

产品描述 Description

赛尔特的 12TP 系列为自动复位的温控器产品，主要用圆形的双金属片来感应温度，利用弹簧臂上的触点来接通和断开回路。当环境温度超过双金属片的预校准温度时，双金属片即快速跳脱，打开弹簧臂，并快速断开电路。当环境温度下降后达到安全温度时，12TP 将自动复位，从而恢复电路供电。

SETsafe | SETfuse 12TP is an auto resettable thermal protector. It mainly uses round bimetal disc to sense the temperature, and uses the contact of the movable arm to open and close the circuit. When the ambient temperature reaches the pre-calibration temperature of the bimetal disc, the bimetal disc will snap off quickly and then make the movable arm to disconnect the circuit. While the ambient temperature recovers to the safe temperature, 12TP will automatically resets allowing power to be restored to the circuit.

特征 Features

- 低接触电阻
- 双片快速动作
- 符合RoHS & REACH

Low Contact Resistance

Snap Action Disc

RoHS & REACH Compliance

应用领域 Applications

- 热水器
- 汽车电热座垫
- 电池组
- 变压器
- 烘干机

Water Heaters

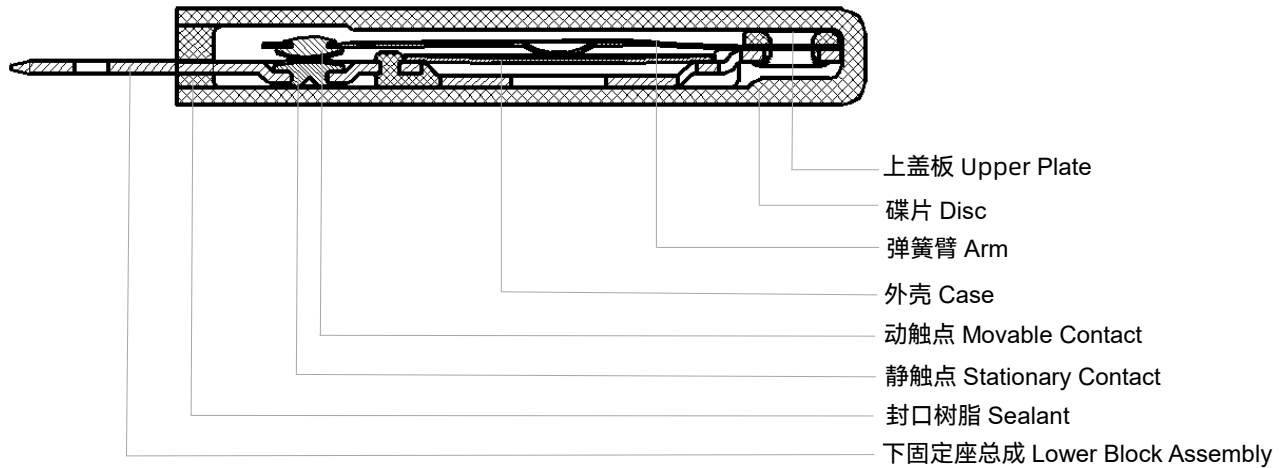
Car Electric Heated Seats

Battery Packs

Transformers

Dryers

结构图 Structure Diagrams



安规认证 Agency Approvals

认证标志 Agency Mark	标准 Standards	认证号 File No.
	GB/T14536.1-2008 GB/T14536.10-2008	On-going

产品型号 Part Number System

12TP	- 125	- K	- 9	C
				端子类型 Terminal Type
				见表-3 See Table-3
				缺省 Default / A / B / C / D / E / F / G / H
				缺省和A代指同一端子类型A Default and A are the same as terminal type A
				材料类型 Material Type
				见表-2 See Table-2
				缺省 Default / 1 / 3 / 5 / 7 / 9
				缺省和7代指同一材料类型A Default and 7 are the same as material type A
				接触类型 Contact Status
				缺省 Default: 常闭 Normal Close
				K: 常开 Normal Open
				温度代码 Temperature Code
				见表-1 See Table-1
				系列 Series
				12TP

