



## Capillary Pressure Thermostats



- **Excellent Value**
- **High Reliability**
- **Engineering Support**

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YOUR CONTROL SYSTEM**

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**ACmax** an innovative and dynamic company that has built its reputation on the reliability and durability of its products for the HVACR, appliance, and related industries.

Over 25 years of experience results in high quality electronic controls such as indoor air quality/economizer controllers, compressor safety controllers, and temperature control products.

**ACmax**'s line of temperature control products comprises fan controls, water heater thermostats, hermetically sealed thermostats, and high limit automatic and manual reset thermostats. **ACmax** also serves the electric heating industry, offering time delay relays (sequencers).

With its team of professional engineers, **ACmax** provides engineering support to assist customers in selecting the right products for their applications.

**ACmax** serves both OEMs and wholesalers through authorized distributors and manufacturer representatives in industries such as HVACR, appliance, process controls, food services and energy management.

**ACmax**'s key objectives are:

- To provide high quality products, optimal solutions, and excellent engineering support for OEMs and wholesalers in the HVACR, appliance, and related industries.
- To develop and strengthen partnerships with key manufacturers who believe in ACmax 's ability to grow by offering innovative and reliable products and exceeding industry standards while maintaining reasonable prices.

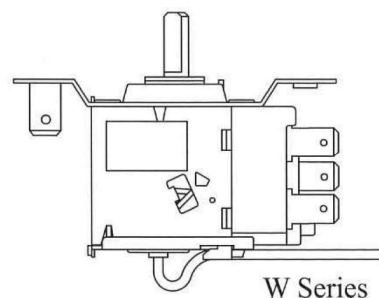
# PRESSURE THERMOSTAT GENERAL DATA

## Introduce

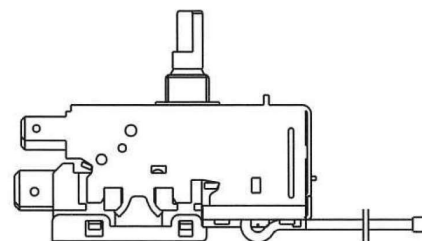
The "W" Series/"K" Series of thermostats with Double-Arrow trade mark used for refrigerating control, is made by the First Thermostat Factory and Weitong branch, Foshan Tongbao Co.,Ltd. by the technology and equipment imported from Saginomiya Seisakusho, Inc, Japan. Through developing for more than 15 years, now "W" Series forms a product range which by its different functions widely covers the need for control devices in the refrigeration and air-conditioning sector, and we may be the largest thermostats maker of this kind in the world today.

## Principle

The "W" Series/"K" Series thermostat is consist of sensor component, mechanical component and switch component. The capillary sensor component is charged with special gas vapour. A temperature change causes a pressure change of the charged gas. This change is converted into a travel via the bellows/diaphragm actuated by a mechanical level system-a switch closing on temperature rise. The switch directly control a compressor or other refrigerating components.



W Series



K Series

## Sensor Type

### ① G-Charge

Charged with saturated gas vapour, without a sensing bulb (Shape A/shape B). The sensing part is 150mm minimum length of the capillary end. Sometimes the capillary is coiled for better sensing. Thermostats with this kind of charge always respond to the coldest point of the sensor system. They may only be used, if under all operating conditions the point to be sensed ( $T_b$ , Temperature of sensing Bulb) is colder than the remaining parts of the sensor system and the thermostat housing/switching mechanism ( $T_s$ , Temperature of Switch). ( $T_s \geq T_b$ ) The position of the capillary end with respect to the thermostat switch body does not influence the function.



Shape A



Shape B

### ② C-Charge (For Cross -Ambient)

Charge with special gas with a sensing bulb (Shape C/shape D). The sensing part is the whole bulb. Thermostats with this kind of charge always respond to the sensing bulb. They can be used wherever the rest part of the sensor system is warmer or cooler than the sensing bulb. ( $T_s \geq T_b$ ) The position of the sensing bulb with respect to the thermostat switch body does not influence the function.



Shape C



Shape D



# PRESSURE THERMOSTAT GENERAL DATA

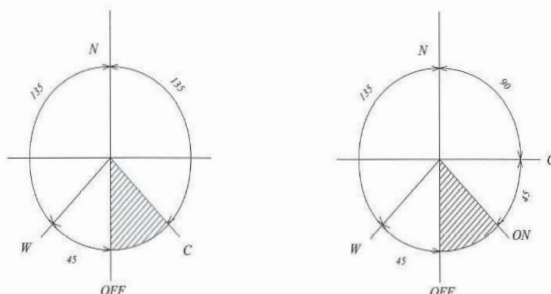
## Temperature Control

### ① Forced OFF and Forced ON

The "W" Series thermostats are available with or without forced OFF and/or forced/ON positions. More simple, they may be with or without Pull Up (PU) and/or Push Down (PD) positions, which means the operating temperature can reach a very high or very low value that the actual temperature would not achieve, so they can have the similar functions of forced OFF and forced ON. The forced off can be achieved by mechanism or/and by electric (with an auxiliary switch).

### ② Dial Angles

Dial Angles can designed on your special request. Normally used dial angles are as follow:



### ③ Temperature adjusting range

From cold to warm point, the thermostat shows an almost linear temperature behaviour. ( Special request is available.) The cut-out temperature from cold to warm can be designed on your request.

### ④ Differential



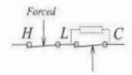


Differential means the difference between cut in (ON) temperature and cut out (OFF) temperature at the same dial point. Differential is almost the same at every point from Cold to Warm (Except WD Series). Actually the differential at Warm is slightly narrower than at Cold, because of the course of the vapour pressure curve of the gas charged, you should just define the differential at one point (for example Normal), then the differential at the other points are defined.

### ⑤ Tolerance

Usually, the tolerance at the calibration point OFF/ON is  $\pm 1.5^{\circ}\text{C}$ , at the non-calibration points are  $\pm 2.0^{\circ}\text{C}$ . (Special request may raise the cost.)

## Electrical Data

### ① Switch forms

No	Name	Descriptions	Figure
1	SPST	Single pole single throw cut-in at temperature rise.	
2	SPDT	Single pole double throw C-L Cut-in at temp. rise.	
3	SPST with aux. switch	C-L Cut-in at temp. rise. L-H Forced OFF manually, with/without bellows heating resistor.	
4	SPST with signal	C-L Cut-in at temp. rise. C-S Cut-in at temp. rises higher.	
5	SPST change over	C-H Cut-out at temp. Rise.	

Note: Arrow mark indicates temp. rise.

# PRESSURE THERMOSTAT GENERAL DATA

## ② Electrical Ratings

Rated Voltage (V) Rated Ampere (A)		Power Factor $\cos \Phi$	L Class	M Class		H Class	HH Class
			AC 250	AC125	AC250	AC125/AC250	AC125/250
NIA		1	0.02~0.5	1~8	0.5~5	1~20	2~25
Inductive	FLA	0.75	0.02~0.25	1~6	0.5~4	1~20	2~25
	LRA	0.45	0.02~2	1~24	0.5~16	1~80	2~100

Note: DC controllers for car air-conditioner are available.

## ③ Terminals

Wiring terminals:  $6.3 \times 0.8$  or  $4.8 \times 0.8$  or  $4.75 \times 0.55$  brass made.

According to IEC730-1 and JIS C8367 standards.

Earthing terminals:  $6.3 \times 0.8$  and/or  $4.8 \times 0.8$  or  $4.75 \times 0.55$  stainless steel

According to IEC730-1 and JIS C8367 standards.

(Special terminals are possible on request.)

## ④ Specifications

Dielectric Strength	1500VAC for 1 min	Normal environment
Insulating Resistance	$\geq 100M \Omega$	$\geq 100M \Omega$
Terminal Box Tracking Resistance	PTI $\geq 250V$ or PTI $\geq 400V$	PBT or UP
Electrical life	100,000 or 200,000 times	

## Mounting

### ① Mounting of the switch body

Most normally used types are bracket with 2 M4 screws with central distance 55, and shaft central mounting with M10X0.75 screws. Other mounting types are possible on request.

### ② Shaft

Normally, the section shape of the shaft to fit the knob is "D" shape

$\phi 6 \times 4$  (except WS series). Special shapes are possible on request.

The length of the shaft can be designed on request.

### ③ Capillary

Sensor systems capillary lengths are available between 250 and 3000mm on your request.

Please do not bend the capillary sharply or repeatedly. Don't mount the capillary at vibration place.

## Altitude and Barometric Pressure Compensation

Our thermostats are tested at sea level where the barometer is 101.3kpa. If the thermostats are tested at a higher altitude where the barometer is lower, the operating temperature will be lower. The compensation values depend on the gas used and the operating temperature. Please contact us for more details. We can compensate in advance on request.

## Ambient Temperature Compensation

Our thermostats are tested at temperature of switch  $T_s = 25^\circ C$ . For

G-charge thermostats, if only the  $T_s \geq T_b$  (Temperature of Bulb), then there is no influence to the operating temperatures. For C-charge thermostats, if the ambient temperature  $T_s$  is lower/higher than

# PRESSURE THERMOSTAT GENERAL DATA

25°C, the operating temperature will be a little higher/lower. The compensation is normally 0.25°C per 10°C. Please contact us for more details.

