

斯普威尔电气有限公司

SAIPWELL ELECTRIC CO.,LTD.

TEL: 0577-62760721

FAX: 0577-62760731

E-mail:info@saipwell.com

www.saipwell.com

浙江省温州市洞头区灵昆街道雁云路176号

No.176 Yanyun Road, Lingkun Street,

Dongtou District, Wenzhou, Zhejiang,China

上海斯普威尔电气有限公司

SHANGHAI SAIPWELL ELECTRIC CO., LTD.

TEL: 021-33050667

FAX: 021-33050669

E-mail:info@saipwell.com

www.saipwell.com

上海市宝山区罗店路388弄10幢

No.10 Building, Lane 388, Luodian Road,

Baoshan District, Shanghai.

赛普电气集团有限公司

SAIP ELECTRIC GROUP CO., LTD.

北京·上海·广州·温州·烟台·丽水

Beijing · Shanghai · Guangzhou · Wenzhou · Yantai · Lishui

© 202605





Products Manual

Thermostat & Heater
温控器、加热器选型手册

CONTENTS

Copyright © Saip ELEC. All Right Reserved
Deliver happiness to everyone

目录

02	关于斯普威尔 About Saipwell
03	品牌故事 Brand Story
05	公司愿景 Enterprise Vision
07	经营理念 Operation Concept
09	价值观 Values
12	产品索引 About Products

关于斯普威尔

SAIPWELL ELEC.

Copyright © Saip ELEC. All Right Reserved
Deliver happiness to everyone

Us.

斯普威尔电气是赛普电气集团旗下的电气公司，是全球箱体领域的引领者。主要业务涉及电气机柜、IT机柜、成套电器和新能源产品等核心领域。自2006年成立以来，一直助力产品的提质升级，传递安全、智能和幸福的价值理念。

斯普威尔电气引进国外资深管理与经验丰富的专业人事，以严谨的管理、有创意的研发团队、先进的营销理念，在传统产品的基础上创造和发展了更具前沿感、设计感和良好性价比的产品。

斯普威尔电气设有3大营销公司，分别在上海宝山、广州增城、温州瓯江口；4大生产基地，分布在浙江温州、浙江乐清、浙江丽水、山东烟台；并拥有超过100家的代理和遍布全球的销售网络。

提供产品，更提供智慧。斯普威尔与多家国际化公司建立了良好的长期合作伙伴关系，并一如既往地坚持“合作发展，共同提高”的服务宗旨，以真诚的合作态度来最大程度地满足客户的需求，助力电气行业实现可持续发展的期望，确立全球市场的领先地位。

Saipwell Electricity is a subsidiary of Saip Electric Group and is a leader in the global enclosure market. Its main business involves the manufacturing of electrical and IT enclosures, assembly of whole electrical switchgear systems and development of enclosures for use in new energy solutions. Since our company's inception in 2006, we have been improving and upgrading the quality of our products as we work towards our goal of delivering happiness to our customers through their use of our safe and intelligent products.

Saipwell Electricity has been actively recruiting employees with management experience in both local and foreign companies. With this wealth of experience, creative marketing strategies and innovative R&D, we strive to create and develop more cutting-edge, cost-effective and well-designed products than their predecessors.

Saipwell Electricity has 3 authorized distributors in Baoshan (Shanghai), Zengcheng (Guangzhou), Oujiaokou (Wenzhou) and a total of 4 production sites in Wenzhou (Zhejiang), Yueqing (Zhejiang), Lishui (Zhejiang), Yantai (Shandong). We also have a global sales network of more than 100 agents supporting our customers worldwide.

We provide not just products, but also solutions to our customers. Saipwell has established good long-term partnerships with many international companies over the years. Together with our partners, we aim to achieve our mission of collective development and improvement by adopting a sincere attitude in meeting the needs of our customers; and in the process play a role in helping the Chinese electrical industry establish sustainable development and a leading position in the global electrical market.



BRAND STORY.

品牌故事

SAIPWELL ELEC.

Copyright © SaipWell ELEC. All Right Reserved Deliver happiness to everyone

斯普威尔logo形似一只可爱灵动的海豚，用它的灵性与友好向世人传递着美好、快乐与幸福。

早在古希腊人们就很喜欢海豚，他们认为看到海豚在船周围的波浪中是一个好兆头。传说阿里翁曾被所乘船上的水手抢劫，被迫跳海，一只海豚被他的歌声打动，因而把他救上岸。直至今日，海豚这种大海里的精灵仍然深受全世界人民的喜爱，一直在人类文化中扮演着重要的角色。斯普威尔也有着海豚般的聪慧与友爱，在您最需要我们的时候为您提供最大的支持，用我们的灵感和智慧，用最靠谱的性格，成为您最真诚的伙伴。

The inspiration of our logo came from the cute-looking dolphin and its spirit of friendliness and ability to bring happiness to everyone around it.

Since ancient Greek times, dolphins are well-loved animals and it is thought to be a good sign if one sees them in the waves or waters. Legend has it that Arion was robbed by sailors in his boat and forced to jump into the sea. Moved by his singing, a dolphin rescued him to shore. Today, dolphins, the spirits of the sea, are loved by people all over the world and play an important role in human culture. Saipwell too, with a dolphin-like intelligence and friendship will provide you with the greatest support when you need it. Using our inspiration and knowledge, we hope to become your most reliable and sincere partner.

Vision.

公司愿景



SAIP WELL ELEC.

Copyright © Saip ELEC. All Right Reserved
Deliver happiness to everyone

“创领未来箱体”这一公司愿景恰恰反映了我们希望为世界带来积极的影响。斯普威尔拥有强大的研发设计能力，目前已拥有20余项箱体专利技术和著作权。最新落成的温州生产基地采用柔性钣金生产线（FMS），箱体的生产实现了自动上下料、自动切割、自动冲剪、机器人折弯、机器人焊接、交互式PU发泡和理光UV彩色打印。

专注研发生产和科技投入，这是斯普威尔扎根行业发展恒久不变的基调，未来的每一步成长，我们都愿意与您共同参与，相濡以沫，携手并进。

Creating Enclosures of the Future. This enterprise vision reflects our desire to make a positive impact on the world. Saipwell has strong R&D and design capabilities and currently has more than 20 enclosure design trademarks and technology patents. Our newly completed Wenzhou production base is fitted with an automated flexible sheet metal production line (FMS). Through automatic loading and unloading, automatic punching and cutting, robot bending, robot welding, interactive PU foaming and Ricoh UV color printing, product precision and costs efficiencies are achieved.

A focus on R&D and technological investments will continue to be cornerstones of Saipwell's development. We look forward to you participating in every step of our growth and making progress together, hand in hand.



铸造充满幸福的产品

To create products that deliver happiness to everyone





Concept.

经营理念 

SAIP WELL ELEC.

Copyright © Saip ELEC. All Right Reserved
Deliver happiness to everyone



商业原则
BUSINESS
PRINCIPLE

做简单的生意 简单地做生意
To conduct business in a simple
straightforward manner.

企业精神
CORPORATE
SPIRIT

耐心 细心
Patience Dedication

人生观
HUMAN
PRINCIPLE

客户至上 员工第一
Customers are our topmost priority,
followed by our employees and stakeholders

工作观
WORKING
PRINCIPLE

快乐工作 幸福生活
To work and live happily

产品观
PRODUCT
PRINCIPLE

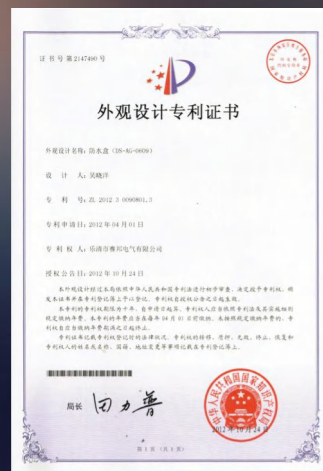
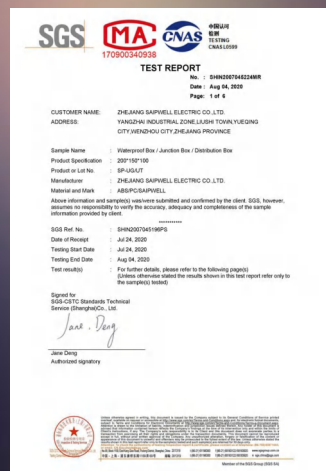
文化电气 / 幸福电气 / 品质电气 / 信息电气 / 便捷电气
To manufacture quality, innovative products that bring
convenience to its users

Honor

斯普威尔的证书 +

SAIPWELL ELEC.

Copyright © SaipWell ELEC. All Right Reserved Deliver happiness to everyone



铸造充满幸福的产品

To create products
that deliver happiness to everyone

SAIP ELECT.

Copyright © Saip ELEC. All Right Reserved
Deliver happiness to everyone



Index.

Copyright © Saip ELEC. All Right Reserved
Deliver happiness to everyone

产品索引

机械式温控器 Mechanical Thermostat	13-15
电子式温控器 Electronic Thermostat	16-21
湿度控制器 Hygrostat Controller	22-23
风感器 Airflow Monitor	24
电源插座 Power Outlet	25
气密装置 Pressure Compensation Device	26-27
房间温控器 Room Thermostat	28-31
电子继电器 Electronic Relay	32
PTC加热器 PTC Heater	33-39
风机加热器 Fan Heater	40-48
风机过滤器 Filter Fan	49



KTS 011(NO)



KTO 011(NC)

KTO 011/KTS 011

产品特性 Features

- 宽范围温度设置 Large setting range
- 小尺寸 Small size
- 安装简单 Simple to mount
- 灵敏度高 High switching performance

KTO 011: 温控器(常闭), 用于调控加热器。

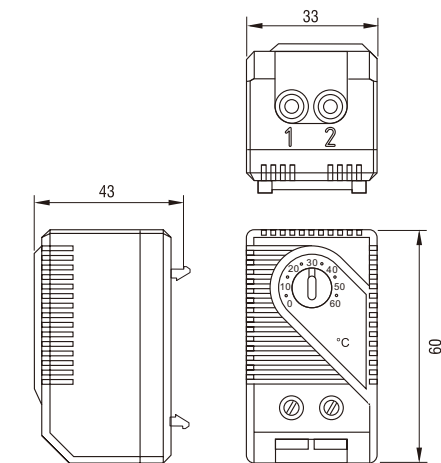
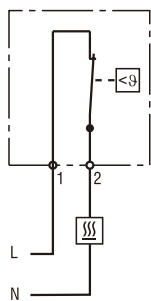
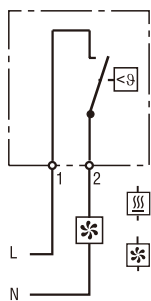
KTS 011: 温控器(常开), 当温度超出设定值时开关装置可以启动风机或信号装置。

KTO 011: Thermostat (normally closed), contact breaker for regulating heaters.

