

Figure 15. 3MS1 QPL Series Military Thermostats

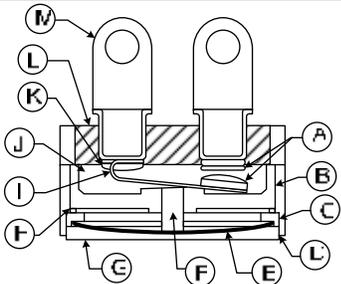
	 <ul style="list-style-type: none"> A Contacts B Ceramic insulator C Disc retainer D Laser weld E Bimetal disc F Ceramic transfer pin G Cap H Capping washer I Contact arm J Backfill dry gas K Weld cap L Glass header M Terminal
<p>The 3MS1 QPL Series is a single-pole, single-throw switch activated by a snap-action bimetal disc. It is qualified to MIL-PRF-24236, Type 1, Class 4, and is QPL listed for military applications. The case is laser welded to form a hermetically-sealed steel housing, with a glass-to-metal seal at the terminal junction. Temperature calibrations are pre-set at the factory and each unit is thermally and mechanically inspected. It is available to open or close on temperature rise. Available mounting brackets and terminal configurations are in accordance with the M-24236/1 Military Specification Sheet.</p>	<p>Potential applications:</p> <ul style="list-style-type: none"> • Military aircraft • Military vehicles

Table 38. 3MS1 QPL Series Standard Temperature Characteristics

Temperature Setpoint Range	Tolerance		Nominal Differential °C [°F]
	Open °C [°F]	Close °C [°F]	
-45,6 °C to 17,8 °C [-50 °F to 0 °F]	±13,9 [±25]	±13,9 [±25]	33,3 to 55,5 [60 to 100]
	±8,3 [±15]	±8,3 [±15]	22,2 to 44,4 [40 to 80]
	±5,6 [±10]	±5,6 [±10]	16,7 to 33,3 [30 to 60]
	±4,4 [±8]	±4,4 [±8]	11,1 to 27,8 [20 to 50]
-17,2 °C to 93,3 °C [1 °F to 200 °F]	±13,9 [±25]	±13,9 [±25]	33,3 to 55,5 [60 to 100]
	±8,3 [±15]	±8,3 [±15]	22,2 to 44,4 [40 to 80]
	±5,6 [±10]	±5,6 [±10]	16,7 to 33,3 [30 to 60]
	±4,4 [±8]	±4,4 [±8]	11,1 to 27,8 [20 to 50]
	±2,8 [±5]	±2,8 [±5]	5,6 to 22,2 [10 to 40]
	±1,7 [±3]	±1,7 [±3]	5,6 to 11,1 [10 to 20]
93,9 °C to 148,9 °C [201 °F to 300 °F]	±13,9 [±25]	±13,9 [±25]	33,3 to 55,5 [60 to 100]
	±8,3 [±15]	±8,3 [±15]	22,2 to 44,4 [40 to 80]
	±5,6 [±10]	±5,6 [±10]	16,7 to 33,3 [30 to 60]
	±4,4 [±8]	±4,4 [±8]	11,1 to 27,8 [20 to 50]
	±2,8 [±5]	±2,8 [±5]	5,6 to 22,2 [10 to 40]
149,4 °C to 191 °C [301 °F to 375 °F]	±13,9 [±25]	±13,9 [±25]	33,3 to 55,5 [60 to 100]
	±8,3 [±15]	±8,3 [±15]	22,2 to 44,4 [40 to 80]
	±5,6 [±10]	±5,6 [±10]	16,7 to 33,3 [30 to 60]
	±4,4 [±8]	±4,4 [±8]	11,1 to 27,8 [20 to 50]

Table 39. 3MS1 QPL Series Specifications

Characteristic	Parameter
Switch type	SPST
Reset type	automatic
Amperage	5 A resistive
Voltage	28 Vac/Vdc
Operating temperature range	-20 °C to 350 °C [-50 °F to 177 °F]
Environmental exposure range	-65 °C to 260 °C [-85 °F to 500 °F]
Dielectric strength	MIL-STD-202, Method 301, 1250 Vac
Insulation resistance	MIL-STD-202, Method 302, 500 MOhm
Contact resistance	MIL-STD-202, Method 307, 50 mOhm max.
Hermetic seal	MIL-STD-202, Method 112, Cond. C
Moisture resistance	MIL-STD-202, Method 106
Shock	MIL-STD-202, Method 213, 100 G
Vibration	MIL-STD-202, Method 204, 20 G
Acceleration	MIL-STD-202, Method 212, 20 G
Thermal shock	MIL-STD-202, Method 107, Cond. B
Salt spray	MIL-STD-202, Method 101, Cond. B
Housing material	cold rolled plated steel
Marking	MIL-STD-1285
Approvals	QPL Mil-PRF-24236/1
Weight	7,5 g [0.26 oz]

Table 40. 3MS1 QPL Series Contact Ratings

Load Type	Life Cycles	28 Vac/dc	115 Vac
Resistive	100,000	5 A	2 A
Inductive	100,000	2.5 A	1 A
Lamp	100,000	1 A	0.5 A