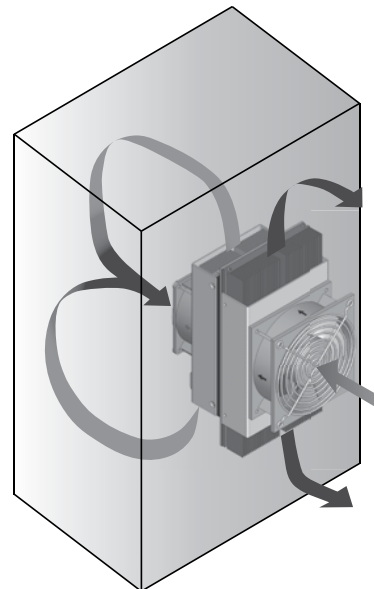
- Shrouded finish includes both powder coat paint RAL 7035 light gray standard and stainless steel 304

**ACCESSORIES**

- Optional thermoelectric temperature controller regulates cooling and heating automatically
- Optional thermoelectric condenser manager helps direct condensation to the bottom of the enclosure

**NOTES**

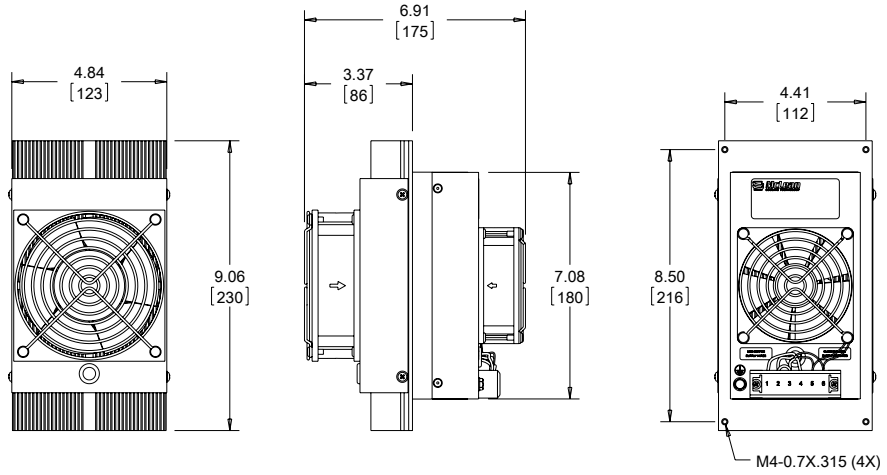
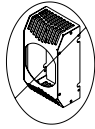
Visit [www.PentairProtect.com](http://www.PentairProtect.com) to download 2D and 3D CAD drawings into the overall design of your electronic system.



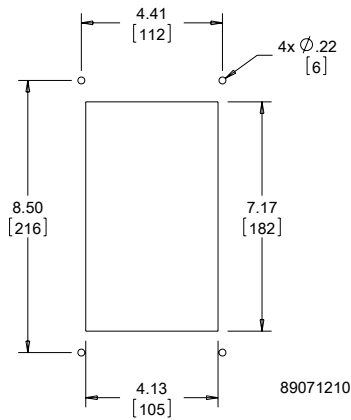
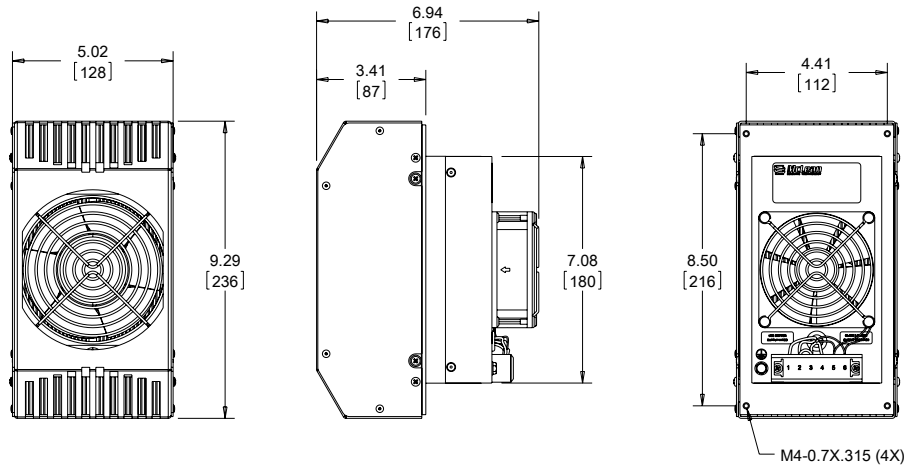
Performance Data **TE09 60W 204 BTU/Hr. (24 V)**