KTS 011: Thermostat (normally open), contact maker for regulating of filter fans and heat exchangers or for switching signal devised when temperature limit has been exceeded.

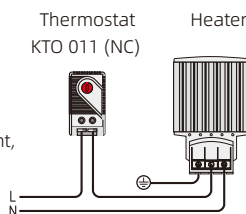
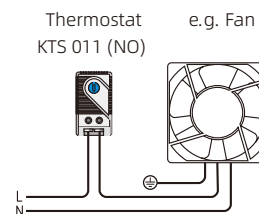
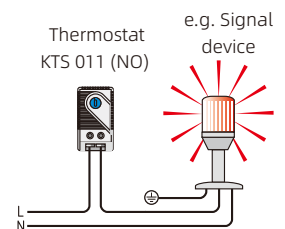
技术参数 Technical Data

开关温差 Switch temperature difference	7K (±4K tolerance)
传感元件 Sensor element	感温材料 thermostatic bimetal
触点类型 Contact type	快速动作接点 snap-action contact
触点电阻 Contact resistance	< 30mΩ
使用寿命 Service life	> 100,000 cycles
开关最大容量 Max. Switching capacity	250VAC, 10 (1) A 120VAC, 15 (2) A DC 30W
EMC	acc. to EN 55014-1-2, EN 61000-3-2, EN 61000-3-3
接线方式 Connection	2极接线端子 2.5mm ² 导线 2-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
安装方式 Mounting	35mm 导轨安装 clip for 35mm DIN rail, EN60715 or for exit filter EF 118 Series
外壳材料 Casing	塑料 UL94标准 V-0 防火等级, plastic according to UL94 V-0, light grey
外观尺寸 Dimensions	60 x 33 x 43mm
重量 Weight	约 40 克 approx. 40g
安装位置 Fitting position	任意 variable
操作/储存温度 Operating/Storage temperature	-20 to +80°C (-4 to +176 °F) / -45 to +80°C (-49 to +176 °F)
防护等级 Protection type	IP20

Thermostat
KTO 011 (NC)Thermostat
KTS 011 (NO)

接线示意图 Example of connection

Heater

Filter fan,
Cooling equipment,
Signal deviceThermostat
KTO 011 (NC)Thermostat
KTS 011 (NO)Thermostat
KTS 011 (NO)

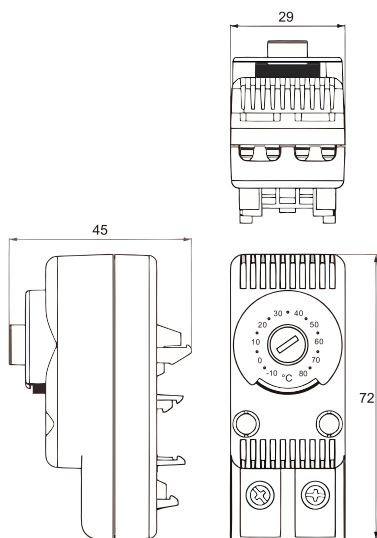
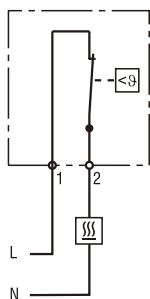
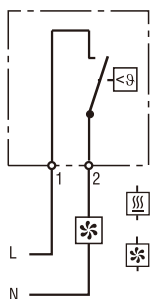
接线示意图 Example of connection

设定范围 Setting range	订货代码 Art. No. Contact Breaker (NC)	订货代码 Art. No. Contact Breaker (NO)	产品证书 Approvals
0 to +60°C	01140.0-00	01141.0-00	CE
-10 to +50°C	01142.0-00	01143.0-00	CE
+20 to +80°C	01159.0-00	01158.0-00	CE
+32 to +140°F	01140.9-00	01141.9-00	CE
+14 to +122°F	01142.9-00	01143.9-00	CE



SHS 011(NO)

SHO 011(NC)

Thermostat
SHO 011 (NC)Thermostat
SHS 011 (NO)

Heater
Filter fan,
Cooling equipment,
Signal device

接线示意图 Example of connection

SHO 011/SHS 011

产品特性 Features

- 宽范围温度设置 Large setting range
- 小尺寸 Small size
- 安装简单 Simple to mount
- 灵敏度高 High switching performance

SHO 011: 温控器(常闭), 用于调控加热器。

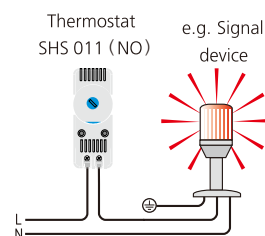
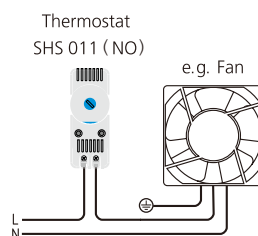
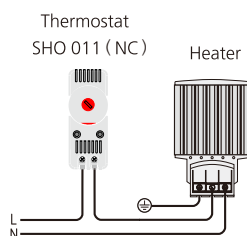
SHS 011: 温控器(常开), 当温度超出设定值时开关装置可以启动风机或信号装置。

SHO 011: Thermostat (normally closed), contact breaker for regulating heaters.

SHS 011: Thermostat (normally open), contact maker for regulating of filter fans and heat exchangers or for switching signal devised when temperature limit has been exceeded.

技术参数 Technical Data

开关温差 Switch temperature difference	7K (±4K tolerance)
传感元件 Sensor element	感温材料 thermostatic bimetal
触点类型 Contact type	快速动作接点 snap-action contact
触点电阻 Contact resistance	< 30mΩ
使用寿命 Service life	> 100,000 cycles
开关最大容量 Max. Switching capacity	250VAC, 10 (1) A 120VAC, 15 (2) A DC 30W
EMC	acc. to EN 55014-1-2, EN 61000-3-2, EN 61000-3-3
接线方式 Connection	2极接线端子 2.5mm ² 导线 2-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
安装方式 Mounting	35mm 导轨安装 clip for 35mm DIN rail, EN60715 or for exit filter EF 118 Series
外壳材料 Casing	塑料 UL94标准 V-0防火等级, plastic according to UL94 V-0, light grey
外观尺寸 Dimensions	72 x 45 x 29mm
重量 Weight	约50克 approx. 50g
安装位置 Fitting position	任意 variable
操作/储存温度 Operating/Storage temperature	-10 to +80°C (+14 to +176° F) / -45 to +80°C (-49 to +176° F)
防护等级 Protection type	IP20



接线示意图 Example of connection

设定范围 Setting range	订货代码 Art. No. Contact Breaker (NC)	订货代码 Art. No. Contact Breaker (NO)	产品证书 Approvals
-10 to +80°C	01115.0-00	01116.0-00	CE
+14 to +176°F	01115.9-00	01116.9-00	CE



ZR 011

产品特性 Features

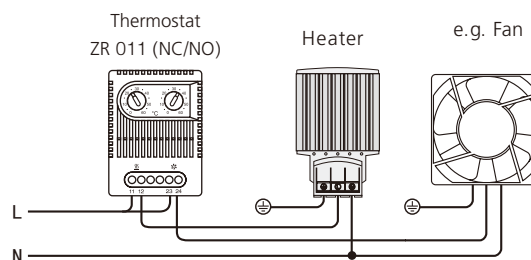
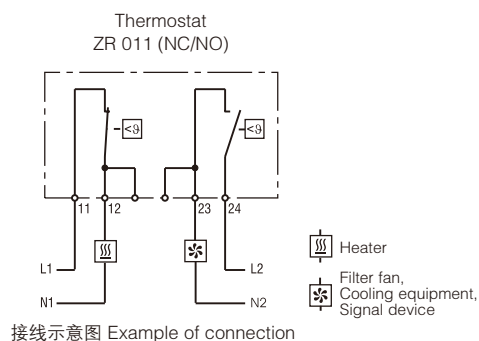
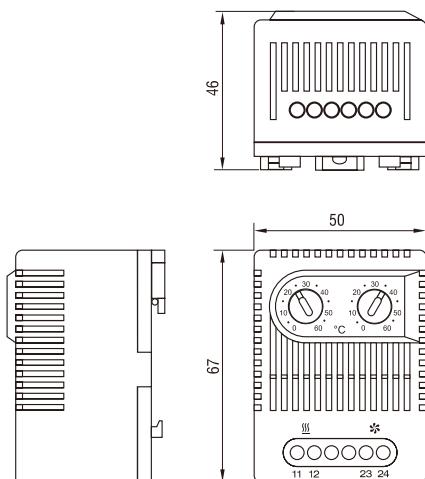
- 常开常闭一体化设计 NO and NC in one casing
- 温度独立控制 Separate adjustable temperatures
- 灵敏度高 High switching capacity
- 易操作 Terminals easily accessible
- 导轨安装 DIN rail mounted

加热散热两用型温控器；常闭用于调控加热器；常开用于调控风机或开关信号装置。

Two thermostats in one casing:
Thermostat (contact breaker, normally closed) for regulating heaters.
Thermostat (contact maker, normally open) for regulating filter fans and heat exchangers or switching signal devices when temperature limit has been exceeded. Heaters and cooling equipment can be switched independently from each other with a temperature offset as opposed to the usual change-over contacts.

