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General Catalog of Thermostat

サーモスタット総合カタログ



Products are listed in this catalog in product-numeric order, please find at the end of the catalog:



Every effort has been made during the preparation of this document to ensure the accuracy of statements and specifications. However, we do not accept liability for damage, injury, loss or expense caused by errors or omissions made. We reserve the right to withdraw or amend products or documentation without any notice.



General Type



Small sized (1/2 inch) and high capacity

High Temperature Type



Small sized (1/2 inch) and high capacity

Manual Reset Type



Small sized (1/2 inch) and high capacity

One Shot Type



Small sized (1/2 inch) and high capacity

Water-proof Type



Small sized (1/2 inch), high capacity
Drip-proof, compact design, general purpose

Thin Type



Case attachment type, Heavy case type, with / without thermal fuse

Compact Type



Microminiature, slim, for printed circuit boards




Variable temperature








Others



Insulation class I acb compact design, S.O.D. specification compliant chip Amw Np rcp J qcp KDN

	118	16φ×20	Fully enclosed stainless case	φ3 Silver or Gold crossbar	3A	DC 24V 1A	0~250°C	15~30K	Motor · transformer · water heater · automobile engine · watercraft
	415	25×67×43.5	Laminated structure, Temp. variable	φ4.5	5A(Lamp)	L : AC125V 6A(Lamp)	70~105°C	7~15K	Kotatsu anchor
	602	Body φ16×9.3	Phenol resin case	φ3 Silver or Gold crossbar	15A	AC250V 7A	0~150°C	12~20K	Microwave oven · motor · burner · Prevent overheating of office machines
	603	Body φ16×15	Manual reset type · Phenol resin case	φ3 Silver or Gold crossbar	15A	AC250V 10A	50~150°C		Microwave oven · motor · burner · Prevent overheating of office machines
	621	Body φ15.8×11.8	PPS resin case	φ3 Silver	15A	AC250V 10A	0~200°C	12~30K/td>	Copying machine, LBP
	622	Body φ15.8×12.4	Polyester resin case	φ3 Silver or Gold crossbar	15A	AC250V 10A	0~185°C	12~25K	Microwave · heating equipment · water heater · business machine

Appearance	Model	Size(W×D×H)	Structure	Contact	AC125V	Rating	Temp. range	diff	Application
	623	Body φ15.8×12.4	PPS resin case, Manual reset type	φ3 silver	16A	AC250V 16A	50~200°C		heating equipment · water heater · Vending machine
	625	Body φ15.8×12.4	Ceramic case	φ3 Silver or Gold crossbar	15A	AC250V 10A	100~250°C	120~30K	Microwave · heating equipment · water heater · business machine
	628	Body φ15.8×12.4	Phenol resin case	φ3 Silver	10A	AC250V 5A	0~130°C	12~20K	Water heater · antifreeze
	630	Body 22.2×33.7×6	PBT insert	φ2.5 Silver	8A	AC250V 4A	0~120°C	10~12K	Electric mat · floor heating · water heater · Vending Machine
	802	Body 10.8×29.5×4.5	PBT Insert	φ1.6 Silver	1A	DC48V 1A	40~120°C	15K	Liquid crystal projector · power equipment · printed circuit board



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Index temperature

US-118 Snapper, Snap Action

Japanese

CMD · JIA approved , Hermetic type

Select by Model

General Type

[US-602](#)

[US-622](#)

High Temperature Type

[US-621](#)

[US-625](#)

Manual Reset Type

[US-603](#)

[US-623](#)

One Shot Type

[US-621](#)

[US-622](#)

[US-625](#)

Thin Type

[US-630](#)

Compact Type

[US-802](#)

Water-proof Type

[US-118](#)

[US-628](#)

Variable temp.Type

[US-415](#)

[US-828](#)

Select by Model Table

Select by Application

Household Equipments

Gas & oil Equipment

Residential Equipments

Commercial Equipments

Automotives



US-118CXIO



US-118BXHL

US-118BXHO



US-118BXHM

◆More detailed image → [Click the image](#)

Features high reliability, vibration control spring (B type), minute current thermostat (C type)
Application Bath boiler, water heater, gas appliance, outboard motor, etc.

