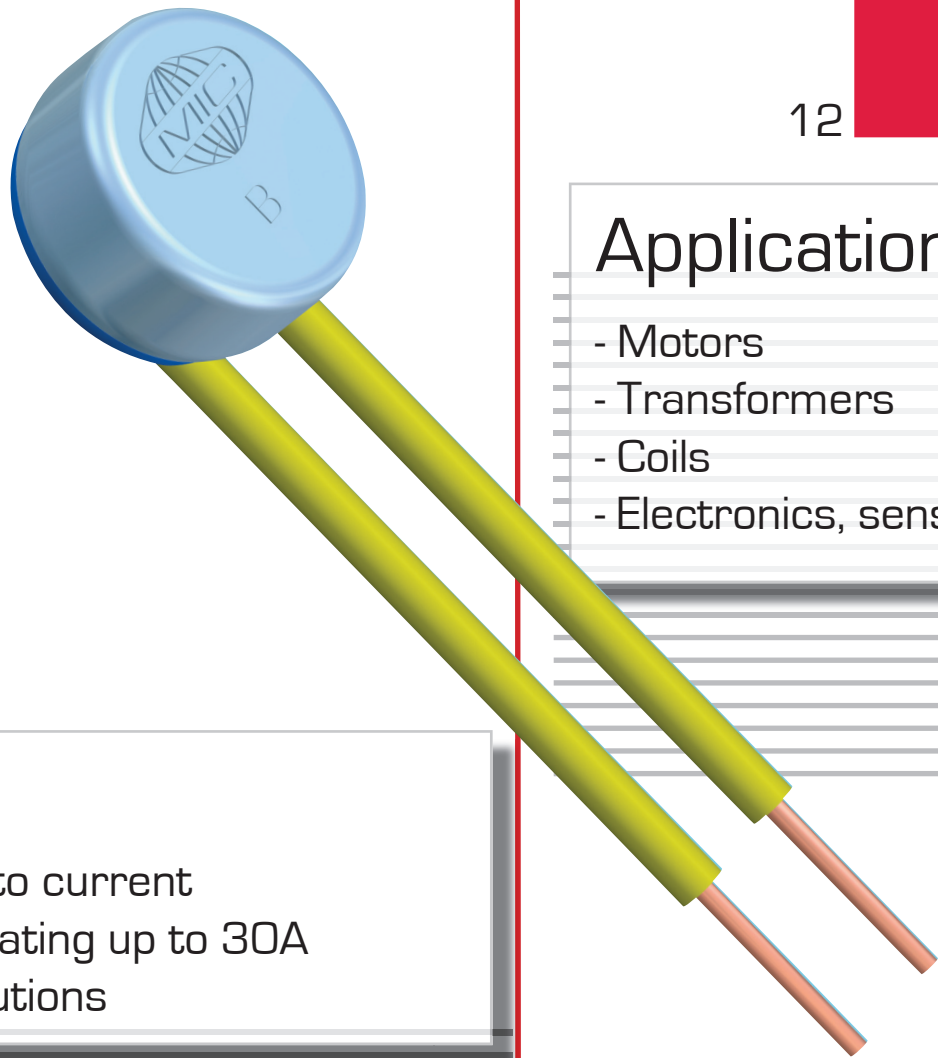


Thermal motor protector
Temperature limiter
Thermal cut-out

B

12

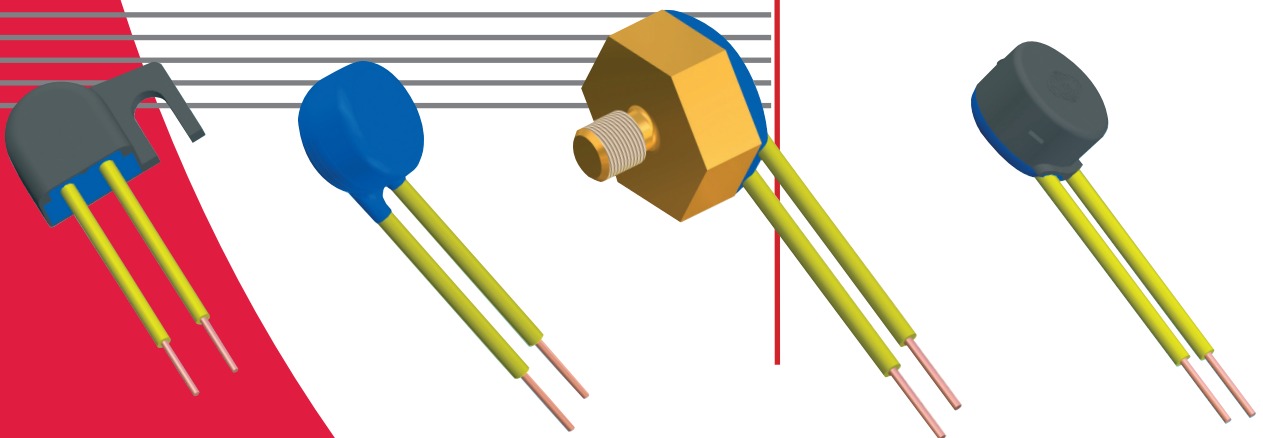


Applications

- Motors
- Transformers
- Coils
- Electronics, sensors




Benefits

- Non-sensitive to current
- High current rating up to 30A
- Manifold executions



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Technical data

ratings	control type	B12A / E			B12B / G
version		normally closed			normally open
rated current at 250 V 50/60 Hz (power factor 0.95 / 0.6)		6.3 A / 4.0 A	10.0 A / 6.0 A	13.0 A / 2.1 A	5.0 A / 1.6 A
switching cycles		10,000	5,000	1,000	5,000
max. current at 250 V 50/60 Hz (power factor 0.95)		30.0 A			
switching cycles under max. current		100			
temperature rating Ta (steps in 5 K)		70 °C ... 160 °C			
tolerances		Standard: ± 5 K			
feature of automatic action		1.B.M, 2.B, 1.C, 3.C			1.B, 3.C
contact resistance (incl. wire of 100 mm)		< 50 mΩ			
hysteresis		30 K ± 15 K			
dielectric strength (standard insulation)		2 kV			
