7BT2 SERIES

30°F to 400°F, High Capacity, ½”

Introduction

KLIXON® 7BT series high current capacity thermostats provide customers with an enivronmentally sealed thermal switch capable of carrying up to 15 amps at 120VAC or 10 amps at 30 VDC. Designed around a bi-metallic disc, it provides crisp, positive switching action in a device that protects against dust and other foreign particles. KLIXON® 7BT series thermostats are often used by customers in the telecommunications, industrial, rail/transit, or medical industries to control fans or heaters for large scale electronics equipment and industrial batteries.

Features

- High current capacity, environmentally sealed
- Normally open or normally closed
- Pre–set, non–adjustable calibration
- Max resistive load: 15 amp
- Operating temperature range: 30°F to 400°F (-1.1°C to 204.4°C)
- UL & Canadian-UL (UL File #34618)
- DEKRA (Formerly known as KEMA) (ENEC), file #2018218.03

PERFORMANCE CHARACTERISTICS

Characteristics

Dielectric Strength	1500 VAC, rms, 60 cycles for 1 minute, terminal to case			
Ambient Temperature Range	-40°F to +464°F (-40°C to +240°C)			
Operating Temperature Range	+30°F to 400°F (-1.1°C to +204.4°C)			
Contact Ratings (Resistive, Max Temp 400°F, based on standard differential)	***Cycles***	***120 VAC***	***240 VAC***	***30VDC***
	100,000	15.0A	7.5A	10A

Operating Temperature Dash Number

Dash	Operating Temperature		Differential		Tolerance	
#	°F	°C	°F	°C	±°F	±°C
*	30	-1.1	20	11.1	5	2.8
*	40	4.4	20	11.1	5	2.8
*	50	10.0	20	11.1	5	2.8
*	60	15.6	20	11.1	5	2.8
*	70	21.1	20	11.1	5	2.8
*	80	26.7	20	11.1	5	2.8
*	90	32.2	20	11.1	5	2.8
*	100	37.8	20	11.1	5	2.8
Dash	**Operating Temperature**		**Differential**		**Tolerance**	
#	°F	°C	°F	°C	±°F	±°C
*	110	43.3	20	11.1	5	2.8
1	120	48.9	20	11.1	5	2.8
2	125	51.7	20	11.1	5	2.8
3	130	54.4	20	11.1	5	2.8
4	135	57.2	20	11.1	5	2.8
5	140	60.0	20	11.1	5	2.8
6	145	62.8	20	11.1	5	2.8
7	150	65.6	20	11.1	5	2.8
Dash	**Operating Temperature**		**Differential**		**Tolerance**	
#	°F	°C	°F	°C	±°F	±°C
8	155	68.3	20	11.1	5	2.8
9	160	71.1	20	11.1	5	2.8
10	165	73.9	20	11.1	5	2.8
11	170	76.7	20	11.1	5	2.8
12	175	79.4	20	11.1	5	2.8
13	180	82.2	20	11.1	5	2.8
14	185	85.0	20	11.1	5	2.8
15	190	87.8	20	11.1	5	2.8
Dash	**Operating Temperature**		**Differential**		**Tolerance**	
#	°F	°C	°F	°C	±°F	±°C
16	195	90.6	20	11.1	5	2.8
17	200	93.3	20	11.1	5	2.8
40	315	157.2	20	11.1	5	2.8
18	205	96.1	30	16.7	8	4.4
19	210	98.9	30	16.7	8	4.4
20	215	101.7	30	16.7	8	4.4
21	220	104.4	30	16.7	8	4.4
22	225	107.2	30	16.7	8	4.4

Operating Temperature Dash Number (Continued)

