

KRISHNA

UL RECOGNISED 1 DN SINGLE PHASE THERMAL OVERLOAD PROTECTORS (TOP)



Accurate • Miniature • Snap Action • Reliable



CONTINENTAL CONTROLS LIMITED

ISO 9001 : 2000 COMPANY



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“ KRISHNA ” 1 DN SINGLE PHASE THERMAL OVERLOAD PROTECTORS (TOP)

“Krishna” 1 DN Single phase Thermal Overload Protectors (TOP) provides complete protection to your electrical equipments against over heating due to over current, fluctuating voltage, overload conditions and mechanical malfunctions. They are auto reset type, which is a proven performer in Protection Technology. They are made to protect your equipments and appliances from fire & damage. They also provide safety to the user. They are Electro Mechanical type, Miniature in design, Accurate, Reliable & Cost effective.

USAGES :

“Krishna” 1 DN TOPs are used to provide safety to a wide range of Domestic and Industrial equipments. A short list of typical application are listed below :

- ◆ Water Pumps.
- ◆ Shaded Pole Motors.
- ◆ Permanent Split Capacitor motors.
- ◆ Automotive Accessory Motors.
- ◆ Electrical Ballast for fluorescent Lights.
- ◆ Washing Machines.
- ◆ Vacuum Cleaners.
- ◆ Automotive accessory motors, solenoids, PC boards
- ◆ Dish Washers.
- ◆ Hair dryers.
- ◆ Coffee Makers.
- ◆ Air Conditioners.
- ◆ Room Coolers.
- ◆ Transformers & Electrical Regulators.
- ◆ Battery Packs
- ◆ And others as per your custom design and applications.

KEY FEATURES :

- ◆ Miniature in Size.
- ◆ Individually temperature calibrated and tested.
- ◆ Positive Snap action disk for contact break & make.
- ◆ Auto reset type.
- ◆ Wide range of current & temperature settings for maximum design flexibility.
- ◆ Sealed enclosures suitable for impregnation process (Oil & Water resistance).
- ◆ Temperature settings as per customers' specifications.
- ◆ Opening (cut off) temperature is constant within $\pm 5^{\circ}$ C.
- ◆ Cadmium free contacts

PRODUCT CERTIFICATION :

Agency	File Number	Standard Number	Application
UL	E205975	2111	Motor Protection
SEMKO (CB Scheme)	SE48232	EN 60730-2-2	Motor Protection
		EN 60730-2-3	Ballast Protection
		EN 60730-2-9	Thermal Cut-Out