<b>CATALOG NUMBERS</b>			
Description	24V w/o shroud	24V w/ painted shroud	24V w/ SS shroud
Catalog Number	TE090624020	TE090624010	TE090624011
<b>COOLING PERFORMANCE</b>			
<b>BTU/Hr.</b>	<b>178</b>	<b>178</b>	<b>178</b>
<b>Watts</b>	<b>52</b>	<b>52</b>	<b>52</b>
Operating Temperature Range:			
Maximum (°C / °F)	55 / 131	55 / 131	55 / 131
Minimum (°C / °F)	-40 / -40	-40 / -40	-40 / -40
Air Flow at 0 Static Pressure:			
Internal loop (CFM / M <sup>3</sup> /Hr.)	24 / 41	24 / 41	24 / 41
External loop (CFM / M <sup>3</sup> /Hr.)	80 / 136	80 / 136	80 / 136
Nominal Heating Watts	64	64	64
<b>ELECTRICAL DATA</b>			
<b>Input DC Voltage</b>			
Nominal (VDC)	<b>24</b>	<b>24</b>	<b>24</b>
Minimum (VDC)	18	18	18
Maximum (VDC)	27.6	27.6	27.6
Power Consumption 95 F / 95 F (35 C / 35 C)	89	89	89
Max Current (Amps)	4.4	4.4	4.4
Agency Approvals	UR, cUR Recognized CE	UR, cUR Recognized CE	UR, cUR Recognized CE
Power Input Description	Terminal Block	Terminal Block	Terminal Block
<b>ENCLOSURE PROTECTION</b>			
UL Type / IP Rating	Type 12,3R,4,4X / IP 65	Type 12,3R,4 / IP 65	Type 12,3R,4,4X / IP 65
<b>SOUND LEVEL</b>			
At 1.5 Meters	65 dBA	65 dBA	65 dBA
<b>UNIT CONSTRUCTION</b>			
Heat Sink Material	Anodized Aluminum	Anodized Aluminum	Anodized Aluminum
Shroud Material	N/A	Galvanized Steel	Stainless Steel
Shroud Finish	N/A	RAL 7035 light-gray, semi-textured powder-coat paint standard	No. 4 Brushed Finish
<b>UNIT DIMENSIONS</b>			
Height (in. / mm)	9.06/230	9.29/236	9.29/236
Width (in. / mm)	4.84/123	5.02/128	5.02/128
Depth (in. / mm)	6.91/176	6.94/176	6.94/176
Weight (lb. / kg)	6.00/2.70	7.80/3.60	7.80/3.60

60 W 24 V



60 W 24 V

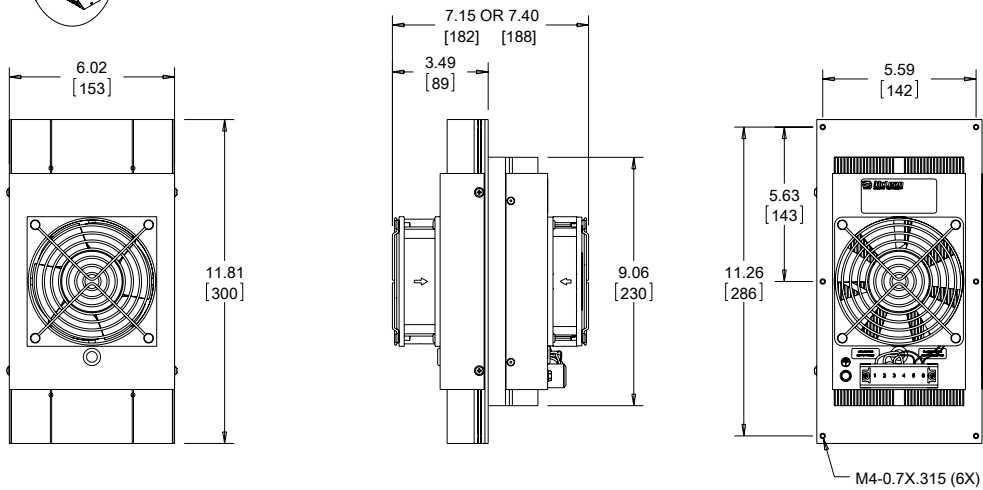
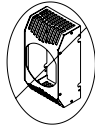


