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FOTEK

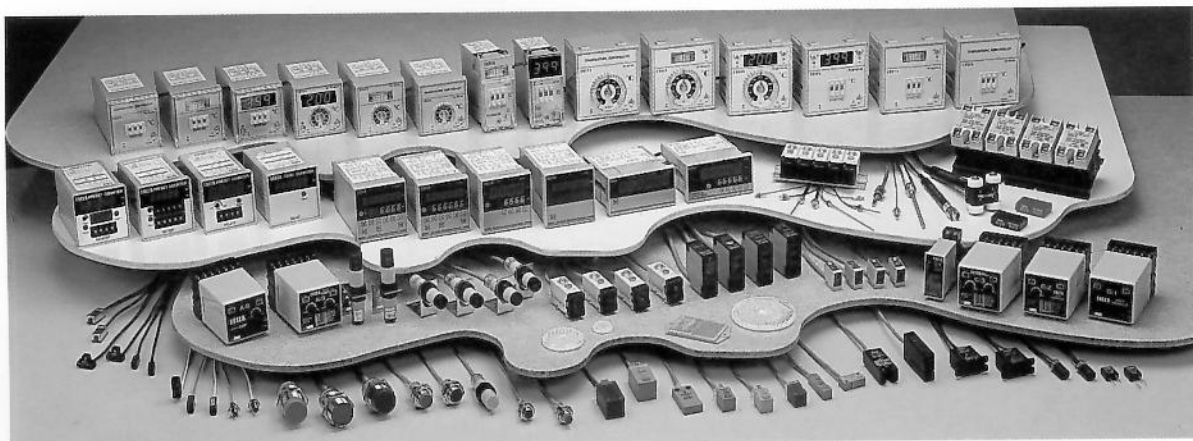
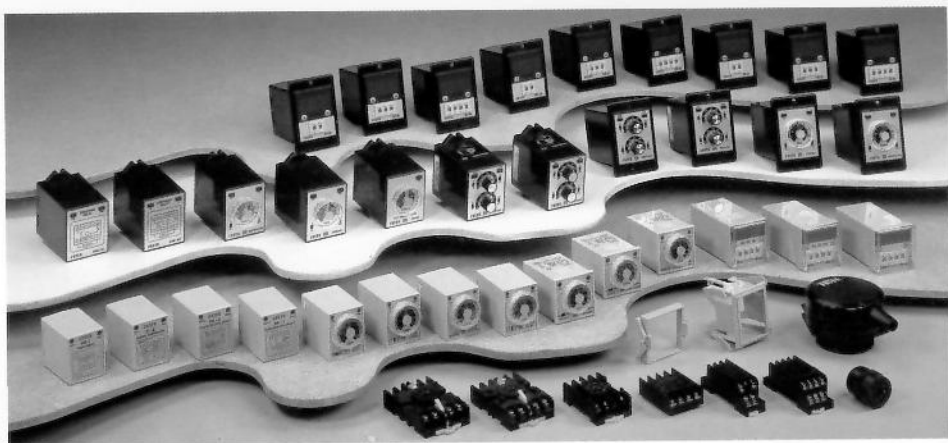
TEMPERATURE
CONTROLLER



陽明電機股份有限公司

— 自動化控制器材專業製造廠 —

FOTEK CONTROLS



陽明電機股份有限公司 FOTEK CONTROLS CO.,LTD.

成立1985年

Established 1985

主要產品

Main product

- 計時器
- 計數器
- 轉速表
- 線速表
- 電壓表
- 電流表
- 光電開關
- 近接開關
- 磁簧開關
- 固態繼電器
- 溫度控制器
- 液位控制器
- 欠逆相保護器
- 馬達起動器

- Timer
- Counter
- Tachometer
- Line Speed Meter
- Voltage Meter
- Current Meter
- Photo Sensor
- Proximity Sensor
- Reed Sensor
- Solid State Relay
- Temperature Controller
- Floatless Level Relay
- Phase Relay
- Y- Δ Starter

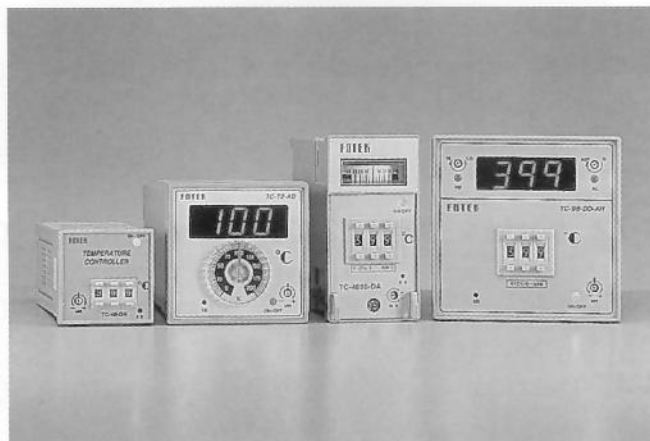
經營理念：

- 追求永續經營
- 客戶是永遠的朋友
- 堅持品質、追求至善
- 不斷研發生產
物超所質值的產品
- 責任、務實、創新、
邁向未來

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- * High Reliability by S.M.T. & TQC.
- * With Cold Junction Compensation,
Suited to Operated at -20 C ~ +60 C
- * All type with Sensor Break Alarm LED.
- * With P+D Control to Control Temperature Easy.
- * High Accuracy of Displaying & Setting
Less than 0.5% of F.S.
- * With Stand-by/Over-heat Alarm.(Optional).
- * With Heater Break Alarm.(Optional).
- * 表面貼焊技術及全面品質管，提供最可靠性產品
- * 具冷接點補償，適用於周圍溫度 -20 C ~ +60 C
- * 全機種具有測溫體斷線警報
- * P+D 控制易於控溫
- * 高精度的顯示及設定精度，低於全刻度 0.5%
- * 具有待機 / 過熱警報功能 (選擇機種)
- * 具有加熱器斷線警報功能 (選擇機種)



Guiding of Model

Ex. TC - 4896 D A - PT - R 3 - F - S - A
 ① ② ③④ ⑤ ⑥⑦ ⑧ ⑨ ⑩

① Product 產品代號

TC = Temperature Controller

② Outline 外型

48 = 48(W) X 48(H) mm X mm

4896 = 48(W) X 96(H) mm X mm

72 = 72(W) X 72(H) mm X mm

96 = 96(W) X 96(H) mm X mm

③ Method of Setting 設定方式

D = Digital Switch

A = Trimmer

④ Method of Display 顯示方式

A = Analog Deviation Meter

D = Digital LED Display

N = Without Display

⑤ Type of Sensor 感溫線種類

PT = RTD PT-100 Ω

J = J Type Thermocouple

Non = K Type Thermocouple

⑥ Method of Output 輸出方式

R = Relay (5A/250VAC)

V = Voltage (20mA/12V)

L = Linear (4~20mA)

⑦ Range of Setting 設定範圍

Digital Switch

0 = -99 ~ + 99

1 = 0 ~ +199

3 = 0 ~ +399

5 = 0 ~ +599

9 = 0 ~ +999

11 = 0 ~ +1199

Trimmer

05 = -50 ~ +50

1 = 0 ~ +100

2 = 0 ~ +200

4 = 0 ~ +400

6 = 0 ~ +600

12 = 0 ~ +1200

⑧ Unit of Degree 刻度單位

F = F

non = C

⑨ Method of Control 控制方式

S = ON/OFF

non = P+D ON/OFF

⑩ Alarm 警報

A = With Stand-by / Over Heat Alarm

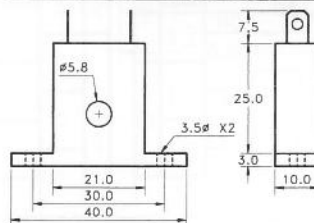
AH = With Stand-by / Over Heat Alarm
& Heater Break Alarm

Non = Without Alarm

General Data	Sensor Type	K < CA > , J < IC > or PT-100 Ω
	Output Method	Relay < 5A / 250VAC > , Voltage < 20mA / 12V > , Linear < 4~20mA >
	Control Method	P+D ON/OFF , ON/OFF or Proportion
	Proportion Band	Appro 2.5% of F.S.
	Cycle Time	2 Sec or 20 Sec < ON+OFF >
	Manual Reset	Trimmer , Range : 10
	Unit of Degree	C or F
AL Alarm	Setting Method	Trimmer (AL)
	Setting Range	0 ~ +50 , 0 ~ -50 or -50 ~ +50 of Setting Value
	Output Method	Relay , 0.5A/250VAC
HB Alarm	Setting Method	Trimmer (HB)
	Setting Range	0.5A~25A ; 1.0A~50A
	Output Method	Relay , 0.5A/250VAC
Electrical Data	Power Supply	110 / 220 VAC 20% 50 / 60Hz
	Current Consumption	2.5VA max.
	Insulation Resistance	Over 50M Ω /500 VDC Between Power And Another Terminal
	Dielectric Strength	Over 2.5KV / 1min Between Power And Another Terminal
Mechanical Data	Operating Temp./Hum	-20 C ~+60 C ; 35%~85% RH
	Vibration Resistance	10~55Hz / 1.5mm , 2Hrs in X.Y.Z Direction
	Panel Thickness	1.0~8.0mm

