

**Thermal Switches - continued**

**Bi-Metallic, Auto Reset - continued**

341074

Type	Order Code	1+	50+	100+	250+	+
<b>Normally Closed Types</b>						
15°C N/C	732-400	244.00	217.00	182.00	148.00	--
20°C N/C	732-412	244.00	217.00	182.00	157.00	--
30°C N/C	606-686	244.00	217.00	194.00	--	--
40°C N/C	491-445	199.00	175.00	143.00	124.00	--
50°C N/C	100-6842	173.00	157.00	121.00	92.00	--
70°C N/C	100-6843	173.00	157.00	121.00	92.00	--
90°C N/C	100-6844	173.00	157.00	121.00	92.00	--
100°C N/C	100-6845	173.00	157.00	121.00	92.00	--
112°C N/C	100-6846	173.00	157.00	121.00	92.00	--
125°C N/C	100-6847	173.00	157.00	121.00	92.00	--
150°C N/C	100-6849	173.00	157.00	121.00	92.00	--
<b>Normally Open Types</b>						
30°C N/O	732-424	213.00	184.00	151.00	129.00	--
40°C N/O	491-524	213.00	184.00	151.00	129.00	--
35°C N/O	100-6851	161.00	147.00	115.00	104.00	--
45°C N/O	100-6852	173.00	157.00	121.00	92.00	--
55°C N/O	100-6853	173.00	157.00	121.00	92.00	--
70°C N/O	100-6854	173.00	157.00	121.00	92.00	--

**Bi-Metallic, Auto Reset, High Temperature**



- Automatically re-setting thermal switches with snap-action bi-metallic SPST contacts
- Contacts are normally closed, and are isolated from the mounting base
- Range of switching temperatures from 170°C to 250°C
- Approvals:- **UL** Recognised and **CSA** (22N,52N), **VDE0631** (22N), **DIN EN** (52N)
- Indication of switch temperature is given on base of switch

H=21 (overall), W=31, D=19  
Fixing centres = 24 (holes M3)

Contact rating (all types) 10A 250V ac, 15A 125Vac (100,000 cycles) (UL/CSA)  
Connections 6.3 x 0.8 (1/4") spade terminals

Note: 200°C rated switch available in both materials. Ceramic will withstand a greater degree of temperature overshoot

Opening Temp.	Reclosing Temp.	Body Material	Mfrs List No.	Order Code
170°C ± 5°C	140°C ± 10°C	Ryton	21EN15T044(170/150)	732-436
200°C ± 8°C	160°C ± 10°C	Ryton	22N151044(200/160)	732-448
200°C ± 10°C	160°C ± 10°C	Ceramic	52N12T944(200/160)	732-450
225°C ± 10°C	175°C ± 10°C	Ceramic	52N12T044(225/175)	732-461
250°C ± 10°C	200°C ± 10°C	Ceramic	55H12T944(250/200)	732-473

212351

Type	Body	Order Code	1+	25+	100+	250+
170°C N/C	Ryton	732-436	244.00	217.00	185.00	170.00
200°C N/C	Ryton	732-448	244.00	217.00	185.00	170.00
200°C N/C	Ceramic	732-450	257.00	228.00	216.00	200.00
225°C N/C	Ceramic	732-461	257.00	228.00	216.00	200.00
250°C N/C	Ceramic	732-473	318.00	284.00	269.00	246.00

**Bi-Metallic, Manual Reset**



- Snap-action bi-metallic SPST contacts are isolated from mounting base
- Approvals include **VDE**, **DEMKO**, **UTE**, **KEMA** and **EIL**
- UL** Recognised

The switches are normally closed and open on temperature rise, then remain open until manually reset. Connection is by 1/4" (6.3 x 0.8mm) terminals.