## **Testing**

- Use liquid medium. The immersed depth of capillary is 150mm min.(for G-Charge) or the whole sensing bulb(for C-Charge).
- Sufficient circulation ensure the equality of the bath less than 0.2°C.
- The accuracy of the digital thermostat of the bath is 0.1°C.(It should be verified regularly.)
- The dial shaft must be accurately turned to the respective point to be test by the cam straight edge or reticle(s) or by dial limits.
- The temperature changing rate should not exceed 1°C/min for G-Charge and 0.5°C/min for C-Charge near the testing temperature.
- Before recording actual operating temperatures. One ON/OFF operation cycle should be made.
- After the test, the barometer compensation and ambient compensation should be made if necessary.
- The test of WC and WH series could be done by two separate baths.

## **Packing**

- ① Net weight: Approx. 80g/pcs
- ② Box: 100pcs/box (WM 50pcs/box)  
(Individual packing box is available on request)
- ③ Label: Approvals
  - Type
  - Lot No.
  - Electrical Ratings
  - Manufacturer

## **Approvals**

All "W" series and "K"series are CQC approval (Except WM without electrical parts). Some series have got UL, CUL, VDE, SEMKO, SAA, CSA approvals. Contact us for more details.

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- 8- EKP - TEMPERATURE CONTROL WITH S.P.S.T SWITCH, COIL CAPPILLARY AND WIDE DIFFERENTIAL
- 9- EKS - TEMPERATURE CONTROL WITH S.P.S.P SWITCH AND PUSH-BUTTON FOR AUTOMATIC DEFROST FUNCTION
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# EWP SERIES

## GENERAL PURPOSE THERMOSTAT

Terminal C-L Cut-in at temperature rise. With SPST or SPDT, and an additional auxiliary switch. There are forced OFF and/or PD points. Type WP-T with two-spring mechanism is a wide differential range.

Available temperature range:  $-36 \sim +15^{\circ}\text{C}$

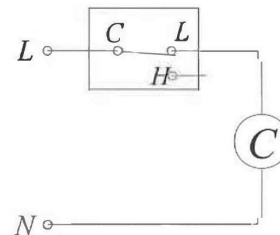
Adjusting temperature range: max.  $25^{\circ}\text{C}$

Differential: WP ( $5 \sim 14^{\circ}\text{C}$ )     $5 \sim 25^{\circ}\text{C}$   
WP-T ( $10 \sim 25^{\circ}\text{C}$ )

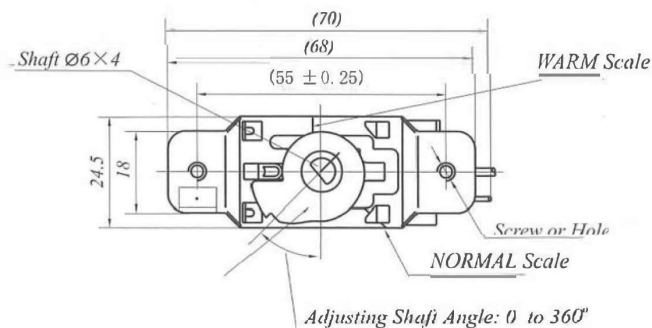
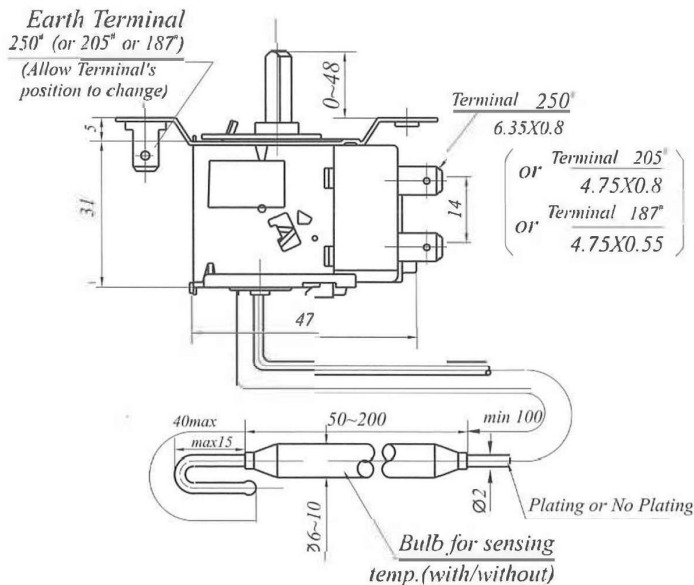


Approvals: cec, UL, CE, CULUS, DVE

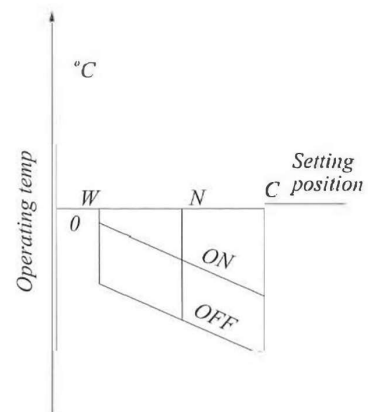
### Typical Electrical Wiring Diagram



### Construction/Dimensions



### Typical Function Chart



### Typical Applications

Refrigerating/freezing devices,  
Automobile air conditioning

# ENWP SERIES

## GENERAL PURPOSE THERMOSTAT FOR EXPLOSIVE AREA



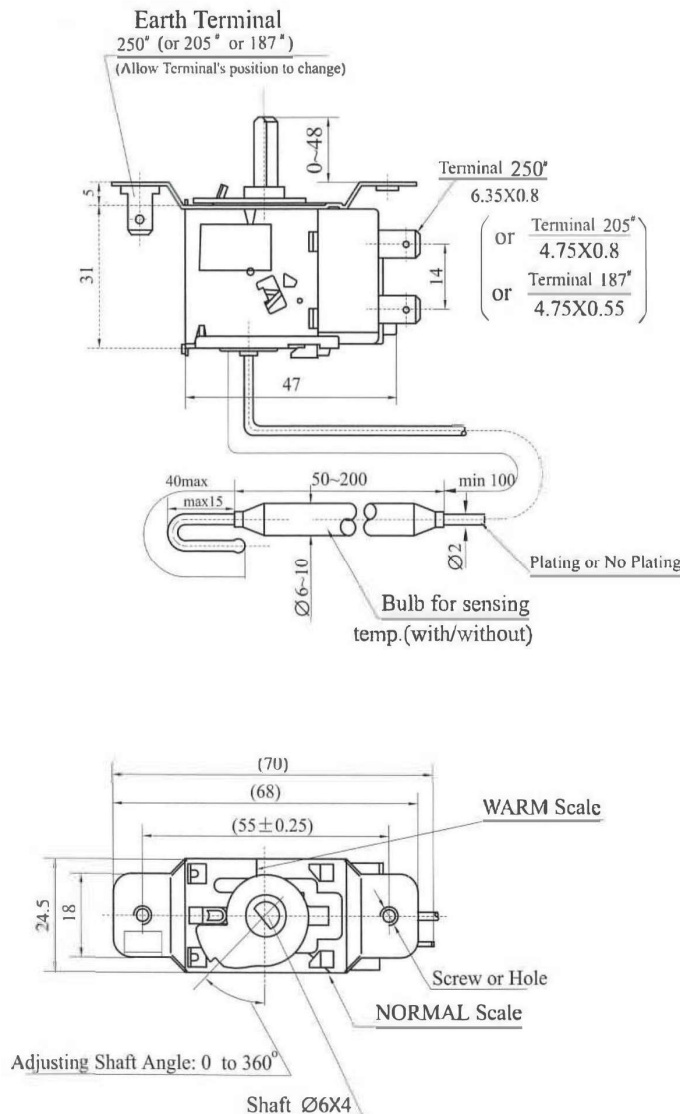
This is a special designed type with SPST switch in accordance with the standard IEC79-15. It can prevent the possible explosion when the switch body is located in the explosive gas mixed air. Ex Approval of China was obtained. VDE Ex test was past.

Available temp. range:  $-36\sim+15^{\circ}\text{C}$

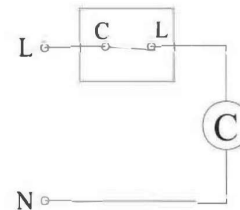
Adjustable temp. range:  $\text{Max.}25^{\circ}\text{C}$

Differential:  $5\sim25^{\circ}\text{C}$

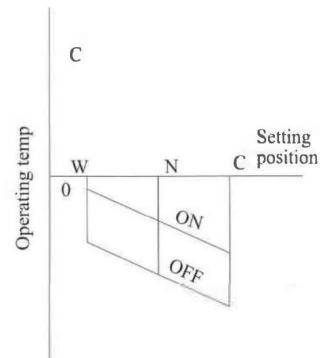
### Construction/Dimensions



### Typical Electrical Wiring Diagram



### Typical Function Chart



### Typical Applications

Refrigerators filled with R600a.



