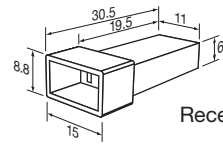


## Tab terminal series

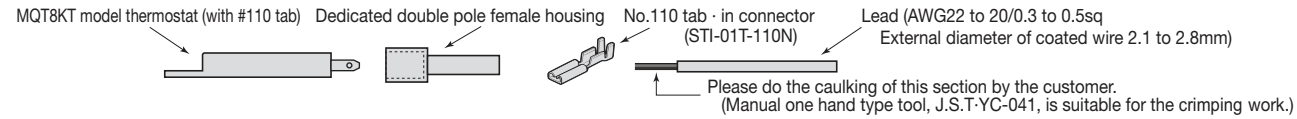
A #110 tab comes out from the thermostat main body, and a double pole receptacle is prepared as the corresponding connection.

Because the conventional type with a lead could not adapt itself to lead length cases different from the standard lead length (150mm), we changed it so that the customer can freely select the lead length.



Receptacle dimensional drawing

\*It is expected that the customer will make the connection of the lead, with the length required by the customer, and the female housing.



NOTE: Because No.110 tab in connector comes in a reel, connection by an automated machine is possible.

## Cross bar contacts

For ordinary contacts, the maximum current is indicated as 2 or 5 A max. etc. What is the minimum current? This is generally around 50~100 mA. Currents below this range are covered by special contacts for micro current.



The minimum current for ordinary contacts of our 2 Amp./5 Amp. series is also 50 mA. For currents below 50 mA, Crossbar contacts, called K contacts, are applied. Since the current range covered by cross contacts is 1~100 mA, 50~100 mA is covered both by ordinary contacts and micro capacity contacts. As this range is a recommended standard, ordinary contacts can be used for 20 mA as well, however, the possibility of contact failure will increase. Though the rating is indicated as 1~100 mA for crossbar contacts, these contacts may also be used in any amperage out of this range. 1~100 mA is the range that 100% conduction is

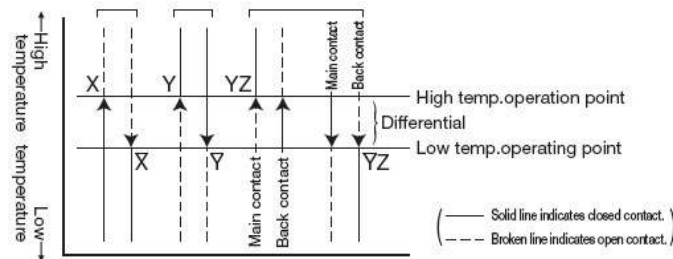
ensured. The structure of crossbar contacts is that of two noble metal contacts in trapezoidal shape, contacting with each other crosswise. The benefit of this structure is that there will be smaller possibility for contact failure because it can assure the large contact pressure per unit area.

## Contact type indication

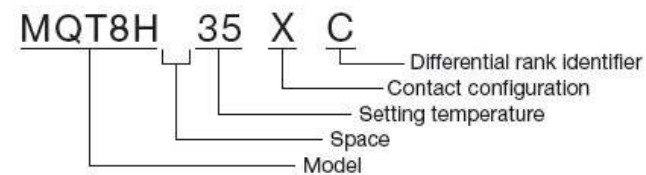
• Contacts which open when the temperature rises are designated as X, and those which close when the temperature rises are designated as Y. Shown in the diagram is the temperature at which the contacts operate when the temperature rises (the high temperature side).

• X [Xbar] and Y [Ybar] are used for contacts that operate when the temperature falls (the low temperature side). X [Xbar] indicates the contact that closes when the temperature falls. Y [Ybar] indicates the contact that opens when the temperature falls. Z indicates transfer contacts. XZ is the main contact that opens when the temperature rises. XZ [Xbar Z] is the main contact that closes when the temperature falls.

• C is the standard rank designation for X contacts and B is standard for Y contacts. Please consider X is C ranked and Y is B ranked, unless otherwise indicated.



## Model designation method



MQT8H K35XC represents a thermostat with crossbar contacts (K means crossbar contact). For 5 Amp. Series with a back contact, a model name will be, for example, M3 70XZB, where Z means contact with the back contact.



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## CONTROL THERMOSTATS (MQT)

### 2 AMP SERIES



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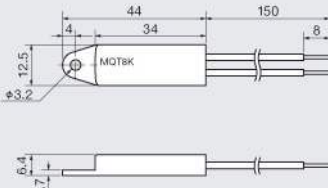

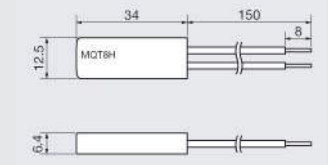

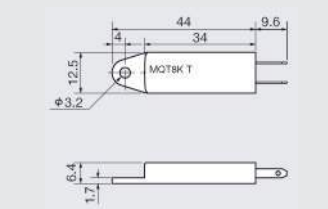

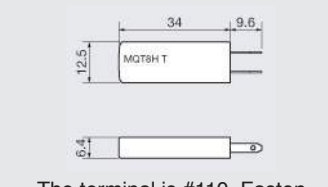

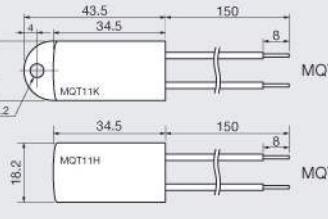

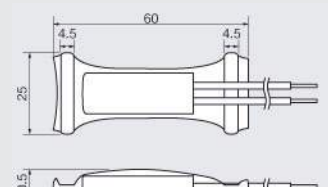
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## 2 Amp. Series

Ratings for Standard Temperatures.