热保护器

Thermal Protector (TMS)

12TP 系列 Series

术语 Glossary

项目 Item	说明 Description
动作温度 Operating Temperature	动作温度 Operating Temperature 热保护器触点闭合（常开型）或断开（常闭型）时所对应的实际温度值。 The actual temperature at which the thermal protector contacts are closed (normal open) or disconnected (normal close) .
复位温度 Recovery Temperature	复位温度 Recovery Temperature 热保护器触点闭合或断开后，其接点产生断开（常开型）或闭合（常闭型）时所对应的实际温度值。 After the thermal protector contact is closed or disconnected, the contact produces the actual temperature value corresponding to the open (normal open) or closed (normal close) contact .
额定电流 Rated Current (I_r)	额定电流 Rated Current (I_r) 允许用于电路并安全断开的最大电流。 The current used to classify a thermal protector, which is the maximum current that Thermal Protector allows to carry and is able to cut off the circuit safely .
额定电压 Rated Voltage (U_r)	额定电压 Rated Voltage (U_r) 允许用于电路并安全断开的最大电压。 The voltage used to classify a thermal protector, which is the maximum voltage that Thermal Protector allows to carry and is able to cut off the circuit safely .
循环寿命 Cycle Life	循环寿命 Cycle Life 双金属元件受温度影响，从原始状态跳转到断开状态（或闭合状态）的周期性变化次数。 The number of periodic changes in the temperature of a bimetal element from its original state to its open (or closed) state .
温度差 Delta Temperature	温度差 Delta Temperature 产品打开温度和保护器放置的环境温度之差。 Is the difference between the zero current calibrated opening temperature and ambient temperature at the protector location .

TMS

TMS

热保护器

Thermal Protector (TMS)

12TP 系列 Series

技术参数 Specifications

触电容量 Contact Capacity	寿命 Cycle Life	电压 Rated Voltage (U_r)	电流 Rated Current (I_r)
	循环次数 Cycles	(V)	(A)
	$\geq 10,000$	AC 277	12
	$\geq 10,000$	AC 125	20
	$\geq 100,000$	DC 24	8
接触电阻 Contact Resistance	$\leq 30 \text{ m}\Omega$		
动作温度范围 Operating Temperature	30 ~ 155 °C (每 5 °C 一档) in increments of 5K		
长期工作温度 Long-term Service Temperature	-20 ~ 160 °C		
电气强度 Electric Strength	1700 V.r.m.s. 60 Hz, 1 minute, (端子与外壳间) Terminal to Case		
引线规格 Lead Wire Type	UL3135 18 AWG 600 V, (其他规格可定制) other wire size is also available		

表-1温度代码 Table-1 Temperature Code

温度代码 Temperature Code	动作温度 Operating Temperature	复位温度 Recovery Temperature	温度代码 Temperature Code	动作温度 Operating Temperature	复位温度 Recovery Temperature
	(°C)	(°C)		(°C)	(°C)
030	30	≥ 20	095	95	70
035	35	≥ 25	100	100	75
040	40	≥ 30	105	105	75
045	45	≥ 35	110	110	80
050	50	≥ 35	115	115	85
055	55	≥ 35	120	120	85
060	60	45	125	125	90
065	65	45	130	130	90
070	70	50	135	135	95
075	75	55	140	140	100
080	80	60	145	145	100
085	85	65	150	150	105
090	90	65	155	155	105

表-2材料类型 Table-2 Material Type

代号 Code	五金件 Hardware	触点 Contact	铆钉压板 Slug
1	新日铁 Nippon Steel	银层 0.1 mm Silver Layer 0.1 mm	紫铜 Red Copper
3	黄铜 Brass	银层 0.1 mm Silver Layer 0.1 mm	紫铜 Red Copper
5	黄铜镀银 Brass Silver Plated	银层 0.1 mm Silver Layer 0.1 mm	紫铜 Red Copper
7	黄铜镀银 Brass Silver Plated	银层 0.1 mm Silver Layer 0.1 mm	紫铜镀银 Red Copper Silver Plated
9	黄铜镀银 Brass Silver Plated	银层 0.1 mm 镀金 Silver Layer 0.1 mm Gold Plated	紫铜镀银 Red Copper Silver Plated