shock- / vibration testing (similar to EN 50155)		400 m/s ² sine half wave / 100 m/s ² 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 / -2-2 / -2-3 ¹⁾ / -2-9		
	UL		UL 2111 / UL 873 ²⁾		
	CSA		C22.2 No. 77 / C22.2 No. 24 ²⁾		

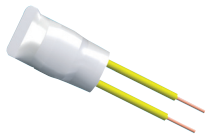
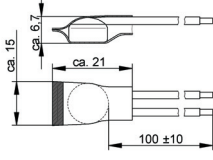
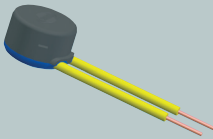
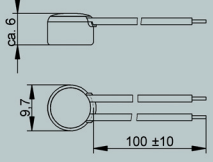
¹⁾ different power rating

²⁾ on demand

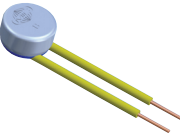
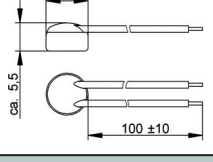
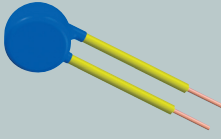
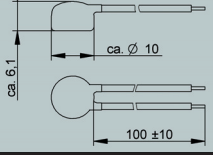
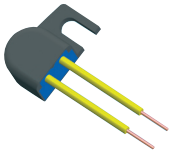
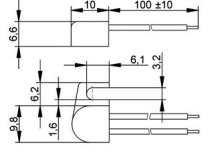
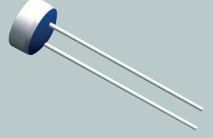
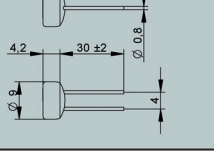
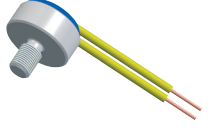
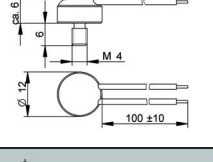
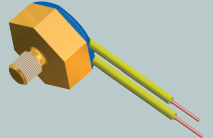
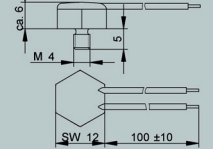
Standard wire (length 100 ± 10 mm, stripped 6 ± 1 mm)

