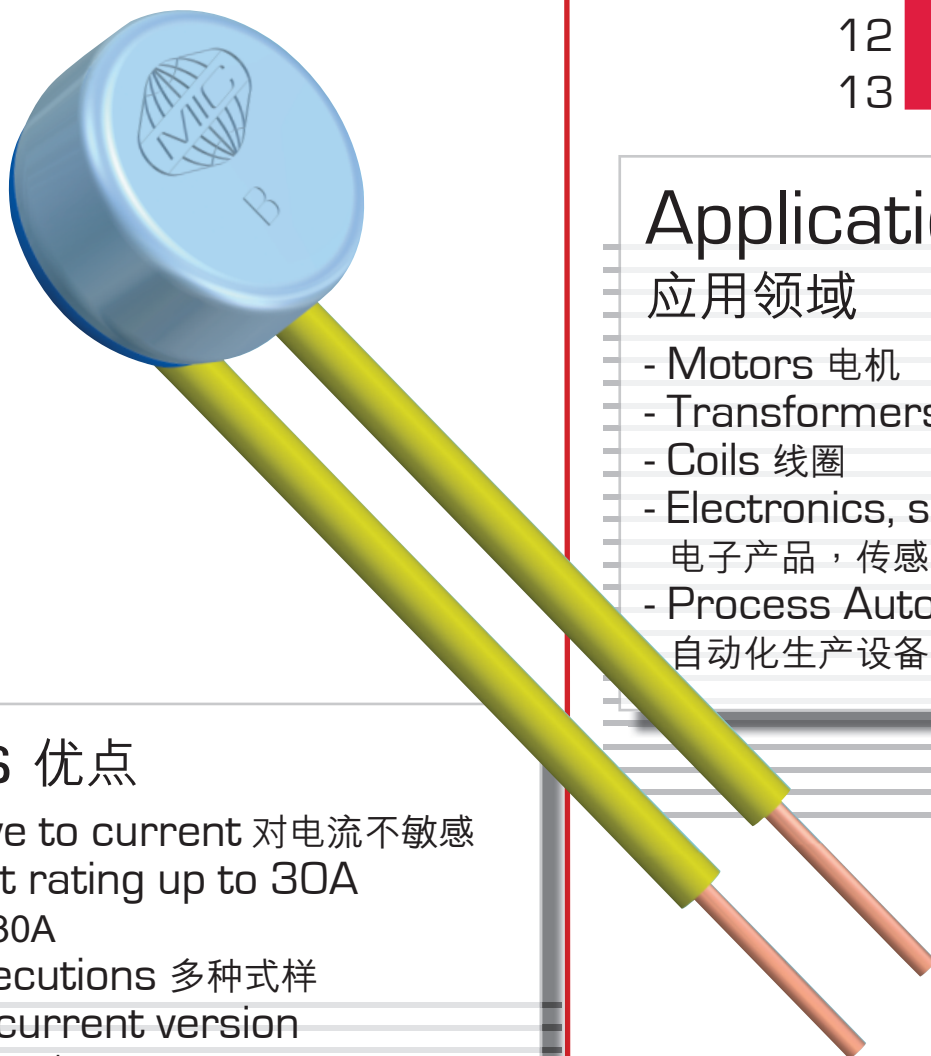


Thermal motor protector
电机温度(热)保护器
Temperature limiter 温度控制器
Thermal cut-out 温度开关