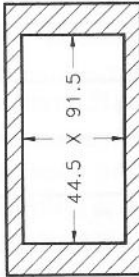
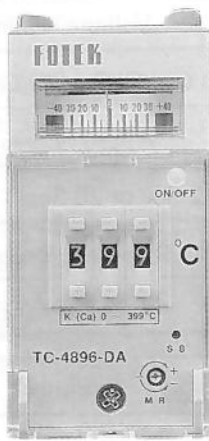
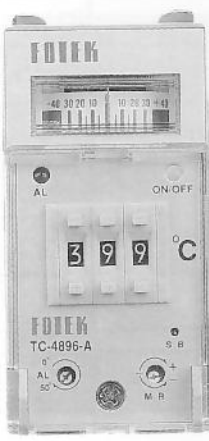
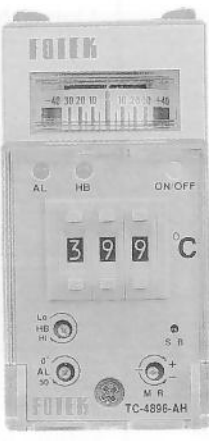
Attachment

CT provided with Heater Break Alarm type only.
只有加熱器斷線警報功能機種附 CT



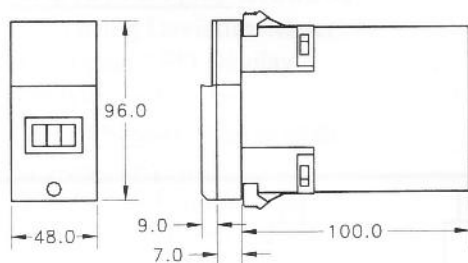
TC-4896 Series

DIN 48X48 Temperature Controller

	Model	TC-4896-DA-□-□	TC-4896-DA-□-□-A	TC-4896-DA-□-□-AH
	DIN48 X 96 			
	Alarm	Non	AL Alarm	AL+HB
Display	Method	Analog Deviation Meter		
	Tolerance	1.0% of F.S.		
	Range	40		
Setting	Method	Digital Switch < 3 Digits >		
	Tolerance	0.5% of Setting Range		
	Range	-99~+99 , 0~199 , 0~399 , 0~599 , 0~999		

Dimension & Fixed Hole

Outline

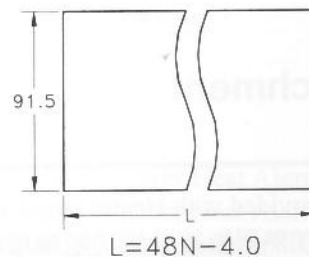
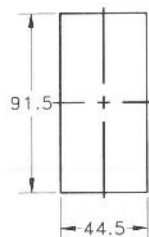


Fixed Hole (Thickness 1~8mm)

Single Cutout Multi Juxtaposed Cutout

單個開孔

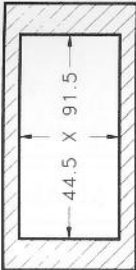
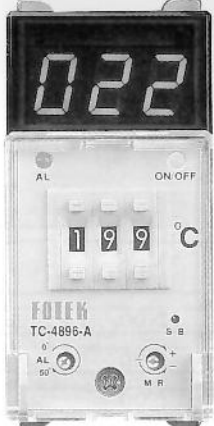
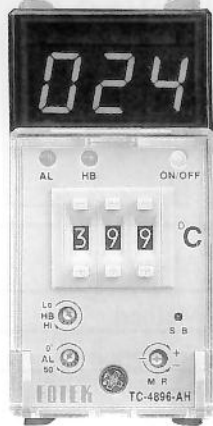
多個並排開孔



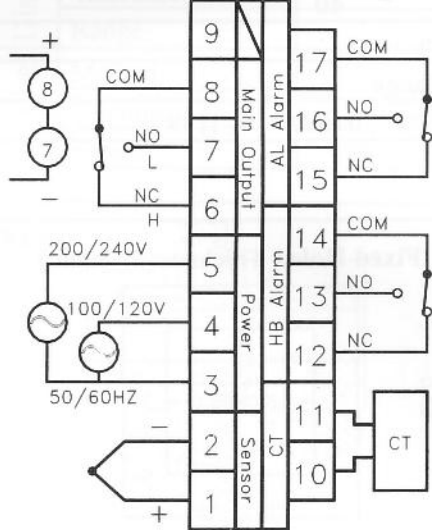
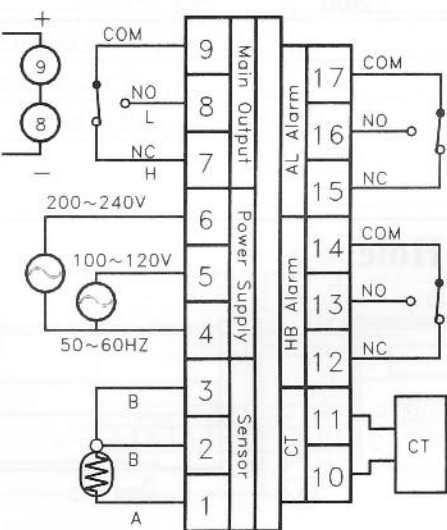
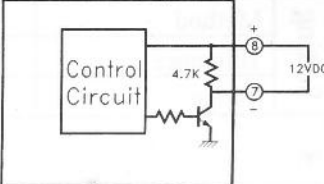
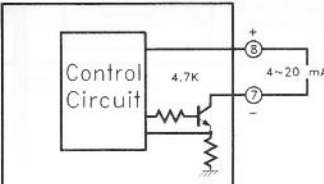
N	2	3	4	5	6
L	92.0	140.0	188.0	236.0	284.0

DIN 48X48 Temperature Controller

TC-4896 Series

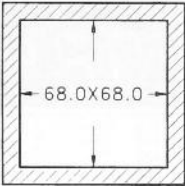
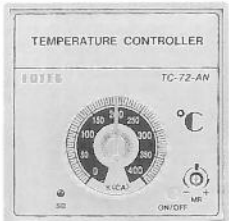
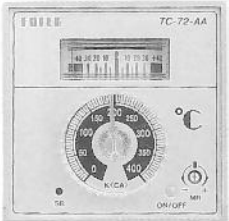
Model	TC-4896-DD-□-□	TC-4896-DD-□-□-A	TC-4896-DD-□-□-AH
Outline 			
Alarm	Non	AL Alarm	AL+HB
Display	Method	14 mm 7 Segment Green LED	
	Tolerance	0.5% of F.S. + 1 Digit	
	Range	-99~+99, 0~999	
Setting	Method	Digital Switch < 3 Digits >	
	Tolerance	0.5% of Setting Range	
	Range	-99~+99, 0~199, 0~399, 0~599, 0~999	

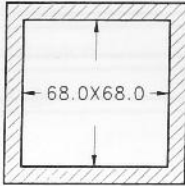
■ Connection Diagram & Output Circuit

Thermocouple Type < K or J >	RTD PT-100 Ω Type	Voltage Output
		 

TC-72 Series

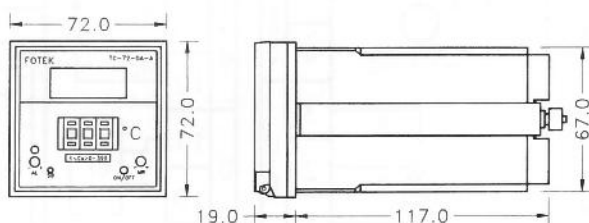
DIN 72X72 Temperature Controller

Model	TC-72-AN-□-□	TC-72-AA-□-□	TC-72-AA-□-□- A
Outline			
Alarm	Non	Non	AL Alarm
Display	Method	Non	Analog Deviation Meter
	Tolerance	Non	1.0% of F.S.
	Range	Non	40
Setting	Method	Trimmer < Variable Resister >	
	Tolerance	1.0% of Setting Range	
	Range	0~100 , 0~200 , 0~400 , 0~600 , 0~1200	

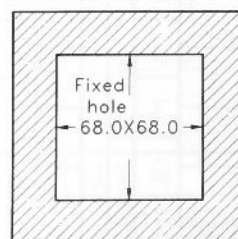
Model	TC-72-DN-□-□	TC-72-DA-□-□	TC-72-DA-□-□- A
Outline			
Alarm	Non	Non	AL Alarm
Display	Method	Non	Analog Deviation Meter
	Tolerance	Non	1.0% of F.S.
	Range	Non	40
Setting	Method	Digital Switch	
	Tolerance	0.5% of Setting Range	
	Range	-99 ~+99 , 0~199 , 0~399 , 0~599 , 0~999 , 0~1199	

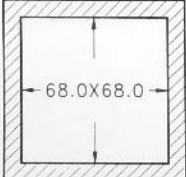
Dimension & Fixed Hole

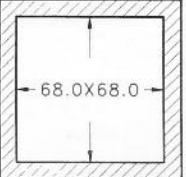
Outline

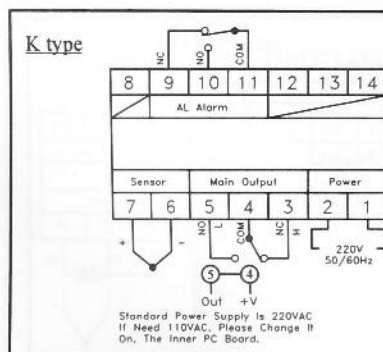


Fixed Hole (Thickness 1~8mm)

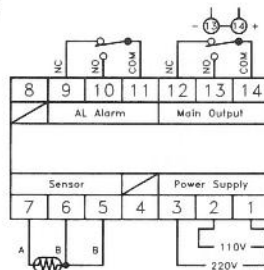


Model	TC-72-AD-□-□	TC-72-AD-□-□-A
Outline 		
Alarm	Non	AL Alarm
Display	14mm 7 Segment Green LED	
Tolerance	0.5% of F.S.	
Range	0~999 or 0~1999	
Setting	Trimmer < Variable Resister >	
Tolerance	1.0% of F.S.	
Range	0~100 , 0~200 , 0~400 , 0~600 , 0~1200	