Cutout Dimensions

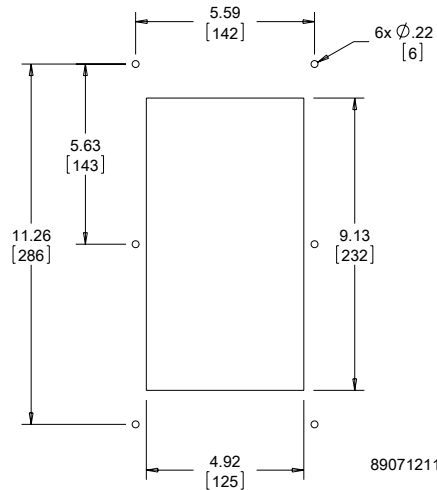
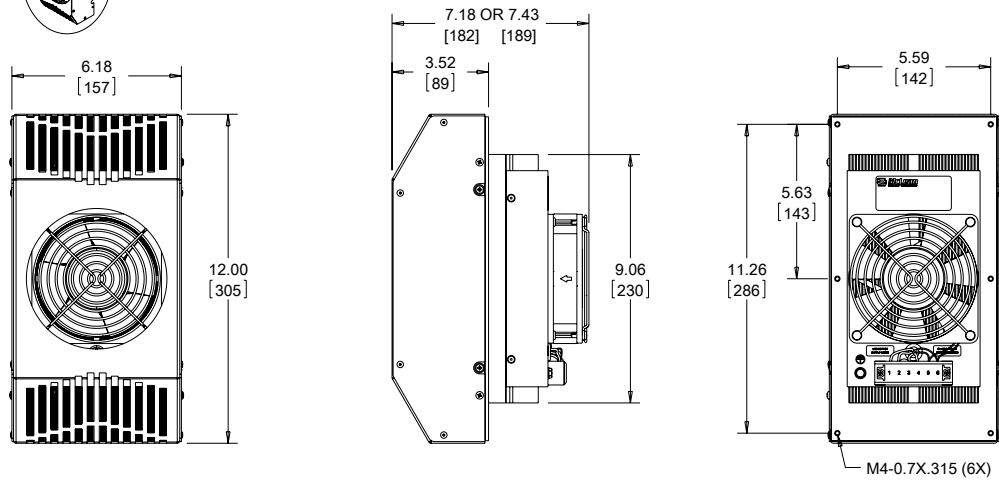
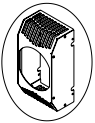
Performance Data **TE12 100W 341 BTU/Hr. (24/48 V)**