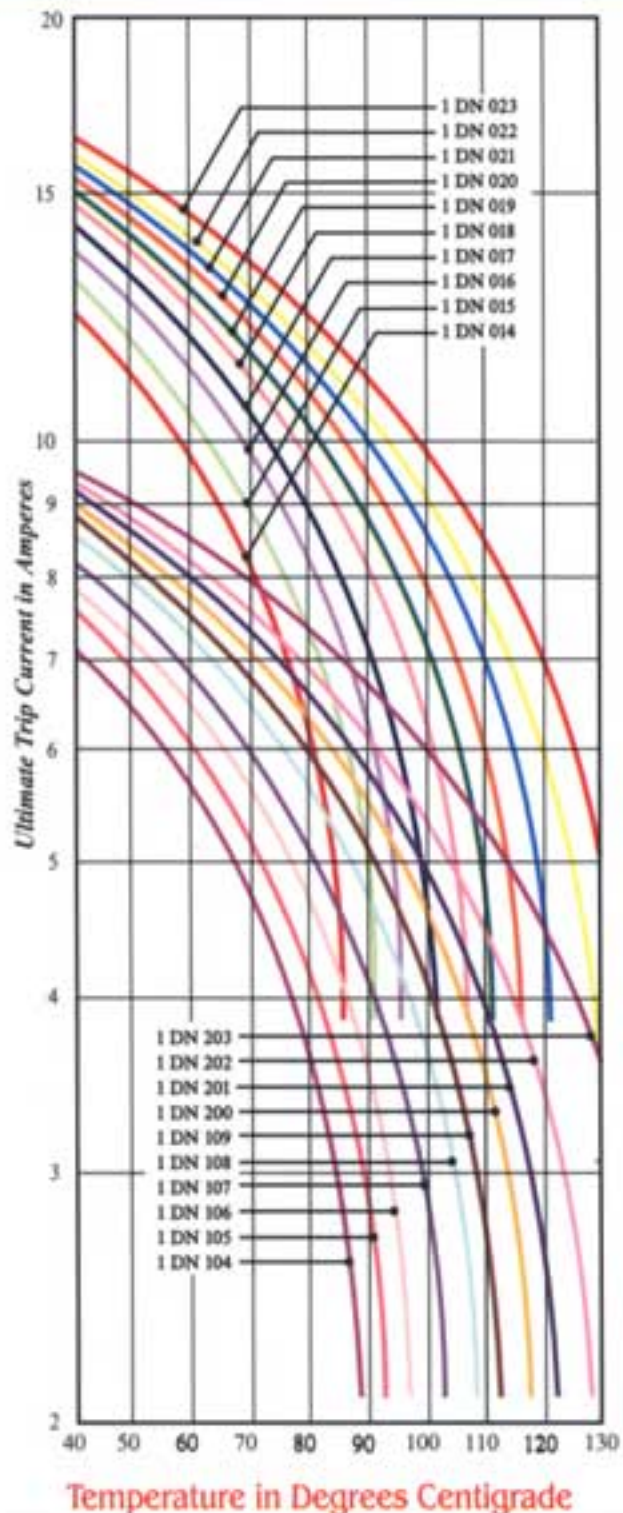
CONFIGURATIONS :

From the following steps, you can select and configure the “Krishna” 1 DN TOP that 's suitable for your application.