技术参数 Technical Data

开关温差 Switch temperature difference	7K (±4K tolerance)
传感元件 Sensor element	感温材料 thermostatic bimetal
触点类型 Contact type	快速动作接点 snap-action contact
触点电阻 Contact resistance	< 30mΩ
使用寿命 Service life	> 100,000 cycles
开关最大容量 Max. Switching capacity	250VAC, 10 (2) A 120VAC, 15 (2) A DC 30W
EMC	acc. to EN 55014-1-2, EN 61000-3-2, EN 61000-3-3
接线方式 Connection	4极接线端子 2.5mm ² 导线 4-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
安装方式 Mounting	35mm 导轨安装 clip for 35mm DIN rail, EN60715 or for exit filter EF 118 Series
外壳材料 Casing	塑料 UL94标准 V-0 防火等级, plastic according to UL94 V-0, light grey
外观尺寸 Dimensions	67 x 50 x 46mm
重量 Weight	approx. 90g
安装位置 Installation position	任意 variable
操作/储存温度 Operating/Storage temperature	-20 to +80°C (-4 to +176°F) / -45 to +80°C (-49 to +176°F)
防护等级 Protection type	IP20



接线示意图 Example of connection

订货代码 Art. No.	设定范围 Setting range	设定范围 Setting range
01172.0-00	contact breaker, normally closed 0 to +60°C	contact maker, normally open 0 to +60°C
01172.0-01	contact breaker, normally closed +32 to +140°F	contact maker, normally open +32 to +140°F
01175.0-00	contact breaker, normally closed -10 to +50°C	contact maker, normally open +20 to +80°C
01175.0-01	contact breaker, normally closed +14 to +122°F	contact maker, normally open +68 to +176°F
01176.0-00*	contact maker, normally open 0 to +60°C	contact maker, normally open 0 to +60°C
01176.0-01*	contact maker, normally open +32 to +140°F	contact maker, normally open +32 to +140°F



FZK 021

产品特性 Features

- 可调节温度 Adjustable temperature
- 高分断能力 High switching capacity
- 低磁滞 Small hysteresis
- 端子易接入 Terminals easily accessible
- 导轨安装 DIN rail mounted
- 转换接点 Change-over contact

机械式恒温器是用于控制加热器和冷风机或信号装置。

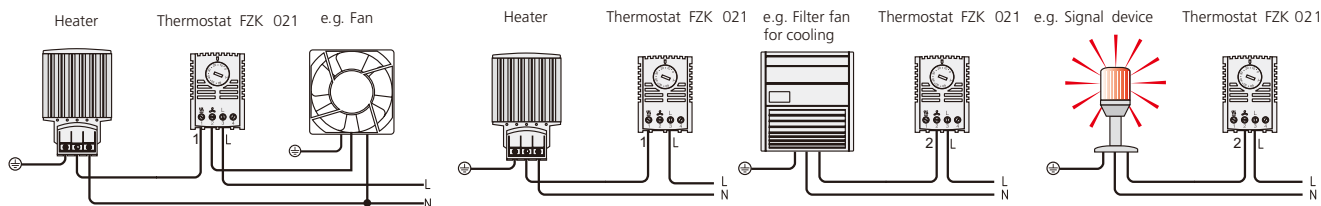
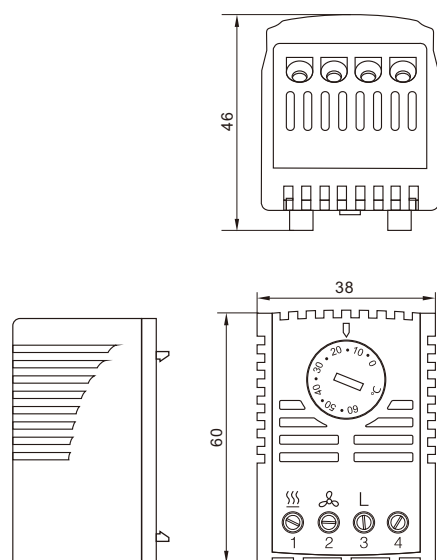
The mechanical thermostat is used for controlling heating and cooling equipment, filter fans or signal devices. The thermostat registers the surrounding air and can switch both inductive and resistive loads via snap-action contact.

技术参数 Technical Data

开关温差 Switch temperature difference	4K ($\pm 1.5K$ tolerance)
传感元件 Sensor element	感温材料 Thermostatic bimetal
触点类型 Contact type	快速动作接点 Snap-action contact
触点电阻 Contact resistance	< 30m Ω
使用寿命 Service life	> 100,000 cycles
开关最大容量 Max. Switching capacity	250VAC, 10 (4) A 120VAC, 10 (4) A DC 30W
最大开关容量 NC Max. Switching capacity, NC	250VAC, 5 (2) A 120VAC, 5 (2) A DC 30W
EMC	acc. To EN 55014-1-2, EN 61000-3-2, EN 61000-3-3
接线方式 Connection	4极接线端子 2.5mm ² 导线 4-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
安装方式 Mounting	35mm 导轨安装 clip for 35mm DIN rail, EN60715 or for exit filter EF 118 Series
外壳材料 Casing	塑料 UL94标准 V-0 防火等级, plastic according to UL94 V-0, light grey
外观尺寸 Dimensions	67 x 50 x 38mm
重量 Weight	Approx. 0.10kg
安装方式 Fitting position	任意 variable
操作/储存温度 Operating/Storage temperature	-20 to +80°C (-4 to +176°F) / -45 to +80°C (-49 to +176°F)
防护等级 Protection type	IP20

*连接端子 N (RF 加热电阻器) 可反馈热量信号, 从而减少温差大约 0.5K。

*Connecting terminal "N" (RF heating resistor) causes the thermal feedback to work and so reduces the switch temperature difference to approx. 0.5K.



接线示意图 Example of connection

订货代码 Art. No.	操作电压 Operating voltage	设定范围 Setting range
01170.0-00	230VAC	+5 to +60°C
01170.0-01	230VAC	+40 to +140°F
01170.0-02	230VAC	-20 to +30°C
01170.9-00	120VAC	+40 to +140°F
01170.9-01	120VAC	+5 to +60°F



ETF 012

产品特性 Features

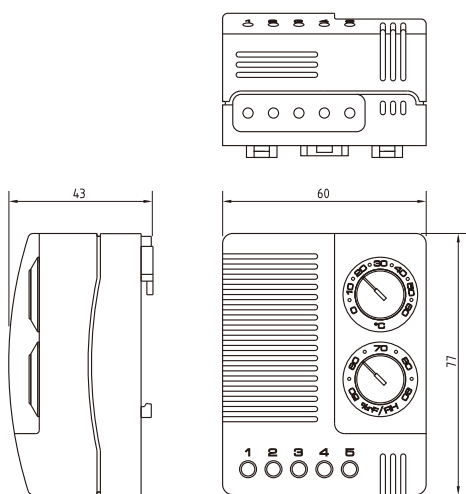
- 温度和湿度都可调节 Temperature and humidity adjustable
- LED显示 Optical operating display (LED)
- 高分断能力 High switching capacity
- 导轨安装 DIN rail mounted

电子式温湿度传感器能根据环境温度与相对湿度来控制加热器和风机的打开与关闭。

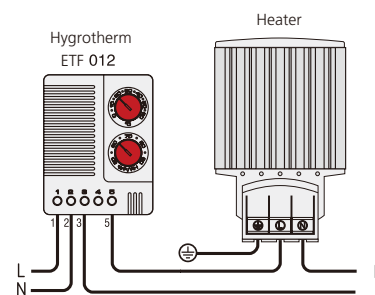
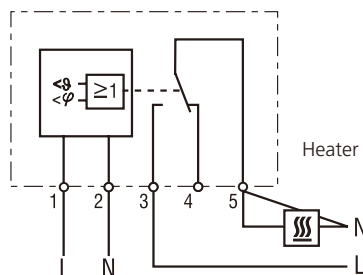
Electronic temperature and humidity sensor can control the on & off of the heater and fan according to ambient temperature and relative humidity.

技术参数 Technical Data

开关温差 Switch temperature difference	2K (± 1 K tolerance) at 25°C / 77°F (50% RH)	
开关湿度差 Switch difference (humidity)	4% RH (± 1 % tolerance) at 25°C / 77°F (50% RH)	
反应时间 Reaction time (humidity)	approx. 5 sec.	
触点类型 Contact type	转换触点 change-over contact (relay)	
触点电阻 Contact resistance	< 30m Ω	
使用寿命 Service life	NC: > 50,000 cycles NO: > 100,000 cycles	
最大开关容量 Max. Switching capacity (Relay output)	NC: 240VAC, 6 (1) A NO: 240VAC, 8 (1.6) A NC: 120VAC, 6 (1) A NO: 120VAC, 8 (1.6) A 24VDC, 4A	
EMC	acc. to EN 55014-1-2, EN 61000-3-2, EN 61000-3-3	
指示灯 Optical indicator	LED	
接线方式 Connection	5极接线端子 2.5mm ² 导线 5-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²	
安装方式 Mounting	35mm 导轨安装 clip for 35mm DIN rail, EN6075 or for exit filter EF 118 Series	
外壳材料 Casing	塑料 UL94标准 V-0 防火等级, plastic according to UL94 V-0, light grey	
外观尺寸 Dimensions	77 x 60 x 43mm	
重量 Weight	approx. 0.20kg	
安装位置 Installation position	任意 vertical	
操作/储存温度 Operating/Storage temperature	0 to +60°C (+32 to +140°F) / -20 to +80°C (-4 to +176°F)	
防护等级 Protection type	IP20	



Connection diagram



接线示意图 Example of connection

订货代码 Art. No.	操作电压 Operating voltage	温度设定范围 Setting range temperature	湿度设定范围 Setting range humidity
01230.0-00	240VAC, 50/60Hz	0 to +60 °C	50 to 90% RH
01230.9-00	120VAC, 50/60Hz	+32 to +140 °F	50 to 90% RH
01230.9-01	120VAC, 50/60Hz	0 to +60°C	50 to 90% RH



ETR 011

产品特性 Features

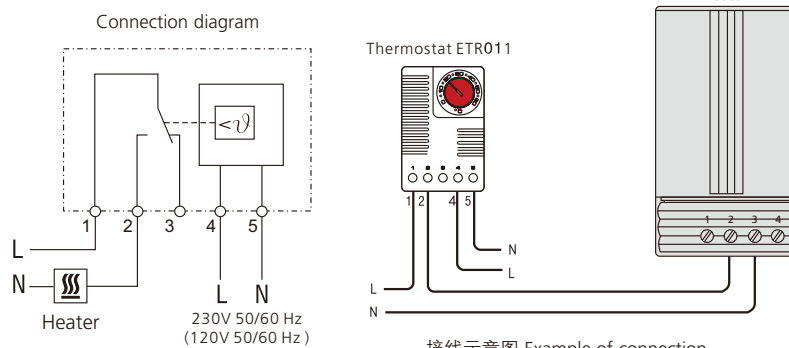
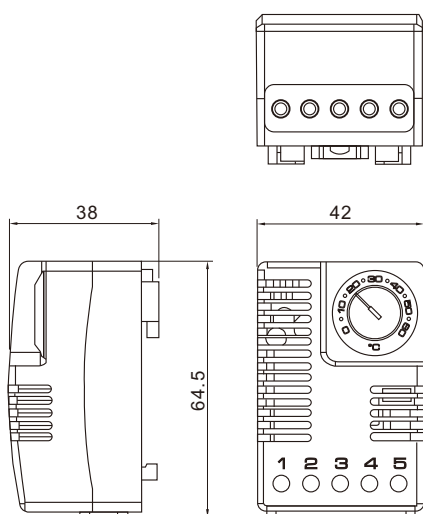
- 可调节温度 Adjustable temperature
- LED显示 Optical operating display (LED)
- 高分断能力 High switching capacity
- 导轨安装 DIN rail mounted

电子式温度传感器能根据环境温度来控制加热器的打开与关闭。

Electronic temperature sensors can control the on & off of heater according to the ambient temperature.