B

12
13

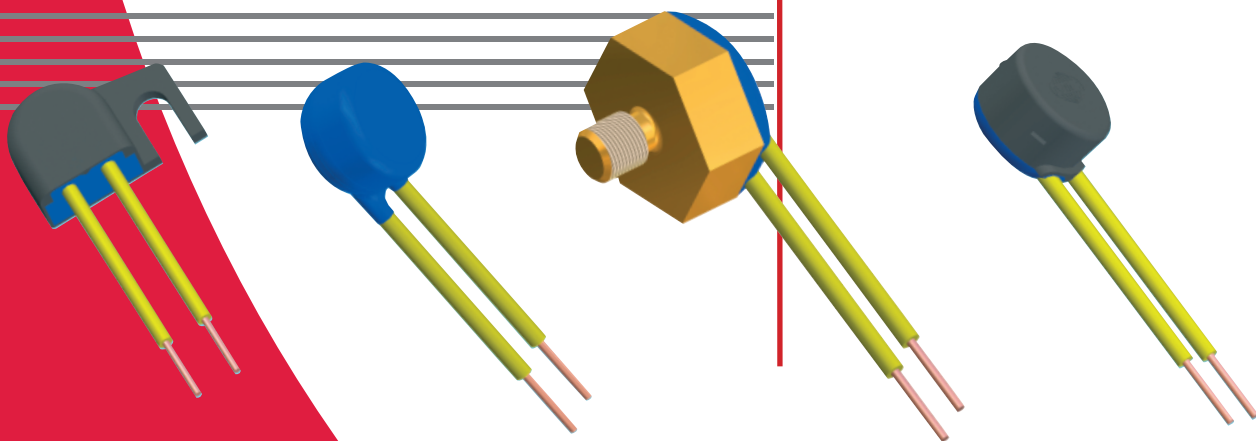


Applications 应用领域

- Motors 电机
- Transformers 变压器
- Coils 线圈
- Electronics, sensors
电子产品, 传感器
- Process Automation
自动化生产设备

Benefits 优点

- Non-sensitive to current 对电流不敏感
- High current rating up to 30A
负载电流可达30A
- Manifold executions 多种式样
- Special low current version
可供低电流应用型号







MICROTHERM



Microtherm International Cooperation

Technical data 技术参数

ratings 额定	control type 型号	B12A / E			B12B / G	B13N / T
version 开关形式		normally closed 常闭			normally open 常开	normally closed / open 常闭 / 常开
rated current at 250 V 50/60 Hz (power factor 0.95 / 0.6) 额定电流于250V 50/60Hz (功率因数 0.95/0.6)		6.3 A / 6.0 A	10.0 A / 6.0 A	13.0 A / 6.0 A	5.0 A / 1.6 A	1...100mA (24 Vdc)
switching cycles under rated current 开关寿命		10,000	5,000	1,000	5,000	10,000
max. current at 250 V 50/60 Hz (power factor 0.95) 最大负载电流于250V 50/60Hz (功率因数 0.95)		30.0 A				-
switching cycles under max. current 最大负载电流下的开关寿命		100				-
temperature rating T _a (steps in 5 K) 温度范围T _a (每级5K)		70 °C ... 190 °C	70 °C ... 160 °C		70 °C ... 155 °C	70 °C ... 160 °C / 155 °C
tolerances 公差		standard 标准: ± 5 K				
feature of automatic action 自动动作特性		1.B.M, 2.B, 1.C		1.B	-	
contact resistance (incl. wire of 100 mm) 接触电阻 (包括100mm引线)		< 50 mΩ				
hysteresis 复归温度范围		30 K ± 15 K ¹⁾				
dielectric strength (standard insulation) 耐高压 (标准绝缘)		2 kV			-	
shock / vibration testing (similar to EN 50155) 冲击 / 振动测试 (类似于EN 50155)		400 m/s ² sine half wave / 100 m/s ² 5 Hz ... 2.000 Hz sine				
resistances to impregnation 防渗透阻抗		tight against ordinary resins and lacquers 用树脂和油漆密封				
degrees of protection provided by enclosures (EN 60529) 外壳保护等级		IP00				
suitable for use in protection category 适合保护级别		I, II			-	
approvals 认证	VDE / ENEC 	EN 60730-1 / -2-3 ²⁾ / -2-9				no approval required to voltage ratings lower than 42V 应用额定电压低于42V, 故无需认证
	UL 	UL 2111 / UL 873 ³⁾				
	CSA / cUL 	C22.2 No. 77 / C22.2 No. 24 ³⁾				
	CQC 	G14536.1-1998/GB14536.10-1996 ³⁾				