表-3端子类型 Table-3 Terminal Type

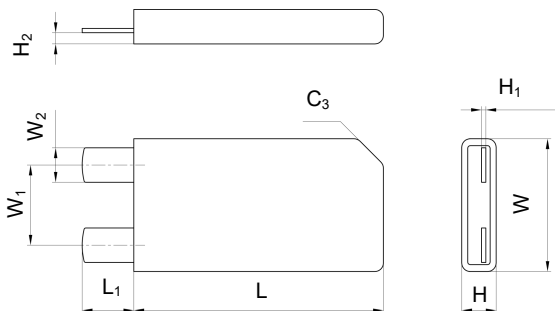
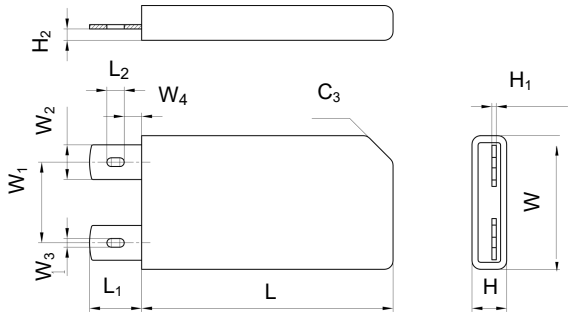
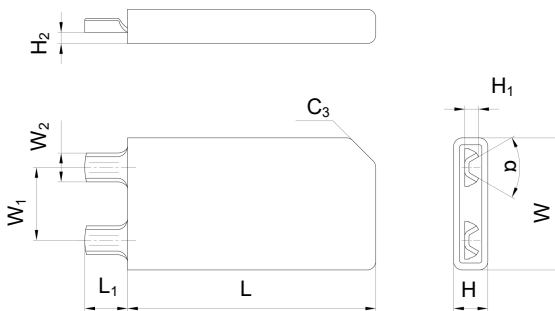
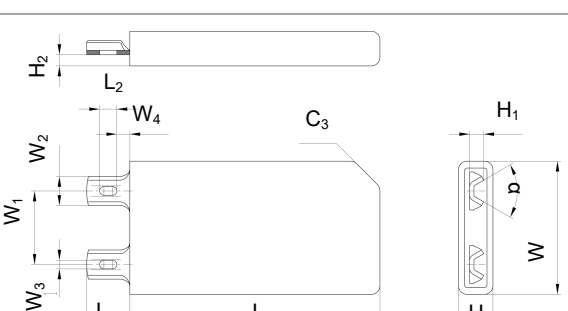
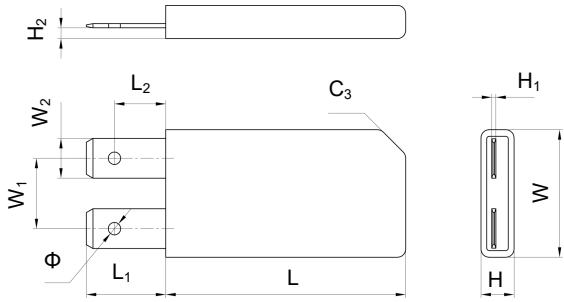
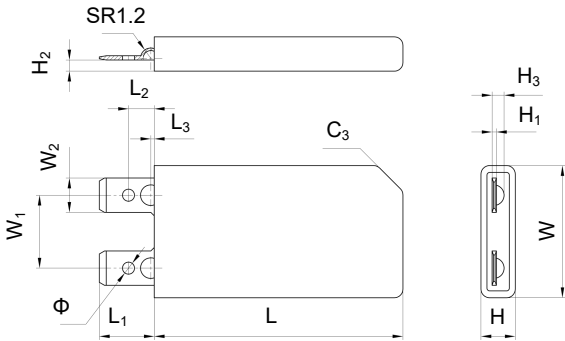
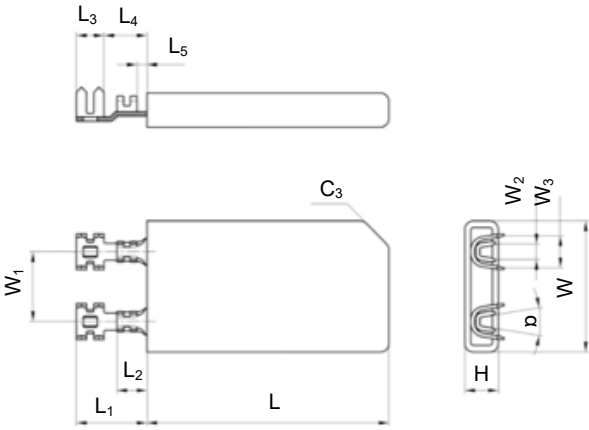
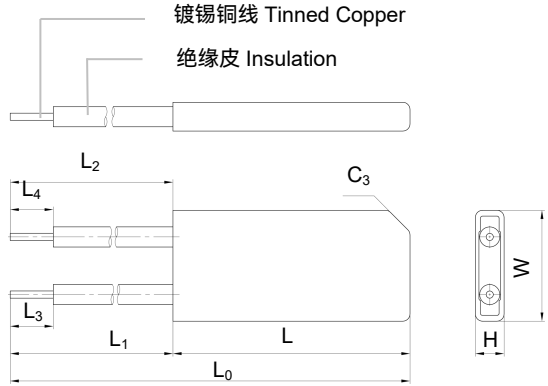
代号 Code	图示及简述 Dimensions (mm)	代号 Code	图示与简述 Dimensions (mm)																																												
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表-3端子类型 Table-3 Terminal Type

