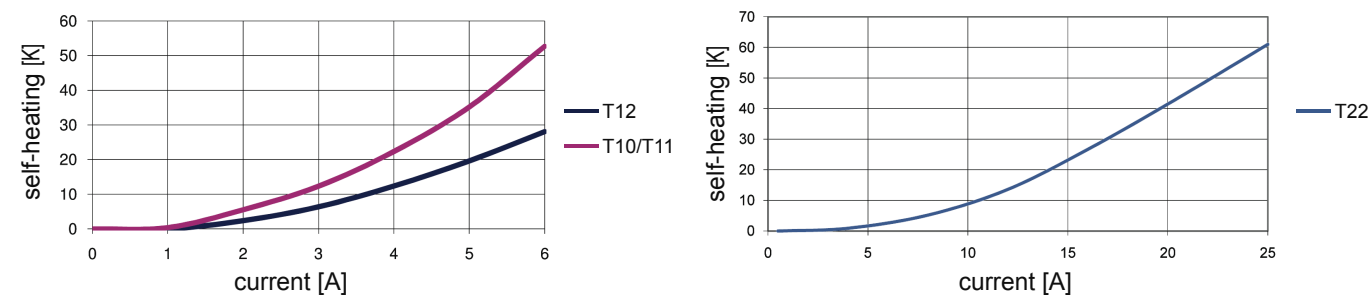


■ Heating by current



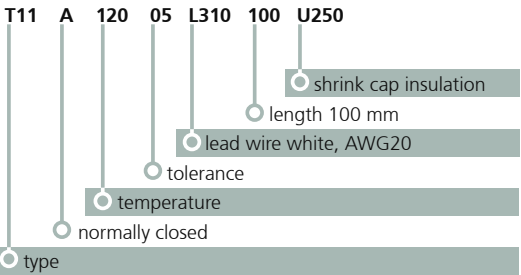
The characteristic curves are measured with a thermal control without any insulation in an oil bath.

Attention:

The heating depends on the thermal conduction of the control to the equipment or part which should be protected.

■ Ordering and marking example

Ordering example



Deviations from standard controls on request.

Cantherm Ordering Example [T1112025AEDCB0E]

T11	120	2	5	AE	D	C	B	0	E
type	temperature	normally closed	tolerance +/-5°C	lead wire UL3398 20 AWG	lead length D=4"	yellow	insulation U102	housing - none	strip length .25"

Marking

T11A type (T11 nc)

12005 response temperature (120°C), tolerance (± 5K)

049C date of manufacture (April 2009), country (C = Canada)

Marking

T11A type (T11 nc)

12005 response temperature (120°C), tolerance (± 5K)

049D date of manufacture (April 2009), country (D=Germany)



CANTHERM™
Div. of Microtherm International Cooperation

Canadian Thermostats & Control Devices, Ltd.
8415 Mountain Sights Ave.
Montreal, Canada H4P 2B8

Tel: (514) 739-3274 Fax: (514) 739-2902
1 (800) 561-7207
WEBSITE: www.cantherm.com
E-Mail: sales@cantherm.com

