

Figure 9. 3800 Series Industrial Grade Thermostats for Severe Duty Applications


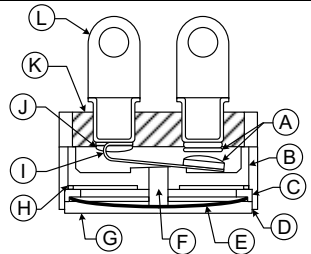
	 <p>A Contacts B Ceramic insulator C Disc retainer D Laser weld E Bimetal disc F Ceramic transfer pin G Cap H Capping washer I Contact arm J Weld cap K Glass header L Terminal</p>
<p>The 3800 Series uses the same materials and manufacture as Honeywell's military-grade thermostats, allowing them to be used where high levels of vibration and mechanical shock are common but a military device is not required. Originally designed for use in motor protection applications, the 3800 Series is now used in commercial aircraft, such as the Boeing 737, 747, 757, 767 and 777, and other applications where severe duty may be encountered.</p>	<p>Available in UL and CSA versions. Please contact Honeywell.</p> <p>Potential applications:</p> <ul style="list-style-type: none"> • Commercial aircraft • Industrial • HVAC

Table 25. Standard Temperature Characteristics

Operating Temperature Range	Tolerance		Standard Mean Differential °C [°F]	Optional Max. Differential °C [°F]
	Open °C [°F]	Close °C [°F]		
-28,9 °C to -12,2 °C [-20 °F to 10 °F]	±5,6 [±10]	±4,4 [±8]	16,7 to 22,2 [30 to 40]	-
	±4,4 [±8]	±4,4 [±8]	11,1 to 16,1 [20 to 29]	-
	±3,9 [±7]	±3,9 [±7]	7,8 to 10,6 [14 to 19]	-
	±3,3 [±6]	-	-	4,4 [8]
	-	±3,3 [±6]	-	4,4 [8]
-11,7 °C to 93,3 °C [11 °F to 200 °F]	±2,8 [±5]	±2,8 [±5]	11,1 to 44,4 [20 to 80]	-
	±2,8 [±5]	±2,8 [±5]	8,3 to 10,6 [15 to 19]	-
	±2,8 [±5]	±2,8 [±5]	5,6 to 7,8 [10 to 14]	-
	±2,2 [±4]	-	-	4,4 [8]
	-	±2,2 [±4]	-	4,4 [8]
	±1,7 [±3]	-	-	3,3 [6]
93,9 °C to 148,9 °C [201 °F to 300 °F]	-	±1,7 [±3]	-	3,3 [6]
	±4,4 [±8]	±3,3 [±6]	13,9 to 44,4 [25 to 80]	-
	±3,9 [±7]	±3,3 [±6]	8,3 to 13,3 [15 to 24]	-
	±3,3 [±6]	±3,3 [±6]	6,7 to 7,8 [12 to 14]	-
	±2,8 [±5]	±2,8 [±5]	5,6 to 7,8 [10 to 14]	-
	±2,2 [±4]	-	-	4,4 [8]
149,4 °C to 176,7 °C [301 °F to 350 °F]	-	±2,2 [±4]	-	4,4 [8]
	±6,7 [±12]	±5,6 [±10]	19,4 to 44,4 [35 to 80]	-
	±5,6 [±10]	±5,6 [±10]	13,9 to 18,9 [25 to 34]	-
	±4,4 [±8]	±4,4 [±8]	8,9 to 13,3 [16 to 24]	-
	±3,9 [±7]	±3,9 [±7]	7,8 to 10,0 [14 to 18]	-
	±2,8 [±5]	-	-	5,6 [10]
177,2 °C to 204,4 °C [351 °F to 400 °F]	-	±2,8 [±5]	-	5,6 [10]
	±8,3 [±15]	±8,3 [±15]	22,2 to 55,6 [40 to 100]	-
	±8,3 [±15]	±6,7 [±12]	16,7 to 21,7 [30 to 39]	-
	±5,6 [±10]	±5,6 [±10]	11,1 to 16,1 [20 to 29]	-
	±4,4 [±8]	±4,4 [±8]	8,9 to 10,6 [16 to 19]	-
	±3,3 [±6]	-	-	6,7 [12]
205 °C to 232,2 °C [401 °F to 450 °F]	-	±3,3 [±6]	-	6,7 [12]
	±11,1 [±20]	±8,3 [±15]	22,2 to 55,6 [40 to 100]	-
232,8 °C to 260 °C [541 °F to 500 °F]	±13,9 [±25]	±13,9 [±25]	33,3 to 66,7 [60 to 120]	-

Table 26. 3800 Series Specifications

Characteristic	Parameter
Switch type	SPST
Reset type	automatic
Amperage	see Table 27
Voltage	120 Vac
Operating temperature range	-28.9 °C to 260 °C [-20 °F to 500 °F]
Environmental exposure range	-62 °C to 288 °C [-80 °F to 550 °F]
Dielectric strength	MIL-STD-202 Method 301, 1250 Vac 60 Hz, terminal to case
Insulation resistance	MIL-STD-202 Method 302 Cond. B, 50 MOhm, minimum terminal to case
Contact resistance	MIL-STD-202 Method 307, 50 mOhm max.
Hermetic seal	MIL-STD-202, Method 112, Cond. A, A x 10 ⁻⁵ atm cc/sec
Vibration (random)	MIL-STD-202, Method 214, 30 Grms, 20 Hz to 2,000 Hz
Vibration (sinusoidal)	MIL-STD-202, Method 204, Cond. D 20 G, 20 Hz to 2,000 Hz
Mechanical shock	MIL-STD-202, Method 213, 400 G
Thermal shock	MIL-STD-202, Method 107, Cond. B
Acceleration	MIL-STD-202, Method 212, 20 G
Moisture resistance	MIL-STD-202, Method 106
Housing material:	
Base	cold plated steel
Contacts	silver alloy
Terminals	Ni/Fe Alloy
Closure	hermetically sealed
Brackets	cold rolled plated steel
Marking	MIL-STD-1285
Weight	7.5 g [0.26 oz] (brackets and wires not included)

Table 27. 3800 Series Contact Ratings

Life Cycles	30 Vac/dc	120 Vac	240 Vac
5,000	7 A	6 A	3 A
10,000	6.5 A	5 A	2.5 A
25,000	6 A	4 A	2 A
50,000	5.5 A	3 A	1.5 A
100,000	5 A	2 A	1