[PDF Catalog](#)

① Thermostat Specifications

Electrical ratings	B type : 125 VAC, max. 3A, resistance load -- (min. 200mA) C type : 24VDC, max. 1A, resistance load C type : 40VDC, max. 500mA -- (MIN. DC5V 1mA)		
I .Temperature setting range	I .Temperature setting range	II .Temperature tolerance	III .Differential
II .Temperature tolerance	① 0 ~ 50℃ ② 51 ~ 100℃ ③ 101 ~ 150℃ ④ 151 ~ 190℃ ⑤ 191 ~ 250℃	① ±4℃/±5℃ ② ±4℃/±6℃ ③ ±5℃/±7℃ ④ ±6℃/±8℃ ⑤ ±8℃/±10℃	① 15K ② 15K ③ 20K ④ 25K ⑤ 30K
III.Differential			
Circuit resistance(initial value)	B type: 70mΩ or less C type: 10mΩ or less		
Insulation resistance	100MΩ以上 100 MΩ or greater [through the 500 VDC megger]		
Withstand voltage	B type: 1,200 VAC/minute C type: 1,000 VAC/minute		
Thermal resistance	250℃		
Cold resistance	-20℃		
Opening-closing durability	10,000 times or more [under rated load]		

※Please contact specification of the approved models are slightly different from those shown above.

Office Equipments

Others

Specifications table

Holder Models

② Model code		
US-118□□□□□ 1 2 3 4 5		
1	Contact material	B : Ag alloy contact C : Au crossbar contact
2	Contact model	"OFF" for temperature rise "ON" for temperature rise
3	Terminal angle	H : For soldering (with a hole of φ 2.0φ) [B type] P : Pin terminal [C type] W : For welding [C type] I : For soldering (with a hole of φ 2.5) [C type]
4	Holder model	M : Surface type L : Surface type I : Embedded type K : Embedded type O : Without holder
5	CAttached terminal mode (Terminal model : P only)	A : Attached No symbol : None

③ Sample of Model code

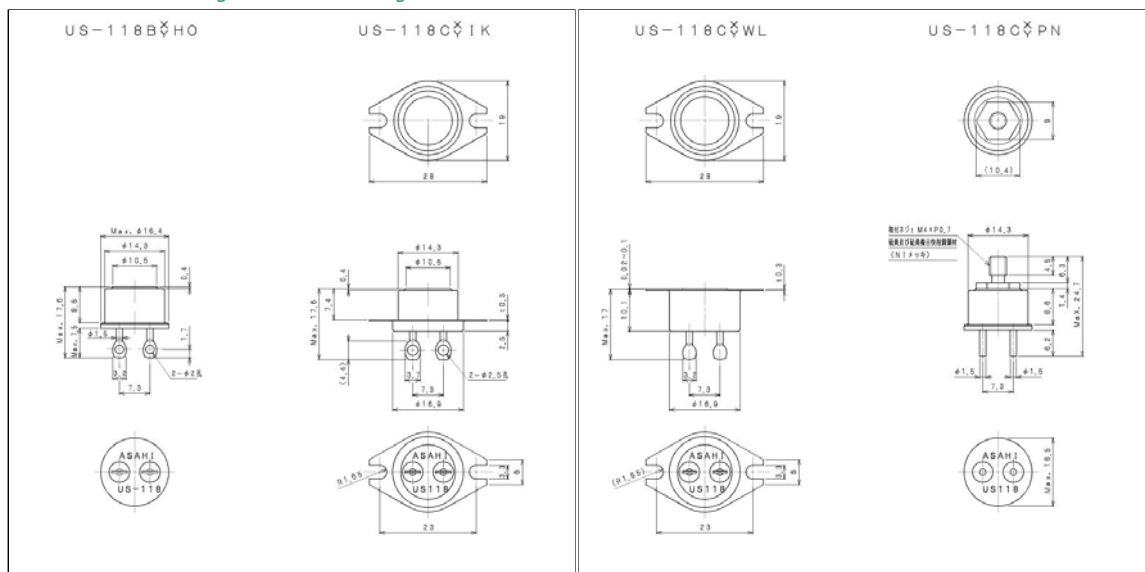
- US-118BXHO . . . Ag alloy contact,For soldering,Without holder
- US-118BXHL . . . Ag alloy contact,For soldering,Surface type
- US-118CXPO . . . Au crossbar contact.Pin terminal,Without holder
- US-118CXWL . . . Au crossbar contact,For welding,Surface type
- US-118CXIM . . . Au crossbar contact,For soldering,Surface type
- US-118CXIKA . . . Au crossbar contact,For soldering,Embedded type、 CAttached terminal