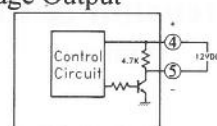
Model	TC-72-DD-□-□	TC-72-DD-□-□-A
Outline 		
Alarm	Non	AL Alarm
Display	14mm 7 Segment Green LED	
Tolerance	0.5% of F.S.	
Range	-99~99 , 0~999 or 0~1999	
Setting	Digital Switch	
Tolerance	0.5% of Setting Range	
Range	-99 ~+99 , 0~199 , 0~399 , 0~599 , 0~999 , 0~1199	



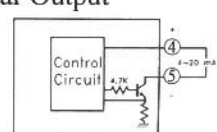
PT type



Voltage Output

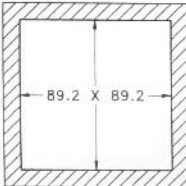


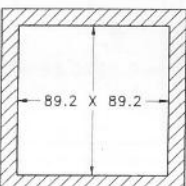
Linear Output



TC-96 Series

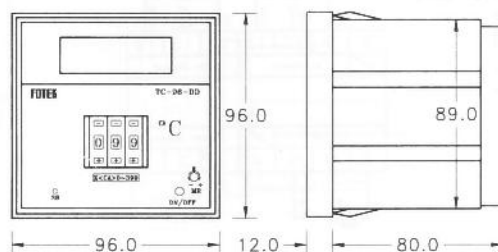
DIN 96X96 Temperature Controller

	Model	TC-96-AD-□-□	TC-96-AD-□-□-A	TC-96-AD-□-□-AH
Outline	DIN96 X 96			
				
Alarm		Non	AL Alarm	AL+HB Alarm
Display	Method	14mm 7 Segment Green LED		
	Tolerance	0.5% of F.S.		
	Range	-99 ~+99 , 0~999 , 0~1200		
Setting	Method	Trimmer < Variable Resistor >		
	Tolerance	1.0% of F.S.		
	Range	-50 ~+50 , 0~100 , 0~200 , 0~400 , 0~600 or 0~1200		

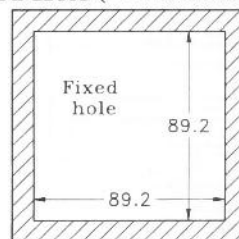
	Model	TC-96-DD-□-□	TC-96-DD-□-□-A	TC-96-DD-□-□-AH
Outline	DIN96 X 96			
				
Alarm		Non	AL Alarm	AL+HB Alarm
Display	Method	14mm 7 Segment Green LED		
	Tolerance	0.5% of F.S.		
	Range	-99 ~+99 , 0~999 , 0~1200		
Setting	Method	Digital Switch		
	Tolerance	0.5% of F.S.		
	Range	-99 ~+99 , 0~199 , 0~399 , 0~599 , 0~999 , 0~1199		

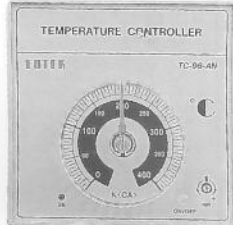
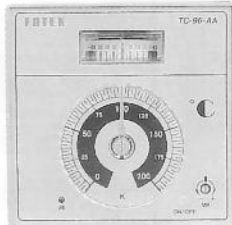
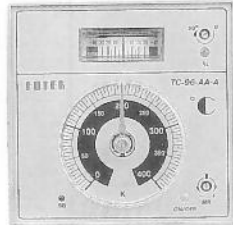
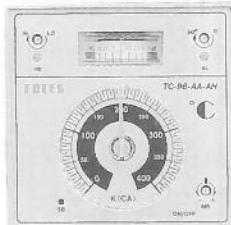
Dimension & Fixed Hole

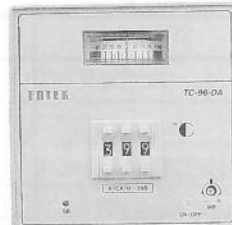
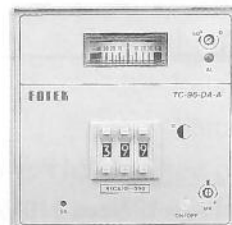
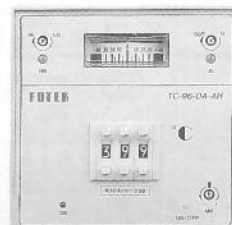
Outline

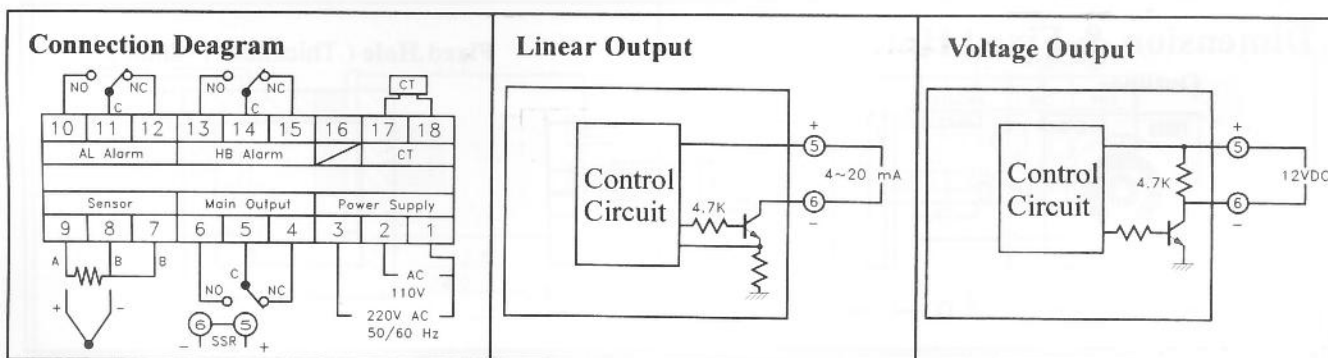


Fixed Hole (Thickness 1~8mm)



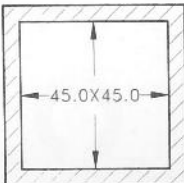
TC-96-AN-□-□	TC-96-AA-□-□	TC-96-AA-□-□-A	TC-96-AA-□-□-AH
			
Non	Non	AL Alarm	AL+HB Alarm
Non	Analog Deviation Meter		
Non	1.0% of F.S.		
Non	40		
Trimmer < Variable Resister >			
1.0% of F.S.			
-50 ~+50 , 0~100 , 0~200 , 0~400 , 0~600 or 0~1200			

TC-96-DN-□-□	TC-96-DA-□-□	TC-96-DA-□-□-A	TC-96-DA-□-□-AH
			
Non	Non	AL Alarm	AL+HB Alarm
Non	Analog Deviation Meter		
Non	1.0% of F.S.		
Non	40		
Digital Switch			
0.5% of F.S.			
-99 ~+99 ,0~199 ,0~399 ,0~599 ,0~999 ,0~1199			

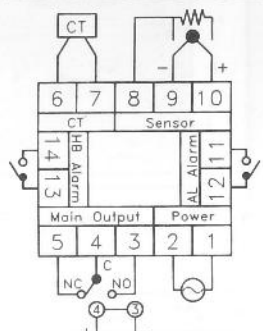
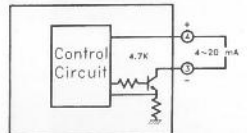
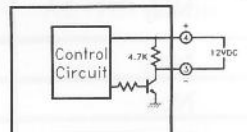


TC-48 Series

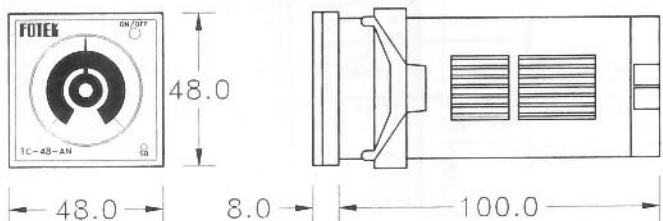
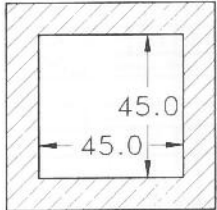
DIN 48X48 Temperature Controller

	Model	TC-48-AN-□-□	TC-48-DN-□-□	TC-48-DD-□-□	TC-48-DD-□-□-AH
Outline	DIN48 X 48				
					
	Alarm	Non	Non	Non	AL+HB Alarm
Display	Method	Non	Non	0.36" 7-Segment Green LED	
	Tolerance	Non	Non	0.5% of F.S.	
	Range	Non	Non	-99~+99 , 0~999	
Setting	Method	Trimmer	Digital Switch		
	Tolerance	1.0%	0.5% of Setting Range		
	Range	100 , 200 , 400	-99 ~+99 , 0~199 , 0~399 , 0~599 , 0~999		

Connection Diagram

K / J & PT-100 Type	Linear Output
 Standard Power Supply Is 220VAC , If Need 110VAC , Please Change It On The Inner PC Board.	
	Voltage Output 

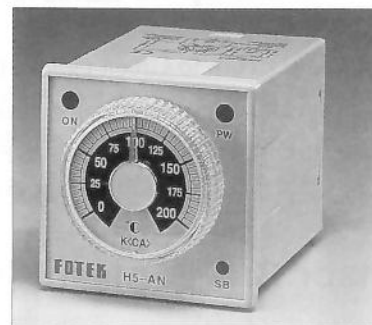
Dimension & Fixed Hold

Dimension & Fixed Hole	Fixed Hole (Thickness 1~8mm)
Outline 	

DIN 48X48 TEMPERATURE CONTROLLER

H5-AN series

- ☆ DIN 48X48
- ☆ All Type With Sensor Break Alarm LED
- ☆ With Cold Junction Compensation,
Suited To Operated At $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$.
- ☆ Setting Accuracy Less Than 1.0% of F.S.
- ☆ With P+D Control To Control Temperature Easy.