# EWS SERIES

## PUSH-BUTTON DEFROST THERMOSTAT

With a push-defrost shaft at the center of the adjusting shaft. When pushing down the defrosting shaft, the mechanism is locked that the switch keeps OFF until the temperature rises to the defrost ending value(DEF), then the mechanism release automatically and the thermostat recovers the normal control cycles.

Available temp. range:  $-36\sim+7^{\circ}\text{C}$

Adjustable temp. range:  $18^{\circ}\text{C Max.}$

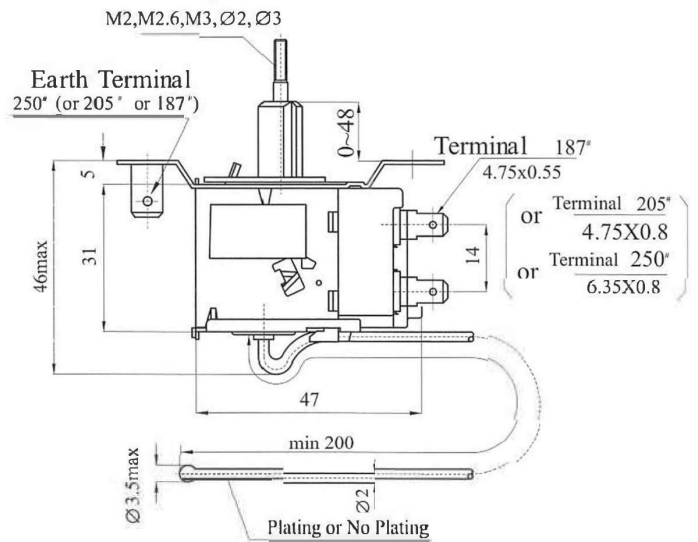
Differential :  $6\sim14^{\circ}\text{C}$

Defrost reset temp. range:  $3\sim7^{\circ}\text{C}$

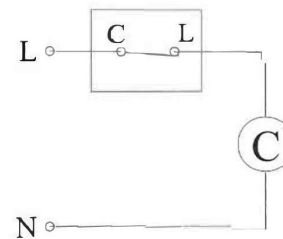


Approvals: CQC, UL, DFE

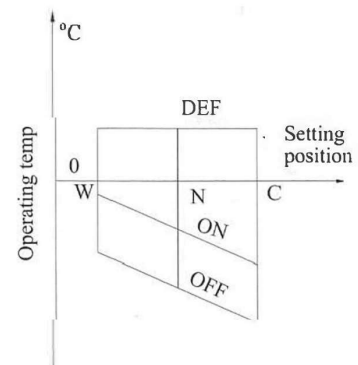
### Construction/Dimensions



### Typical Electrical Wiring Diagram



### Typical Function Chart



### Typical Applications

Refrigerators.

# EWD SERIES

## CONSTANT CUT-IN THERMOSTAT



Approvals: CEC, UL, cULus, DVE

Terminal C-L cut-in at temperature rise. Terminal L-H of auxiliary switch cut-out when the shaft turned to OFF point. Terminal C-L can be cut-out at OFF point, and can be forced ON at ON point. The ON temperature is constant at any position from Warm to Cold, the OFF temperature is adjustable. This behavior assure an automatic defrost function.

The WD-R series with an internal bellows heating resistance connected to C-L, is able to be used at cross-ambient in a refrigerator.

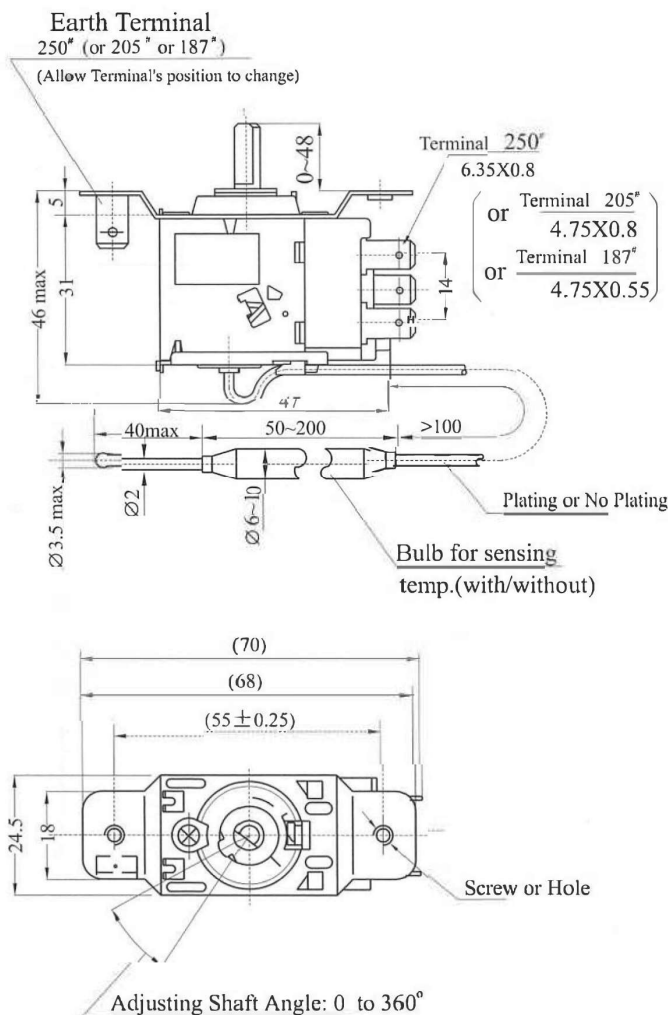
Constant cut-in temp. range:  $+2\sim+8^{\circ}\text{C}$

Available OFF temp. range:  $-36\sim-4^{\circ}\text{C}$

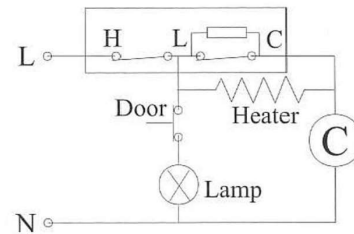
Adjustable temp. range: Max.  $19^{\circ}\text{C}$

Differential: Min.  $8^{\circ}\text{C}$

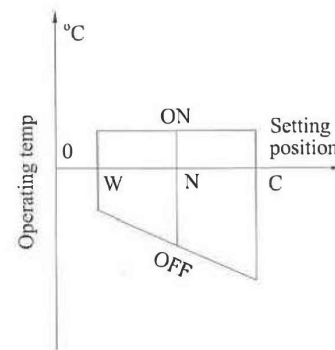
## Construction/Dimensions



## Typical Electrical Wiring Diagram



## Typical Function Chart



**Typical Applications**  
Refrigerators.

## EWD-E SERIES

### CONSTANT CUT-IN THERMOSTATS FOR EXPLOSIVE AREA

This is a special designed type with SPST switch plus an aux switch. It is an "n" type apparatus in accordance with the standard IEC79-15. It can prevent the possible explosion when the switch body is located in the explosive gas mixed air. Ex approval of China was obtained and VDE Ex test was past.

Maybe with an internal bellows heating resistance connected to C-L terminal to enable to be used at cross ambient in a refrigerator.

Constant cut-in temp. range:  $+2\sim+8^{\circ}\text{C}$

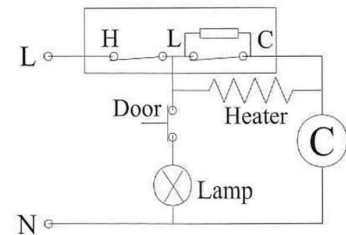
Available OFF temp. Range:  $-36\sim-4^{\circ}\text{C}$