技术参数 Technical Data

开关温差 Switch temperature difference	2K (±1K tolerance) at 25°C/77°F (50% RH)	
反应时间 Reaction time (humidity)	approx. 5 sec.	
触点类型 Contact type	转换触点 change-over contact (relay)	
触点电阻 Contact resistance	< 30mΩ	
使用寿命 Service life	NC: > 50,000 cycles NO: > 100,000 cycles	
最大开关容量 Max. Switching capacity (Relay output)	NC: 240VAC, 6 (1) A NC: 120VAC, 6 (1) A 24VDC, 4A	
EMC	acc. to EN 55014-1-2, EN 61000-3-2, EN 61000-3-3	
指示灯 Optical indicator	LED	
接线方式 Connection	5极接线端子 2.5mm ² 导线 5-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²	
安装方式 Mounting	35mm 导轨安装 clip for 35mm DIN rail, EN6075 or for exit filter EF 118 Series	
外壳材料 Casing	塑料 UL94标准 V-0 防火等级, plastic according to UL94 V-0, light grey	
外观尺寸 Dimensions	64.5 x 42 x 38mm	
重量 Weight	approx. 70g	
安装位置 Installation position	任意 vertical	
操作/储存温度 Operating/Storage temperature	0 to +60°C (+32 to +140°F) / -20 to +80°C (-4 to +176°F)	
防护等级 Protection type	IP20	



订货代码	操作电压	设定范围
Art. No.	Operating voltage	Setting range
01131.0-00	230VAC, 50/60Hz	-20 to +60 °C
01131.9-00	120VAC, 50/60Hz	-4 to +140 °F



FZK 011

产品特性 Features

- 可调节温度 Adjustable temperature
- 低磁滞 Small hysteresis
- 导轨安装 DIN rail mounted
- 高分断能力 High switching capacity
- 端子易接入 Terminals easily accessible
- 转换接点 Change-over contact

电子式恒温器是用于控制加热器和冷风机或信号装置。

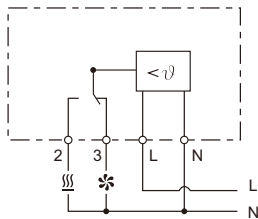
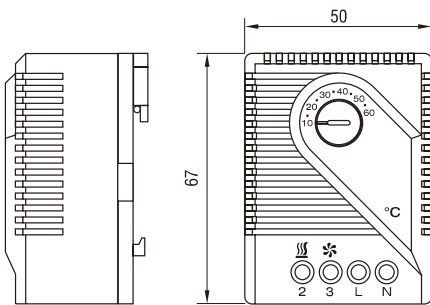
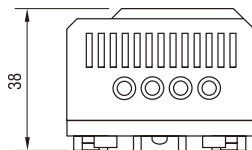
The electronic thermostat is used for controlling heating and cooling equipment, filter fans or signal devices. The thermostat registers the surrounding air and can switch both inductive and resistive loads via snap-action contact.

技术参数 Technical Data

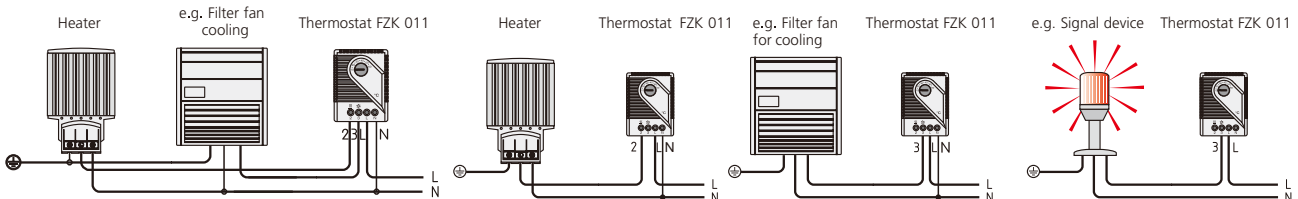
开关温差 Switch temperature difference	4K (±1.5K tolerance)
传感元件 Sensor element	感温材料 Thermostatic bimetal
触点类型 Contact type	快速动作接点 snap-action contact
触点电阻 Contact resistance	< 30mΩ
使用寿命 Service life	> 100,000 cycles
开关最大容量 Max. Switching capacity	250VAC, 10 (4) A 120VAC, 10 (4) A DC 30W
最大开关容量 NC Max. Switching capacity, NC	250VAC, 5 (2) A 120VAC, 5 (2) A DC 30W
EMC	Acc. To EN 55014-1-2, EN 61000-3-2, EN 61000-3-3
接线方式 Connection	4极接线端子 2.5mm ² 导线 4-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
安装方式 Mounting	35mm 导轨安装 clip for 35mm DIN rail, EN60715 or for exit filter EF 118 Series
外壳材料 Casing	塑料 UL94标准 V-0 防火等级, plastic according to UL94 V-0, light grey
外观尺寸 Dimensions	67 x 50 x 38mm
重量 Weight	Approx. 0.10kg
安装位置 Installation position	任意 variable
操作/储存温度 Operating/Storage temperature	-20 to +80°C (-4 to +176°F) / -45 to +80°C (-49 to +176°F)
防护等级 Protection type	IP20

*连接端子 N (RF 加热电阻器) 可反馈热量信号, 从而减少温差大约 0.5K。

*Connecting terminal "N" (RF heating resistor) causes the thermal feedback to work and so reduces the switch temperature difference to approx. 0.5K.



Connection diagram



接线示意图 Example of connection

订货代码 Art. No.	操作电压 Operating voltage	设定范围 Setting range
01170.0-00	230VAC	-20 to +60°C
01170.0-01	230VAC	+40 to +140°F
01170.0-02	230VAC	-20 to +30°C
01170.9-00	120VAC	+40 to +140°F
01170.9-01	120VAC	+5 to +60°C



ET 011 24VDC

产品特性 Features

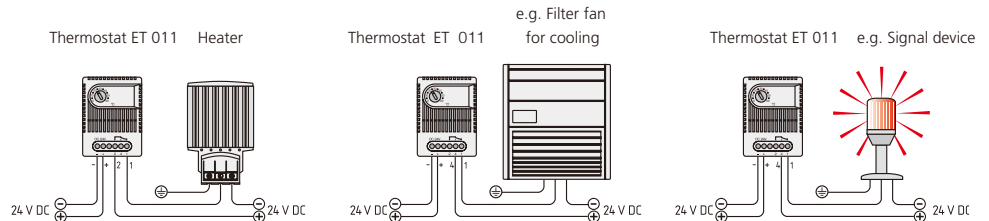
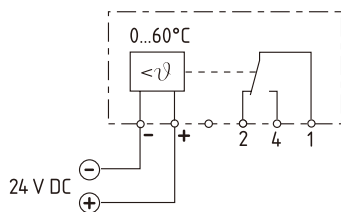
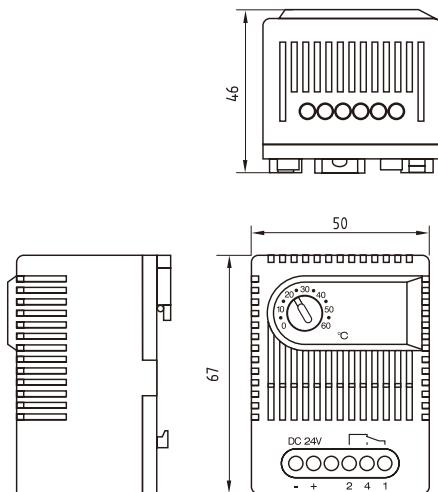
- 高直流分断能力 High DC breaking capacity
- 低滞后 Low hysteresis
- 可调整温度 Adjustable temperature
- 切换接点 Change-over contact
- 导轨安装 DIN rail mounted

直流24V高性能电子温控器，可以调控加热器散热以及信号装置。与机械式温控器相比，ET011有低滞后性，使切换点和设置精度更加精确。

Electronic thermostat for regulating high performance DC 24V equipment. Heating or cooling appliances as well as signal devices can be switched via the potential free change-over contact. In comparison to mechanical thermostats, the ET 011 has a low hysteresis making the switching point and setting accuracy more precise.

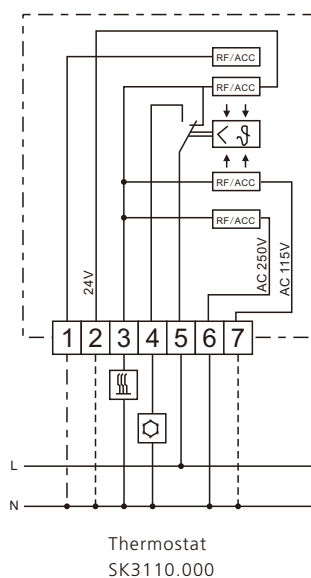
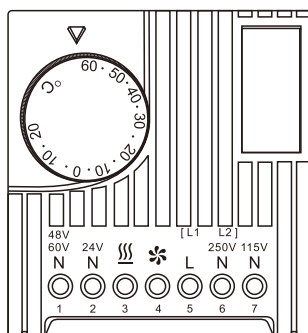
技术参数 Technical Data

开关温差 Switch temperature difference	Approx. 3K
传感器元件 Sensor element	PTC
触点类型 Contact type	切换型 Change-over
触点电阻 Contact resistance	< 30mΩ
使用寿命 Service life	> 100,000 cycles
最大开关容量 Max. switching capacity	28VDC, 16A
EMC	Acc. To EN 55014-1-2, EN 61000-3-2, EN 61000-3-3
接线方式 Connection	5极接线端子 2.5mm ² 导线 5-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
安装方式 Mounting	35mm 导轨安装 clip for 35mm DIN rail, EN60715 or for exit filter EF 118 Series
外壳材料 Casing	塑料 UL94标准 V-0 防火等级, plastic according to UL94 V-0, light grey
外观尺寸 Dimensions	67 x 50 x 46mm
重量 Weight	Approx. 80g
安装位置 Installation position	任意 variable
操作/储存温度 Operating/Storage temperature	0 to +60°C (32 to +140°F) / -45 to +80°C (-49 to +176°F)
防护等级 Protection type	IP20



接线示意图 Example of connection

订货代码 Art. No.	操作电压 Operating voltage	温度设定范围 Setting range
01190.0-00	24VDC (20-28VDC)	0 to +60°C



接线示意图 Example of connection

SK3110.000

产品特性 Features

主要用于控制风机、加热器和转换器，也可以用于监控配电柜内的温度。

Especially used for controlling fan filter, heater and exchanger, also could be monitoring the electric cabinet inner temperature when working as signal arcuser.