Opening Temp.	Mfrs. List No.	Order Code	Opening Temp.	Mfrs. List No.	Order Code
40°C±3°C	R32-C156	732-485	90°C±3°C	R32-C180	732-497
45°C±3°C	R32-C159	606-698	100°C±3°C	R32-C184	254-022
56°C±3°C	R32-C166	253-996	112°C±3.4°C	R32-C187	606-704
67°C±3°C	R32-C171	254-009	132°C±4°C	R32-C192	254-034
80°C±3°C	R32-C177	254-010	150°C±4.5°C	R32-C195	606-716

Contact rating 16A @ 250V Contact material Fine Silver  
H=24.5, W=36.2 (across terminals), W=30.4 (across flange), D=18.2, Fixing centres=23.8 (hole dia. 3.7)

212151

Order Code	1+	10+	25+	100+
All Order Codes	601.00	531.00	504.00	464.00

**Bi-Metallic, T0-220**

**AIRPAX**



- Automatically resetting thermal switches with snap-action bi-metallic SPST contacts
- High temperature epoxy sealed T0-220 package
- Ideal for PC boards, direct mounting on heatsinks etc.
- UL** recognised, **CSA** certified

H=30 (incl pins), W=10.2, D=4.6, Hole dia=3.6, Pin spacing=5.1

The switches are available as either normally closed (opening on temperature rise) or normally open (closing on temperature rise).

Contact rating 1A @ 120V, 48V dc, (30,000 operations)  
20mA (down to 1mA @ 5V dc (100,000 operations))

Contact material Gold plated Silver cross bar

**Normally Closed Types**

Opening Temp. (±5°C)	Reclosing Temp. (min)	Differential (min)	Mfrs. List No.	Order Code
50°C	30°C	4°C	67L050	178-799
70°C	50°C	4°C	67L070	212-829
80°C	55°C	6°C	67L080	178-801
90°C	60°C	6°C	67L090	178-802
100°C	70°C	6°C	67L100	178-803
110°C	80°C	6°C	67L110	279-791

**Normally Open Types**

Closing Temp. (±5°C)	Opening Temp. (min)	Differential (min)	Mfrs. List No.	Order Code
50°C	30°C	4°C	67F050	178-804
70°C	50°C	4°C	67F070	178-805
90°C	60°C	6°C	67F090	178-806
110°C	80°C	6°C	67F110	279-808

Example: A 212-829 thermal switch will open (break contact) on a rising temperature between 65°C and 75°C and will reset (make contact) on a falling temperature no less than 4°C lower than the actual opening temperature and no lower than 50°C.

212179

Order Code	1+	25+	100+	250+
All Order Codes	388.00	315.00	267.00	222.00

**Bi-Metallic, Insulated**



Normally closed bi-metal thermal cut-outs fully insulated with an epoxy coating.

- Suitable for over-temperature protection and temperature control in a wide range of electrical and electronic equipment
- Approved to **VDE**, **CSA**, **OVE**, **SEMKO** and **BEAB**
- UL** Recognised

H=14.0, W=10.0, D=6.0, Lead L=100

Voltage rating 250V ac Temperature tolerance ±5°C  
Current rating resistive 2.5A cos φ = 1.0 Contact resistance 40mΩ  
inductive 1.6A cos φ = 0.6 Operating temperature -30°C to +180°C  
Sealing insulation 160 type = polyolefine (blue)  
other types = textile/lacquer (yellow)

Mfrs. List No.	Order Code	Mfrs. List No.	Order Code
T11V 100 05U112L520100	= 152-227,	T11V 110 05U112L520100	= 152-228,
T11V 125 05U112L520100	= 152-229,	T11V 140 05U112L520100	= 152-230,
T11V 150 05U112L529100	= 606-728,	T11V 070 05U112L520100	= 732-606,
T11V 080 05U112L520100	= 732-618,	T11V 160 05U112L531100	= 732-620

212162

Opening Temperature	Order Code	1+	25+	50+	100+
70°C	732-606	359.00	273.00	238.00	198.00
80°C	732-618	359.00	273.00	238.00	198.00
100°C	152-227	359.00	273.00	238.00	198.00
110°C	152-228	359.00	273.00	238.00	198.00
125°C	152-229	359.00	273.00	238.00	198.00
140°C	152-230	359.00	273.00	238.00	198.00
150°C	606-728	359.00	273.00	238.00	198.00
160°C	732-620	359.00	273.00	238.00	198.00

**Thermostats**

**Capillary, Control and Limit Thermostats**



Control Thermostat



Safety Limit Thermostat

Switch body H = 55 (incl. 1/4" tabs), W = 38, D = 34  
Spindle L = 19, Dia = 6 with flat  
Fixing centres = 4 x M4 on 28 p.c.d.

Output connections:  
1 = N.O., 2 = N.C.,  
C = COMMON