

Product Bulletin

9700

Thermal Protector for Motor / Fluorescent ballasts and Temperature Sensing Controls



The Klixon™ 9700 protector is a field proven miniature protector developed to protect shaded pole and permanent split capacitor motors, fluorescent ballasts, solenoids, transformers and other electrical equipment against overheating.

In addition to being small and lightweight, the unit is both temperature and current sensitive. Since the 9700 is sealed to withstand varnish dipping, it can be mounted directly in windings where it can best sense the true temperature of the electrical equipment. As a result, over-temperature protection is assured.

Since the case is not electrically insulated, the protector is furnished with a durable Mylar insulating sleeve. Shrinkable and non-shrinkable sleeves are available.

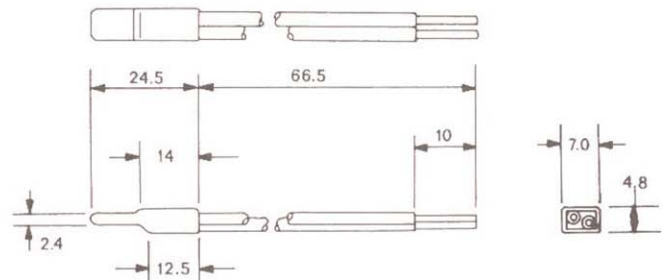
Technical Characteristics

Purpose of control:	thermal motor protector (TMP) thermal ballast protector (TBP) thermal cut-out (TCO)
Contact capacity:	250VAC 13A for TCO 250VAC 2A for TBP
Temperature range:	60°C to 150°C for TCO and TMP 60°C to 135°C for TBP
Tolerance on Open temp:	+/- 5K or +/- 8K
Automatic action:	Type 3C for TMP Type 2C for TBP and TCO
Operating time:	Continuous
Pollution situation:	Normal
Extent of sensing element:	Whole control
PTI of the insulation:	175
Enclosure protection degree:	IP00

Key Benefits

- **Miniature size**-compact design assures ease of installation
- **Precision Calibration**-temperature calibrated and inspected in controlled ambients for dependable consistent performance
- **Snapaction**-positive make and break assured with proven Klixon™ strip disc...contact pressure at open temperature eliminates nuisance trips due to vibration
- **Sealed steel case**-withstands impregnation and baking...maybe varnish dipped...prevents changes in calibration during installation

Dimensions (mm)



Coding system

9700 X X YY - ZZZZ

Z : Wire Lead and sleeve
Serial number is assigned for each lead and sleeve configuration, i.e. wire type, length, AWG#, stripped length, sleeve type, and length.

Y : Operating temperature and actuation disc material
Serial number is assigned for each desired temperature and resistance rating.

Nominal operating temperature	Resistance of actuation disc (ohms/cm ²)				
	30	250	850	100	475
	Temperature code				
60	56	57	58	59	60
80	91	92	93	94	95
90	21	22	23	24	25
100	26	27	28	29	30
110	36	37	38	39	40
120	1	2	3	4	5
130	11	12	13	14	15
140	66	67	68	69	70
150	46	47	48	49	50

This is a typical temperature code. There is a temperature code at each 5°C in a step from 60 to 150°C.

X : Open Temperature tolerance
: +/- 5K
2: +/- 8K

Example :
9700K01-215

Bimetal of 30ohms/cm²,
120°C operating temperature,
+/-5K tolerance with
AWG#18(UL3343 125°C-600V)
66.7mm length leads,
thick 0.15mm, dia. 6.9mm,
length 34mm, Mylar sleeve.

X : Contact material combination

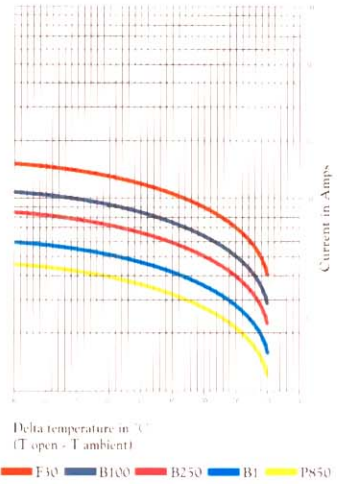
Code	Stationally contact	Movable contact
L	Steel + Fine silver	Steel + copper + Silver Cadmium oxide
K	Ag-Ni + Silver Cadmium oxide	Steel + copper + Silver Cadmium oxide
H	Brass + Fine silver	Steel + copper + Silver Cadmium oxide
P	Ag-Ni + Fine silver	Steel + Fine silver
S	Brass + Fine silver	Steel + Copper + Ag-Ni

Type "S" is set up for Cadmium-free contact

9700 : Device Identification

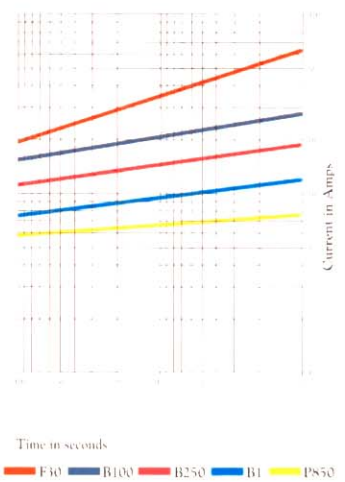
Ultimate trip current vs ambient temperature

Approx., to be used only for selecting samples for verification tests



Average first cycle tripping time vs current 25°C. ambient

Approx., to be used only for selecting samples for verification tests



Certifications

Agency	File number	Standard	Note
UL	E 15962	UL2111	Motor protector
ENEC	2014531.10	EN60730-2-9	Thermal Cut-Out
ENEC	2014531.10	EN60730-2-2	Thermal Motor Protector
ENEC	2014531.10	EN60730-2-3	Thermal Ballast Protector
CQC	CQC0200	2001344	