Specification

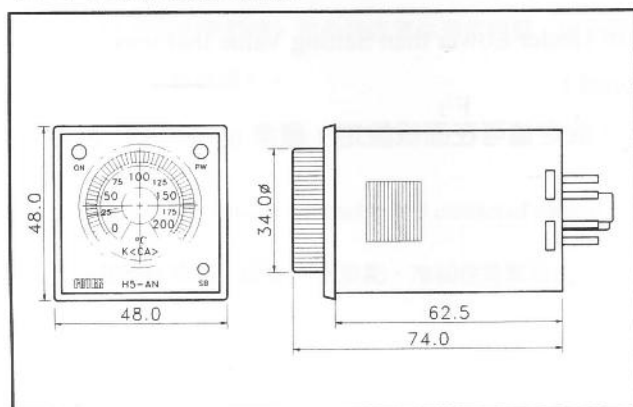
Model	H5 - AN - □□ - □
Sensor Type	K < CA > or J < 1C >
Control Method	P+D ON/OFF or ON/OFF
Output Method	Relay < 5A/250 VAC > or Voltage < 20 mA/12V >
Cycle Time	2 sec or 20 sec
Degree Unit	$^{\circ}\text{C}$
Power Supply	110 / 220 VAC 20%, 50/60Hz
Current Consumption	2.5 VA max.
Insulation Resistance	110M Ω / 500 VDC
Dielectric Strength	2.5 KV / 1 min
Vibration Resistance	10~55 Hz/1.5mm, 2Hrs
Operating Temp/Hum	-20 ~+60 C; 35%~85% RH
Weight	Appr. 185g

Guiding of Model

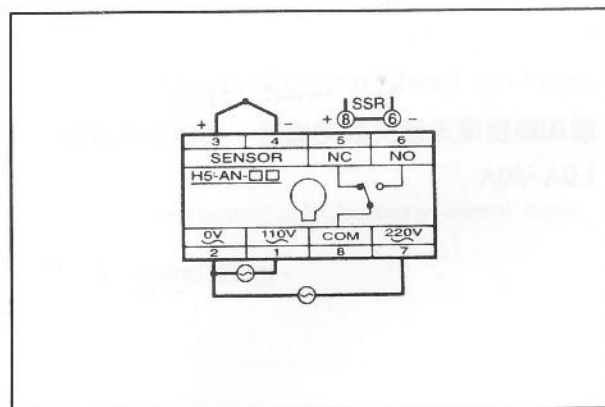
H5 - AN - R 4 - S
① ② ③ ④ ⑤

- ① Series
H5 series
- ② Method of Setting
AN = Trimmer Type
- ③ Method of Output
R = Relay < 5A/250 VAC >
V = Voltage < 20mA/12 VDC >
- ④ Range of Setting
1 = 0 ~ 100
2 = 0 ~ 200
4 = 0 ~ 400
- ⑤ Method of Control
Non = P+D ON / OFF
S = ON / OFF

Dimension



Connection Diagram



Control Output 控制輸出

ON/OFF LED Turn to Green Color , Control Output Turn ON.

綠色動作燈，表示控制輸出動作。

ON/OFF LED Turn to Red Color , Control Output Turn OFF.

紅色動作燈，表示控制輸出復歸。

but , Linear Output Type That ON/OFF LED Turn to Green Color.

但，線性輸出型，動作燈亮綠色。

Sensor Break Alarm (SB) 測溫體斷線指示燈

SB LED Turn ON when Sensor Break. 測溫體斷線時，SB 燈會亮著。

Stand-by/Over-heat Alarm (AL) 待機 / 過熱警報

SV = Setting Value 設定溫度值

AV1/AV2 = Stand-by/Over-heat Value 待機 / 過熱設定值

DIP Switch to Select Function

on Inner PC Board

功能選擇 DIP 開關在內部機板上。



Heater Break Alarm (HB) 加熱器斷線警報

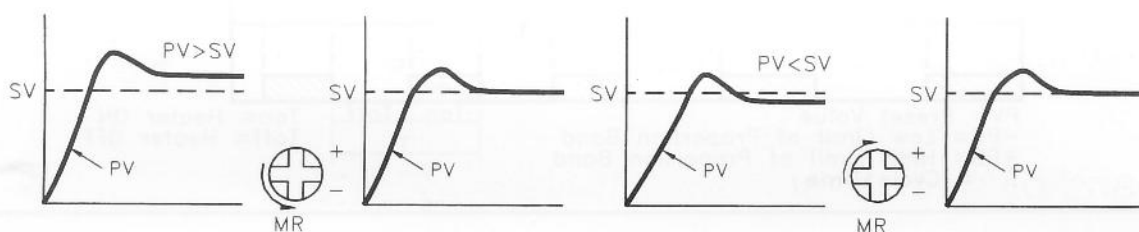
Heater Break Alarm Output Turns ON when the Current of Heater Lower than Setting Value that may set at Front Panel. (0.5A~25A standard/1.0A~50A Optioned)

當加熱器電流低於設定值時，加熱器斷線警報即動作，設定值可在面板設定，標準 0.5A~25A，訂做 1.0A~50A

Notice of Use

1.MR (Manual Reset) Adjuster may modify the difference between present value (PV) and setted value (SV) , IF $PV > SV$ may modify MR at Counterclockwise . IF $PV < SV$ may modify MR at Clockwise .

MR 調整鈕可修正控制溫度與設定溫度的差異，如果控制溫度高於設定溫度，MR 須反時鐘方向調整，如果控制溫度低於設定溫度，MR 須順時鐘方向調整。



2.Temperature Controller , Please don't install it in the Corrosive Gas or heavy Moisture Avoid the Ambient Temperature Varied rapidly or install it nearby Over . The installation site should be immunized against vibrating or shocking heavily.

請勿將本產品安裝在有腐蝕性氣體或濕氣太重的場所，請儘量避免周圍環境溫度急速變化，或按置火爐旁。安裝場所應避免激烈震動或衝擊。

3.Temperature Sensor , Please try best to separate the cable of sensor from the Power Lines or High Tension Lines to avoid noise interruption . If extend sensor cable , please use same type of compensation cable as sensor.

感溫線、請儘量避免與高壓或動力線結紮在一起，感溫線若須延長時，請務必使用同種補償導線。

4.PC Board , If pulled out please check the component condition before Putting PC board into case , please slide it from slot smoothly.

PC板抽出裝回時，務必檢查零件有無碰觸，端子彈片有無變形。裝回時，務須著導槽滑入，不可勉強插入，應調整角度輕易插入。

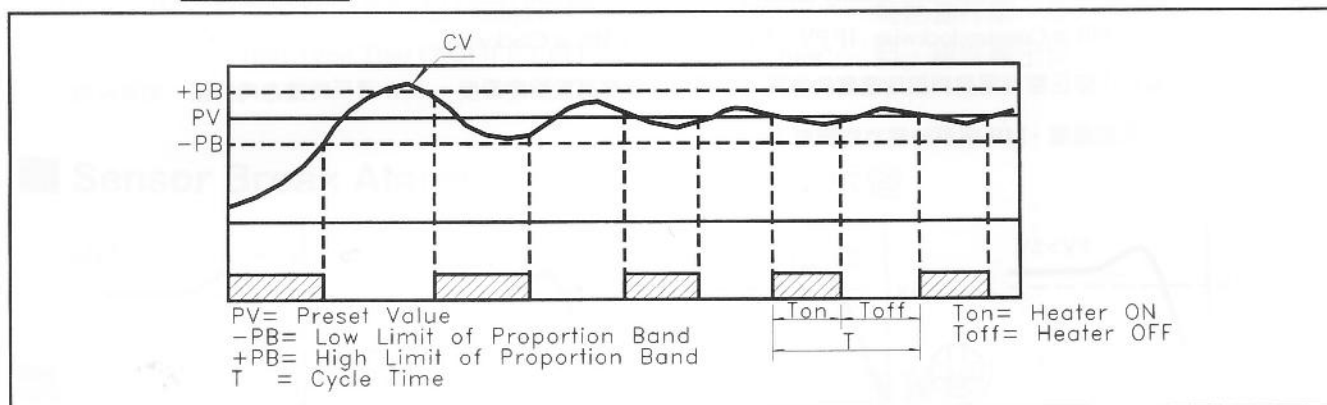
5.Heater Load please connect to NO contact of control output , Cooler Load please connect to NC contact of control output.