lead	code	temperature max.	operating voltage max.	diameter insulation	cross section diameter	UL style
stranded white	L310	150 °C	300 V	1.80 mm	AWG20 / 0.48 mm ²	3398
	L320			2.15 mm	AWG18 / 0.96 mm ²	
	L340	200 °C	600 V	1.26 mm	AWG20 / 0.62 mm ²	3557
	L350			1.50 mm	AWG18 / 0.96 mm ²	
solid yellow	L410	150 °C	300 V	1.65 mm	AWG20 / 0.81 mm	3398
	L440	200 °C	300 V	1.71 mm	AWG20 / 0.81 mm	1332

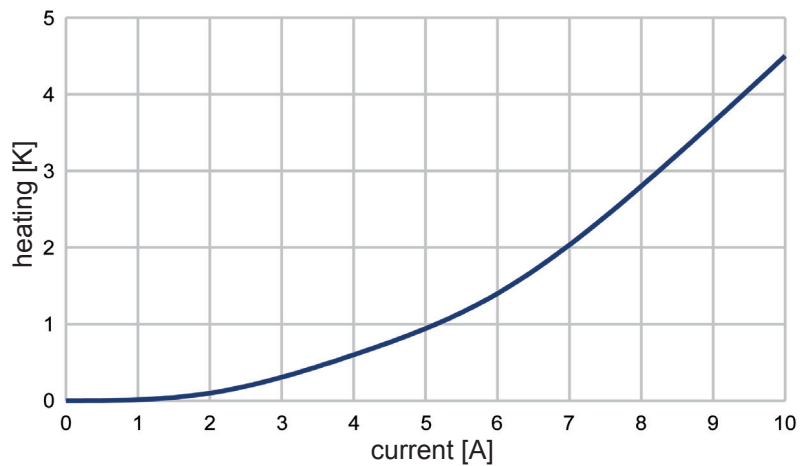
Standard insulation

control type	nc	no	code	illustration	drawing dimensions (mm)	technical specification	approvals
B12	A	B	U253			shrink cap potted Attention: Ta max. 155 °C	VDE, UL
B12	A	B	U186			cap of PPS potted	VDE, UL

Specific variations

control type	nc	no	code	illustration	drawing dimensions (mm)	technical specification	approvals
B12	A	B				not insulated potted	VDE, UL, CSA
B12	A	B	U112			coated	VDE, UL
B12	A	B	U294			housing of PPS potted	VDE, UL
B12	A	B	A800			not insulated potted	VDE, UL
B12	E	G	G402			aluminium housing thread M4x6 potted Attention: Ta max. 150 °C	VDE, UL
B12	E	G	G714			brass housing thread M4x5 potted Attention: Ta max. 150 °C	VDE, UL

Heating by current



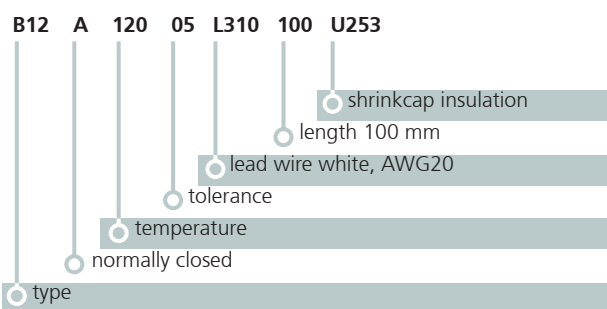
The diagram is measured with a thermal control without any insulation in an oil bath.

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.

Marking

- B12A** type (B12 nc)
- 12005** response temperature (120°C), tolerance ($\pm 5K$)
- 026D** date of manufacture (Feb.2006), country (D=Germany)

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