Commercial Thermostats

Figure 2. 2450R/2450HR/2455R/2452R/2452HR Series Phenolic Automatic Reset Thermostat



The 2450R/2450HR/2455R/2452R/2452HR Series is a single pole, single throw, snap-acting, non-adjustable thermostat which may be used in applications such as power supplies, general appliances and medical equipment. A temperature-sensitive bimetal disc, electrically and thermally isolated from the switch, is used to actuate the normally-closed contacts. Contacts open when surface or ambient temperatures increase to the operating set point of the calibrated bimetal disc. The entire switch is enclosed in a phenolic housing; the bimetal disc is retained by a metal heat-conducting end cap. Due to the small size of this unit and the inherently low mass of the bimetal snap-action disc, response of this thermostat to temperature changes is extremely rapid, compared to other commercially available thermostatic devices. A variety of mounting brackets and terminals are available.

All versions are UL/CSA approved.

The 2452R/2452HR/2455R version meets the requirements of EN60730-01.

Potential applications include:

- Power supplies
- Appliances
- Medical equipment
- Water heaters
- · Office automation
- Industrial equipment
- HVAC equipment

Table 1. 2450R/2450HR/2455R/2452R/2452HR Series Standard Temperature Characteristics

Operating Temperature Range	Tolerance		Standard Mean Differential
	Open	Close	°C [°F]
	°C [°F]	°C [°F]	
	±4 [±7]	±6 [±10]	28 to 34 [50 to 60]
0 °C to 26 °C	±4 [±6]	±6 [±10]	22 to 27 [40 to 49]
[32 °F to 79 °F]	±4 [±6]	±5 [±9]	17 to 22 [30 to 39]
[32 1 10 79 1]	±4 [±6]	±5 [±8]	14 to 16 [25 to 29]
	±3 [±5]	±5 [±8]	8 to 14 [15 to 24]
	±5 [±9]	±8 [±15]	45 to 56 [81 to 100]
	±4 [±7]	±6 [±11]	34 to 45 [61 to 80]
27 °C to 82 °C	±4 [±6]	±6 [±10]	28 to 34 [50 to 60]
[80 °F to 180 °F]	±3 [±5]	±6 [±10]	22 to 27 [40 to 49]
	±3 [±5]	±5 [±9]	17 to 22 [30 to 39]
	±3 [±5]	±5 [±8]	8 to 16 [15 to 29]
	±6 [±10]	±8 [±15]	45 to 56 [81 to 100]
	±5 [±8]	±8 [±15]	34 to 45 [61 to 80]
83 °C to 110 °C	±4 [±7]	±7 [±12]	28 to 34 [50 to 60]
[181 °F to 230 °F]	±4 [±6]	±6 [±10]	22 to 27 [40 to 49]
	±4 [±6]	±5 [±9]	17 to 22 [30 to 39]
	±4 [±6]	±5 [±8]	8 to 16 [15 to 29]
	±7 [±12]	±10 [±18]	45 to 56 [80 to 100]
	±5 [±9]	±8 [±15]	34 to 45 [61 to 80]
111 °C to 150 °C	±5 [±8]	±7 [±12]	28 to 34 [50 to 60]
[231 °F to 302 °F]	±4 [±7]	±7 [±12]	22 to 27 [40 to 49]
	±4 [±7]	±6 [±11]	17 to 22 [30 to 39]
	±4 [±7]	±6 [±10]	14 to 16 [25 to 29]

Table 2. 2450R/2450HR/2455R/2452R/2452HR Series Specifications

Characteristic	Parameter
Switch type	SPST
Reset type	automatic
Amperage	See Tables 3, 4
Voltage	120 Vac to 250 Vac
Operating temperature range	0 °C to 150 °C [32 °F to 302 °F]
Environmental exposure range	-18 °C to 177 °C [0 °F to 350 °F]
Materials:	
Base	phenolic
Contacts	silver alloy
Terminals	unplated brass, plated brass or steel
Closure	aluminum, brass or stainless steel
Brackets	aluminum or stainless steel
UL and CSA approvals	• 2455R: 6,35 mm [0.25 in] clearance; UL File MH8267, UL File E36103; CSA File LR21048
	• 2450HR: 1,59 mm [0.0625 in] clearance; UL File E36103; CSA File LR21048
	• 2450R: 1,59 mm [0.0625 in] clearance; UL File E36103; CSA File LR 21048
	• 2452R: 2.66mm [0.105 in] clearance; UL E36103
	• 2452HR: 2.66mm [0.105 in] clearance; UL36103
Weight	6 g [0.2 oz] (does not include brackets or wire leads)

Table 3. 2450R/2450HR/2452R/2452HR Contact Ratings

Life Cycles	120 Vac	240 Vac	277 Vac
100,000	15 A resistive	10 A resistive	10 A resistive
30,000	125 VA pilot duty	125 VA pilot duty	-

Note: 2450 approval rating is limited by EN60730-1 to 125 Vac max.

Table 4. 2455R Contact Ratings

Life Cycles	120 Vac	240 Vac	277 Vac
100,000	15 A resistive	10 A resistive	7.2 A resistive
	4.4 FLA 26.4 LRA	2.2 FLA 13.2 LRA	
	125 VA pilot duty	125 VA pilot duty	
6,000	5.8 FLA, 34.8 LRA	2.9 FLA, 17.4 LRA	-

Note: Additional contact ratings are available, please contact Honeywell.

Figure 3. 2450R/2450HR/2455R/2452R/2452HR Basic Dimensions