加熱性負載，請接 NO 接點，冷卻性負載請接 NC 接點，請勿錯接，以免控溫異常。

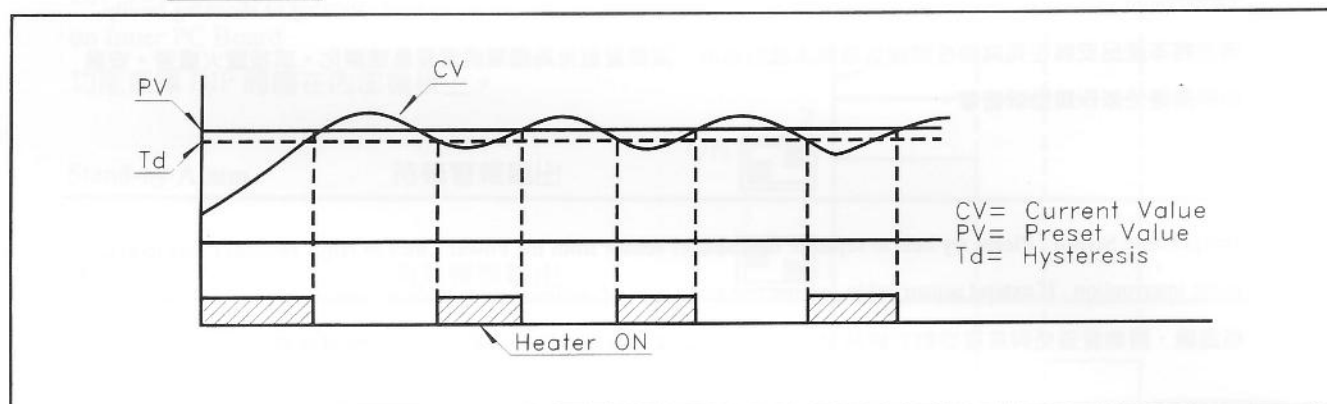
Illustration

Method of Control

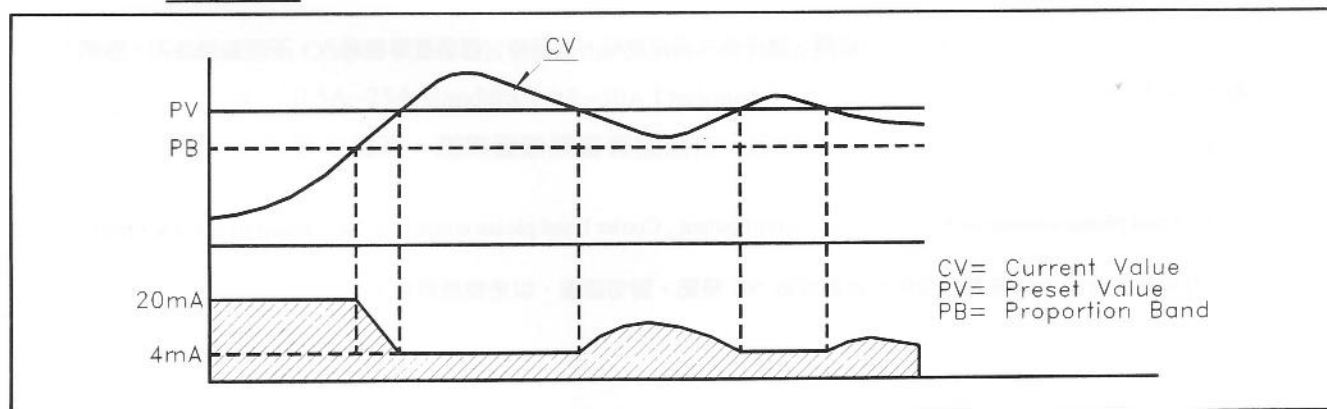
P+D ON/OFF



ON/OFF (S)

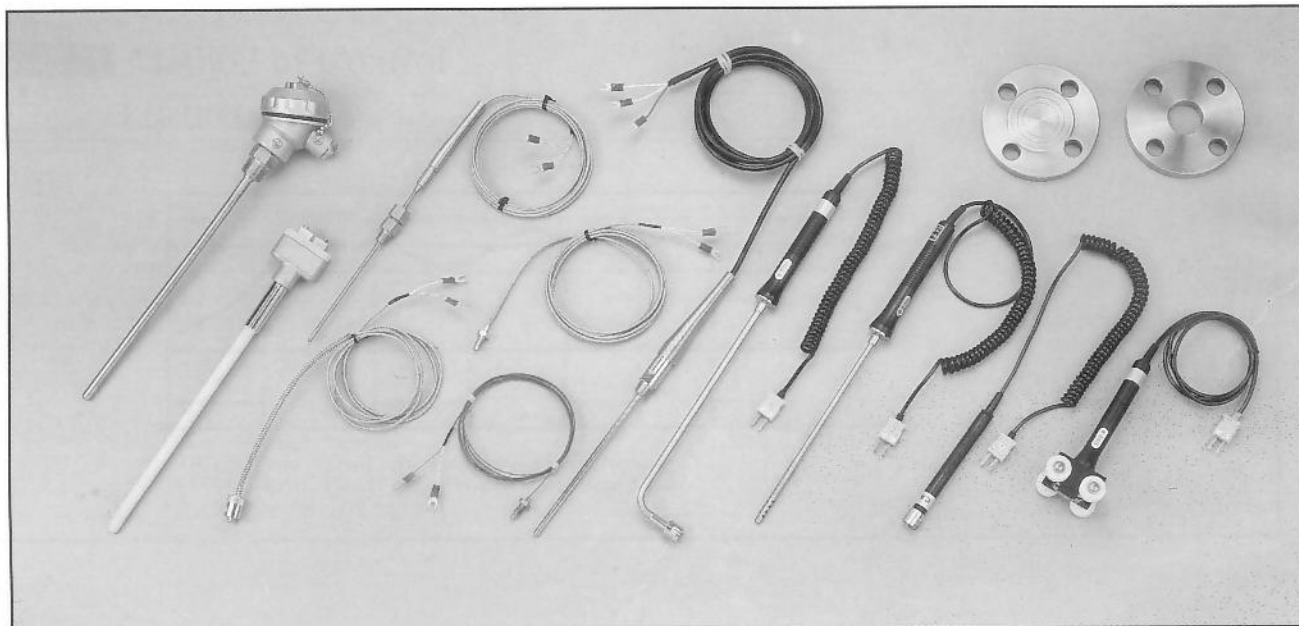


Proportion



Series Temperature Sensor





Guiding of Order

Lead Wire Type

Ex. **TS-1-K-3.2-150-T2-S1-1.5M-G**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

- ① **Product** 產品代號
TC = Temperature Controller
- ② **Shape** 外型
Refer to table-1
- ③ **Sensor Type** 測溫體種類
K = K Type Thermocouple
J = J Type Thermocouple
PT = RTD PT-100
- ④ **Diameter of Protection Tube** 保護管外徑
Refer to table-2
- ⑤ **Length of Protection Tube** 保護管長度
Refer to table-2
Unit = mm

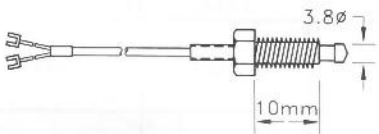
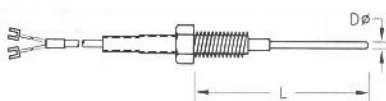
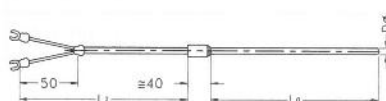
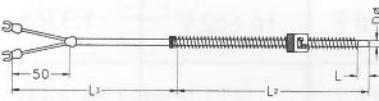
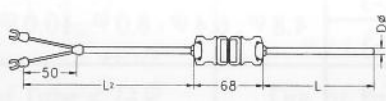
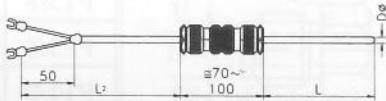
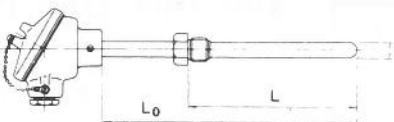
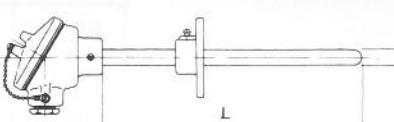
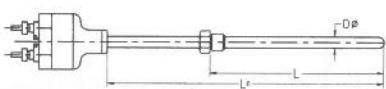
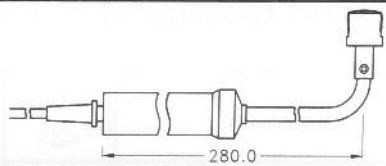
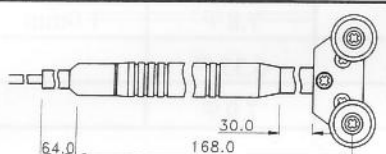
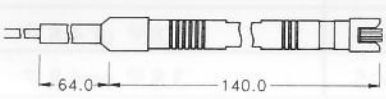
Terminal Type

Ex. **TS-8-K-6.4-150-T2-C1-U**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

- ⑥ **Fixed Method** 固定方式
Refer to Table-3-1 & Table-3-2
- ⑦ **Connection Method** 出線方式
Lead Wire Type Refer to Table-4-1
Terminal Type Refer to Table-4-2
- ⑧ **Length of Lead Wire** 出線長度
Lead Wire Type Refer to Table-4-1
- ⑨ **Shielded Method** 屏蔽方式
Refer to Table-5

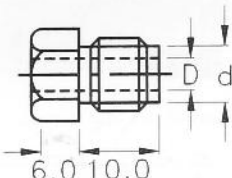
■ Shape Table-1

TS-1	Screw type	TS-2	Screw type	TS-3	Inserting type
					
TS-4	Push lock type	TS-5	Fast connector type	TS-6	Fast connector type
					
TS-7	Closed Terminal type	TS-8	Closed Terminal type	TS-9	Closed Terminal type
					
TS-10	Exposed terminal type	TS-11	Exposed terminal type	TS-12	Surface type
					
TS-13	Surface type	TS-14	Surface type	TS-N	Special type
				Except the above shape , we accept Your order to manufacture. 除上述形狀，我們可接受特殊形狀訂做。	