Thermal motor protector
Temperature limiter
Thermal cut-out

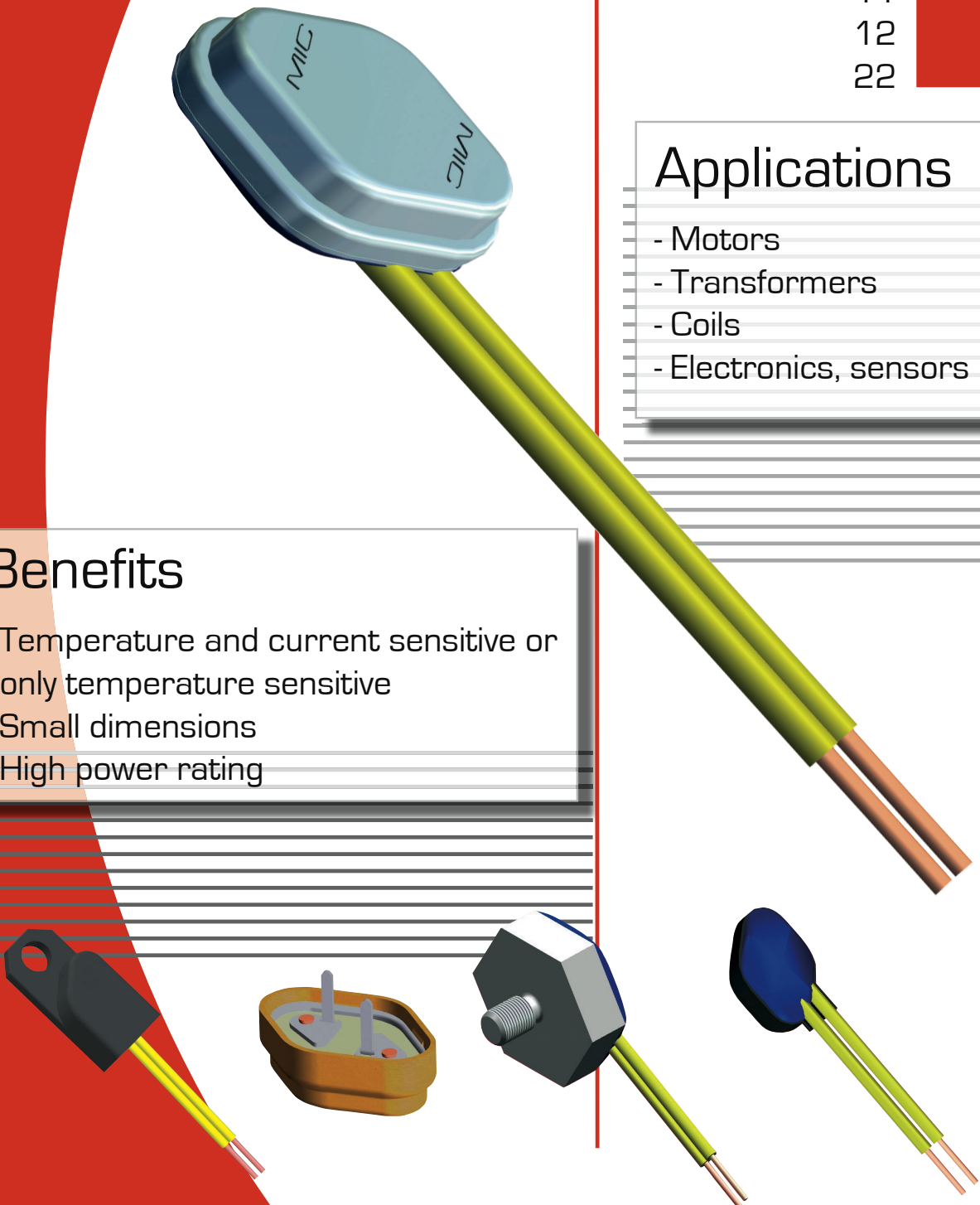
10
11
12
22

Applications

- Motors
- Transformers
- Coils
- Electronics, sensors

Benefits

- Temperature and current sensitive or only temperature sensitive
- Small dimensions
- High power rating



CANTHERM

Technical data

ratings		control type	T10A / E T11A / E	T12A / E	T22A	T10B / G	T22B ¹⁾
version			normally closed			normally open	
rated current at 250 V 50/60 Hz (cos φ 0.95 / 0.6)			2.5 A / 1.6 A	6.3 A / 2.5 A	20.0 A / 3.0 A	2.0 A / 1.6 A	3.5 A / 2.0 A
switching cycles under rated current			10,000				
max. current under failure condition at 250 V 50/60 Hz (cos φ 0.95)			10.0 A	12.0 A	30.0 A	10.0 A	20.0 A
switching cycles under max. current			300		600	300	1,000
temperature rating T _a (steps in 5 K)			(50) 70 °C... 180 °C ²⁾		80 °C ... 160 °C ³⁾		
tolerances			Standard: ± 5 K				
feature of automatic action			1.C.M, 2.C		2.B, 1.C, 3.C	1.B, 2.C	
contact resistance (incl. wire of 100 mm)			< 50 mΩ				
hysteresis			30 K ± 15 K ⁴⁾ ⁵⁾				
dielectric strength (standard insulation)			2 kV				
shock / vibration testing (similar to EN 50155)			400 m/s² sine half wave / 100 m/s² 5 Hz ... 2.000 Hz sine				
resistances to impregnation			tight against ordinary resins and lacquers				
degrees of protection provided by enclosures (EN 60529)			IP00				
suitable for use in protection category			I, II				
approvals	VDE /ENEC	EN 60730-1 / -2-3 ⁶⁾ /-2-9					
	UL	UL 2111 / UL 873 ¹⁾					-
	CSA / cUL	C22.2 No. 77 / C22.2 No. 24 ¹⁾				-	-
	CQC	GB14536.1-1998 / GB14536.10-1996 ¹⁾					

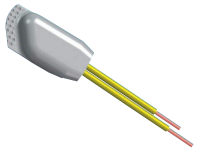
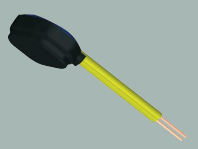
1) details on request 2) T10 max. T_a 160 °C 3) approval to EN60730-2-2 up to 180°C
4) T10 available with ± 3 K tolerances and smaller hysteresis 5) at the T_a (upper and lower) limits the hysteresis could deviate 6) different power rating

Standard wire (length 100 ± 10 mm, stripped 6 ± 1 mm)