④ List of international safety standards

Model / Type	Agency	File No.	Operating temp. Ratings	Number of cycles		Max. Volts	Max. Amperes				
				Category	cycles		Resistive load	Inductive load	FLA	LRA	

⑤ Dimensional outline drawing

◆ More detailed image → Click the image





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Index temperature

US-415
 CMJ approved

Snapper, Snap Action

Japanese

Select by Model

General Type

- [US-602](#)
- [US-622](#)

High Temperature Type

- [US-621](#)
- [US-625](#)

Manual Reset Type

- [US-603](#)
- [US-623](#)

One Shot Type

- [US-621](#)
- [US-622](#)
- [US-625](#)

Thin Type

- [US-630](#)

Compact Type

- [US-802](#)

Water-proof Type

- [US-118](#)
- [US-628](#)

Variable temp.Type

- [US-415](#)
- [US-828](#)

Select by Model Table

Select by Application

Household Equipments

Gas & oil Equipment

Residential Equipments

Commercial Equipments

Automotives



US-415HXM2



US-415AXDS2

◆More detailed image → [Click the image](#)

Features Changeable temperature system, contact open-close snap action
Application Kotatsu (electric foot warmer with cover), heating pad

[PDF Catalog](#)

① Thermostat Specifications

Electrical ratings	normal type : 125 VAC, max. 500W, Lump load L type : 125 VAC, max. 600W, Lump load -- (min. 200mA)		
I .Temperature setting range	I .Temperature setting range	II .Temperature tolerance	III .Differential
II .Temperature tolerance	① 70 ~ 100℃	① ±4℃	① 7~13K
III .Differential	② 101 ~ 105℃	② ±5℃	② 7~13K
Circuit resistance(initial value)	50 mΩ or less		
Insulation resistance	100 MΩ or greater [through the 500 VDC megger]		
Withstand voltage	1,200 VAC/minute		
Thermal resistance	130℃		
Cold resistance	-20℃		
Opening-closing durability	10,000 times or more [under rated load]		

※Please contact specification of the approved models are slightly different from those shown above.

② Model code

US-415□□□□□□□□
 1 2 3 4 5 6 7

1	Support board material	A:Vertical mounting, [both sides],stopper B. H:Horizontal mounting, [both sides],[B:stopper model "S"],variable range 37K by ∠180° rotation [H:stopper model "M"]
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Office Equipments
 Others
 Specifications table
 Holder Models

		C:Vertical mounting, [single side],[stopper model "S" only], variable range 37K by $\angle 270^\circ$ rotation F:Vertical mounting, [single side],[stopper model "O" only], fixed type
2	Contact model	X : "OFF" for temperature rise
3	Contact material	O : Ag · Ag alloy contact
4	Stopper model	O : Fixed type M : $\angle 180^\circ$ Variable type (caulking) S : $\angle 310^\circ$ Variable type (soldering)
5	Cover model	1:Cover hole provided 2:Cover hole not provided 3:Available only for models with cover
6	Load capacity model	L: Cover hole provided No symbol: Less than 500W
7	Special specification	