Adjustable temp. range: Max.  $19^{\circ}\text{C}$

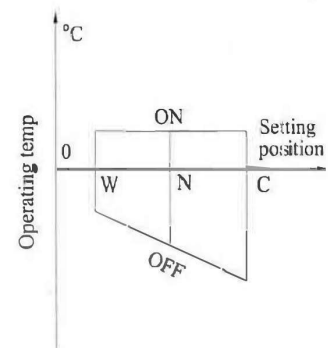
Differential: Min.  $6^{\circ}\text{C}$



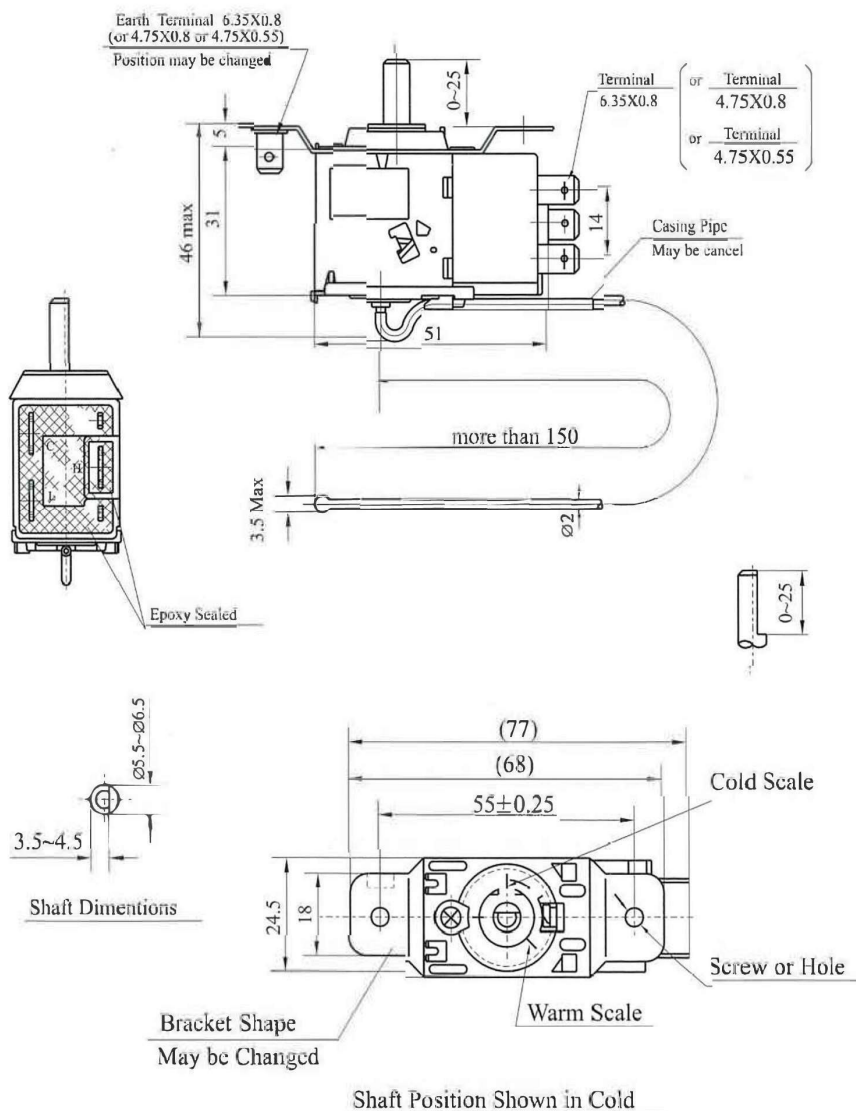
Typical Electrical Wiring Diagram



Typical Function Chart



Typical Applications  
Refrigerators.



# EWX SERIES



## SIGNAL COMBINATED THERMSOTAT

Terminal C-L cut-in at temperature rise as normal thermostats. Terminal C-S cut-in at an even higher temperature for alarm signal.

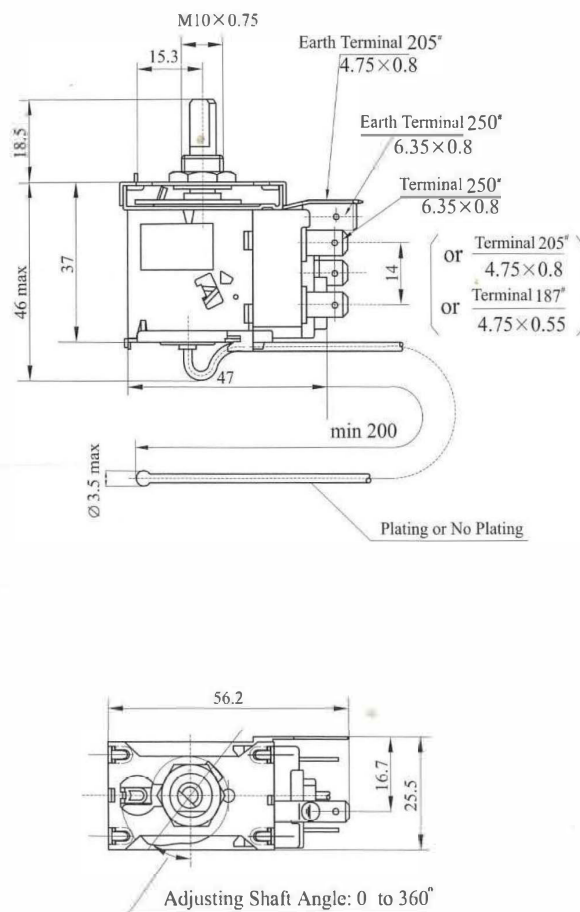
Available temp. range:  $-36\sim 15^{\circ}\text{C}$

Adjustable temp. range: Max.  $16^{\circ}\text{C}$

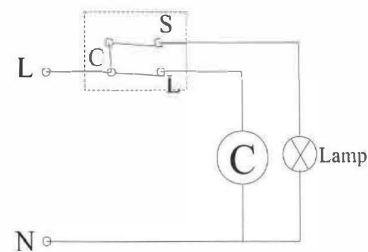
Differential:  $5\sim 10^{\circ}\text{C}$

Signal ON-ON differential:  $0\sim 8^{\circ}\text{C}$

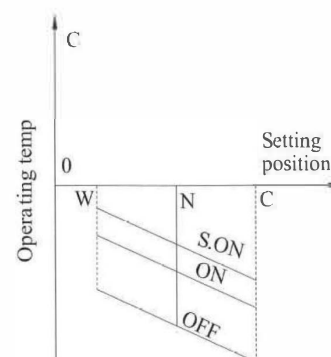
## Construction/Dimensions



## Typical Electrical Wiring Diagram



## Typical Function Chart



## Typical Application

Freezers, Refrigerators.



# EWK SERIES

## HIGH CURRENT THERMOSTAT

With a high current capability switch of SPST or SPDT. There is a narrow differential and a forced OFF function. This kind of thermostats can be used in direct current (DC) with inductive loads.

WK-B and WK-C series with bottom outlet terminals are available.

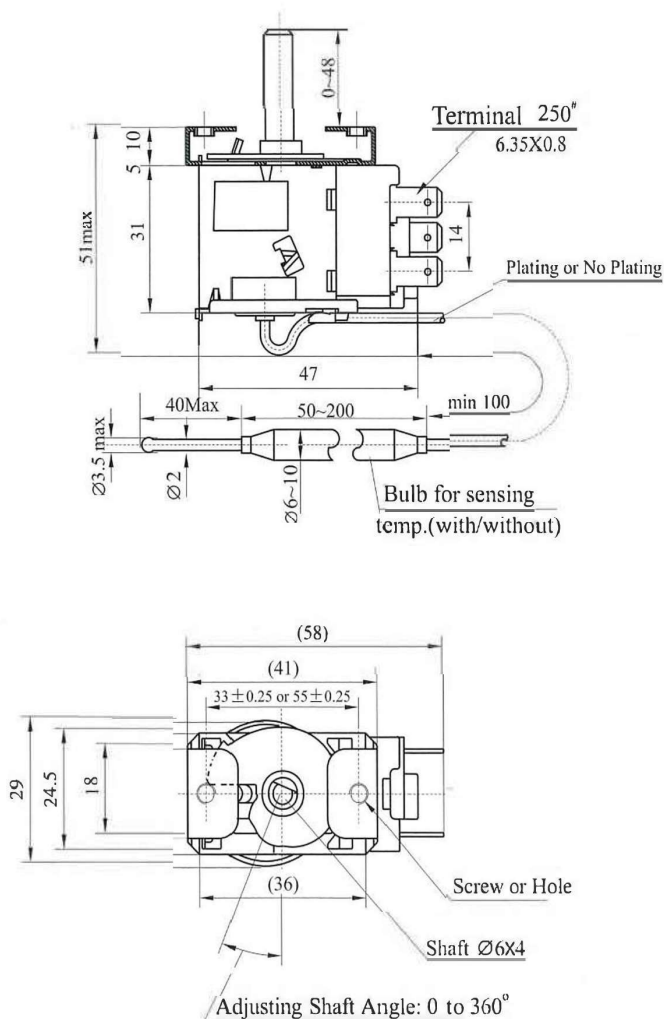
Thermostats with a fix operating temperature(without a shaft) for air conditioner defrosting are also available.

Available temp. range: -35~+40°C

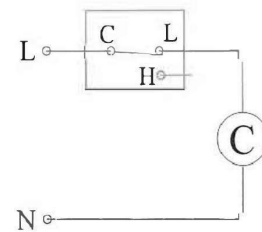
Adjustable temp. range: Max. 20°C

Differential: Min. 2°C

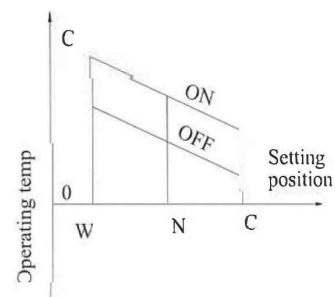
### Construction/Dimensions



Typical Electrical Wiring Diagram



Typical Function Chart



### Typical Applications

Room air conditioners, Freezers, Automobile air conditioners.