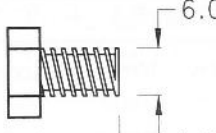
■ Dimension of Protection Tube Table-2

Specification	Data
Diameter	1.6φ, 3.2φ, 4.8φ, 6.4φ, 8.0φ, 10.0φ, 12.0φ, 15.0φ, 22.0φ
Length	Any Length is Available , Accept Order to Manufacture. Unit : mm

Fixed Method-Sealed Screw Type Table 3-1

Dimension	Outline <d>	Mark	Suited Tubule Diameter	Screw	
				O.D.	Pitch < mm >
	PT1/8	T-1	1.6 $\varnothing$, 3.2 $\varnothing$, 4.8 $\varnothing$	9.728 $\varnothing$	0.9071
	PF1/8	F-1			
	PT1/4	T-2	3.2 $\varnothing$, 4.8 $\varnothing$, 8.0 $\varnothing$, 10.0 $\varnothing$	13.157 $\varnothing$	1.3368
	PF1/4	F-2			
	PT3/8	T-3	4.8 $\varnothing$, 6.4 $\varnothing$, 8.0 $\varnothing$, 10.0 $\varnothing$, 12.0 $\varnothing$	16.662 $\varnothing$	1.3368
	PF3/8	F-3			
	PT1/2	T-4	6.4 $\varnothing$, 8.0 $\varnothing$, 10.0 $\varnothing$, 12.0 $\varnothing$, 15.0 $\varnothing$	20.955 $\varnothing$	1.8143
	PF1/2	F-4			
	PT3/4	T-6	8.0 $\varnothing$, 10.0 $\varnothing$, 12.0 $\varnothing$, 15.0 $\varnothing$	26.441 $\varnothing$	1.8143
	PF3/4	F-6			
	PT 1"	T-8	10.0 $\varnothing$, 12.0 $\varnothing$, 15.0 $\varnothing$, 22.0 $\varnothing$	33.249 $\varnothing$	2.3091
	PF 1"	F-8			

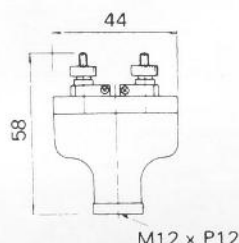
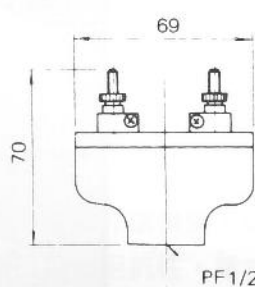
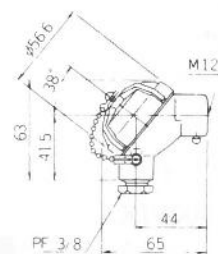
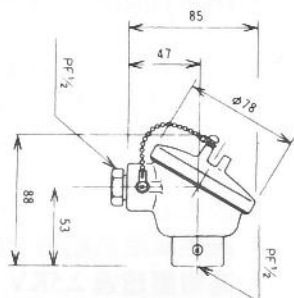
Fixed Method-Screw Nut Type Table 3-2

Dimension	Outline <d>	Mark	Suited Tubule Diameter	Screw	
				O.D.	Pitch <mm>
	M6	M-6	3.8 $\varnothing$	5.8 $\varnothing$	0.5mm
	M8	M-8	3.8 $\varnothing$ or 4.8 $\varnothing$	7.8 $\varnothing$	1.0mm
	W1/4	W-4	3.8 $\varnothing$ or 4.8 $\varnothing$	6.35 $\varnothing$	
	W5/16	W-5	3.8 $\varnothing$ or 4.8 $\varnothing$	7.9 $\varnothing$	

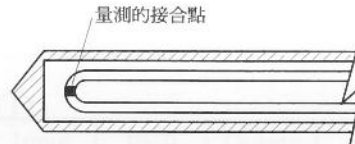
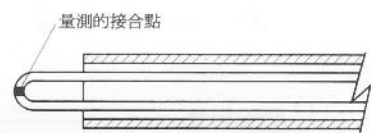
Connection Method-Lead Wire Type Table 4-1

Mark 代號	Feature 特性	Temp.max 最高耐溫	Core 導線蕊絨	Length of Lead Wire 出線長度
S1	Stainless Net Coat 不銹鋼被覆	150 C	0.32 X 4	Standard Length 標準長度 1M, 1.5M, 2M, 5M Any Length is Available Accept Order to Manufacture with Charge 任何長度皆可接受收費訂做。
S2			0.65 X 1	
T1	Tafolon Coat 鐵氟龍被覆	200 C	0.32 X 4	
T2			0.65 X 1	
P-1	PVC Coat	90 C	0.32 X 4	
P-2	PVC 被覆		0.65 X 1	

■ Connection Method-Terminal Type Table 4-2

E2	Exposed Type	E2	Exposed Type	C1	Closed Type	C2	Closed Type
	 Dia. of Tube $\leq 12 \phi$ 最大管徑 $\leq 12 \phi$	 Dia. of Tube $\leq 22 \phi$ 最大管徑 $\leq 22 \phi$	 Dia. of Tube $\leq 12 \phi$ 最大管徑 $\leq 12 \phi$	 Dia. of Tube $\leq 22 \phi$ 最大管徑 $\leq 22 \phi$			

■ Shielded Method Table 5

G	Grounded Type 接地型	U	Ungrounded Type 非接地型	E	Exposed Type 露出型
					

■ Remarks

Compensation Wire

Including PVC or TAFOLON Cable with $0.32 \phi \times 8$ or $0.65 \phi \times 2$

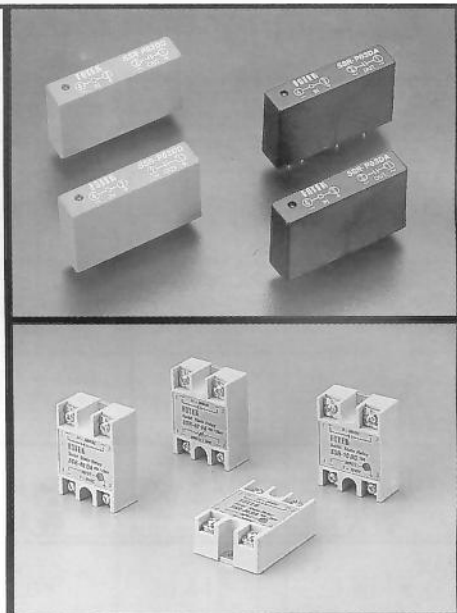
If you need to extend the Lead Wire of Temperature Sensor,
Compensation Wire is Required.

Sheathed Type Protection Tube

Protection Tube is Filled with MO_2 , If is Curvable.

Suited to Any Condition.

- * High Reliability by S.M.T. & TQC.
(Surface Mounting Technology)
- * High Isolation over than $50M\Omega$ / 500VDC
- * High Dielectric over than 2.5KV
- * Low Enable Current less than 7.5mA / 12VDC
C MOS IC or TTL Compatible.
- * Low EMI / EMI & Surge by Zero Cross Trigger Method.
- * High Surge Current Duration Over 410A / One Cycle (60Hz)
- * High Surge Voltage Duration by Snubber Circuit.
- * 表面貼焊技術及全面品質管理，提供最可靠的 SSR
- * 高絕緣阻抗超過 $50M\Omega$ / 500VDC
- * 高耐壓超過 2.5KV
- * 低觸發電流小於 7.5mA / 12VDC，可與 CMOS IC 及 TTL 匹配
- * 零點觸發方式避免電磁 / 高頻干擾
- * 高耐過電流，超過 410A / 一週期
- * 具緩衝迴路可吸收瞬間突波



Guiding of Model

Terminal Type

Ex. SSR-40 D A-H
 ① ② ③ ④ ⑤

① **Product**

SSR = Solid State Relay

② **Output Current**

05 = 5A

10 = 10A

25 = 25A

40 = 40A

③ **Input Voltage**

D = DC 3 ~ 32V

A = AC 80 ~ 250V

V = Trimmer

④ **Output Voltage**

D = DC 5 ~ 60V

A = AC 24 ~ 380V or AC 90 ~ 480V

⑤ **Output Voltage Range**

H = High Voltage Type < AC 90 ~ 480V >

Non = Standard Type < AC 24 ~ 380V >

PCB Type

Ex. SSR-P 03 D A
 ① ② ③ ④ ⑤

① **Product**

SSR = Solid State Relay

② **Mounting Method**

P = PCB Type

③ **Output Current**

03 = 3A

05 = 5A

④ **Input Voltage**

D = DC 3 ~ 32V

⑤ **Output Voltage**

D = DC 5 ~ 60V

A = AC 24 ~ 280V

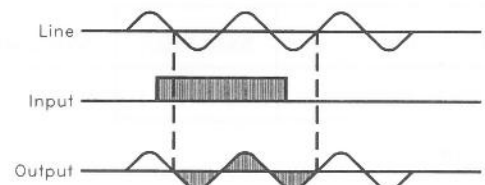
Control Method

Zero Cross Trigger Method

Output TURN ON or TURN OFF only on Zero Cross Point of sine wave , may avoid surge or EMI / RFI occurring.