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热保护器

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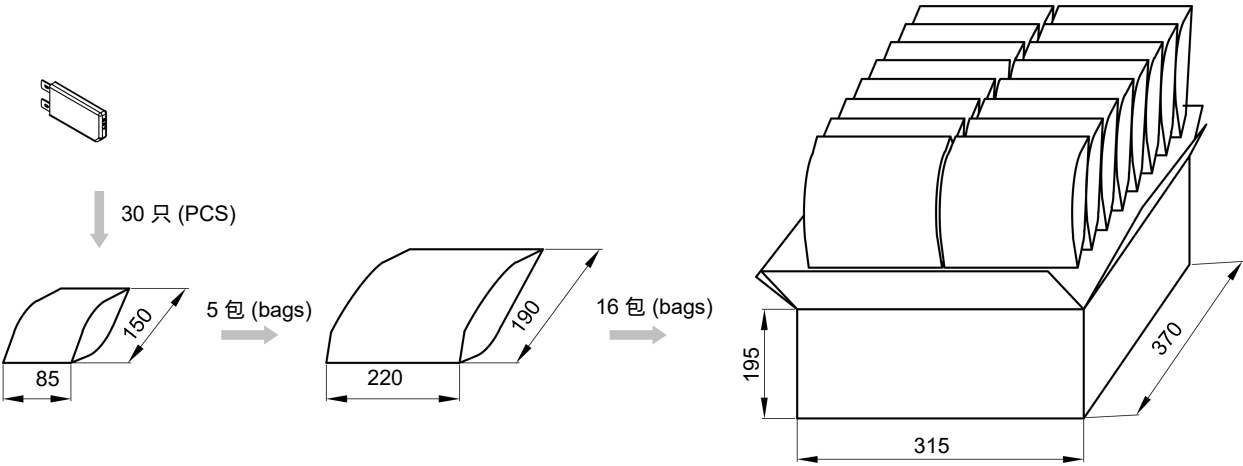
12TP 系列 Series

包装信息 Packaging Information

散装（以表-3 C 型为例）
Bulk (Take Table-3 Type C terminal as an example)

项目 Item	PE袋 PE Bag	PE袋 PE Bag	纸箱 Carton
尺寸 Dimensions (mm)	150 × 85	220 × 190	370 × 315 × 195
数量 Quantity (PCS)	30	150	2400

备注：包装尺寸及数量仅供参考。
Remark: The dimensions and quantity of packaging is for reference only.