(AC125V/2A, AC250V/1.3A, DC12V/2A, DC24V/1.3A) -10°C~110°C

All models are available with double sealed construction.

type	photo	drawing dimensions (mm)	features
<b>MQT8K</b> With a mounting tab Two lead wires			1.) Representative model of the 2 Amp. series. 2.) Long life and small differential thermostat. 3.) It can be mounted with only one screw. It is most suitable for outside air temperature detection.
<b>MQT8H</b> No mounting tab Two lead wires			1.) It is suitable for insertion into heater pads, etc. 2.) The internal structure is the same as MQT8K.
<b>MQT8KT</b> MQT8K with tab terminals. With a mounting hole. Tab size:#110		 The terminal is #110, Faston	1.) MQT8K with a tab terminal. 2.) Install a lead of your desired length into the receptacle and use it by inserting the thermostat. 3.) We have the receptacle available.
<b>MQT8HT</b> MQT8K with tab terminals. No mounting hole. Tab size:#110		 The terminal is #110, Faston	The usage is the same as MQT8KT. The only difference is that it has no mounting hole.
<b>MQT11K</b> Fuse installed. Two lead wires. With a mounting hole.			1.) Cases of MQT8K and 8H are widened and temperature fuse is connected in series inside the case for dual safety. 2.) Standard specifications for the fuse temperature is 76°C/108°C/115°C/133°C/145°C. 3.) As for the fuse temperature, select the one with a temperature 25°C or more higher than the preset temperature of the thermostat.
<b>MQT11H</b> Fuse installed. No mounting hole. Two lead wires			
<b>MQT8H (DS)</b> Double sealed construction			1.) While a near complete sealing is achieved by double sealing (DS), moisture intrusion by capillary action at the tip of the lead cannot be avoided. Be careful not to have water splash on the lead tip.

\* Regarding the lead;  
AWM1015/AWG22 black 150mm length is the standard for 75°C or lower  
AWM3271/AWG22 gray 150mm length is the standard for 76°C or higher

## 2 Amp. Series for ordinary temperature (AC125V/2A, AC250V/1.3A) [-10°C~110°C]

### Ratings and Characteristics:

Tolerance of Set Temperature and Differential vs. Set Temperature

Setting Temperature	-10°C~-1°C	0°C~50°C	51°C~59°C	60°C~65°C	66°C~75°C	76°C~110°C
Diff. Contact configuration	X	Y	X	Y	X	Y
A (2°C~5°C)			±3	±3		
B (3°C~6°C)	±4	±4	±3	±3	±4	±4
C (5°C~8°C)	±4	±4	±3	±3	±4	±4
D (8°C~12°C)	±4	±4	±3	±3	±4	±4

Note: 1. Above list shows the standard tolerance.  
2. Special tolerance such as ±1.5 or ±2 will be available.

Table of contact capacity by voltage used and by DIFF. ranking (100,000 cycle life is standard)

Voltage	Current	Standard contact		Crossbar contact (For micro current)	
		Differential rank	Current(unit power factor 1)	Differential rank	Current(unit power factor 1)
—	DC48V	A	50mA ~ 0.3A	A	1mA ~ 100mA
		B	50mA ~ 0.3A	B	
		C	50mA ~ 0.3A	C	
		D	50mA ~ 0.6A	D	
AC250V	DC24V	A	50mA ~ 0.6A	A	1mA ~ 100mA
		B	50mA ~ 0.9A	B	
		C	50mA ~ 1.3A	C	
		D	50mA ~ 1.3A	D	
AC125V	DC12V	A	50mA ~ 1A	A	1mA ~ 100mA
		B	50mA ~ 1.5A	B	
		C	50mA ~ 2A	C	
		D	50mA ~ 2A	D	

NOTE: 1. "2 Ampere series" represents the standard maximum current at AC125V.  
2. A fluctuation by the unit power factor a half of the current at unit power factor by 0.75 power factor, 1/5 of the current at unit power factor by 0.4 power factor.  
3. Spark suppression will be required for a load in DC.

Maximum operating voltage : AC250V max., DC48V max.

Temperature setting range : -10°C~110°C (tolerance/differential will change in the higher temp.)(see the above table)

Differential : rank A ..... 3.5 ± 1.5 (2~5)°C  
rank B ..... 4.5 ± 1.5 (3~6)°C  
rank C ..... 6.5 ± 1.5 (5~8)°C  
rank D ..... 10 ± 2 (8~12)°C

Contact configuration : 1b(X) N Closed, or 1a(Y) N Open

Operating temperature : -30°C~85°C(standard), -30°C~125°C(special)(no icing, non condensing)  
range (use within 60°C above the set temperature.)

Insulation resistance : 100MΩ or more

Contact resistance : 70mΩ or less (including lead wire resistance)

Withstanding voltage : AC2000V for 2sec.(600V for 1minute between contacts)

Vibration resistance : Selected from JIS·C·0911-1984

Constant vibration; 50Hz fixed/0.2mm fixed (1G)  
Sweep vibration; 10~55Hz/0.35mm fixed (0.1~2.2G)  
Withstands 2 hour each in directions X, Y and Z.

Impact resistance : No damage when dropped three times from the height of 40cm onto a concrete floor(about 70G).  
No damage for double sealed model when dropped three times from the height of 1m onto a concrete floor (about 240G).  
Withstands substantial impact after being put in a package or mounted in equipment.

Life : 2 million mechanical operations, 100,000 electrical operations at rated load.

Handling precautions : The thermostat withstands vibration and impact applied along Y and Z axis, but does not tolerate impact from X direction. It is recommended that the thermostats be installed to minimize stresses applied along the X axis.