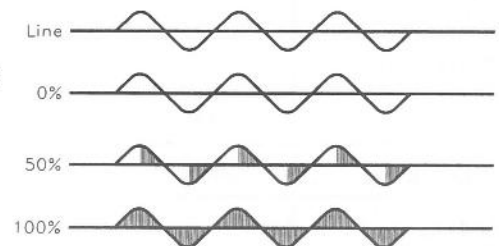
Specially suited to control resistive , capacitive and Non - saturated inductive loads.

輸出只在正弦波的零點才會動作或復歸，可避免生突波或 EM / RFI，特別適於控制阻抗性，電容性和不飽和感抗性等負載。



Variable Resistance Control Method < Trimmer Control / Method >

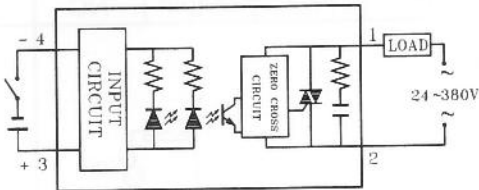
Power Output is Controlled by the Trigger Angle of Triac with Variable Resistor 250K Ω /110VAC, 500K Ω /220VAC
輸出功率以可變電阻 250K Ω /110VAC, 500K Ω /220VAC 控制 Triac 觸發角決定輸出功率。



Application Hints

Input	NPN	Output	NO	Input	PNP	Output	NO	Input	L.S.	Output	NO
Input	NPN	Output	NC	Input	PNP	Output	NC	Latch Circuit (AC to AC)			

■ Specifecation

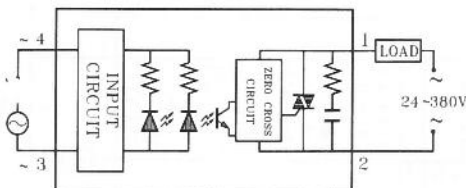
Type	Terminal Type					PCB Type
Model	SSR-10DA	SSR-25DA	SSR-40DA	SSR-25DA-H	SSR-40DA-H	SSR-P03DA
Rated Load Current	10A	25A	40A	25A	40A	3A
Input Data						
Operating Voltage	3~32VDC					
Min. ON / OFF Voltage	ON > 2.4V , OFF < 1.0V					
Trigger Current	7.5mA / 12V					
Control Method	Zero Cross Trigger					
Output Data						
Operating Voltage	24~380VAC			90~480VAC		24~480VAC
Min. Black Voltage	600 VAC < Repetive >					
Voltage Drop	1.6 V / 25 C					
Max. Durated Current	135A	275A	410A	275A	410A	135A
Leakage Current	3.0mA	3.0mA	3.0mA	5.0mA	5.0mA	3.0mA
Response Time	ON < 10ms , OFF < 10ms					
General Data						
Dielectric Strength	Over 2.5KVAC / 1min.					
Isolation Strength	Over 50MΩ / 500VDC					
Operating Temperature	-20 C ~ +80 C					
Housing Material	Intensive ABS					
Weight	Appr. 105g					Appr. 15g
Connection Diagram						
						



AC to AC Solid State Relay

SSR Series

■ Specifecation

Type	Terminal Type				
Model	SSR-10AA	SSR-25AA	SSR-40AA	SSR-25AA-H	SSR-40AA-H
Rated Load Current	10A	25A	40A	25A	40A
Input Data					
Operating Voltage	80~250VAC 50 / 60Hz				
Min. ON / OFF Voltage	ON > 45V , OFF < 35V				
Trigger Current	5.0mA / 110VAC max.				
Control Method	Zero Cross Trigger				
Output Data					
Operating Voltage	24~380VAC			90~480VAC	
Min. Black Voltage	600 VAC < Repetive >				
Voltage Drop	1.6 V / 25 C				
Response Time	ON < 20ms , OFF < 20ms				
Max. Durated Current	135A	275A	410A	275A	410A
Leakage Current	3.0mA	5.0mA	3.0mA	5.0mA	5.0mA
General Data					
Dielectric Strength	Over 2.5KVAC / 1min.				
Isolation Strength	Over 50M Ω / 500VDC				
Operating Temperature	-20 C ~ +80 C				
Housing Material	Intensive ABS				
Weight	Appr. 110g				
Connection Diagram					
					

■ Specification

Type	Terminal Type			PCB Type
Model	SSR-05DD	SSR-10DD	SSR-10DD-H	SSR-P03DD
Rated Load Current	5A	10A	10A	3A
Input Data				
Operating Voltage	3~32VDC			
Min. ON / OFF Voltage	ON > 2.4V , OFF < 1.0V			
Trigger Current	7.5mA / 12V			
Control Method	Isolated by photocouple			
Output Data				
Operating Voltage	5~60VDC		5~200VDC	5~60VDC
Min. Black Voltage	300VDC			
Voltage Drop	1.6 V / 25 C			
Response Time	1ms < ON+OFF >			
Max. Durated Current	15A	30A	30A	15A
Leakage Current	< 0.8mA			
General Data				
Dielectric Strength	Over 2.5KVAC / 1min.			
Isolation Strength	Over 50M Ω / 500VDC			
Operating Temperature	-20 C ~ +80 C			
Housing Material	Intensive PBT			
Weight	Appr. 105g			Appr. 15g
Connection Diagram				

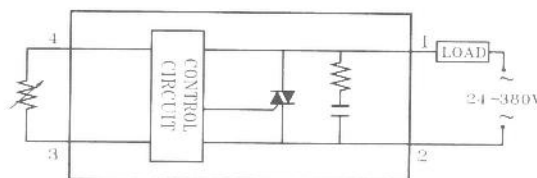


■ Specifecation

Type	Terminal Type		
Model	SSR-10VA	SSR-25VA	SSR-40VA
Rated Load Current	10A	25A	40A
Input Data			
Variable Resistance	Trimmer / 250k Ω to 110V , 500k Ω to 220V		
Control Method	Phase Control		
Output Data			
Operating Voltage	24~380VAC		
Min. Black Voltage	600 VAC < Repetive >		
Voltage Drop	1.6 V / 25 C		
Max. Durated Current	135A	275A	410A
Leakage Current	5.0mA	5.0mA	5.0mA
General Data			
Dielectric Strength	Over 2.5KVAC / 1min.		
Isolation Strength	Over 50M Ω / 500VDC		
Operating Temperature	-20 C ~+80 C		
Housing Material	Intensive PBT		
Weight	Appr. 105g		

Connection Diagram

Adjustable SSR



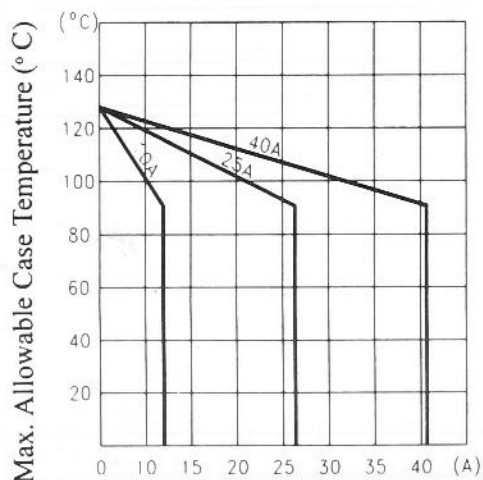
VR : 250KV Ω / 110VAC, 500K Ω / 220VAC

Curve of Characteristic

0

Max. Allowable Case Temperature

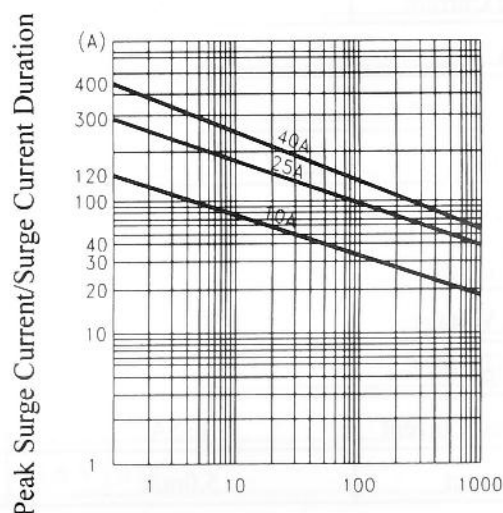
最高容許表面溫度



ON State Current (A) 動作電流

Peak Surge Current/Surge Current Duration

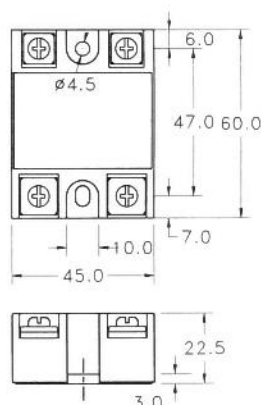
衝擊電流／承受次數



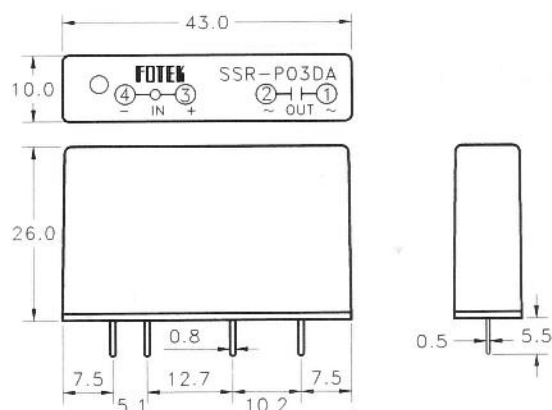
Surge Current Duration (Full cycles)