③ Sample of Model code

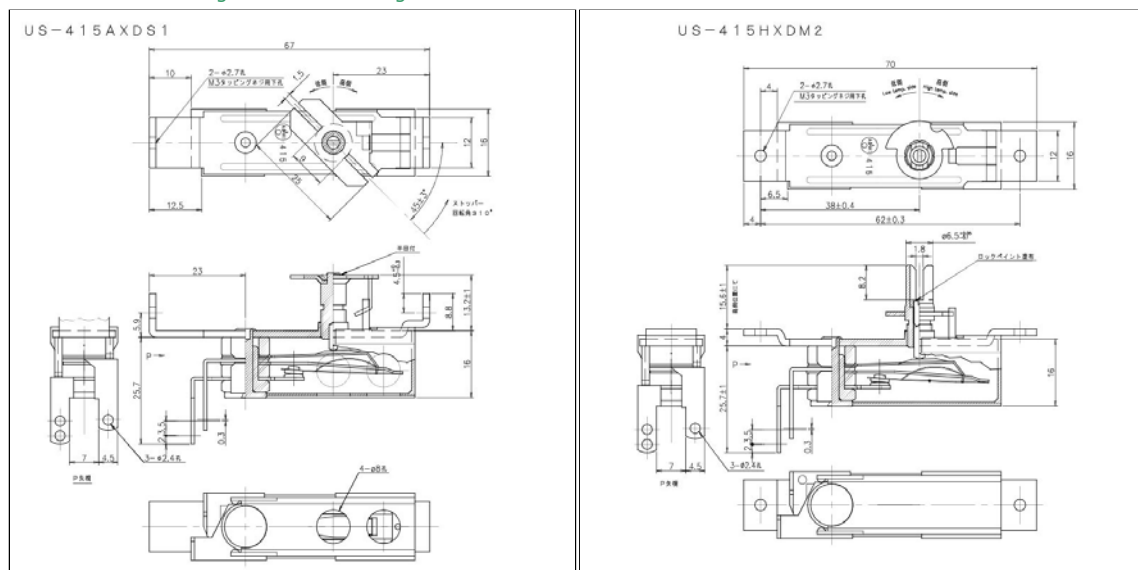
- US-415AXDS1 . . . Horizontal mounting, $\angle 310^\circ$ rotation type, Hole with cover
- US-415BXDS1 . . . Horizontal mounting, $\angle 310^\circ$ rotation type, Hole with cover
- US-415BXDM2 . . . Horizontal mounting, $\angle 180^\circ$ rotation type, no hole cover
- US-415FXD02 . . . Vertical mounting[One side], fixed type, no hole cover

④ List of international safety standards

Model / Type	Agency	File No.	Operating temp. Ratings	Number of cycles		Max. Volts	Max. Amperes				
				Category	cycles		Resistive load	Inductive load	FLA	LRA	

⑤ Dimensional outline drawing

◆ More detailed image → [Click the image](#)





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Index temperature

US-602 Snapper, Snap Action
CMJ · UL · C-UL · VDE(EN 6 0 7 3 0 A) · CQC approved

Select by Model

General Type

- [US-602](#)
- [US-622](#)

High Temperature Type

- [US-621](#)
- [US-625](#)

Manual Reset Type

- [US-603](#)
- [US-623](#)

One Shot Type

- [US-621](#)
- [US-622](#)
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Thin Type

- [US-630](#)

Compact Type

- [US-802](#)

Water-proof Type

- [US-118](#)
- [US-628](#)

Variable temp.Type

- [US-415](#)
- [US-828](#)

Select by Model Table

Select by Application

Household Equipments

Gas & oil Equipment

Residential Equipments

Commercial Equipments

Automotives



US-602SXRLQE

◆ More detailed image → [Click the image](#)

Features General-purpose low cost, compact, large capacity (S type), minute current (K type)
Application Electronic oven, heating unit, water heater, etc.



US-602SXRSKO US-602SXTMAS



US-602SXRSKO



US-602SXTSSO



US-602SXTMAS US-602SXRSKO

[PDF Catalog](#)

① Thermostat Specifications			
Electrical ratings	S type : 125 VAC, max. 15A, resistance load S type : 250 VAC, max. 8A, resistance load -- (min. 200mA) K type : 30 VDC, max. 1A -- (MIN. DC5V 1mA)		
I .Temperature setting range II .Temperature tolerance III .Differential	I .Temperature setting range ① 0 ~ 50℃ ② 51 ~ 100℃ ③ 101 ~ 150℃	II .Temperature tolerance ① ±4℃/±5℃ ② ±4℃/±6℃ ③ ±5℃/±7℃	III .Differential ① 12K ② 15K ③ 20K
Circuit resistance(initial value)	S type: 50 mΩ or less K type: 10 mΩ or less		
Insulation resistance	100 MΩ or greater [through the 500 VDC megger]		
Withstand voltage	S type: 1,500 VAC/minute K type: 1,200 VAC/minute		
Thermal resistance	150℃		
Cold resistance	-20℃		
Opening-closing durability	10,000 times or more [under rated load]		

※Please contact specification of the approved models are slightly different from those shown above.