## EKP SERIES

## TEMPERATURE CONTROL WITH S.P.S.T. SWITCH



Terminal 3-4 closes at temperature rise

In general type KP is classified into 2 basic versions:

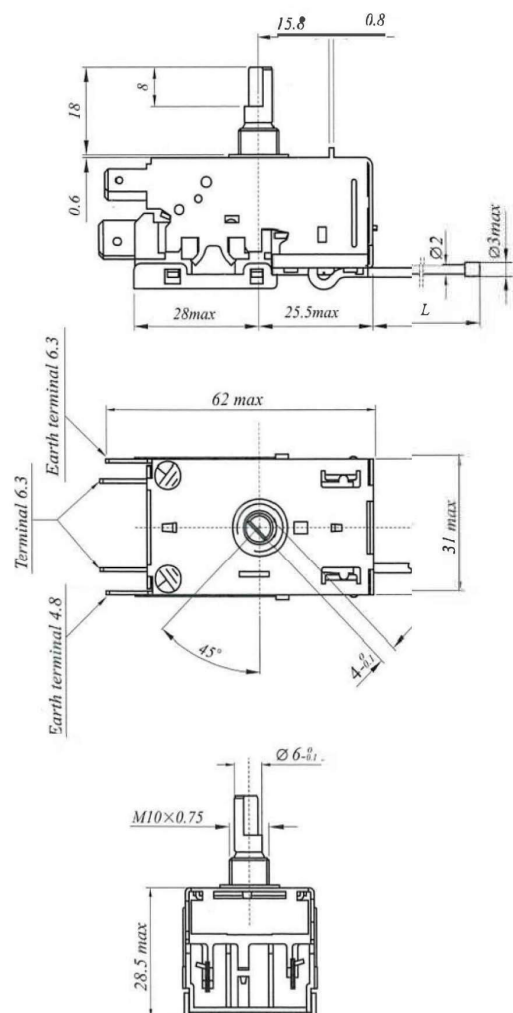
Version A: KP with standard switching differential

Version B: KP with wide switching differential

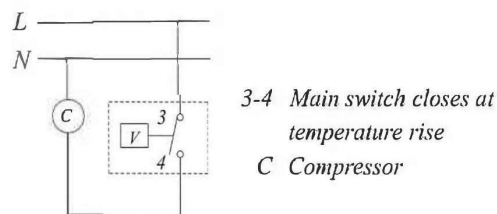
**Rating at 250 V 50 Hz**

3-4: 6(6)A

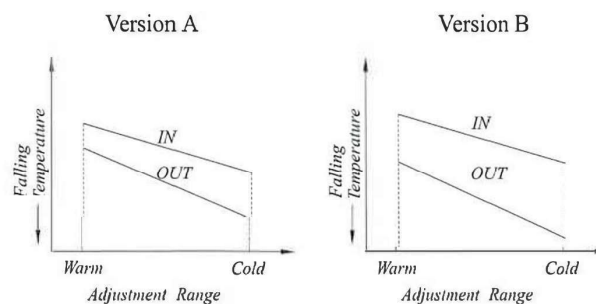
## Construction/Dimensions



## Typical Electrical Wiring Diagram



## Typical Function Chart



## Temperature Characteristic Data

Operating range: -40 to +40°C

Adjustment range: Version A: 4 to 30K

Version B: 5 to 15K

Switching differential: Version A: 3 to 14K

Version B: 10 to 25K

Capillary type: Shape A (standard)

Shape B (on request)

## Typical Applications

Refrigerating/freezing devices

Automotive air conditioning

Control shown in position COLD according to standard type, other dial shaft positions on request.



# EKS SERIES

## TEMPERATURE CONTROL WITH S.P.S.T. SWITCH AND PUSH-BUTTON FOR AUTOMATIC DEFROST FUNCTION

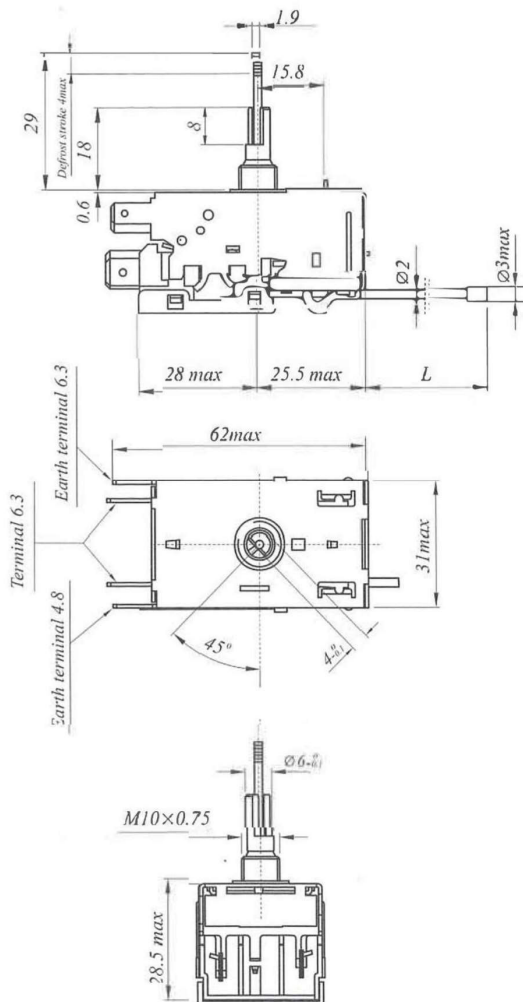
Terminal 3-4 closes at temperature rise

Closing with rising temperature and possibility to manually initiate a defrost function is achieved by pressing the defrost pin (stroke approx. 4mm) until latching. By this the main switch is opened and locked until the defrost temperature is reached at the sensing point of the capillary which normally is fixed at the evaporator. After this defrost temperature has been achieved, the pressure pin returns to its OFF position and the normal ON/OFF operation of the temperature control is reset. Defrost function can be initiated in any position of the dial shaft; if it has been initiated by accident, the defrost function can be cancelled by turning the dial shaft to OFF position.

**Rating at 250 V 50 Hz**

3-4: 6(6)A

### Construction/Dimensions

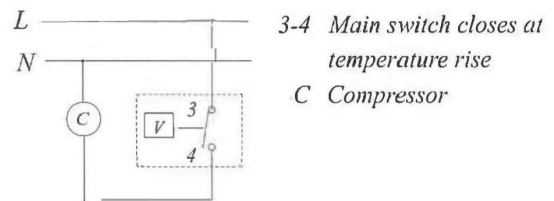


Control shown in position COLD according to standard type, other dial shaft positions on request.

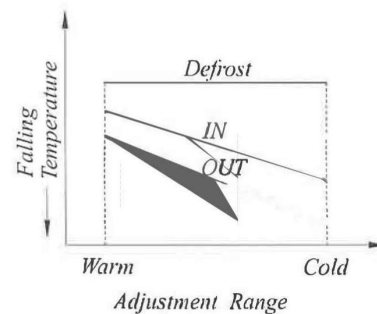


Approvals: CEC, UL, CULUS, DVE

### Typical Electrical Wiring Diagram



### Typical Function Chart



### Temperature Characteristic Data

Operating range: -40°C to +40°C  
Adjustment range: 4 to 14K  
Switching differential: 4 to 14K  
Defrost temperature: Possible between +2 and +10°C (but differential of defrost temperature to WARM-IN min. 4°C)  
Capillary type: Shape A (standard)  
Shape B (on request)

### Typical Applications

Refrigerating/freezing devices  
Automotive air conditioning

# EKD SERIES

TEMPERATURE CONTROL WITH S.P.S.T. SWITCH AND AUXILIARY SWITCH FOR OFF POSITION. AUTOMATIC DEFROST FUNCTION BY CONSTANT CUT-IN VALUE



Approvals: CEC, UL, cULUS, and a safety symbol.

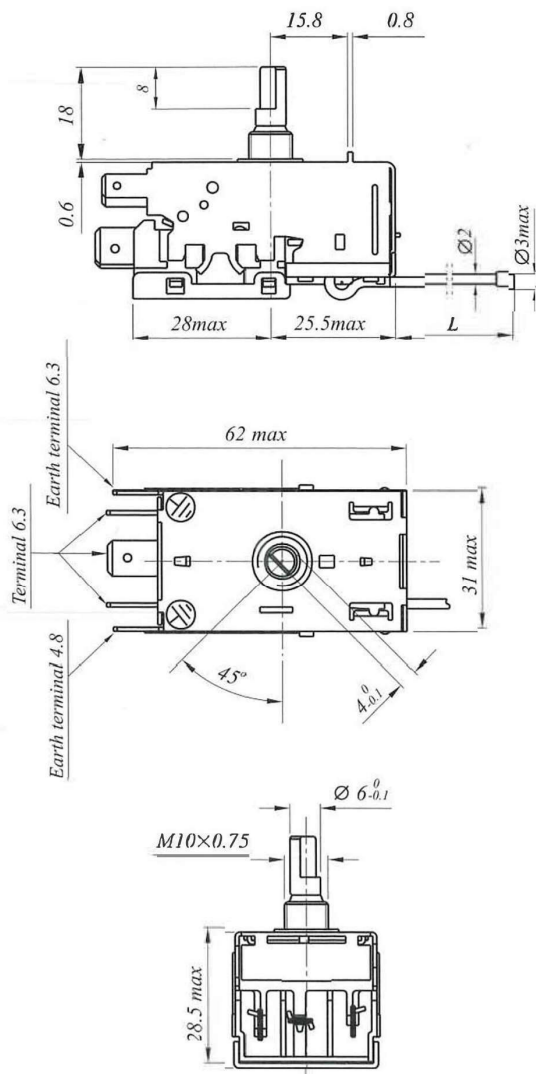
Terminal 3-4 closes at temperature rise  
Terminal 3-6 opens in OFF position