Dimension

Terminal Type

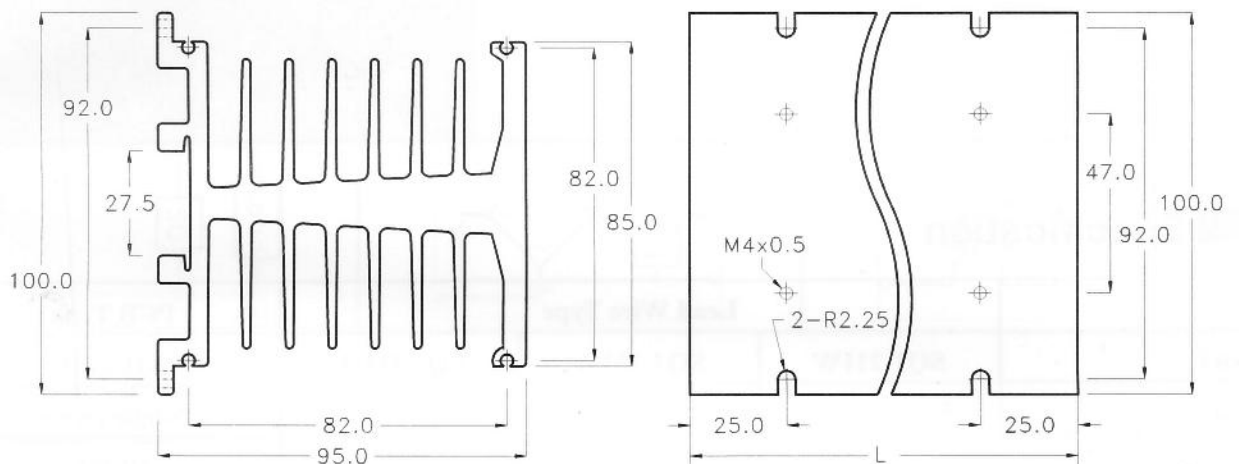


PCB Type

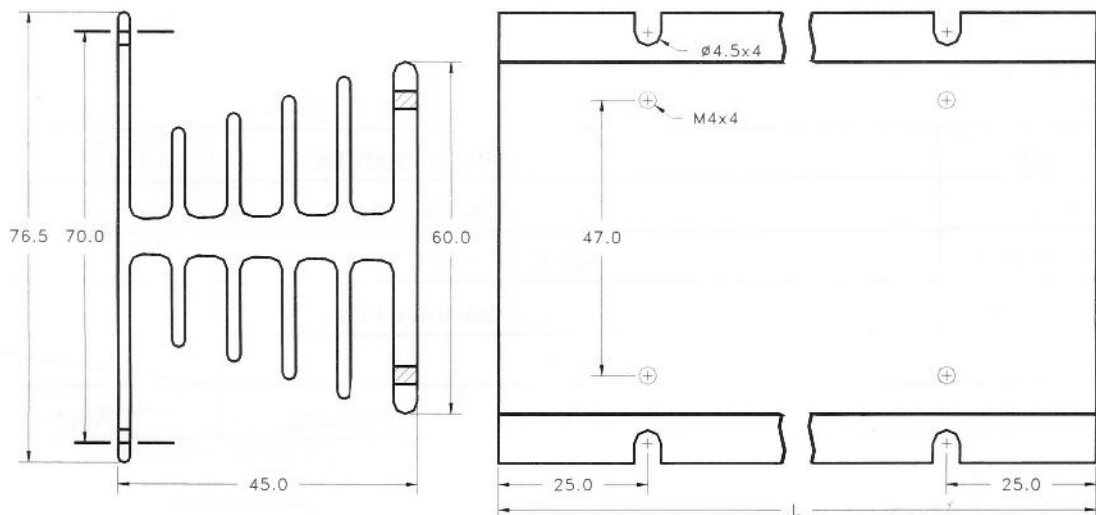


■ Dimension < Heat Sink >

Standard Type

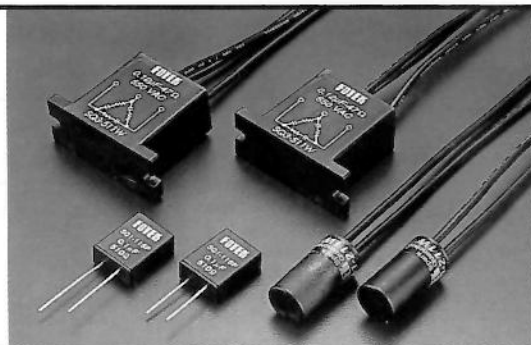


H Type



Model	Length (L)mm	Current Duration	pcs of SSR
HS-50H	50.0	10A max.	Single
HS-100H	100.0	25A max.	Twice
HS-150H	150.0	40A max.	Three
HS-200H	200.0		Four

- * To Extend The Life of Contact.
- * To Quench The Spark of Contact.
- * To Quench The Noise of Power Line.
- * To Quench The Surge of Voltage.



■ Specification

Type	Lead Wire Type			PCB Type
Model	SQ1-211W	SQ3-351W	SQ3-511W	SQ1-115P
Phase	Single phase	Three phase		Single phase
Operating Voltage max.	250VAC	300VAC	550VAC	250VAC
Value of Condenser	0.1 μ F	0.47 μ F	0.1 μ F	0.1 μ F
Value of Resister	100 Ω	100 Ω	100 Ω	510 Ω
Wattage of Resister	2W			
Frequency of Voltage	50 / 60 Hz			
Max. Durated Voltage	750 Vp-p / 1ms	900 Vp-p / 1ms	1500 Vp-p / 1ms	500 Vp-p / 1ms
Isolation Strength	100M Ω / 500VDC			
Dielectric Strength	2.5KVAC / 1min.			
Operating Temp/Hum.	-25 C ~ +70 C ; -35 C ~ +95 C			
Material of Housing	Intensive PBT			
Length of wire	10cm			
Weight	Appr.13g	Appr.35g	Appr.35g	Appr.4.5g

■ Guiding of Order

Ex. SQ 3 - 5 5 1 W
 ① ② ③ ④ ⑤ ⑥

① Product

② Phase

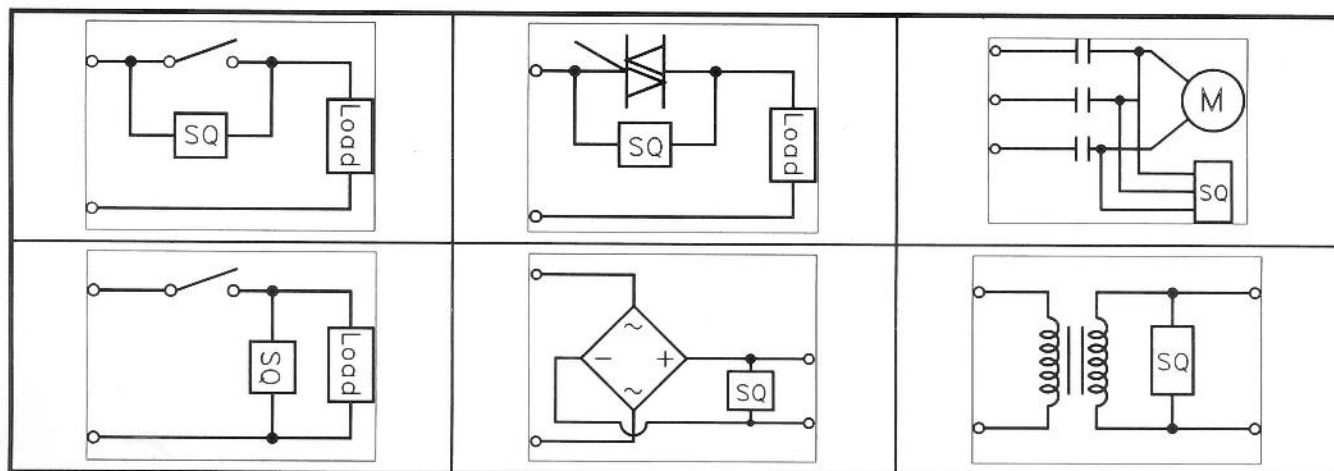
③ Operating Voltage

④ Value of Condenser

⑤ Value of Resister

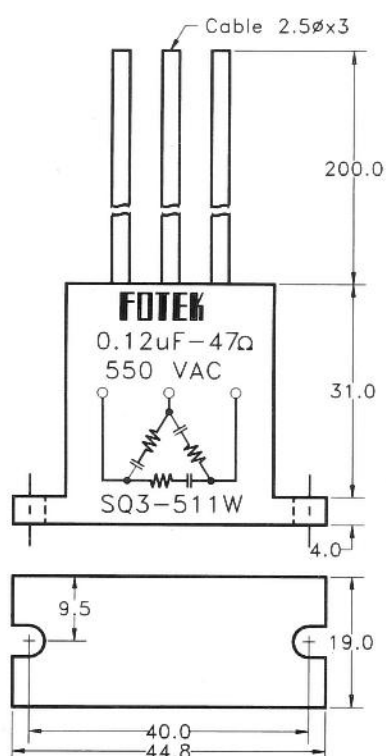
⑥ Mounting Method

Application

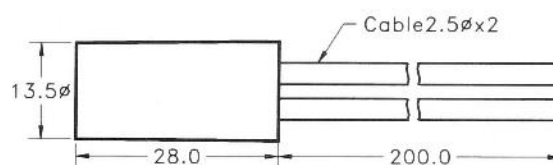


Dimension

SQ3-351W / SQ3-511W



SQ1-211W



SQ1-115P