¹⁾ at the T_a (upper and lower) limits the hysteresis could deviate 复归温度范围在高温及低温范围会有偏差

²⁾ different power rating 不同的额定功率

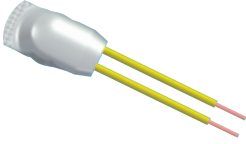
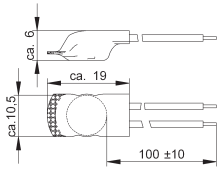
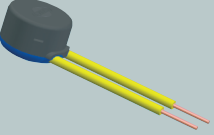
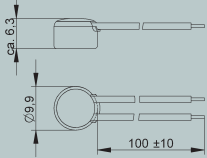
³⁾ details on request 按需求可提供详细资料

Standard wire (length 100 ± 10 mm, stripped 6 ± 1 mm) 标准引线 (长100±10mm, 剥落6±1mm)

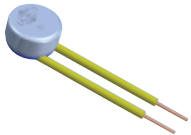
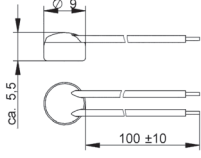
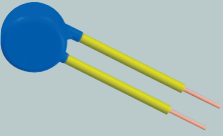
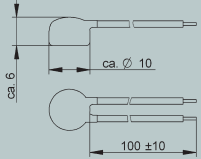
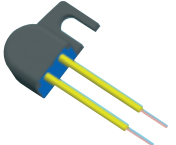
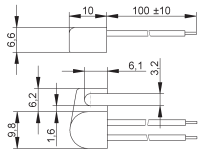
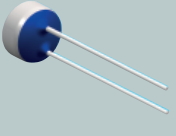
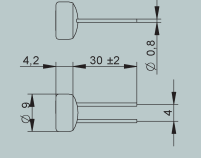
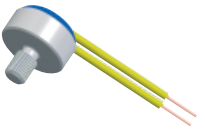
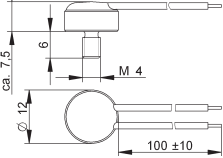
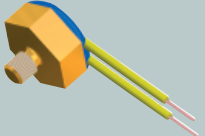
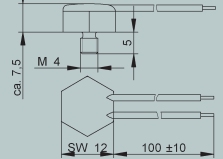
lead 引线	code 代码	temperature max. 耐最高温度	operating voltage max. 最高工作电压	diameter insulation 绝缘直径	cross section diameter ²⁾ 截面积	UL style UL类型
stranded white 多支线 白色	L300 ¹⁾	150 °C	300 V	1.57 mm	AWG24 / 0.24 mm ²	3398
	L310			1.80 mm	AWG20 / 0.48 mm ²	
	L320			2.15 mm	AWG18 / 0.96 mm ²	
	L330 ¹⁾ / L360	200 °C / 250 °C	600 V	0.90 mm / 1.10mm	AWG24 / 0.24 mm ²	3557 / 10362
	L340 / L370			1.26 mm / 1.46mm	AWG20 / 0.61 mm ²	
	L350 / L380			1.50 mm / 1.68mm	AWG18 / 0.96 mm ²	
solid yellow 单支线 黄色	L410	150 °C	300 V	1.65 mm	AWG20 / 0.81 mm	3398
	L440	200 °C	300 V	1.51 mm	AWG20 / 0.81 mm	1332

