



RS Range = 2455R

RS 228-2658, 228-2664,...

Multipurpose Thermostats

Introduction

The range of multipurpose thermostats from Elmwood Sensors has been developed for applications in a large number of industries including appliance, office automation, HVAC and automotive. With an operating range from 0°C to 260°C, and a tolerancing system suited to customers exact requirements, the multipurpose thermostat can provide an accurate solution to temperature switching applications.

Operating Parameters

DIELECTRIC STRENGTH: 2000 VAC Terminal to cap
CONTACT RESISTANCE: 50 Milliohms. Also available 10 Milliohms contact resistance.
MARKINGS: As required

MATERIALS: BASE-Phenolic or Ceramic

TERMINALS: Brass or Plated Steel

CAP: Aluminium, Stainless Steel, or Brass

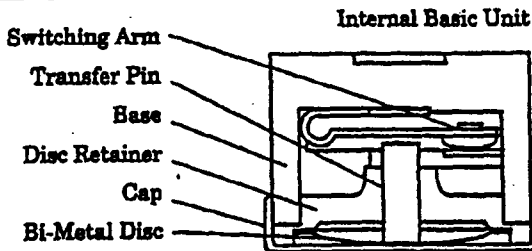
BRACKETS: Aluminum, Stainless Steel, or Brass. 2455RC Steel only.

The patented metal sleeve insert and rivet construction (suffix R) allows for European approval agency listings and is in compliance with the CEE and IEC 72 electrical terminal construction requirements.

Thermostat Operation

When contacts are closed, current passes from terminal to terminal through the stationary contact to the movable contact which is actuated by the snap movement of a bimetal disc. This disc, which is fully insulated from the switch chamber by the pin and disc retainer, is affected by surface or ambient temperature changes. Upon reaching the opening temperature, the disc snaps from a convex to a concave shape, depressing the pin which opens the contacts. The open circuit allows the temperature to drop and causes the disc to snap to its original position, closing the contacts. A thermostat which closes on a rise in temperature operates in a similar manner, but in reverse action.

Internal Configuration



Application

Proper choice of operating temperatures for a thermostat generally depends on many application parameters. The following can have significant effect on the final operating point of the application:

1. Rate of Temperature Rise
2. Location of the Thermostat
3. Electrical Load
4. Mass of the Thermal System
5. Heat Transfer Medium (air, metal, surface, etc.)

A temperature sensor can generate I²R self-heating and this must be considered when selecting the proper temperature for an application. Because of these variables, we recommend that initial testing be performed with thermocouple samples to

minimize trial and error when choosing final temperatures and tolerances. When requesting thermocouple samples please specify Iron or Copper Constantan and lead length. Exposure and set point temperatures have been established after testing and review of standard operating conditions. Application of thermostats should not exceed exposure and set-point temperatures tabulated below.

Standard Temperature Characteristics

Thermostat Series	Operating Temperature °C	Tolerance		Standard Differential	
		Open ±K	Close ±K	Mean K	Price Group*
2450 2455R 2455RC	0-25 (-10 min reset temp)	3	6	22-35	II
		3	6	16-22	III
		3	4	14-16	IV
	26-95 (-10 min reset temp)	3	4	11-14	V
		3	4	8-11	VI
		3	6	22-45	I
2450 2455R 2455RC	96-120	3	5	16-22	II
		3	5	14-16	III
		3	4	11-14	IV
	121-160	3	4	8-11	V
		4	7	22-45	I
		4	6	16-22	II
2450 2455R 2455RC	151-170	4	5	14-16	III
		4	4	11-14	IV
		3	4	8-11	V
	171-220	4	8	22-45	I
		4	6	16-22	II
		4	5	14-16	III
2455RC ONLY	221-235	8	11	22-45	III
		6	11	22-45	IV
		6	8	22-45	V
	236-260	6	7	22-34	VI
		14	14	34-56	II
		11	11	28-50	III
2455RC ONLY	221-235	8	11	28-50	IV
		8	11	28-50	V
		14	25	34-56	II
	236-260	14	14	34-56	III
		14	14	34-56	IV
		11	11	28-50	V

*Grouped according to level of accuracy required. Group I with latitude is less expensive than Group II, etc. °C have been tabulated to nearest degree Celsius compatible to the testing and manufacturing capability in °C.

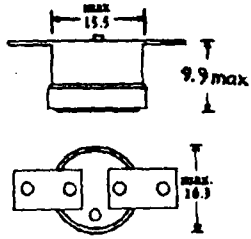
Maximum Operating Limits

Thermostat Series	Environmental Exposure	Temperature Set Point
2450	-30 to 177°C	0 to 170°C
2455R		
2455RBV	-20 to 100°C	0 to 95°C
2455RC	-20 to 290°C	0 to 260°C

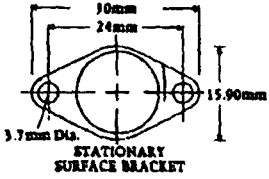
European Approval Agency Ratings

Catalog Type	Electrical Life Cycles	250 VAC	European Approval Agency Listings may vary. For example, ratings for VDE are under Protection Class 2. Contact factory for information on BEAB, VDE, UL, CSA, FEMKO, DEMKO, KEMA, NEMKO, OVE, SEV and U.
2450	10,000	8.3 AMP	
2455R			
2455RBV	100,000	10 AMP	
2455RC			

BASIC DIMENSIONS (REFERENCE ONLY)

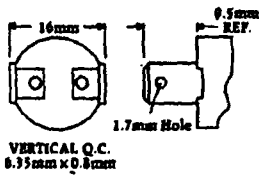


MOUNTING BRACKETS



TERMINALS

ALL DIMENSIONS IN mm's REFERENCE ONLY



BRACKET/TERMINAL ORIENTATION