参数说明 Parameter Clarification

- ◇温度调节范围：-20°C到+60°C
- ◇重量：105克
- ◇外观尺寸：70×70×33.5mm
- ◇使双金属传感器热灵敏度设置反馈热。
- ◇接触点方案：单开关接触点为瞬时开关组件
- ◇允许接触点荷载
- ◇Adjusting range:-20°C to +60°C
- ◇Weight:105g
- ◇Size :70×70×33.5mm
- ◇Make bimetal sensor as heat sensitivity set to feedback of heat.
- ◇Contact point scheme: single switch over contact point as instant switch component
- ◇allowed load of contact point

KL5-3

AC10(4)A

DC=30W

KL5-4(冷却)(Cooling)

AC5(4)DA

DC=30W

(D) =在COSφ= 0.6敏感性负

- ◇开关误差 1K±0.8K
- ◇宽电压范围, 24V~230V
- ◇连接方便, 端子能够从外部用螺丝固定连接.
- ◇安装简单, 它能够垂直或水平安装在35mm导轨上.
- ◇Switch discrepancy"1K±0.8K
- ◇Voltage scope is wide, any type could be used from 24V to 230V
- ◇Time-saving connection, terminal block could be installed with screw from outside
- ◇Easy installation, it could be installed to 35mm din rail vertically or horizontally



REX 011 15°C, 25°C

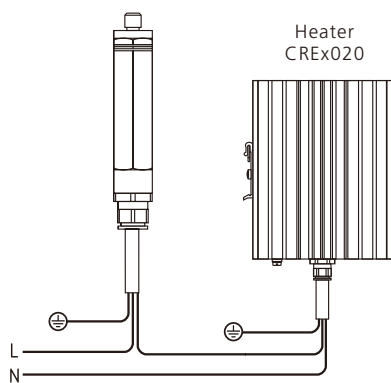
产品特性 Features

- 紧凑型设计 Compact design
- 可设置温度 Set temperature
- 高分断能力 High switching capacity

小型机械式防爆温控器用于调节温度和控制热量。例如在传送装备中,控制面板和测量仪器被放置在防爆区域。这种特殊的监控器体积小,温度精度高(误差小)、寿命长,可直接控制加热器。

Compact small mechanical thermostat for temperature regulation and monitoring of heaters, for example in transmitter cabinets, control panels and measuring equipment which are deployed in areas with explosion hazard. The special switch construction enables high response accuracy, small switch temperature difference and a very long service life. High switching performance allows direct control of the heaters.

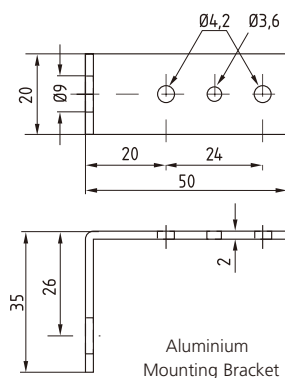
Hazardous Area Thermostat
REX 011



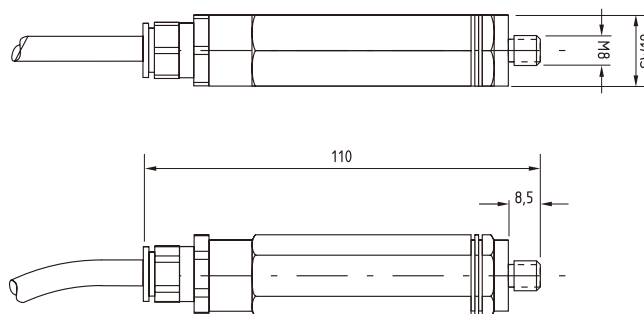
接线示意图 Example of connection

技术参数 Technical Data

Explosion proof according to EN	LCIE (Laboratoire Central des Industries Electriques)
符合的认证Conformity certificate	01 ATEX 6074/02, LCIE N°06 ATEX Q8011, IECEx LCI 07.0021
传感器元件Sensor element	感温材料thermostatic bimetal
触点方式(1P)Contact type (1-pole)	打开控制温度上升opens with rising temperature
使用寿命Service life	> 100,000 cycles
最大开关容量Max. Switching capacity	250VAC, 4 (1) A
接线方式Connection	Si HF - JZ 3 x 0.75mm ² length 1m
安装方式Mounting	安装支架带M8螺母mounting bracket with nut M8 (see illustration)
外壳材料Casing	铝aluminium, black anodised
外观尺寸Dimensions	length 110mm
重量Weight	approx. 0.20kg
安装位置Installation position	任选variable
操作/储存环境Operating/Storage temperature	-20 to +40°C (-4 to +104°F) / -45 to +70°C (-49 to +158°F)
防护等级Protection type/Protection class	IP65 / I (earthed)



Aluminium
Mounting Bracket



接线示意图 Example of connection

订货代码 Art. No.	Ex保护等级 Ex protection type	开关温度 Switch-off temperature	开启温度差 Switch temperature difference
01180.0-00	db IIB T4 Gb; Ex tb IIIC T85°C Db	+15°C(±4K tolerance)	4K (±1K tolerance)
01181.0-00	db IIB T4 Gb; Ex tb IIIC T85°C Db	+25°C(±4K tolerance)	4K (±1K tolerance)



EFR 012

产品特性 Features

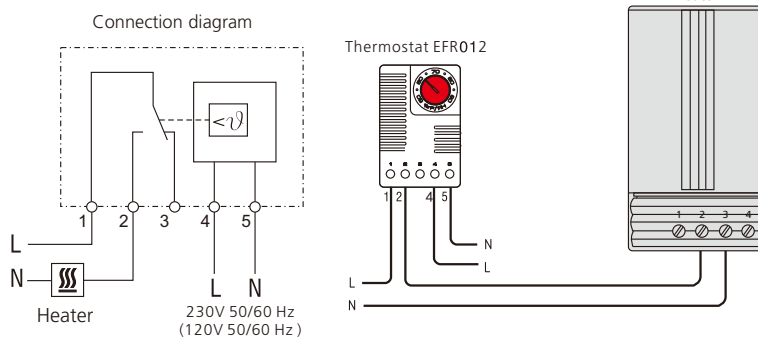
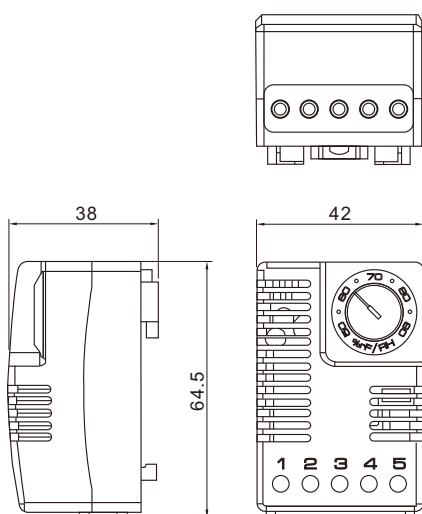
- 高分断能力 High switching capacity
- 灵敏度高 High switching capacity
- 可调节湿度 Adjustable humidity
- 切换接点 Change-over contact
- 导轨安装 DIN rail mounted

当配电箱内相对湿度超出65%时，EFR012可控制加热器加热，以减少水份凝结和有效防止腐蚀。与机械式温控器相比，EFR012有低滞后性，使切换点和设置精度更加精确。

When the relative humidity in the power distribution box exceeds 65%, EFR012 will control the heater heating, in order to reduce the moisture condensation and effectively prevent corrosion. Compared with mechanical thermostat, EFR012 with low hysteresis, making it's switching point and setting accuracy more precise.

技术参数 Technical Data

开关湿差 Switch temperature difference	5% RH($\pm 3\%$ RH tolerance) at 25°C
传感器元件 Sensor element	PTC
触点类型 Contact type	切换型 Change-over
触点电阻 Contact resistance	< 30m Ω
使用寿命 Service life	> 100,000 cycles
最大开关容量 Max. switching capacity	8(1,6) A(AC) 100W (DC)
EMC	Acc. To EN 55014-1-2, EN 61000-3-2, EN 61000-3-3
接线方式 Connection	5极接线端子 2.5mm ² 导线 5-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
安装方式 Mounting	35mm 导轨安装 clip for 35mm DIN rail, EN60715 or for exit filter EF 118 Series
外壳材料 Casing	塑料 UL94标准 V-0 防火等级, plastic according to UL94 V-0, light grey
外观尺寸 Dimensions	64.5 x 42 x 38mm
重量 Weight	Approx. 80g
安装位置 Installation position	任意 variable
操作/储存温度 Operating/Storage temperature	0 to +60°C (32 to +140°F) / -45 to +80°C (-49 to +176°F)
防护等级 Protection type	IP20



接线示意图 Example of connection

订货代码 Art. No.	操作电压 Operating voltage	湿度设定范围 Setting range humidity
01245.0-00	230VAC, 50/60Hz	40 to 90% RH
01246.0-00	230VAC, 50/60Hz	65% RH
01245.9-00	120VAC, 50/60Hz	40 to 90% RH
01246.9-00	120VAC, 50/60Hz	65% RH



MFR 012

产品特性 Features

- 相对湿度调节 Adjustable relative humidity
- 转换触点 Change-over contact
- 灵敏度高 High switching capacity
- 易操作 Easily accessible terminals
- 导轨安装 DIN rail mounted

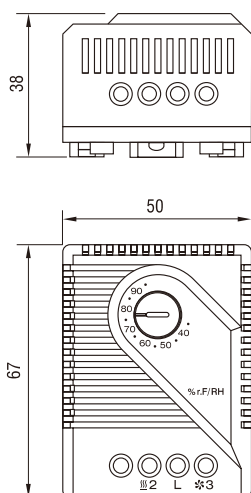
当配电箱内相对湿度超出65%时，MFR012可控制加热器加热，以减少水份凝结和有效防止腐蚀。

The electromechanical hygrostat MFR 012 is designed to control enclosure heaters so that the dew point is raised when a critical relative humidity of 65% is exceeded. In this way condensation and corrosion is effectively prevented.