¹⁾ B13 only 仅B13

²⁾ AWG20 recommended 推荐AWG20

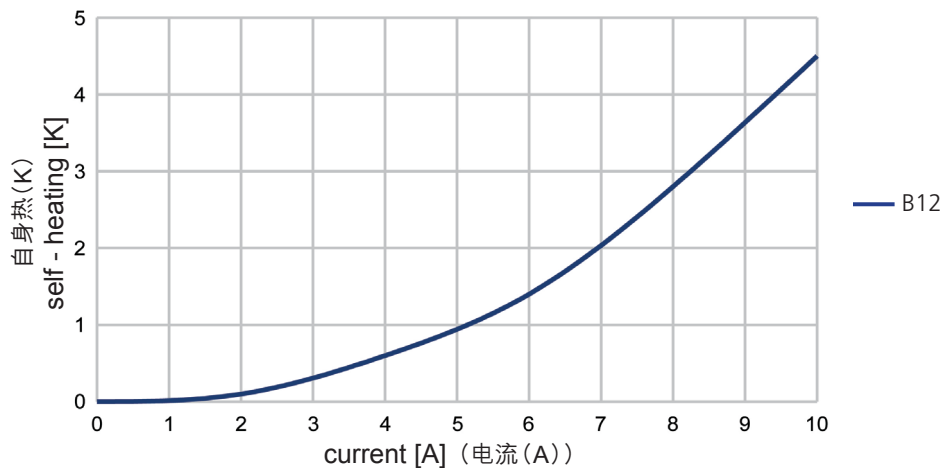
control type 型号	nc 常闭	no 常开	code 代码	illustration 图例	drawing dimensions (mm) 图纸尺寸	technical specification 技术特点	approvals ¹⁾ 认证
B12 B13	A N	B T	U253			shrink cap potted 收缩帽密封胶	VDE, UL, cUL
B12 B13	A N	B T	U186			cap of PPS potted PPS帽密封胶	VDE, UL, cUL

Specific variations 特殊产品型号

control type 型号	nc 常闭	no 常开	code 代码	illustration 图例	drawing dimensions (mm) 图纸尺寸	technical specification 技术特点	approvals ¹⁾ 认证
B12 B13	A N	B T				not insulated potted 无绝缘密封胶	VDE, UL, cUL, CSA
B12 B13	A N	B T	U112			coated 涂层	VDE, UL, cUL
B12 B13	A N	B T	U294			housing of PPS potted PPS封装密封胶	VDE, UL, cUL
B12 B13	A N	B T	A800			not insulated potted 无绝缘密封胶	VDE, UL, cUL
B12 B13	E N	G T	G402			aluminium housing thread M4x6 potted. T _a max. 150 °C 铝封装螺钉M4x6密封胶 最高限温150°C	VDE, UL, cUL
B12 B13	E N	G T	G714			brass housing thread M4x5 potted. T _a max. 150 °C 黄铜封装螺钉M4x5密封胶 最高限温150°C	VDE, UL, cUL

¹⁾ B12 only 仅B12

Heating by current 不同电流温升曲线



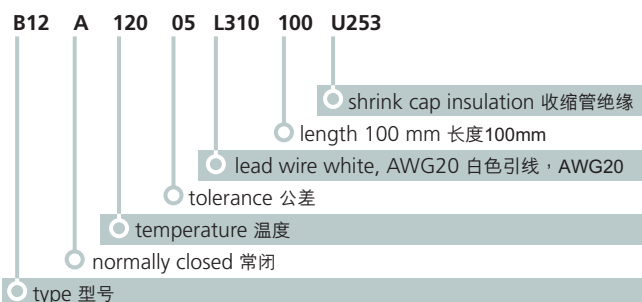
The characteristic curves in the diagram is measured with a thermal control without any insulation in an oil bath.
该曲线图的量度是用一个不带任何绝缘的温控器在一个油缸中测得。

Attention 注意:

The heating depends on the thermal conduction of the control to the equipment or part which should be protected.
加热程度取决于需保护设备或部件的导热性。

Ordering and marking example 分类及标认示例

Ordering example 型号示例



Deviations from standard controls on request.
根据要求可提供非标产品

Marking 示例解释

- B12A** type 类型 (B12 nc)
- 12005** response temperature 响应温度 (120°C), tolerance 公差 (± 5K)
- 049D** date of manufacture 生产日期 (April.2009), country 国家 (D=Germany 德国)

Production Partner & Representation office (亚太区合作伙伴及国内代表处):

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