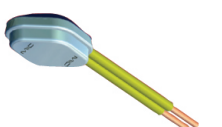
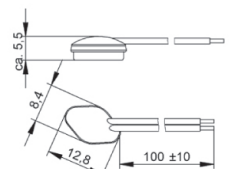
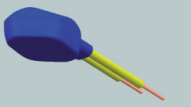
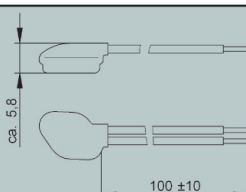
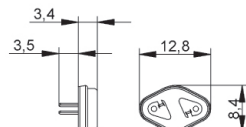
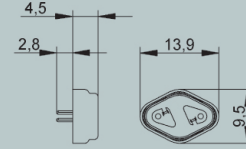
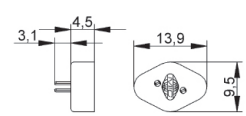
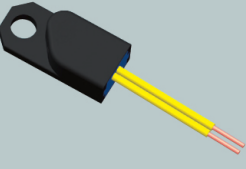
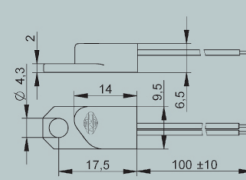
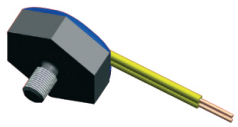
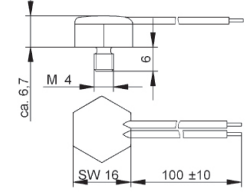
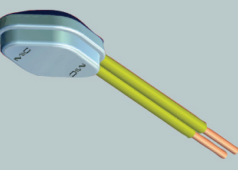
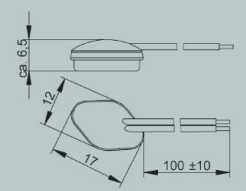
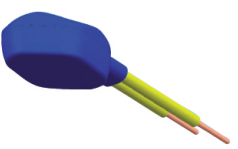
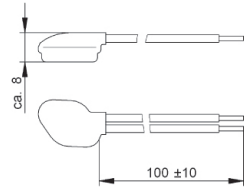
Cantherm lead	Cantherm-code	MIC code	temperature max.	operating voltage max.	diameter insulation	cross section diameter 2)	UL style
black	ACDA	L300	150 °C	300 V	1.57 mm	AWG24 / 0.24 mm²	3398
yellow	AEDC	L310			1.80 mm	AWG20 / 0.48 mm²	
black	AFDA	L320 1)			2.15 mm	AWG18 / 0.96 mm²	
white	LCDB	L330	200 °C	600 V	0.90 mm	AWG24 / 0.24 mm²	3557
white	LEDB	L340			1.26 mm	AWG20 / 0.61 mm²	
white	LFDB	L350 1)			1.50 mm	AWG18 / 0.96 mm²	
yellow		L400	150 °C	300 V	1.40 mm	AWG24 / 0.51 mm	3398
black	ASDA	L410			1.65 mm	AWG20 / 0.81 mm	
white	DFDB	L430	200 °C	300 V	1.21 mm	AWG24 / 0.51 mm	1332
white	DEDB	L440			1.51 mm	AWG20 / 0.81 mm	

1) T22 only 2) for T12/T11 AWG20 and for T10 AWG24 is recommended

Standard insulation

control type	nc	no	Cantherm-code	MIC code	illustration	drawing dimensions (mm)	technical specification	approvals
T10	A	B	U102 B	U250			shrink cap potted	VDE, UL, cUL
T11, T12	A		U106 F					
T22	A	B	U103 C U107 G	U256		different dimensions for T22		
T10	A	B	U153 V	U174			cap of PPS potted	VDE, UL, cUL
T11, T12	A		U174 O					

Specific variations

control type	nc	no	Cantherm-code	MIC code	illustration	drawing dimension (mm)	technical specification	approvals
T10 T11, T12	A A	B	Insulation 0		 type T11, T12 illustrated		no insulation potted	VDE, UL, cUL, CSA
T10 T11, T12	A A	B	Insulation U112 L	U112			coated T _a max. 160 °C	VDE, UL, cUL
T11, T12	A		Wire Type A334 6	A334			no insulation PCB connector grid dimension 5.08	VDE, UL, cUL
T11, T12	A		Insulation U314 4	A334 U314			cap of PPS PCB connector grid dimension 5.08	VDE, UL, cUL
T11, T12	A		Insulation U315 5	A334 U315			cap of PPS PCB connector grid dimension 5.08	VDE, UL, cUL
T10 T11,T12	A A	B	Insulation U293 2	U293			housing of PPS potted	VDE, UL, cUL
T10 T11, T12	E E	G	Housing G502 E	G502			potted aluminium housing anodized black M4x6 T _a max. 150 °C	VDE, UL, cUL
T22	A	B	Insulation 0				no insulation potted	VDE, UL, cUL, CSA
T22	A	B	Insulation U112 L	U112			coated T _a max. 160 °C	VDE, UL, cUL