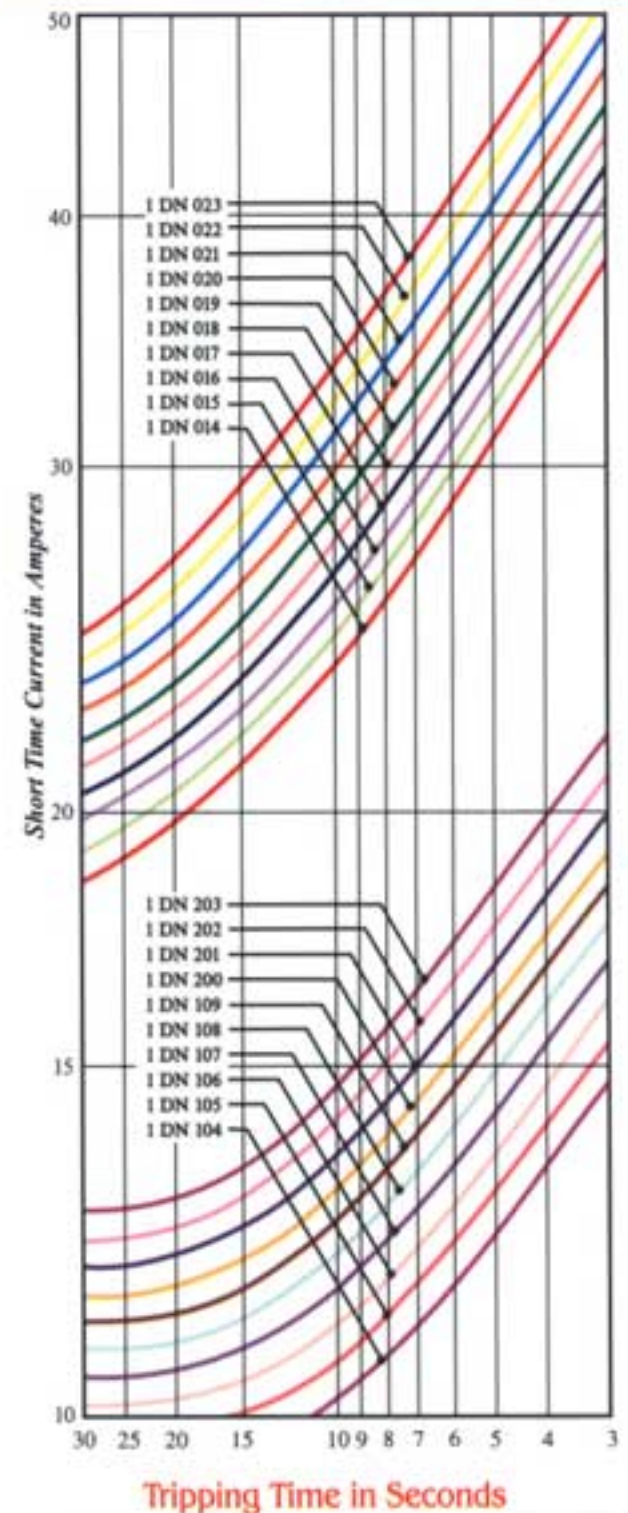
STEP 1

Select the right “Krishna” bimetal. The performance of TOP is dependent upon the applied current. Where if the temperature rise is less than 2°C per second, use low resistance bimetal. If the temperature rise is 2°C - 5°C per second, use high resistance bimetal. If the rate of temperature rise exceeds 5°C per second, contact our qualified QC staff for technical assistance. Use the following curves to determine which “Krishna” 1 DN standard TOP will trip in the manner required for your application.

**Ultimate Trip Current
v/s
Protector Ambient Temperature**
(Approximate: to be used for selecting samples only)



**Average First Cycle Tripping Time
v/s
Current in 25°C Ambient**
(Approximate: to be used for selecting samples only)



The “Krishna” 011 to 030 ratings are low resistance bimetal and 101 to 210 ratings are high resistance bimetal. Other special bimetals are available on request.

STEP 2

Following table can be used for configuration of part number specified on
"Krishna" 1 DN TOP.
CODING SYSTEM

1 DN BASIC CODE	023 STANDARD OPENING TEMPERATURE °C.		A TYPE OF TERMINAL ORIENTATION
	OPENING TEMP °C	TYPE OF BIMETAL DISC LOW RESISTANCE HIGH RESISTANCE	TYPE OF TERMINAL ORIENTATION
75	011	101	A SAME END
80	012	102	
85	013	103	
90	014	104	
95	015	105	
100	016	106	
105	017	107	
110	018	108	
115	019	109	
120	020	200	
125	021	201	
130	022	202	
135	023	203	
140	024	204	
145	025	205	
150	026	206	
155	027	207	
160	028	208	
165	029	209	
170	030	210	

STEP 3

Make sure your maximum contact needs, do not exceed these voltage / current combinations.

◆ Maximum Contact Ratings (10,000 cycles)