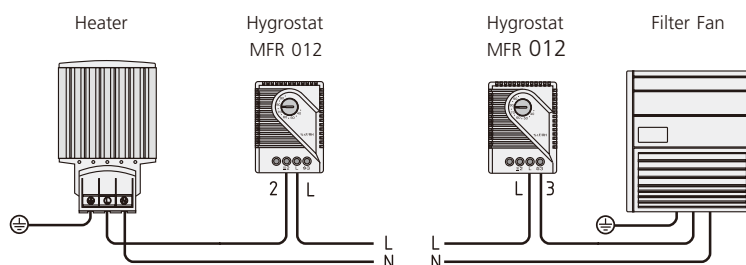
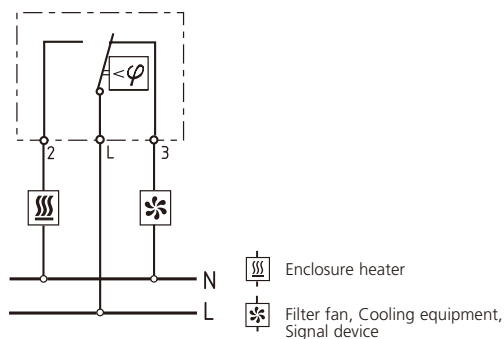
技术参数 Technical Data

开关湿度差 Switch difference	4% RH ($\pm 3\%$ tolerance)
气流速度 Permissible air velocity	15m/sec
触点类型 Contact type	转换触点 change-over contact
触点电阻 Contact resistance	< 30m Ω
使用寿命 Service life	> 100,000 cycles
开关最小容量 Min. Switching capacity	20V AC/DC, 100mA
开关最大容量 Max. Switching capacity	250VAC, 5 (1) A DC 20W
EMC	acc. to EN 55014-1-2, EN 61000-3-2, EN 61000-3-3
接线方式 Connection	3极接线端子 2.5mm ² 导线 3-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
安装方式 Mounting	35mm 导轨安装 clip for 35mm DIN rail, EN60715 or for exit filter EF 118 Series
外壳材料 Casing	塑料 UL94标准 V-0 防火等级, plastic according to UL94 V-0, light grey
安装尺寸 Dimensions	67 x 50 x 38mm
重量 Weight	approx. 60g
安装位置 Installation position	任意 variable
操作/储存温度 Operating/Storage temperature	-20 to +80°C (-4 to +176°F) / -45 to +80°C (-49 to +176°F)
防护等级 Protection type	IP20

*at 50% RH



Connection diagram



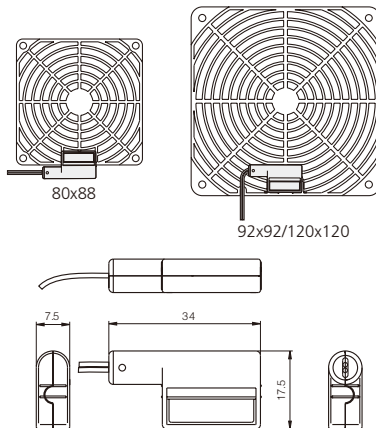
接线示意图 Example of connection

订货代码 Art. No.	湿度设定范围 Setting range
01220.0-00	35 to 95% RH



风感器配有保护罩

Airflow monitor integrated in protective grille



LC 013/LCF 013

产品特性 Features

- 机械式开关触点 Mechanical switch contact
- 应用广泛 Versatile fields of application
- 体积小 Small size
- 易安装 Easy to connect

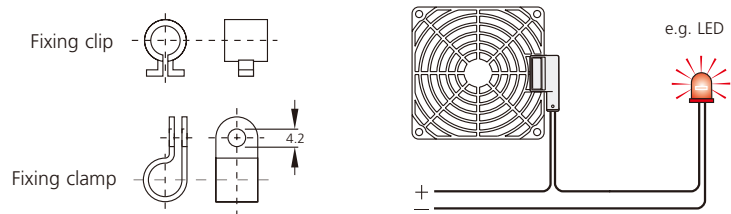
风感器是用于指示风机或过滤器的风量损失。

Air flow sensor is used to indicate the air loss of a fan or fan filter.

技术参数 Technical Data

触点类型 Contact type	磁触点 Reed / magnet contact
常闭 Normally Closed (NC)	空气流动时开关触点打开 Switch contact open when air is flowing
常开 Normally Open (NO)	空气流动时开关触点关闭 Switch contact closed when air is flowing
最大开关电压 (电流) Max. switching voltage(current)	NC: 24VDC(500mA), 250VAC (20mA) / NO: 60VDC(170 mA)
最大切换容量 Max. switching capacity	10W (电阻负载 resistive load)
风速开关切换值 Switching threshold of airflow velocity	> 2.5m/s (hysteresis: > 1m/s)
最大风速 Max. airflow velocity	50m/s
触点电阻 Contact resistance	< 370mΩ (with wire)
最大空气湿度 Max. air humidity	70% RH (not precipitating)
使用寿命 Service life	> 100,000 cycles
接线方式 Connection	2条AWG26电线长度500mm, NC为黑线, NO为蓝线 2 x single strand AWG 26, length 500mm, tip of stranded wire 5mm stripped and tinned (NC: black, NO: blue)
安装方式 Mounting	卡入式 alternatively integrated in protective grille (see table), mounting clamp or mounting clip
外壳材料 Casing	塑料UL94-HB黑色 plastic according to UL94-HB, black
安装位置 Installation position	卡入风机网罩内 bidirectional tab perpendicular to airflow
操作/储存温度 Operating/Storage temperature	-20 to +50°C (-4 to +122°F) / -20 to +80°C (-4 to +176°F)
防护等级 Protection type	IP20

Connection example



接线示意图 Example of connection

描述 Description	订货代码 Art. No.(NC)	订货代码 Art. No.(NO)	尺寸 Dimensions	重量 Weight(approx.)
Airflow monitor with mounting clamp and mounting clip LC 013	01300.0-00	01300.1-00	34 x 17.5 x 7.5mm	5g
Airflow monitor integrated in protective grille (plastic) LCF 013	01301.0-00	01301.1-00	80 x 88 x 10.5mm	20g
	01302.0-00	01302.1-00	92 x 92 x 10mm	20g
	01303.0-00	01303.1-00	120 x 120 x 10mm	30g



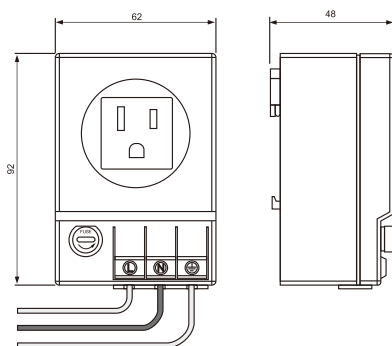
SD 035

产品特性 Features

- 快速连接 Quickly connected
- 可带或不带保险丝 Available with or without fuse
- 固定夹 Clip fixing

导轨安装的电源插座，可以快速安装和连接到配电箱，允许使用辅助产品，如手提灯，测量装置，电烙铁等。该产品适合带保险丝及不带保险丝使用。符合大部分国家及地区插座标准。

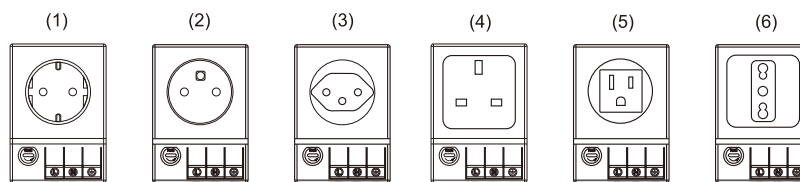
The DIN rail mounted electrical socket can be quickly fitted and connected in enclosures allowing the use of auxiliary products such as hand lamps, measuring devices, soldering irons etc. The unit is available with and without fuse and in many world socket standards.



Connections from mains

技术参数 Technical Data

连接 Connection	3 x 压力钳夹刚性导线 0.5-2.5mm ² 3 x pressure clamps for stranded and rigid wire 0.5-2.5mm ²
安装 Mounting	35mm 导轨安装, EN 60715 clip for 35mm DIN rail, EN 60715
套管 Casing	塑料依据 Plastic according to UL94 v-O, 浅灰色 light grey
尺寸 Dimensions	92x62x48mm
重量 Weight	大约 approx. 0.2kg
安装方式 Fitting position	可变的 variable
工作/储存温度 Operating/Storage temperature	-45 to +70°C (-49 to +158°F)
工作/储存湿度 Operating/Storage humidity	最大 90%RH (非冷凝) Max 90%RH (non-condensing)
保护类型/防护等级 Protection type/Protection class	IP20 / I (earthed)



订货代码 Art. No.	操作电压 Operating voltage	插座 Socket	模式 Model	额定电流 Nominal Current
03500.0-00	250VAC	Germany/Russia(1)	with fuse* 带熔丝	6.3A
03500.0-01	250VAC	Germany/Russia(1)	without fuse 不带熔丝	16.0A
03501.0-00	250VAC	F/PL/CZ/SK(2)	with fuse* 带熔丝	6.3A
03501.0-01	250VAC	F/PL/CZ/SK(2)	without fuse 不带熔丝	16.0A
03502.0-00	250VAC	Switzerland(3)	with fuse* 带熔丝	6.3A
03502.0-01	250VAC	Switzerland(3)	without fuse 不带熔丝	10.0A
03503.0-00	250VAC	UK/Ireland(4)	with fuse* 带熔丝	6.3A
03503.0-01	250VAC	UK/Ireland(4)	without fuse 不带熔丝	13.0A
03504.0-00	125VAC	USA/Canada(5)	with fuse* 带熔丝	6.3A
03504.0-01	125VAC	USA/Canada(5)	without fuse 不带熔丝	15.0A
03505.0-00	250VAC	Italy(6)	with fuse* 带熔丝	6.3A
03505.0-01	250VAC	Italy(6)	without fuse 不带熔丝	16.0A

*fuse 熔丝 Φ5x20mm

DA 084

产品特性 Features

- 高度保护 High degree of protection
- 易于安装 Easy to install

- ① 该装置为电气配电柜，提供一个安全的有气密保护性的环境。
- ② 密闭的箱子当中，因为昼夜交替时温度的变化而引起箱内气压变化。
- ③ 避免灰尘及湿气的吸入。
- ④ DA084气压密装置允许气压在允许的范围内发生变化。
- ⑤ 因为气密装置有IP45高度保护能力，所以当我们把它安装在任何箱子里，都不会影响箱体的功能。

① It has become more and more important to provide a protected enclosure environment for valuable and crucial electrical and electronic components.

② In a tightly closed enclosure, pressure differentials can occur during extreme temperature variations, such as day/night operation.

③ When this occurs, the risk of dust and humidity being absorbed into the control panel increases dramatically.

④ The specially designed pressure compensation plug DA 084 permits a controlled change in pressure.

⑤ It can be installed easily in any enclosure. Because of the pressure compensation plug's high degree of protection (IP45), the protection type of the enclosure will not be affected.

技术参数 Technical Data

安装方式 Mounting	PG 29 thread with union nut
材料 Material	UL94标准材料 V-0防火等级 plastic according to UL94 V-0
与空气的接触面积 Air interface	approx. 7cm ²
外观尺寸 Dimensions	Φ65.5 x 30.5mm
安装位置 Installation position	任意 variable
操作/储存温度 Operating/Storage temperature	-45 to +70°C (-49 to +158°F)



DA084

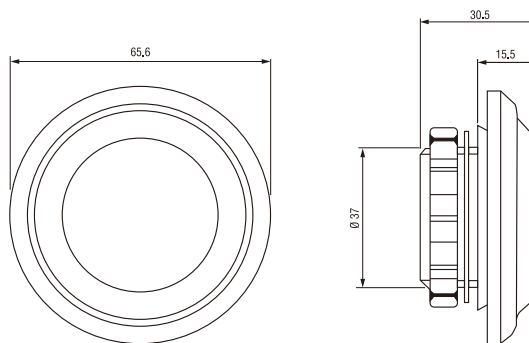


Photo: Inside view

安装 Installation

在箱壁上开一个直径为37⁺mm的孔，用螺丝钉把气密装置安装上去，请确保密封圈放在箱板的外侧，为了达到最佳密封效果，建议在箱子两侧各安装一个。

Make cut-out Φ37⁺mm in enclosure wall and mount pressure compensation device with nut. Please make sure that the sealing gasket is put in place on the outer side panel of the enclosure. For optimal pressure compensation we recommend to use two devices on opposite sides towards the top of the enclosure.