**Rating At 250 V 50 Hz**

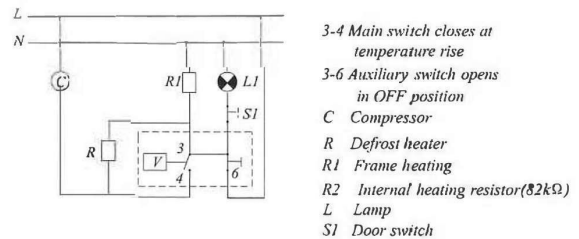
3-4: 6(6)A

3-6: 6(6)A

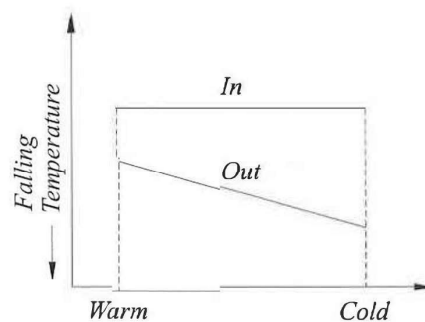
## Construction/Dimensions



## Typical Electrical Wiring Diagram



## Typical Function Chart



## Temperature Characteristic Data

Operating range: -32°C to +6°C  
Adjustment range: 4 to 18K  
Constant cut-in value: +2 to +8K  
Capillary type: Shape A (standard)  
Shape B (on request)

## Typical Applications

Refrigerators

Control shown in position COLD according to standard type, other dial shaft positions on request.

# EKX SERIES

## TEMPERATURE CONTROL WITH S.P.S.T. SWITCH AND SIGNAL SWITCH

Terminal 3-4 closes at temperature rise  
Terminal 3-6 closes when warning temperature has been reached

### Rating At 250 V 50 Hz

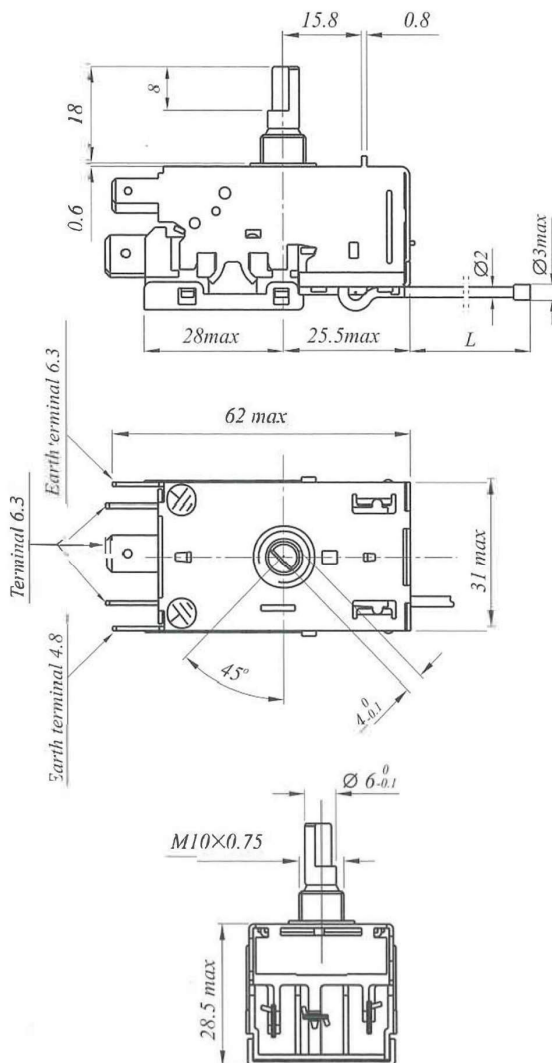
3-4: 6(6)A

3-6: 0.1A

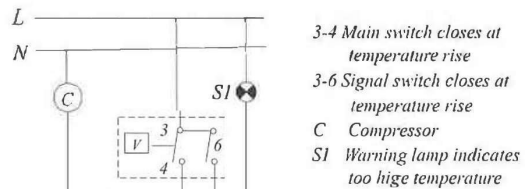


Approvals: CQC RU cRU US D'E

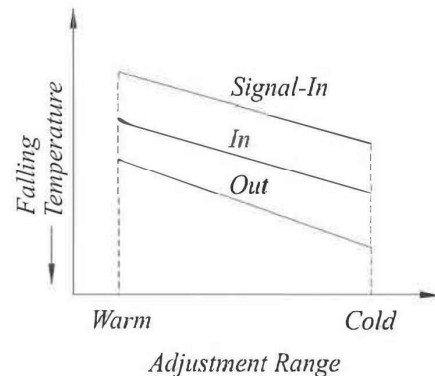
### Construction/Dimensions



### Typical Electrical Wiring Diagram



### Typical Function Chart



### Temperature Characteristic Data

Operating range: -40°C to +40°C  
Adjustment range: 4 to 30K  
Switching differential: 3 to 14K  
Signal differential: 4 to 7K  
Capillary type: Shape A (standard)  
Shape B (on request)

### Typical Applications

Freezers

Control shown in position COLD according to standard type,  
other dial shaft positions on request.

## EWYF SERIES

TEMPERATURE CONTROL WITH S.P.S.T. OR S.P.D.T. SWITCH



Approvals:   

### Compact Design Ceramic Switch

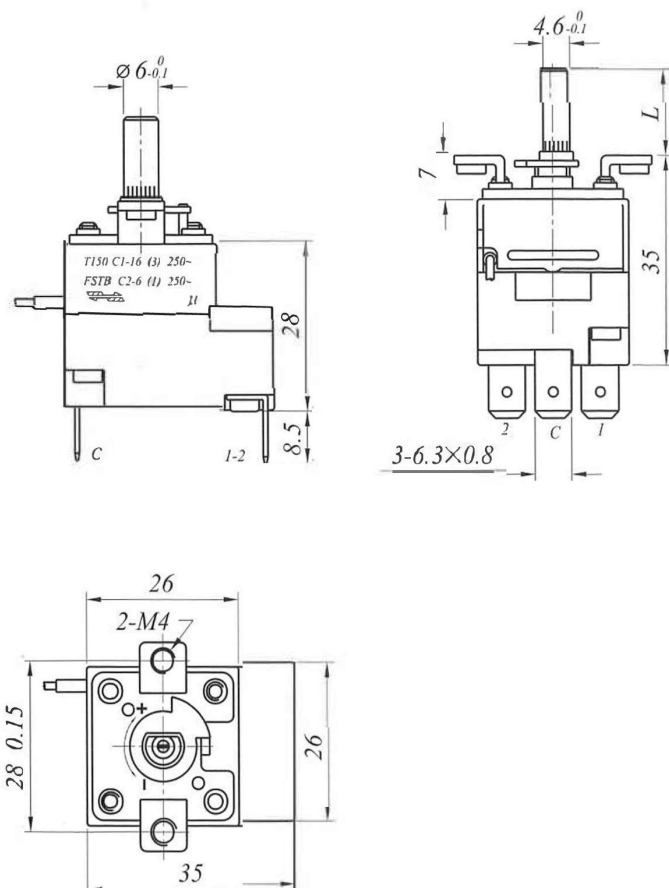
Terminal C-1 opens at temperature rise  
Terminal C-2 closes at temperature rise

### Breaking Capacity

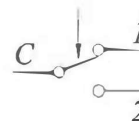
C-1: 16(3)A AC250V

C-2: 6(1)A AC250V

### Construction/Dimensions Version A



### Typical Electrical Wiring Diagram



### Technical Specifications

Control range:  $-35\sim+320^{\circ}\text{C}$

Tolerance on operating range: 3~12K

Differential range: 1~17K

Life of product: >100,000 cycle

Control shown in position HIGH according to standard type, other dial shaft positions on request.

The operating temperature above is at  $25^{\circ}\text{C}$  ambient temperature, if the ambient temperature changes, the operating temperature needs to be modified.

