7AM Series Thermal Protectors

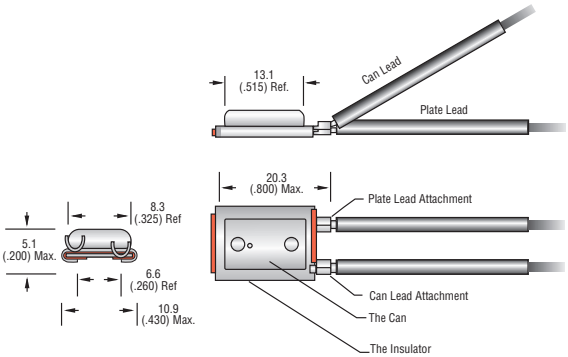
FEATURES

- Miniature size
- Current rating up to 22 Amps
- Individually temperature calibrated and checked
- Positive make and break with Klixon® snap-action disc
- Reliable temperature performance over life of protector
- Gasketed steel case suitable for impregnation processes
- Current and temperature sensitivity for maximum design flexibility
- Same side or opposite side terminations

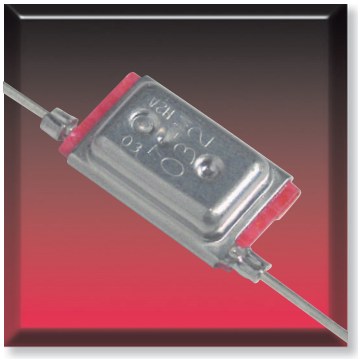
APPLICATIONS

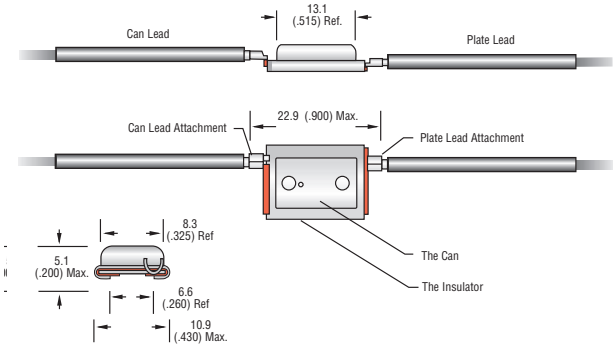
- Battery packs
- Battery chargers
- Permanent split capacitor motors
- Shaded pole motors
- HID ballasts
- Fluorescent lighting ballasts
- Transformers
- Vacuum cleaners
- Recessed lighting fixtures
- Automotive accessory motors, solenoids, etc...
- PC boards

The Klixon® 7AM thermal protector prevents overheating in a variety of consumer, industrial and commercial products. It is a miniature, snap-acting, thermally operated device that is a proven performer in protection technology. It is the right choice for applications where available space is at a premium. Thermtrol can provide these units with a variety of leads, terminations and insulating sleeves to meet specific requirements, including nickel strip leads for NI-CAD battery packs.



Type A, Radial Lead Configuration





Type B, Axial Lead Configuration

All dimensions mm (in.)

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Leads

Thermtrol's state-of-the-art automated lead processing equipment can produce lead wires to meet customer application needs for overall length, wire type, wire size, terminated connection and stripped length requirements.

Lead Tolerances

Unless specified otherwise, the following tolerances apply to all assemblies.

Lead Lengths		Minimum Pull Strength		
0" to 2"	±0.062"	Wire ga.	Lead to Thermostat	Lead to AMP Terminal
2.1" to 6"	±0.125"			
6.1" to 12"	±0.250"	22-20 ga.	20 lbs.	20 lbs.
12.1" to 36"	±0.500"	18 ga.	20 lbs.	20 lbs.
36.1" to 120"	±0.750"	16-14 ga.	20 lbs.	50 lbs.
Over 120"	±1.000"			

Sleeving

In order to achieve optimum heat transfer from the protected medium or ambient to the thermostat, the 7AM has been designed with the case connected to the bimetallic disc. However, this feature makes it necessary to electrically insulate the 7AM from the mounting surface. Typically, this is accomplished with a Mylar sleeve available in 0.006 inch thickness, and marked with the part number. Custom markings and other sleeve materials can also be provided.