<b>CATALOG NUMBERS</b>					
Description	24V w/o shroud	24V w/ painted shroud	24V w/ SS shroud	48V w/o shroud	48V w/ painted shroud
Catalog Number	TE121024020	TE121024010	TE121024011	TE121048020	TE121048010
<b>COOLING PERFORMANCE</b>					
<b>BTU/Hr.</b>	<b>321</b>	<b>321</b>	<b>321</b>	<b>321</b>	<b>321</b>
<b>Watts</b>	<b>94</b>	<b>94</b>	<b>94</b>	<b>94</b>	<b>94</b>
Operating Temperature Range:					
Maximum (°C / °F)	55 / 131	55 / 131	55 / 131	55 / 131	55 / 131
Minimum (°C / °F)	-40 / -40	-40 / -40	-40 / -40	-40 / -40	-40 / -40
Air Flow at 0 Static Pressure:					
Internal loop (CFM / M <sup>3</sup> /Hr.)	62 / 105	62 / 105	62 / 105	62 / 105	62 / 105
External loop (CFM / M <sup>3</sup> /Hr.)	86 / 146	86 / 146	86 / 146	86 / 146	86 / 146
Nominal Heating Watts	94	94	94	94	94
<b>ELECTRICAL DATA</b>					
<b>Input DC Voltage</b>					
Nominal (VDC)	<b>24</b>	<b>24</b>	<b>24</b>	<b>48</b>	<b>48</b>
Minimum (VDC)	18	18	18	40	40
Maximum (VDC)	27.6	27.6	27.6	56.7	56.7
Power Consumption 95 F / 95 F (35 C / 35 C)	162	162	162	162	162
Max Current (Amps)	8.5	8.5	8.5	4.4	4.4
Agency Approvals	UR, cUR Recognized CE GOST	UR, cUR Recognized CE GOST	UR, cUR Recognized CE GOST	UR, cUR Recognized CE GOST	UR, cUR Recognized CE GOST
Power Input Description	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
<b>ENCLOSURE PROTECTION</b>					
UL Type / IP Rating	Type 12,3R,4,4X / IP 65	Type 12,3R,4 / IP 65	Type 12,3R,4,4X / IP 65	Type 12,3R,4,4X / IP 65	Type 12,3R,4 / IP 65
<b>SOUND LEVEL</b>					
At 1.5 Meters	68 dBA	68 dBA	68 dBA	68 dBA	68 dBA
<b>UNIT CONSTRUCTION</b>					
Heat Sink Material	Anodized Aluminum	Anodized Aluminum	Anodized Aluminum	Anodized Aluminum	Anodized Aluminum
Shroud Material	N/A	Galvanized Steel	Stainless Steel	N/A	Galvanized Steel
Shroud Finish	N/A	RAL 7035 light-gray, semi-textured powder-coat paint standard	No. 4 Brushed Finish	N/A	RAL 7035 light-gray, semi-textured powder-coat paint standard
<b>UNIT DIMENSIONS</b>					
Height (in. / mm)	11.81/300	12.00/305	12.00/305	11.81/300	12.00/305
Width (in. / mm)	6.02/153	6.18/157	6.18/157	6.02/153	6.18/157
Depth (in. / mm)	7.40/188	7.43/189	7.43/189	7.40/188	7.43/189
Weight (lb. / kg)	8.50/3.90	11.00/5.00	11.00/5.00	8.50/3.90	11.00/5.00

100 W 24/48 V



100 W 24/48 V



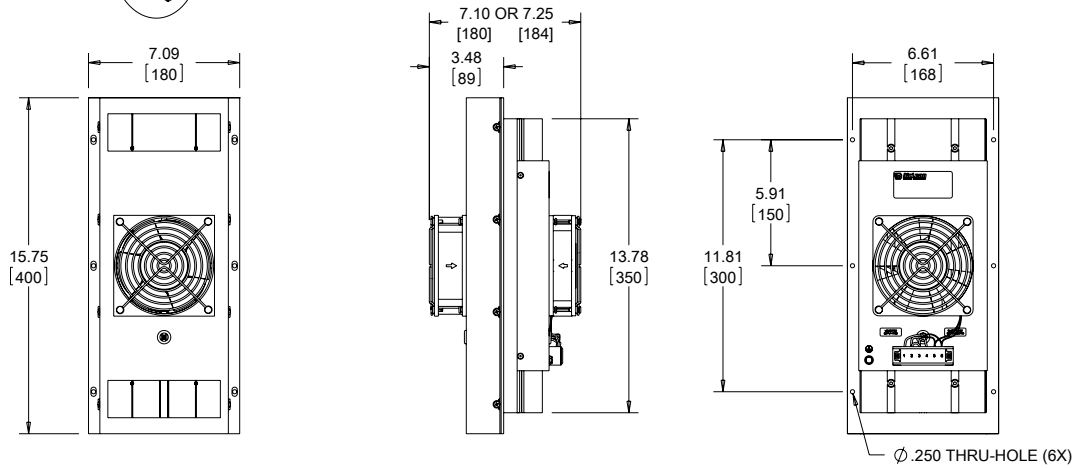
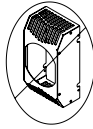
Cutout Dimensions