### Typical Applications

Water heater      Water boiler  
Washing machine    Electric oven

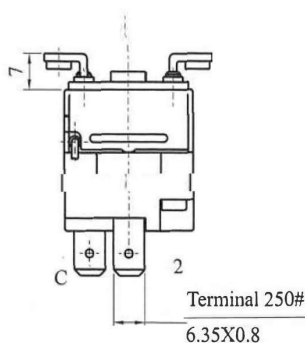
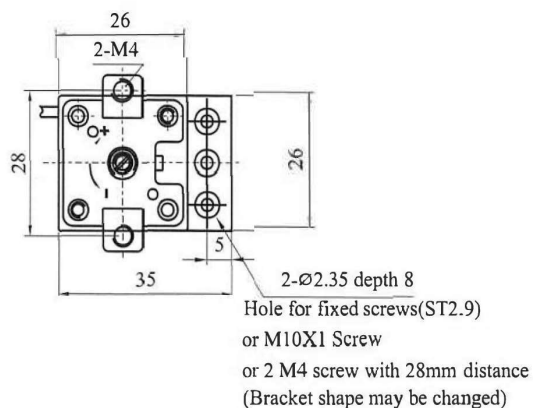
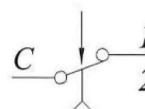


### TEMPERATURE CONTROL WITH S.P.S.T. OR S.P.D.T. SWITCH



Control range: 50~+320°C  
Tolerance on operating range: 3~12K  
Max ambient Temp.: T150  
Life of contacts: 6,000cycles

### Typical Electrical Wiring Diagram



Water heaters    Water boilers    Electric ovens



# EWYF-ZS SERIES

## TEMPERATURE LIMITER WITH S.P.S.T. SWITCH

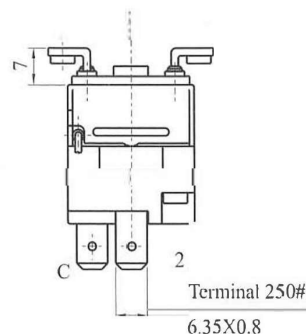
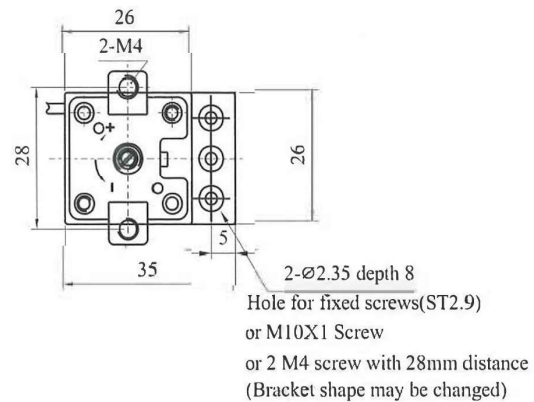
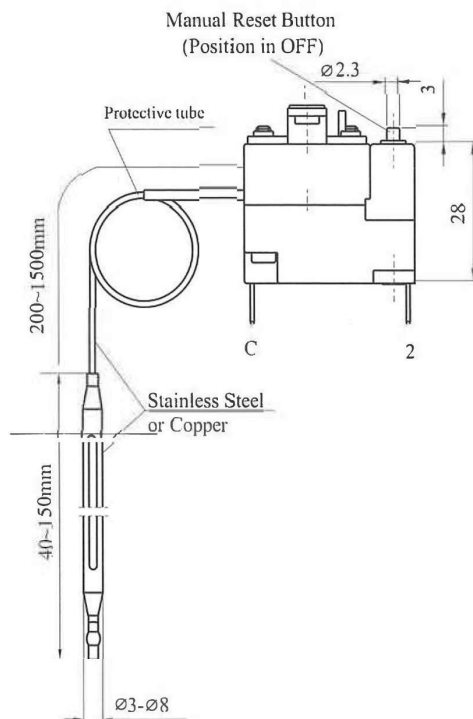
**Version C**  
**Standard Model**

**Compact Design**  
**Ceramic Switch**  
**Manual Reset**  
**Leakage Fail-safe Mechanism**



Approvals:   

### Construction/Dimensions



### Technical Specifications

Control range: 50~+320°C  
Tolerance on operating range: 3~12K  
Max ambient Temp.: T150  
Life of contacts: 6,000cycles

### Typical applications

Water heaters    Water boilers  
Electric ovens    Friers



## EZA SERIES

### TEMPERATURE CONTROL WITH S.P.S.T. OR S.P.D.T. SWITCH

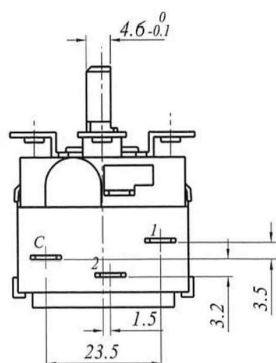
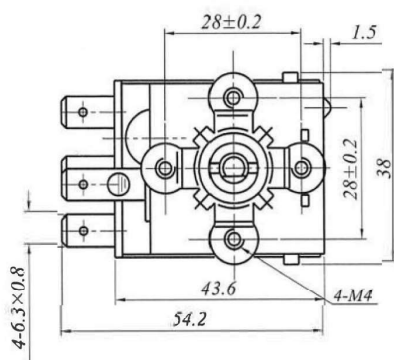
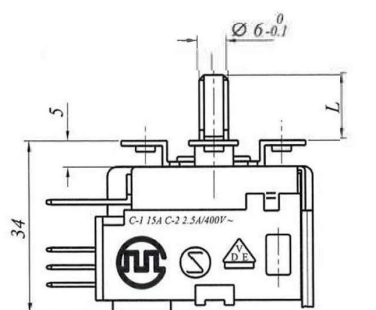
Terminal C-1 opens at temperature rise  
Terminal C-2 closes at temperature rise

#### Breaking Capacity

C-1: 15(3)A AC400V

C-2: 2.5(0.6)A AC400V

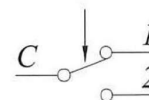
#### Construction/Dimensions



Control shown in position HIGH according to standard type, other dial shaft positions on request.  
The operating temperature above is at 25°C ambient temperature, if the ambient temperature changes, the operating temperature needs modified.



#### Typical Electrical Wiring Diagram



#### Technical Specifications

Control range: -35~+320°C

Tolerance on operating range: 3~12K

Differential range: 1~17K

Maximum ambient temperature: T110°C

Dial shaft torque: <0.4N.m

Life of product: >100,000 cycle

#### Typical Applications

Water heater      Water boiler

Washing machine      Electric oven

# PROTECTORS & STARTERS

## EB SERIES

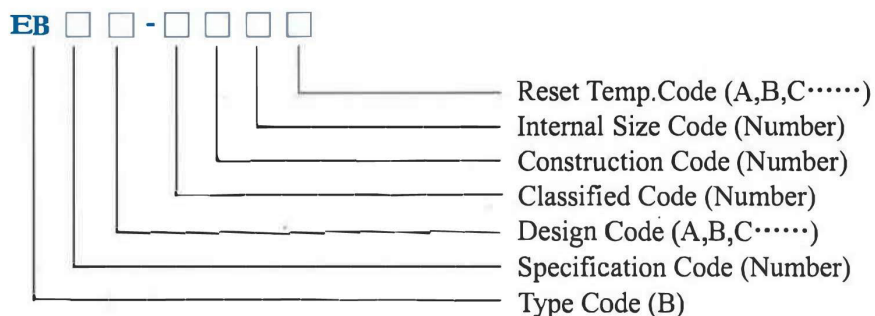


Approvals: DEMKO CE

### Applications and Feature

This product is a overheat and overload protector available for the hermetical refrigerating compressor motors and other such like motor . It provides snap action reliable features.

### Code Indication



### Classified Code

Code	1	2
Type	Direct heating	Indirect heating

### Construction Code

Code	1	2	3	4
Construction	Circle	Rectangle	Circle with ear	Circle with cover

### Reset Temperature Code

Code	A	B	C	D	E	F	G	H	I
Reset Temp.(°C)	≤61	62~64	65~66	67~68	69~70	71~72	73~74	75~76	77~78
Code	J	K	L	M	N	O	P	Q	R
Reset Temp.(°C)	79~80	81~82	83~84	85~86	87~88	89~90	91~93	94~96	97~99
Code	S	T	U	V	W	X	Y	Z	
Reset Temp.(°C)	100~102	103~105	106~108	109~111	112~114	115~117	118~120	121~125	

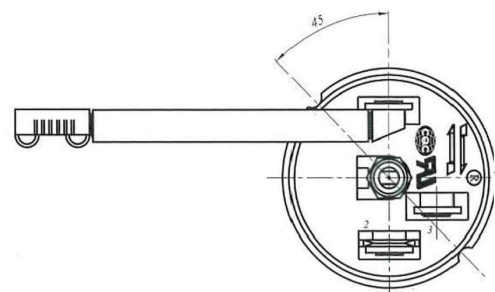
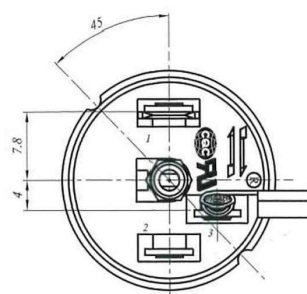
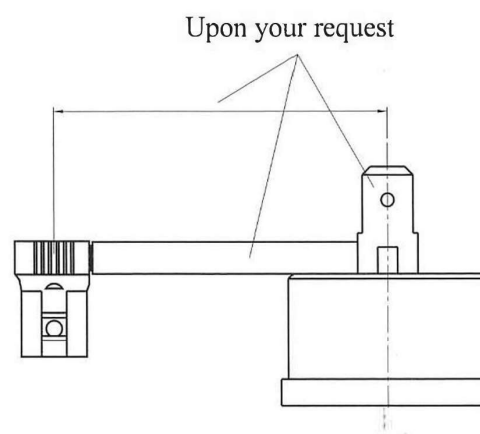
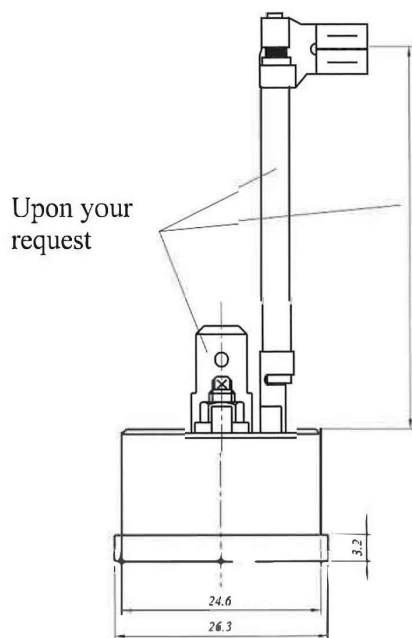
# EB SERIES