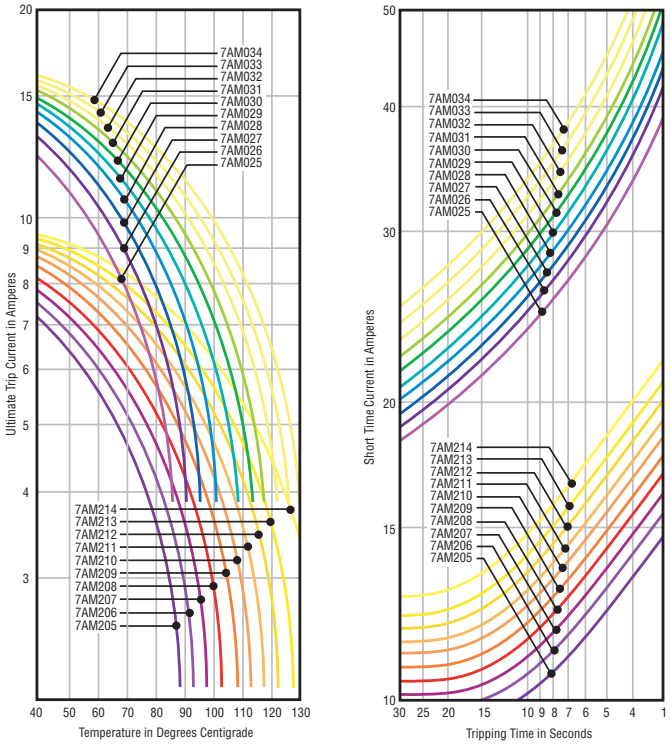
Bi-Metal Options

7AM performance is dependent upon the applied current. In applications where temperature rise is less than 2°C per second, use low-resistance ratings. High-resistance Bi-Metal is recommended for applications with 2°- 5°C per second rates of temperature rise. Contact the factory for additional application consideration if the rate of temperature rise exceeds 5°C per second. Use these curves to determine which Bi-Metal will trip in the manner required for your application.

Ultimate Trip Current vs. Protector Ambient Temperature

Average First Cycle Tripping vs. Current in 25°C Ambient

(Approx.: to be used for selecting samples only)



Contact Ratings

16Vdc	20 Amps
115Vac	22 Amps
277Vac	8 Amps
600Vac	4 Amps

Ensure maximum contact needs do not exceed these voltage/current combinations. These ratings are applicable for 10,000 cycles.

Mechanical Specifications

Case Material	Nickel Zinc Coated Steel
Insulator Material	Dacron-Mylar-Dacron* impregnated with a sealing epoxy
Lead Attachments	18AWG-22AWG Standard Termination 16AWG-14AWG Also Available

*Dacron and Mylar are registered trademarks of E.I. DuPont de Nemours & Co., Inc.

UL Approvals

Applications	Approved Ratings	Approved Values Temp. Code	Approved Values Temp. (°C)	File No.	Standard
Appliance	120Vac/15FLA 85LRA				
Fluorescent Ballast Protector	120Vac/5.5Amp 200Vac & 240Vac/2Amp 277Vac/1.75Amp 600Vac/1Amp	021-040 201-219	70-165	E19340 Vol. 1 Sec. 4	UL873 & C22.2 No. 74 (CUL)
Incandescent Lamp Protector	600 Watts Tungsten 120V	021-039	70-165		
Motor Protector	120Vac, 240Vac 480 Vac	020-036 201-216	65-145	E40044 Vol. 1 Sec. 5	UL2111

Numbering System

7AM	202	A	5

Standard Opening Temperature Code

Opening Temp. °C	Low Resistance Bi-Metal 70 Ω/cmf	High Resistance Bi-Metal 468 Ω/cmf
65	020	200
70	021	201
75	022	202
80	023	203
85	024	204
90	025	205
95	026	206
100	027	207
105	028	208
110	029	209
115	030	210
120	031	211
125	032	212
130	033	213
135	034	214
140	035	215
145	036	216
150	037	217
155	038	218
160	039	219
165	040	220

Nonstandard opening temperature and bimetal resistances are available.

Standard Opening Temperature Tolerance

±5°C

Terminal Configuration

A	Type A Radial Leads
B	Type B Axial Leads

Note: Unless otherwise requested, samples will be produced with 6" long, #18 gauge, XLPE 125C (UL3173) leads. Thermtrol will also apply appropriate insulation (Mylar or Nomex) to electrically isolate the protector body.