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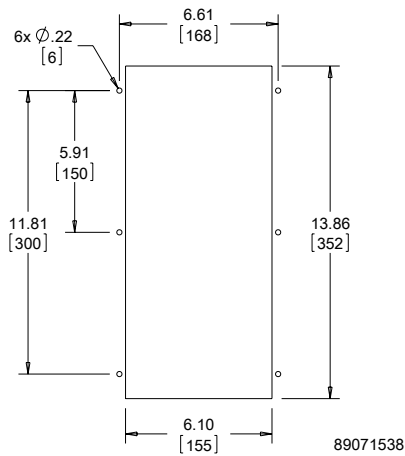
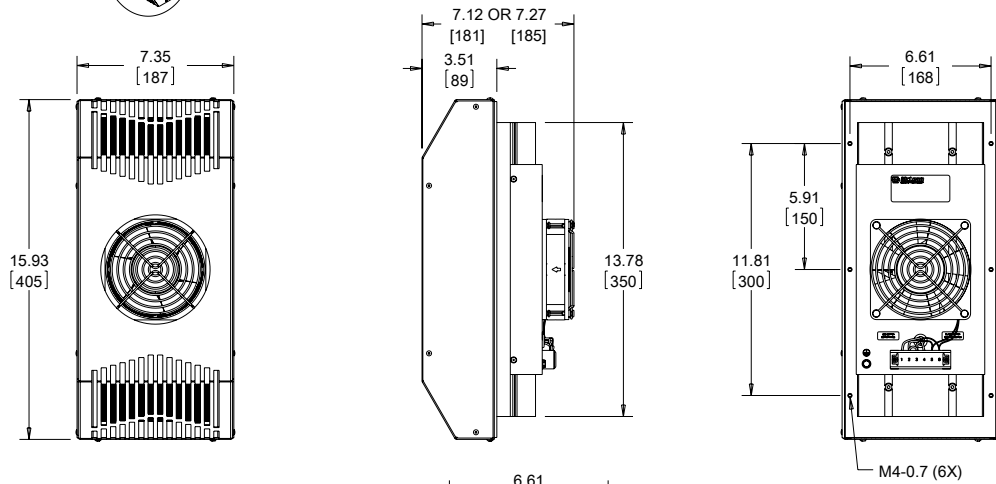
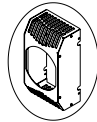
Performance Data **TE16 200W 682 BTU/Hr. (24/48 V)**

<b>CATALOG NUMBERS</b>					
Description	24V w/o shroud	24V w/ painted shroud	24V w/ SS shroud	48V w/o shroud	48V w/ painted shroud
Catalog Number	TE162024020	TE162024010	TE162024011	TE162048020	TE162048010
<b>COOLING PERFORMANCE</b>					
<b>BTU/Hr.</b>	<b>567</b>	<b>567</b>	<b>567</b>	<b>567</b>	<b>567</b>
<b>Watts</b>	<b>166</b>	<b>166</b>	<b>166</b>	<b>166</b>	<b>166</b>
Operating Temperature Range:					
Maximum (°C / °F)	55 / 131	55 / 131	55 / 131	55 / 131	55 / 131
Minimum (°C / °F)	-40 / -40	-40 / -40	-40 / -40	-40 / -40	-40 / -40
Air Flow at 0 Static Pressure:					
Internal loop (CFM / M <sup>3</sup> /Hr.)	62 / 105	62 / 105	62 / 105	62 / 105	62 / 105
External loop (CFM / M <sup>3</sup> /Hr.)	86 / 146	86 / 146	86 / 146	86 / 146	86 / 146
Nominal Heating Watts	146	146	146	146	146
<b>ELECTRICAL DATA</b>					
<b>Input DC Voltage</b>					
Nominal (VDC)	<b>24</b>	<b>24</b>	<b>24</b>	<b>48</b>	<b>48</b>
Minimum (VDC)	18	18	18	40	40
Maximum (VDC)	27.6	27.6	27.6	56.7	56.7
Power Consumption 95 F / 95 F (35 C / 35 C)	295	295	295	295	295
Max Current (Amps)	14.7	14.7	14.7	7.6	7.6
Agency Approvals	UR, cUR Recognized CE GOST	UR, cUR Recognized CE GOST	UR, cUR Recognized CE GOST	UR, cUR Recognized CE GOST	UR, cUR Recognized CE GOST
Power Input Description	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
<b>ENCLOSURE PROTECTION</b>					
UL Type / IP Rating	Type 12,3R,4,4X / IP 65	Type 12,3R,4 / IP 65	Type 12,3R,4,4X / IP 65	Type 12,3R,4,4X / IP 65	Type 12,3R,4 / IP 65
<b>SOUND LEVEL</b>					
At 1.5 Meters	68 dBA	68 dBA	68 dBA	68 dBA	68 dBA
<b>UNIT CONSTRUCTION</b>					
Heat Sink Material	Anodized Aluminum	Anodized Aluminum	Anodized Aluminum	Anodized Aluminum	Anodized Aluminum
Shroud Material	N/A	Galvanized Steel	Stainless Steel	N/A	Galvanized Steel
Shroud Finish	N/A	RAL 7035 light-gray, semi-textured powder-coat paint standard	No. 4 Brushed Finish	N/A	RAL 7035 light-gray, semi-textured powder-coat paint standard
<b>UNIT DIMENSIONS</b>					
Height (in. / mm)	15.75/400	15.93/405	15.93/405	15.75/400	15.93/405
Width (in. / mm)	7.09/180	7.35/187	7.35/187	7.09/180	7.35/187
Depth (in. / mm)	7.25/184	7.27/185	7.27/185	7.25/184	7.27/185
Weight (lb. / kg)	14.80/6.70	18.60/8.40	18.60/8.40	14.80/6.70	18.60/8.40