## MOTOR PROTECTOR

### Technical Specifications

Applications	Temperature		Protecting Feature				Contact Resistance	Life	Insulation Resistance	Dielectric Strength
	Open (℃)	Reset (℃)	Overload(25℃)			Inductive Current				
			Current (A)	Cut-out Time (S)	Reset Time (A)					
Refrigerating Comp.	100~150 ±5	50~90 ±7~9	1.5~15	5~16	≥10	Upon your request	≤50m Ω	Over 10,000 cycles	≥100M Ω	AC 50Hz 1500V for 1 min.
Air-conditioning Comp.	120~170 ±5	60~110 ±9~11	10~50	2~20	≥5					

### Construction/Dimensions



# PROTECTORS & STARTERS

## EQP SERIES

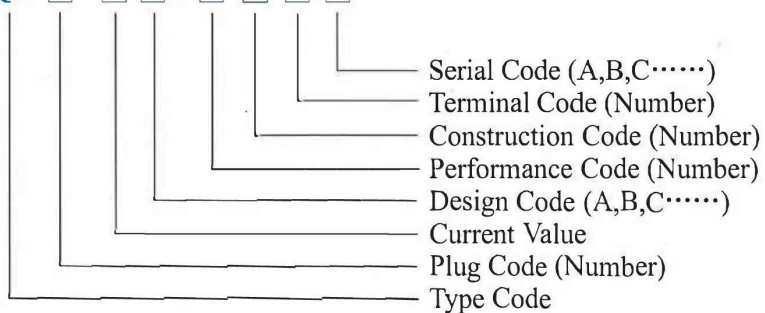


### Applications and Feature

QP series PTC starter is available for the application of hermetical refrigerating compressor motor. It is designed with simple construction, no contactor, without spark and mechanical noise on operating.

### Code Indication

EQP □ - □ □ - □ □ □ □



### Construction Code

Code	1	2	3	4	5	6
Construction	Semicircle	Sqare	Rectangle	Cirde	New Semicircle	Combined Type

### Terminal Tode

Tode	0	1	2	3	4	5	6	7	8	9
Terminal	Single 6.3	Single 4.8	Double 6.3	Double 4.8	Double Bending 6.3	Double Bending 4.8	single Bending 4.8	Triple 6.3	Leading wire with connector 6.3	Quadruple 6.3

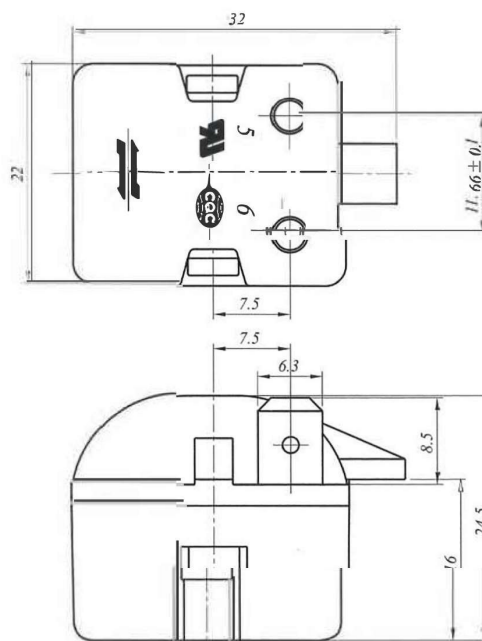
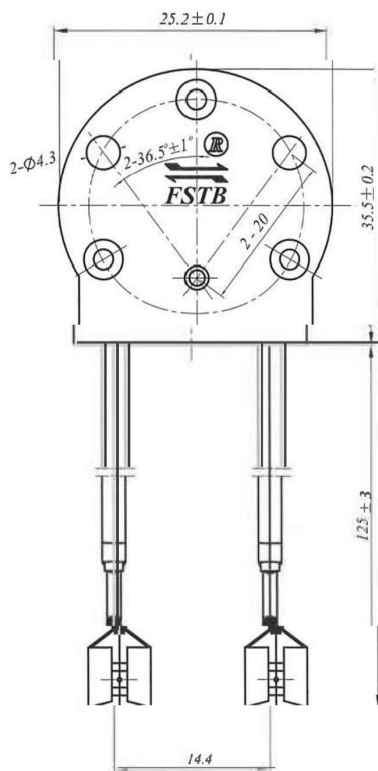
## EQP SERIES

## PTC STARTER

## Technical Specifications

Normal Resistance (Ω)	Starting Time (S)	Reset Time ≤(S)	Power ≤(W)	Max.Working Volts/Current (V,A)	Overload Voltage	Life	Insulation Resistance	Dielectric Strength
4.7±30%	0.6~4.0	70	3.5	180V,12A	270V,3Mim	more than 200,000 cycles	≥100MΩ	AC50Hz 150V for 1 min
6.8±25%	0.6~4.0	70	3.5	200V,10A	300V,3Mim			
12±4/-3	0.1~2.0	100	3.5	350V,8A	500V,3Mim			
15±20%	0.1~1.5	70	3.5	250V,8A	600V,3Mim			
22±20%	0.1~1.5	90	3.5	300V,7A	450V,3Mim			
33±20%	0.4~1.5	65	3.5	355V,6A	500V,3Mim			
38±30%	0.5~1.5	120	4.5	400V,9A	800V,3Mim			
47±20%	0.1~1.2	60	3.5	400V,5A	600V,3Mim			
100±20%	1.0~3.0	60	2	410V,2.5A	600V,3Mim			

## Construction/Dimensions





# ACCESSORIES



WXN005



WKP003



WKP004



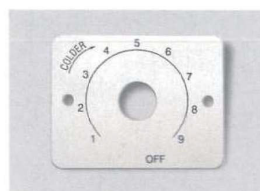
WKP005



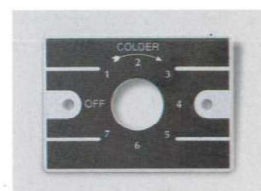
KP002



KP006



KP007



WKB001



XN001A



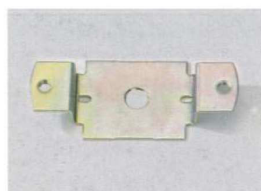
XN001



WAN002



WXN002B



WZJ001



WWZ001



JD702



WLD001



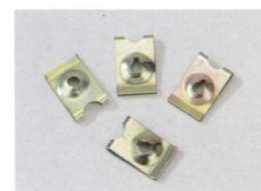
BT001



BT001 JT002



JT001



WDJ001



WLD007



WLD008



[illegible]

[illegible]

## Celsius to Fahrenheit Conversion Chart

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
300	572	85	185	33	91.4	8	46.4	-17	1.4
290	554	80	176	32	89.6	7	44.6	-18	-0.4
280	536	75	167	31	87.8	6	42.8	-19	-2.2
270	518	70	158	30	86	5	41	-20	-4
260	500	65	149	29	84.2	4	39.2	-21	-5.8
250	482	60	140	28	82.4	3	37.4	-22	-7.6
240	464	55	131	27	80.6	2	35.6	-23	-9.4
230	446	51	123.8	26	78.8	1	33.8	-24	-11.2
220	428	50	122	25	77	0	32	-25	-13
210	410	49	120.2	24	75.2	-1	30.2	-26	-14.8
200	392	48	118.4	23	73.4	-2	28.4	-27	-16.6
190	374	47	116.6	22	71.6	-3	26.6	-28	-18.4
180	356	46	114.8	21	69.8	-4	24.8	-29	-20.2
175	347	45	113	20	68	-5	23	-30	-22
160	320	44	111.2	19	66.2	-6	21.2	-31	-23.8
150	302	43	109.4	18	64.4	-7	19.4	-32	-25.6
140	284	42	107.6	17	62.6	-8	17.6	-33	-27.4
135	275	41	105.8	16	60.8	-9	15.8	-34	-29.2
130	266	40	104	15	59	-10	14	-35	-31
125	257	39	102.2	14	57.2	-11	12.2	-36	-32.8
115	239	38	100.4	13	55.4	-12	10.4	-37	-34.6
110	230	37	98.6	12	53.6	-13	8.6	-38	-36.4
105	221	36	96.8	11	51.8	-14	6.8	-39	-38.2
100	212	35	95	10	50	-15	5	-40	-40
95	203	34	93.2	9	48.2	-16	3.2	-50	-58

For greater accuracy use formulas below:

To convert from Celsius to Fahrenheit :  $^{\circ}\text{F} = 9 / 5 \times ^{\circ}\text{C} + 32$

To convert from Fahrenheit to Celsius :  $^{\circ}\text{C} = 5 / 9 \times ( ^{\circ}\text{F} - 32 )$

$^{\circ}\text{C}$  = temperature in degrees Celsius

$^{\circ}\text{F}$  = temperature in degrees Fahrenheit



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