Dash	Operating Temperature		Differential		Tolerance	
#	°F	°C	°F	°C	±°F	±°C
23	230	110.0	30	16.7	8	4.4
24	235	112.8	30	16.7	8	4.4
25	240	115.6	30	16.7	8	4.4
26	245	118.3	30	16.7	8	4.4
27	250	121.1	30	16.7	8	4.4
28	255	123.9	30	16.7	8	4.4
29	260	126.7	30	16.7	8	4.4
30	265	129.4	30	16.7	8	4.4
Dash	**Operating Temperature**		**Differential**		**Tolerance**	
#	°F	°C	°F	°C	±°F	±°C
31	270	132.2	30	16.7	8	4.4
32	275	135.0	30	16.7	8	4.4
33	280	137.8	30	16.7	8	4.4
34	285	140.6	30	16.7	8	4.4
35	290	143.3	30	16.7	8	4.4
36	295	146.1	30	16.7	8	4.4
37	300	148.9	30	16.7	8	4.4
38	305	151.7	30	22.2	12	6.7
Dash	**Operating Temperature**		**Differential**		**Tolerance**	
#	°F	°C	°F	°C	±°F	±°C
39	310	154.4	40	22.2	12	6.7
41	320	160.0	40	22.2	12	6.7
42	325	162.8	40	22.2	12	6.7
43	330	165.6	40	22.2	12	6.7
44	335	168.3	40	22.2	12	6.7
45	340	171.1	40	22.2	12	6.7
46	345	173.9	40	22.2	12	6.7
47	350	176.7	40	22.2	12	6.7
Dash	**Operating Temperature**		**Differential**		**Tolerance**	
#	°F	°C	°F	°C	±°F	±°C
*	360	182.2	40	22.2	12	6.7
*	370	187.8	40	22.2	12	6.7
*	380	193.3	40	22.2	12	6.7
*	390	198.9	40	22.2	12	6.7
*	400	204.4	40	22.2	12	6.7

Consult Sensata Technologies if desired operating temperature does not appear on table.
** Dash number does not apply. Order by operating temperature*

CONFIGURATIONS

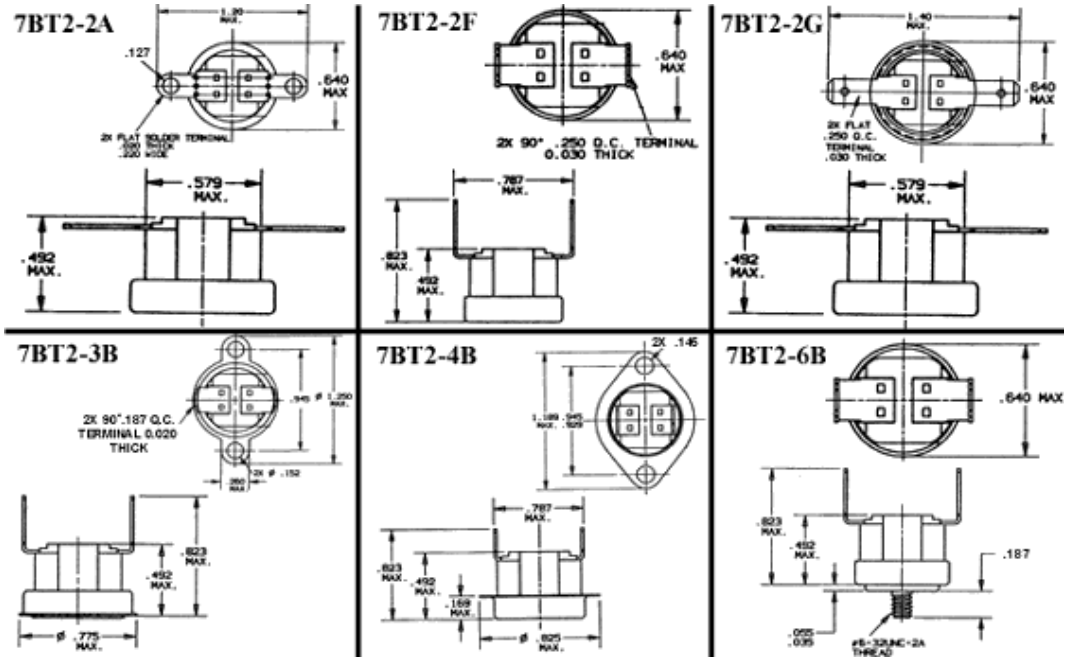
Our most common configurations are depicted below, but many other styles are available. The 7BT2 can be custom packaged to meet your specific design requirements.