② Model code
US-602 □ □ □ □ □

Office Equipments

Others

Specifications table

Holder Models

		1 2 3 4 5
1	Contact material	S : Ag alloy contact K : Au crossbar contact
2	Contact model	X : "OFF" for temperature rise Y : "ON" for temperature rise
3	Terminal angle	R : Horizontal terminal T : Vertical terminal
4	Terminal model	L : Terminal for positive lock connector 250 series -- (Brass/size 6.35×0.8, Sn-plated) M : Terminal for positive lock connector 187 series -- (Brass/size 4.75×0.5, Sn-plated) V : IEC730-1 (DIN46244-A4.8-0.8) quasi-terminal -- (Brass/size 4.8×0.8, Sn-plated) S : For soldering
5	Cover materials Holder model	QO : Aluminum , no holder QE : Aluminum , surface type (free holder) (23.8mm) QE-FB : Aluminum , surface type (23.8mm) QL : Aluminum , surface type (free holder) (24.5mm) QL-FB : Aluminum , surface type (24.5mm) KO : Aluminum , embedded type (depth 5.0mm 、 24.5mm) AS : Stainless steel , surface type(24mm) IO : Stainless steel , embedded type (depth 4.6mm、 24.5mm) JO : Stainless steel , embedded type (depth 5.2mm 、 24.5mm) QD : Aluminum , surface type (free holder) (30mm) QM : Aluminum , surface type (for mounting an M3 tapping screw) 23.8mm) FO : Stainless steel , no holdersurface type FF : Stainless steel , surface type(25mm) SO : Brass , screw-mount type [M3,M4,M5,6-32UNC,8-32UNC,10-32UNC]

③ Sample of Model code

- US-602SXRMQO . . . Horizontal F187 Terminal、 Aluminum , no holder
- US-602SXTMQE . . . Vertical F187 Terminal、 Aluminum 、 surface type (free holder) 23.8mm
- US-602SXRLQL . . . Horizontal F250 Terminal、 Aluminum 、 surface type (free holder) 24.5mm
- US-602SXTLKO . . . Vertical F250 Terminal、 Aluminum 、 embedded type depth 5mm, 24.5mm
- US-602SXRVAS . . . Horizontal IEC Terminal、 Stainless steel 、 surface type 24mm
- US-602SXTSIO . . . Vertical soldering Terminal、 Stainless steel embedded type depth 4.6mm, 24.5mm

④ List of international safety standards

Model / Type	Agency	File No.	Operating temp. Ratings	Number of cycles		Max. Volts	Max. Amperes			
				Category	cycles		Resistive load	Inductive load	FLA	LRA
US-602S	UL	E52529	150	limiting	100,000	AC 125	15	-	-	-
		CSA					1061290	8	-	-
	UL	E166395				AC 120	-	-	5.8	34.8
						AC 240	-	-	2.9	17.4
US-602K	UL	E52529	150	limiting	100,000	DC 30	1	-	-	-
						C-UL	AC 120	125VA	-	-
						AC 240	0.5	-	-	-
US-602S-V	VDE	40026470	160	thermostat	20,000	AC 250	10	-	-	-
							10,000	-	6	-

⑤ Dimensional outline drawing

◆ More detailed image → [Click the image](#)



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Index temperature

US-603 Snapper, Snap Action
CMD · UL · C-UL · VDE(EN 6 0 7 3 0 A) · CQCapproved

Select by Model

General Type

[US-602](#)

[US-622](#)

High Temperature Type

[US-621](#)

[US-625](#)

Manual Reset Type

[US-603](#)

[US-623](#)

One Shot Type

[US-621](#)

[US-622](#)

[US-625](#)

Thin Type

[US-630](#)

Compact Type

[US-802](#)

Water-proof Type

[US-118](#)

[US-628](#)

Variable temp.Type

[US-415](#)

[US-828](#)

Select by Model Table

Select by Application

Household Equipments

Gas & oil Equipment

Residential Equipments

Commercial Equipments

Automotives



US-603UXRLQE



US-603UXTMAS



US-603UXRLQE

US-603UXTMAS



US-603UXRLQE

US-603UXTMAS



US-603UXTLKO

◆ More detailed image → [Click the image](#)

Features Return manual reset, general-purpose low cost, compact, large capacity (A type), minute current (K type)
Application Electronic oven, heating unit, water heater, etc.