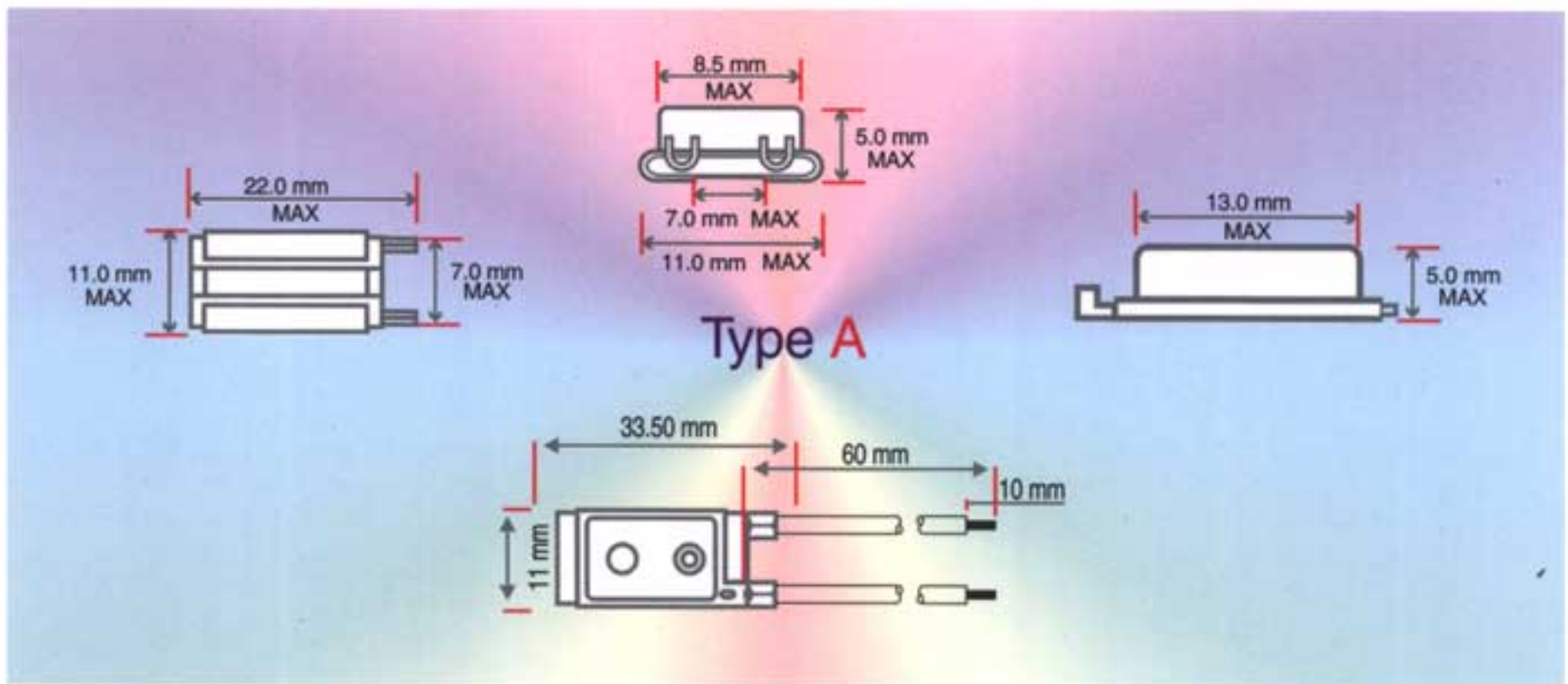
Operating Voltage

600 VAC
230 VAC
115 VAC
16 VDC

Operating Current

4 Amps.
8 Amps.
22 Amps.
20 Amps.





STEP 4

Decide whether your “**Krishna**” 1 DN TOP is to be supplied to you with or without Lead Wire. If Lead wire is required, specify total length and strip length.

NOTE : Our standard wire is 60 mm long and stripped length at open end is 10 mm.

STEP 5

In order to provide efficient heat transfer from the protected medium or ambient to the TOP, the bimetal disk is connected directly to the casing. However, this feature also makes it necessary to electrically insulate the TOP from the mounting surface and this is done with the heat shrinkable sleeve. These sleeves are marked with our code number. Additional customer marking can also be provided.

STEP 6

Select the opening temperature tolerances $\pm 3^{\circ}\text{C}$ (ECT), $\pm 5^{\circ}\text{C}$ (CT), $\pm 8^{\circ}\text{C}$ (WT), $\pm 10^{\circ}\text{C}$ (EWT)

NOTE : Our Standard Tolerance is $\pm 5^{\circ}\text{C}$

QUALITY :

“**Krishna**” 1 DN TOP are automatically assembled, calibrated and rigorously tested on modern, custom designed computerized test equipments with the applications of Statistical Quality Control (SQC) system. As inputs to this quality monitoring system, the TOPs undergo twelve different quality checks.

IMPORTANT :

The above information will enable you to select the correct “**Krishna**” 1-DN TOP. Kindly fill up the enclosed, Sample Request Form and return the same to enable us to send samples for your evaluation and approval. For any further assistance, please contact our R & D Department.

CONTINENTAL CONTROLS LIMITED provides customer assistance in varied technical areas. Since **CCL** does not possess full access to data concerning all of the uses and application in customer's products, no responsibility is assumed by **CCL** neither for customer product design nor for any infringement of patents or rights of others which may result from **CCL's** Assistance / Products. Due to our on going research, products are updated and hence the above specifications are subject to changes without any prior notice.

Krishna



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