200 W 24/48 V

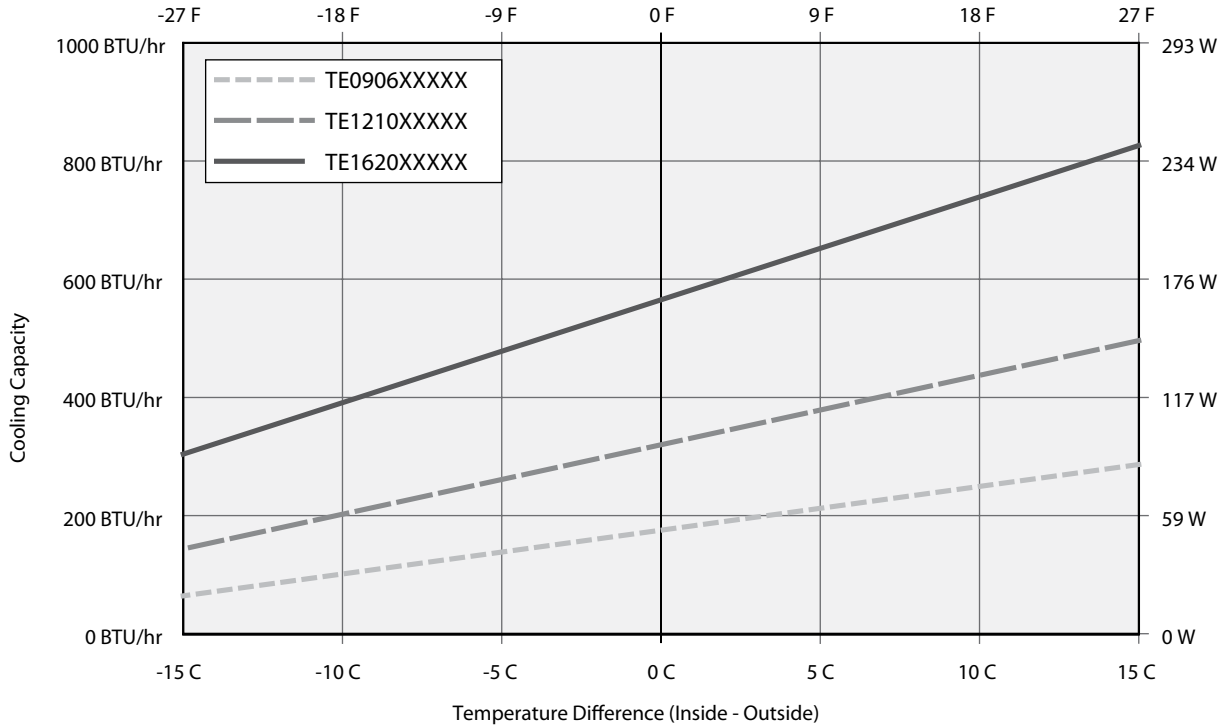


200 W 24/48 V



Cutout Dimensions

Cooling Capacity versus Temperature D at 35 C (95 F) Ambient difference





**THERMOELECTRIC TEMPERATURE CONTROLLER**

**INDUSTRY STANDARDS**

UL Recognized; File No. 60730

**FEATURES**

- Provides PWM regulation of cooling and heating output for TEC units
- Automatically switches between cooling and heating
- 4 cooling temperature set points range from 22.5 C to 35 C (35 C Factory Setting)
- 3 heating temperature set points range from -5 C to 15 C (15 C Factory Setting)
- Heating function can be easily disabled if desired
- On-board LEDs indicate low temp, high temp alarm, and overall system status
- Dry contact relay output provides for external alarm indication

## Performance Data

CATALOG NUMBERS		
	TEC24VCNTRLN	TEC48VCNTRLN
<b>ELECTRICAL DATA</b>		
Rated Voltage (VDC)	24	48
Operating Range (VDC)	18 to 30	40 to 60
Current @ Rated Voltage (Amps)	17.2	8.6
Operating Temperature Range		
Maximum (°F/°C)		131 / 55
Minimum (°F/°C)		-40 / -40
Temperature Accuracy (°F/°C)		± 3.6 / 2.0
Alarm Contact Rating	1) 0.5 A max @ 24 VDC - from same source of power as unit, SELV, non-power limited (greater than 15 W); OR 2) 0.5 A max @ 24 VAC - from, SELV, Class 2 safety isolating transformer.	1) 0.5 A max @ 48 VDC - from same source of power as unit, SELV, non-power limited (greater than 15 W); OR 2) 0.5 A max @ 24 VAC - from, SELV, Class 2 safety isolating transformer.
<b>UNIT DIMENSIONS</b>		
<b>PCB Dimensions</b>		
Height (in/mm)	1.20 / 30	
Width (in/mm)	2.88 / 73	
Length (in/mm)	6.50 / 165	
Weight (lb./kg)	0.21 / 0.10	