接线示意图 Example of connection

订货代码 Art. No.	型号 Model	保护等级 Protection type	包装 Packing unit	重量 Weight (approx.)
08400.0-00	without gasket	IP45	1 pieces	62g (31g/piece)
08400.0-04	with gasket	IP55	1 pieces	62g (31g/piece)

DA 284

产品特性 Features

- 高防护等级 High degree of protection
- 防水膜 Waterproof membrane
- 便于安装 Easy to install

内部和外部的温度变化导致防护配电箱具有高度压力差。在负压或真空环境下，灰尘和湿气通过密封门进入配电箱。当外壳内的空气冷却下来，由于湿气无法逃出外壳，可能会出现冷凝。易于安装的压力补偿装置DA284在IP66防护等级下提供压力补偿。即使有轻微的过压，塞子里面的防水膜允许湿气排出而阻止水和灰尘进入外壳。

Pressure differentials in enclosures with a high degree of Protection are a result of internal and external temperature changes. In the case of negative pressure or partial vacuum. Dust and humidity can enter the enclosure through the door seal. When the air inside the enclosure cools down, condensation may occur because the humidity cannot escape the enclosure. The easy-to-install pressure compensation device DA 284 Provides compensation of Pressure at a Protection degree of IP66. Even with a slight overpressure. a waterproof membrane inside the Plug allows the humidity to escape whilst blocking water and dirt from entering the enclosure.

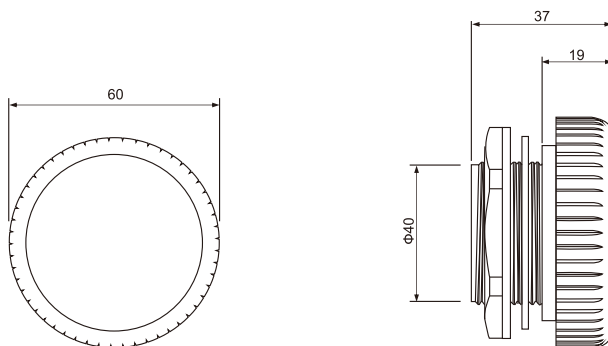
技术参数 Technical Data

安装 Mounting	M40X1.5螺母 thread M40 x 1.5 with nut
扭矩 Torque	5Nm(最大.10Nm) 5Nm(max.10Nm)
外壳深度 Depth in enclosure	大约 approx.16mm
材质 Material	塑料, 浅灰色 plastic, light grey
密封 Sealing	密封垫 sealing gasket NBR
过滤器 Filter	防水膜 waterproof membrane
透气性 Air permeability	最小压力差 1200l/h at a pressure difference of min.70mbar
尺寸 Dimensions	φ60 x 37mm
安装位置 Fitting position	可变的 variable
工作/储存温度 Operating/Storage temperature	-35 to +70°C (-31 to +158°F)

安装 Installation

用 $\varnothing 40.5^{+0.5}$ mm的螺母将压力补偿装置安装在外壳上。请确保密封垫片放在外壳的外侧面板上适当的位置，为了获得最佳压力补偿，我们建议使用两个DA284D外壳顶部的两侧。

Make cut-out $\varnothing 40.5^{+0.5}$ mm in enclosure wall and mount pressure compensation device with nut. Please make sure that the sealing gasket is put in place on the outer side panel of the enclosure. For optimal pressure compensation we recommend to use two devices on opposite sides towards the top of the enclosure.

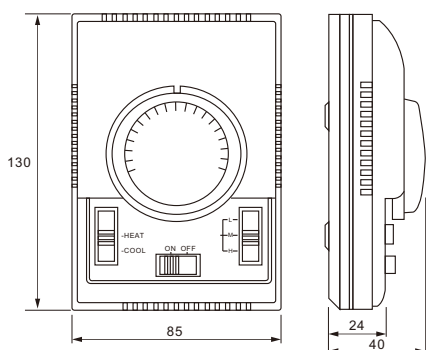


接线示意图 Example of connection

订货代码 Art. No.	保护等级 Protection type	包装 Packing unit	重量 Weight (approx.)
28400.0-00	IP66(EN 60529)/IPX9K(EN 40050-9)	2 pieces	90g(45g/piece)
28400.0-01	IP66(EN 60529)/IPX9K(EN 40050-9)	1 pieces	45g



SP-1000



SP-1000

摘要 Summary

SP-1000温控器通常用于商业、工业和民用建筑，它能控制空调的风机线圈、水阀，使温度保持在设定的范围内。

SP-1000 series thermostats are usually used on the commercial, industrial and civil constructions, which can control the fan coil of air-conditioning, water valve and wind valvelet. It can make the temperature balance in the setting range in the location, and switches are manual witch, Very simple to manipulate.

特征 Characteristics

拨动按钮来设置温度：指示的那个地方显示的是当前温度值。

系统开关：用以打开/关闭温控器。

工作开关：加热/制冷开关，加热/制冷模式。

风速开关：低速-中速-高速，风闸控制器无此功能。

Dialing button for setting the temperature: The place the finger points to is the current temperature value.

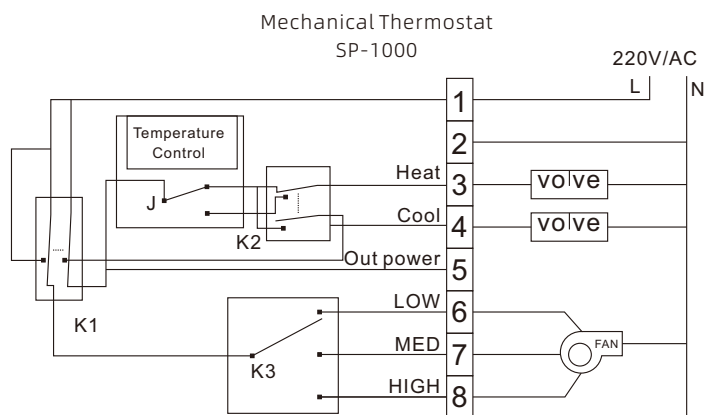
ON/OFF Switch for System: Press ON/OFF Key to turn on/off of the thermostat .

Working Mode switch: Press HEAT/COOL key to switch the heating / cooling mode.

Fan Speed Key: -L-M-H, that is, Low speed-Middle speed-High speed, Wind valve controller does not have this flection.

功能说明 Functions spec

型号 Model	功能说明 Function Explanation	控制对象 Objects Controlled
SP-1000	4 tubes fan coil controller , can be set up to control the fan coil	3 gears of fan coil ,2 and 3 wire of motorized valve , magnetic value on/off wind valve ,3 wires of wind valve .



接线示意图 Example of connection



SP-2000

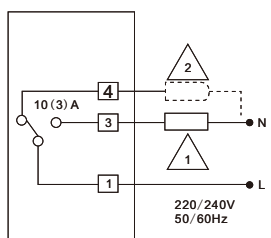
技术参数 Technical Data

- 应用: 适用于中央空调
- 温度控制范围: 10°C~30°C
- 工作电压: 220V~/50Hz
- 最大负载: 10A
- Application: control of central air conditioner or heating
- Temperature control range: 10°C~30°C
- Work voltage :220V~/50Hz
- Max load :10A
- SENSOR type: gas filled sylphon
- With on/off switch ,without LED indicator for power

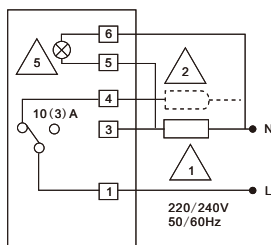
房间温度控制器 Room Temperature Controller

应用于水暖（地暖）采暖系统，可用于商业楼，住宅楼，轻工大厦等直接采用电加热系统的地方。

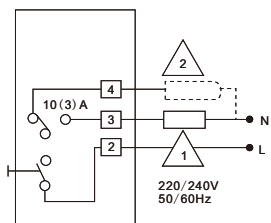
For the control of warm-water(floor)heating systems and direct electric heating systems used in Commercial buildings,Residential buildings, Light in dustrial buildings...



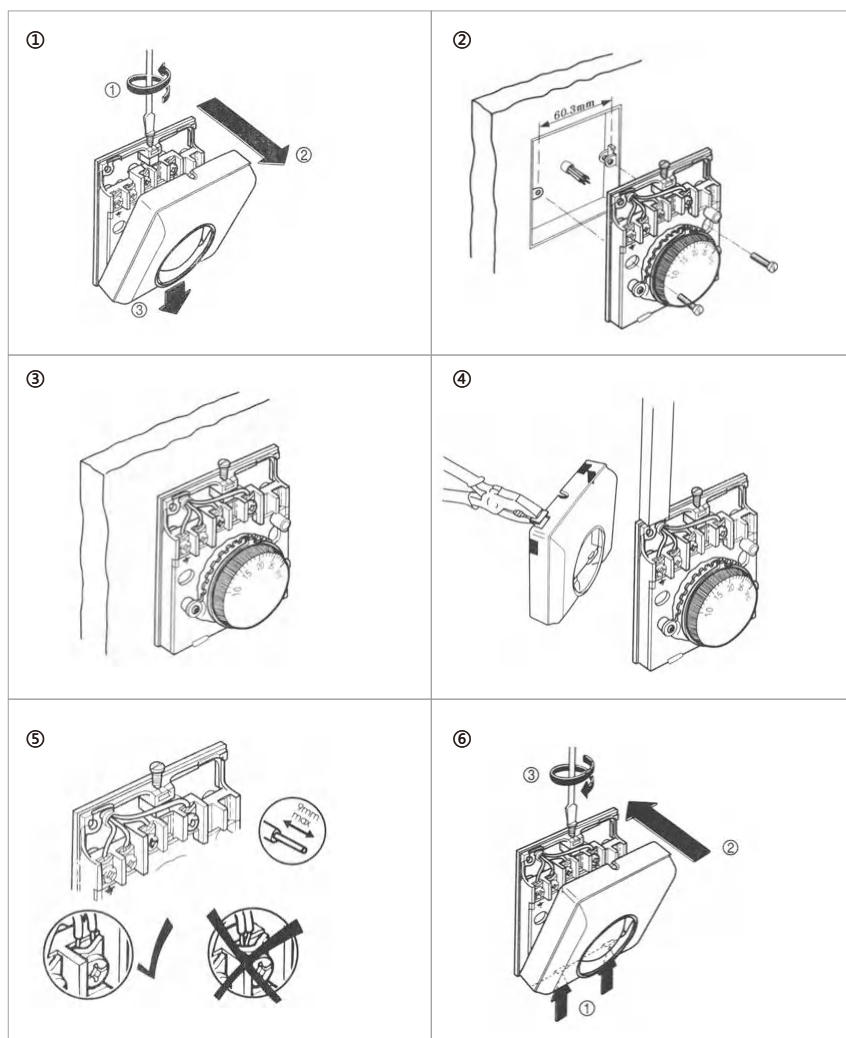
A



B



C



SP-6000

概述 Overview



SP-6000

该RTC70.xx用于两位控制带开关输出的室内温度控制，其依靠一个放置在恒温器外部或内部的NTC传感器来控制。温控器使用其内置传感器或地板传感器获取室温，当室内温度降至设定点以下，加热器将开始工作。

The RTC70.xx is used for 2-position control with on/off output for the control the temperature by means of an NTC sensor placed externally or internally in the thermostat. the thermostat acquires the room temperature with its built-in sensor or floor sensor, and the heating contact will close when the room temperature falls below the selected setpoint.