Configuration Options

Custom configurations are available

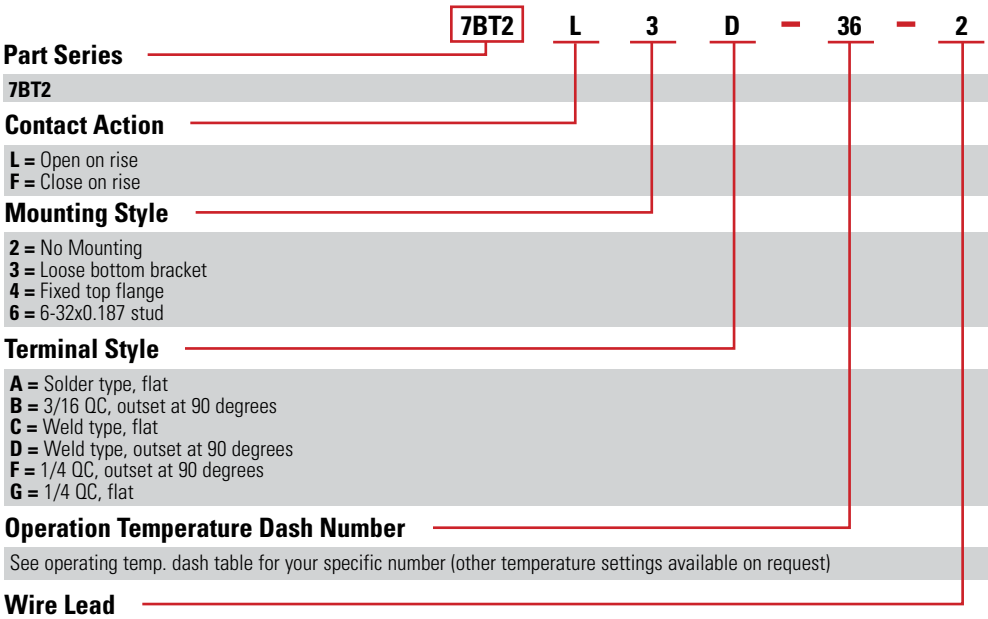
Terminals	A = Solder Type, Flat
	B = 3/16 QC, outset at 90°
	C = Weld Type, Flat
	D = Weld Type, outset at 90°
	F = ¼ QC, outset at 90°
	G = ¼ QC, Flat
Mounting Style	2 = No Mounting
	3 = Loose Bottom Bracket
	4 = Fixed Top Flange
	6 = 6-32 x .187 stud
Optional Wire Leads	Standard wire is 18 gauge stranded, tinned copper wire with black 0.31" PVC insulation (600V, 105°C). UL & CSA approved wire available. Standard lengths are shown under Ordering Options section below, but other lengths are available upon request.

Below is a sample of possible mounting style configurations. Any terminal style may be matched with any mounting style.



ORDERING OPTIONS

Example : 7BT2L3D-36-2



Part Series

7BT2

Contact Action

L = Open on rise
F = Close on rise

Mounting Style

2 = No Mounting
3 = Loose bottom bracket
4 = Fixed top flange
6 = 6-32x0.187 stud

Terminal Style

A = Solder type, flat
B = 3/16 QC, outset at 90 degrees
C = Weld type, flat
D = Weld type, outset at 90 degrees
F = 1/4 QC, outset at 90 degrees
G = 1/4 QC, flat

Operation Temperature Dash Number

See operating temp. dash table for your specific number (other temperature settings available on request)

Wire Lead

0 = none
1 = 6" (standard)
2 = 12" (standard)
3 = 18" (standard)
4 = 24" (standard)
5 = 30"
6 = 36"
...etc.
Lengths are in increments of 6 inches

AGENCY APPROVALS & CERTIFICATIONS

Agency	Max. Voltage	Max. Current (Non-inductive)	Max. Temp.	Cycles
UL	120 VAC	10 A	400°F	30,000
UL	240 VAC	10 A	400°F	30,000
UL	277 VAC	7 A	400°F	30,000
UL / UL-C	120 VAC	10 A	400°F	100,000
UL / UL-C	240 VAC	10 A	400°F	100,000
UL / UL-C	277 VAC	7.2 A	400°F	100,000
KEMA	240 VAC	10 A	400°F	100,000

WARNINGS

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE
- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH
- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury.

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