<b>Mounting Bracket Dimensions</b>		
Height (in/mm)	0.50 / 13	
Width (in/mm)	3.19 / 91	
Length (in/mm)	6.50 / 165	
Weight (lb./kg)	0.29 / 0.13	
<b>Accessories</b>		
Input Supply Harness	60-in. (1525mm) long Supply Harness Catalog Number TECSUPPLYHARNESS	
Board to TEC Harness	36-in. (915mm) long Control Harness Catalog Number TECCONTROLHARNESS	

**THERMOELECTRIC CONDENSATE MANAGER**



**INDUSTRY STANDARDS**

Maintains UL/cUL Type 3R, 12, 4 and 4X rating when properly installed

**FEATURES**

- Includes all required hardware and vent drain
- Maintains the integrity of Type 4 or Type 4X enclosure
- Drains condensation to bottom of enclosure via vent drain (vent drain included with package)
- Utilizes existing mounting holes and fasteners of thermoelectric cooler that requires no additional mounting

**FINISH**

- Pan Material Galvanized steel polyester powder coat paint with RAL 7035
- Vent drain material options include stainless steel or non-metallic

Performance Data

CATALOG NUMBERS						
	TEC60WCMSS4	TEC60WCMNM	TEC100WCMSS4	TEC100WCMNM	TEC200WCMSS4	TEC200WCMNM
Fits TEC Unit Model	All TE09	All TE09	All TE12	All TE12	All TE16	All TE16
UNIT CONSTRUCTION						
Pan Material	Galvanized Steel					
Pan Finish	RAL 7035 light-gray, semi-textured powder-coat paint standard					
Vent Drain Material	Stainless Steel	Non-Metallic	Stainless Steel	Non-Metallic	Stainless Steel	Non-Metallic
UNIT DIMENSIONS						
Height (in./mm)	.75/19	.75/19	.75/19	.75/19	.75/19	.75/19
Width (in./mm)	5.50/140	5.50/140	6.25/159	6.25/159	7.44/189	7.44/189
Depth (in./mm)	2.50/64	2.50/64	2.50/64	2.50/64	2.50/64	2.50/64