[PDF Catalog](#)

① **Thermostat Specifications**

Electrical ratings	U type : 125 VAC, max. 15A, resistance load U type : 250 VAC, max. 10A, resistance load -- (min. 200mA) K type:30 VDC, max. 1A K type:120 VAC, 125VA (pilot duty) -- (MIN. DC5V 1mA)	
I .Temperature setting range II .Temperature tolerance	I .Temperature setting range ① 50 ~ 100℃ ② 101 ~ 150℃	II .Temperature tolerance ① ±4℃ ② ±5℃
Circuit resistance(initial value)	U type: 50 mΩ or less K type: 10 mΩ or less	
Insulation resistance	100 MΩ or greater [through the 500 VDC megger]	
Withstand voltage	U type: 1,500 VAC/minute K type: 1,200 VAC/minute	
Thermal resistance	150℃	
Cold resistance	-20℃	
Opening-closing durability	5,000 times or more [under rated load]	

※Please contact specification of the approved models are slightly different from those shown above.

② **Model code**

US-603□□□□□□□□-□□□

Office Equipments
Others
Specifications table
Holder Models

	1	2	3	4	5	6	7
1	Contact material	S : Ag · Ag alloy contact K : Au crossbar contact					
2	Contact model	X : "OFF" for temperature rise					
3	Terminal angle	R : Horizontal terminal T : Vertical terminal					
4	Terminal model	L : Terminal for positive lock connector 250 series -- (Brass/size 6.35×0.8, Sn-plated) M : Terminal for positive lock connector 187 series -- (Brass/size 4.75×0.5, Sn-plated) V : IEC730-1 (DIN46244-A4.8-0.8) quasi-terminal -- (Brass/size 4.8×0.8, Sn-plated) S : For soldering					
5	Cover materials Holder model	QO : Aluminum , no holder QE : Aluminum , surface type (free holder) (23.8mm) QL : Aluminum , surface type (free holder) (24.5mm) KO : Aluminum , embedded type (depth 5.0mm 、 24.5mm) AS : Stainless steel , surface type(24mm) IO : Stainless steel , embedded type (depth 4.6mm、 24.5mm) JO : Stainless steel , embedded type (depth 5.2mm 、 24.5mm) QD : Aluminum , surface type (free holder) (30mm) QM : Aluminum , surface type (for mounting an M3 tapping screw) 23.8mm) FO : Stainless steel , no holdersurface type FF : Stainless steel , surface type(25mm) SO : Brass , screw-mount type [M3,M4,M5,6-32UNC,8-32UNC,10-32UNC]					
6	Standard model	H : EN 60730 compliant products (U type)					
7	Free Holer Fixed model	(QE) FB : Aluminum , surface type (23.8mm) (QL) FB : Aluminum , surface type (24.5mm)					

③ Sample of Model code

- US-603UXRMQO-H . . . Horizontal F187 Terminal、Aluminum , no holder
- US-603UXTMQE-H . . . Vertical F187 Terminal、Aluminum 、 surface type (free holder) 23.8mm
- US-603UXTMQE-H-FB . . . Vertical F187 Terminal、Aluminum 、 surface type (fixed holder) 23.8mm
- US-603UXRLQL-H . . . Horizontal F250 Terminal、Aluminum 、 surface type (free holder) 24.5mm
- US-603UXTMQL-H-FB . . . Vertical F250 Terminal、Aluminum 、 surface type (fixed holder) 24.5mm
- US-603UXTLKO-H . . . Vertical F250 Terminal、Aluminum 、 embedded type depth 5mm, 24.5mm
- US-603UXRVAS-H . . . Horizontal IEC Terminal、Stainless steel 、 surface type 24mm
- US-603KXTSIO . . . Vertical soldering Terminal、Stainless steel 、 embedded type depth 4.6mm, 24.5mm
- US-603KXTSQE-FB . . . Vertical soldering Terminal、Aluminum 、 surface type (fixed holder) 23.8mm

④ List of international safety standards

Model / Type	Agency	File No.	Operating temp. Ratings	Number of cycles		Max. Volts	Max. Amperes			
				Category	cycles		Resistive load	Inductive load	FLA	LRA
US-603U-H	UL C-UL	E52529	160	regulating (MR)	6,000	AC 125	15	-	-	-
						AC 250	10	-	-	-
						AC 120	-	12	-	-
						AC 120	-	-	5.8	34.8
						AC 240	-	-	2.9	17.4
US-603K	UL C-UL	E52529	160	regulating (MR)	6,000	DC 30	1	-	-	-
						AC 120	125VA	-	-	-
US-603U-H	VDE	40026555	160	thermal cut-out	6,000 (MR)	AC 250	10	-	-	-
US-603K	VDE	40015226	160	thermal cut-out	6,000 (MR)	DC 30	1	-	-	-



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Index temperature

US-621 Snapper, Snap Action

CMJ, UL, C-UL, VDE(EN 60730A) approved

Select by Model



US-621AXTGQE



US-621AXTGQE US-621AXTHGO



US-621AXTHGO US-621AXTGQE



US-621AXTHGO



US-621AXRIMO

◆ More detailed image → [Click the image](#)

Features High temperature, compact large capacity, PPS body, SOD
Application Copier, LBP, office automation equipment, etc.