应用 Application

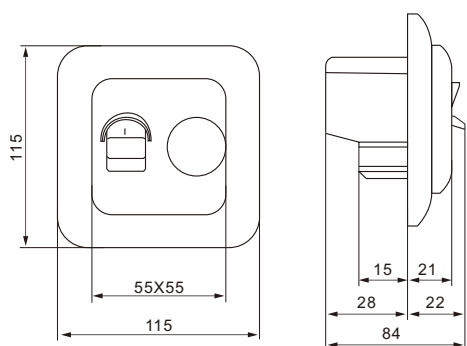
应用于水暖（地暖）采暖系统，可用于商业楼，住宅楼，轻工大厦等直接采用电加热系统的地方。

For the control of warm-water(floor)heating systems and direct electric heating systems used in Commercial buildings,Residential buildings, Light in dustrial buildings...

功能特性 Afeatures

当手动打开加热开关后，LED指示灯亮。旋钮是为了方便控制加热装置输出的开与关。

LED in dicator is light when heating is onwith manual switch and knob for easy operation On/off control output for heating device



技术参数 Technical Data

电压: AC230V

电流: 16A

功耗: 5W

温控范围: 4°C ~ 45°C

温度开关偏差: $\pm 0.5K$

环境温差: -5°C ~ 50°C

外壳防护: IP20

外壳材质: 热塑性橡胶, NTC探头

外置传感器: 线长度为3米

Voltage: AC230V

Output relay: 16A

Power consumption: 5W

Setting range: 4°C ~ 45°C

Switching differential: $\pm 0.5K$

Ambient temperature: -5°C ~ 50°C

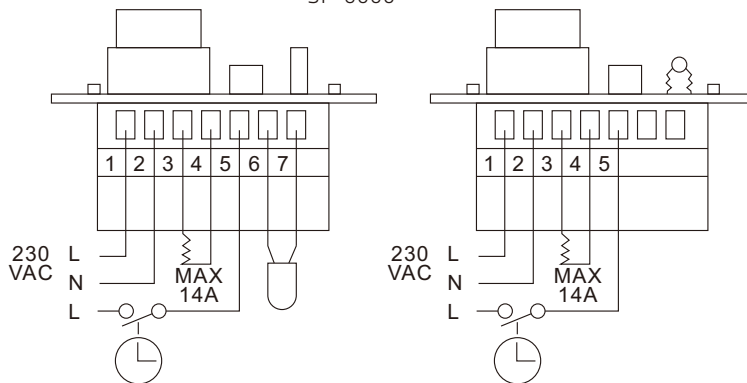
Protective housing: IP20

Housing material: self-exting uishing PC

Floor sensor: rubber-thermoplastic NTC sensor

Cable length is 3m

Mechanical Thermostat
SP-6000



接线示意图 Example of connection

SP7000

产品特性 Features

■ 房间温控器使用说明 Use Instructions Room Thermostat

双金属房间温控器主要用于控制加热和中央空调，断路触点的分段能力具有电子式和机械式特点，10A,250V A.C(电阻负载)，误差值:0.5K

Bimetallic room thermostat for heating and air-conditioning installations Thermal, electrical and mechanical features Breaking capacity on opening contact,10A-250V A.C.(ohmic load) Differential: 0.5K

■ 温度范围调控 Temperature's Scale Adjustment

经过近2天的安装，获得了精确的刻度调整，测量房间的温度，用一个参考温度计，放在一边温控器，持密粗面部分的旋钮，把指标用硬币，为了达到同一个值的温度计，我们建议安装设备从地板 about1.5mt和远离热源。

After almost two days from the installation,to obtain a precise scale adjustment, measure the room temperature with a reference thermometer, placed aside the thermostat, holding the shagreened part of the knob, turn the index with a coin, to reach the same value of the thermometer,We suggest to install the equipment at about1.5mt from the floor and far from any heat source.

■ 零部件 Pattern

①底座Base

②盖子Cover

③上盖螺丝Cover screw

④锁销，用于固定Knob Lockpins, The lock pins for scale limitation

⑤调节盘，位于固定孔的位置，与温控器底座分隔开。

are to be derached from the base of the thermostat.They are Located on the fixing holes.

⑥刻度盘，房间温控器可以直接用螺丝安装在墙面上。

Index:The fixing of the room thermostat can be done directly on the wall by screws and nags.

B1-常闭触点

B1-With N.C.contact.

B2-常闭触点和开关

B2-With N.C.contact and ON-OFF switch

B3-单刀双掷（转换开关）

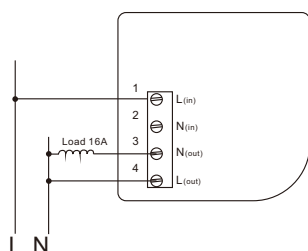
B3-With SPDT contact(change-over)

B4-转换开关（单刀双掷）和开关

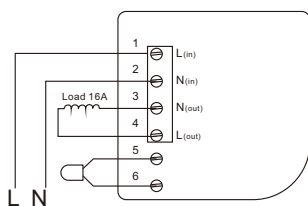
B4-With change-over contact(SPDT)and ON-OFF switch

B7-冬常闭，夏常开，以及夏冬双选开关

B7-With normally closed contact on "Winter" and normally opencontact on "Summer" plus "Summer-Winter" selector-switch



SP7000A Wiring



SP7000B Wiring

注意事项 Important

①交流电源超过220V-250V时，电阻会增大。

Accelerating resistance with voltage to 220-250V a.c.

②温控器设置有加速阻力，必须完全连接好，确保温控器的正常运转。

This thermostat is provided with an accelerating resistance which mustbe absolutely connected in order to obtain the regulation's performances.

③4端口必须按照外壳图示所示，连接到空挡位置。

The terminal 4has thus to be connected to the neutral according to the diagram shown on the cover.

④该接线方式下，指示灯指示温控器的加热操作。

This connection allows also the working of the pilot lamp which indicates the operation of the heating.

SM 010 24VDC +48VDC

产品特性 Features

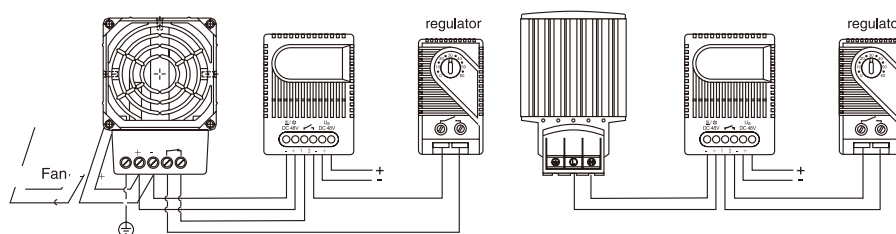
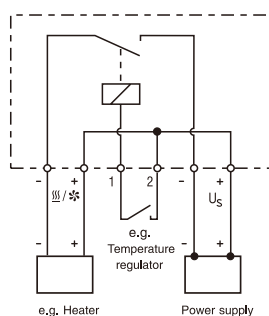
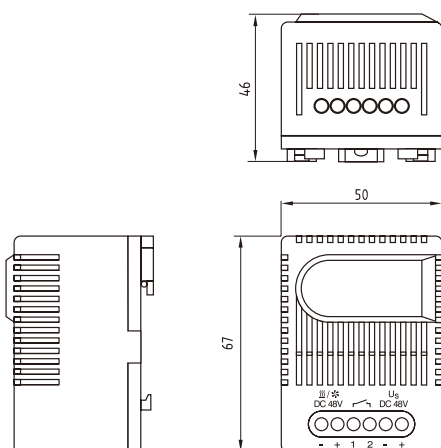
- 高直流分断能力 High DC switching capacity
- 应用广泛 Variety of applications
- 紧凑型设计 Compact design
- 接线简便 Simple connection
- 导轨安装 DIN rail mounted

该直流电子式继电器具有较高的直流分断能力，有24VDC和48VDC两种电压可选。

Electronic relay for switching DC appliances with high switching capacity. A separate conventional switch contact is used as controller (e.g. temperature regulator, humidity regulator). The electronic relay is available in 24VDC and 48VDC versions.

技术参数 Technical Data

触点类型 Contact type	接触开关, 常开 contact maker, normally open (Relay/MOSFET)
触点电阻 Contact resistance	< 30mΩ
使用寿命 Service life	> 100,000 cycles
EMC	acc. to EN 55014-1-2, EN 61000-3-2, EN 61000-3-3
接线方式 Connection	6极端子, 2.5mm ² 导线 6-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ²
安装方式 Mounting	35mm 导轨安装 clip for 35mm DIN rail, EN60715 or for exit filter EF 118 Series
外壳材料 Casing	塑料 UL94标准 V-0 防火等级, plastic according to UL94 V-0, light grey
外观尺寸 Dimensions	67 x 50 x 46mm
重量 Weight	approx. 85g
安装位置 Installation position	任意 variable
操作/储存温度 Operating/Storage temperature	-20 to +80°C (-4 to +176°F) / -45 to +80°C (-49 to +176°F)
防护等级 Protection type	IP20



接线示意图 Example of connection

订货代码 Art. No.	工作电压 Operating voltage	最大开关容量 Max. Switching capacity
01001.0-00	24VDC (20-28VDC)	28VDC 16A
01000.0-00	48VDC (38-56VDC)	56VDC 16A