注意

ATTENTION

TMS

TMS

使用 Usage

1. 这些器件不能作为服务或维修元件使用，应由原设备制造商严格使用。本产品不具有防爆等级，不应用于存在易燃蒸汽或粉尘的任何应用场合。该装置的寿命终止故障可能会导致开路或闭路状态，因此，原始设备制造商必须按照机构要求串联应用寿命终止保护。

These devices are not intended for use as service or repair components. It should be strictly used by Original Equipment Manufacturer. This product is not rated as explosion proof and should not be applied in any application where flammable vapors or dust is present. End of life failure of this device may result in either open or closed circuit condition, and as such, OEMs must apply end of life protection in series, per agency requirements.

2. 用户全权负责本产品在最终产品或系统中的正确设计、应用和功能。用户必须从温度设置、机械和电气寿命周期、电气负载和环境条件等方面评估这些设备在其应用中的适用性。

Users are solely responsible for proper design, application and function of this product in the end product or system. Users must evaluate the suitability of these devices in their application with respect to temperature settings, mechanical and electrical life cycles, electrical loads and environmental conditions.

3. 使用环境：大气压力范围80 kPa ~ 106 kPa，相应的海拔高度为2000米到-500米。

When atmosphere press is from 80 kPa to 106 kPa, the related altitude shall be from 2000 meter to -500 meter.

更换 Replacement

本产品是不可修复的产品。为安全起见，应更换为等效产品，并以相同方式安装。

The product is a non-repairable product. For safety sake, it shall be replaced by an equivalent part and mounted in the same way.

存储 Storage

不要在高温、高湿度或腐蚀性气体环境下储存本产品，以免影响导线的可焊性或接触电阻。本产品应在收到货物后一年内用完。

Do not store the product at high temperature, high humidity or corrosive gas environment, avoid influencing the solder-ability or contact resistance of the lead wires. The product shall be used up within 1 year after your receiving goods.

安装位置 Installation Position

1. 应使本产品尽可能贴近或接近被保护部件。如电机应嵌入定子线圈上端的线圈中，如有条件，应对电机作温度场测定，以确定温度最高点。
The product should be as close to the protected parts as possible. For example, in the motor, the product should be embedded in the upper end of the motor stator coil. If the test conditions allow, the field temperature of the motor should be measured to determine the highest temperature point.
2. 本产品在安装过程中，禁止用重力敲击，安装处不得挤压产品，以免使产品外壳变形，这将严重影响产品的保护性能。
During the installation of the product, it is forbidden to strike heavily, and the product shall not be extruded at the installation position to avoid deformation of the product shell, which will seriously affect the protection performance of the product.

警告 Warnings

材料损坏和外壳发热的危险 Risk of Material Damage and Hot Enclosure

1. 产品的侧面板可能很热，请等产品冷却后再触摸。
The product's side panels may be hot, do not touch till cool down.
2. 请严格按照安装说明进行安装，包括力值的设置。未遵守这些指示可能会导致严重的人身伤害或设备损坏，触电，爆炸或弧闪的危险。
Follow proper mounting instructions including force values. Options failure to follow these instructions can result in serious injury, or equipment damage. Hazard of electric shock, explosion or arch flash.
3. 在安装或使用此产品之前，请断开所有电源。
Disconnect all power before installing or using this product.
4. 在打开电源之前，确认所有连接及必要防护。未遵守这些指示将可能会导致死亡或重伤。
Make sure all the connections and protection measurements before turning on power. Failure to follow these instructions will result in death or serious injury.