[PDF Catalog](#)

General Type

[US-602](#)

[US-622](#)

High Temperature Type

[US-621](#)

[US-625](#)

Manual Reset Type

[US-603](#)

[US-623](#)

One Shot Type

[US-621](#)

[US-622](#)

[US-625](#)

Thin Type

[US-630](#)

Compact Type

[US-802](#)

Water-proof Type

[US-118](#)

[US-628](#)

Variable temp. Type

[US-415](#)

[US-828](#)

Select by Model Table

Select by Application

Household Equipments

Gas & oil Equipment

Residential Equipments

Commercial Equipments

Automotives

① Thermostat Specifications

Electrical ratings	125 VAC, max. 15A, resistance load 250 VAC, max. 10A, resistance load -- (min. 200mA)		
I. Temperature setting range	I. Temperature setting range	II. Temperature tolerance	III. Differential
II. Temperature tolerance	① 0 ~ 50°C	① ±4°C/±5°C	① 12K
III. Differential	② 51 ~ 100°C	② ±4°C/±6°C	② 15K
S.O.D Specifications	③ 101 ~ 150°C	③ ±5°C/±7°C	③ 20K
... (Single Operation Device)	④ 151 ~ 190°C	④ ±6°C/±8°C	④ 25K
... One shot type (1 cycle only)	⑤ 191 ~ 200°C S.O.D setting range Max. 220°C	⑤ ±7°C/±10°C	⑤ 30K
			S.O.D type -35°C or less
Circuit resistance(initial value)	50 mΩ or less		
Insulation resistance	100 MΩ or greater [through the 500 VDC megger]		
Withstand voltage	1,500 VAC/minute		
Thermal resistance	200°C		
Cold resistance	-20°C		
Opening-closing durability	10,000 times or more [under rated load]		

※Please contact specification of the approved models are slightly different from those shown above.

② Model code

US-621□□□□□□-□-□

	1	2	3	4	5	6	7	
Office Equipments								
Others	1	Contact material	A : Ag · Ag alloy contact					
Specifications table	2	Contact model	X : "OFF" for temperature rise Y : "ON" for temperature rise					
Holder Models	3	Terminal angle	R : Horizontal terminal T : Vertical terminal					
	4	Terminal model	G : Terminal for positive lock connector 250 series -- (size:6.35×0.8 material : steel 、 Ni-plated) H : Terminal for positive lock connector 187 series -- (size:4.75×0.5 material : steel 、 Ni-plated) E : connector IEC730-1 quasi-terminal -- (size:4.8×0.8 material : steel 、 Ni-plated) I : For fixing with screw (steel , Ni-plated, t0.8) -- ※I:Combination of horizontal terminal (R)					
	5	Cover materials Holder model	QO : Aluminum , no holder QE : Aluminum , surface type (free holder) (23.8mm) QL : Aluminum , surface type (free holder) (24.5mm) KO : Aluminum , embedded type (depth 5.0mm 、 24.5mm) GO : Aluminum , embedded type (depth 5.4mm 、 24.5mm) MO : Stainless steel , surface type (with hole type) IO : Stainless steel , embedded type (depth 4.6mm 、 24.5mm) JO : Stainless steel , embedded type (depth 5.2mm 、 24.5mm) QD : Aluminum , surface type (free holder) (30mm) QM : Aluminum , surface type (for mounting an M3 tapping screw) 23.8mm) FO : Stainless steel , no holdersurface type DO : Aluminum , no holder (with hole) NO : Aluminum , no holder (with frange) CO : Stainless steel , embedded type (depth 5.2mm、 24.5mm) (with hole type) SO : Brass , screw-mount type -- [M3,M4,M5,6-32UNC,8-32UNC,10-32UNC]					
	6	S.O.D model S.O.D model	LC : One shot type Single operating device (S.O.D type)					
	7	Free Holer Fixed model	(QE) FB : Aluminum , surface type (23.8mm) (QL) FB : Aluminum , surface type (24.5mm)					

③ Sample of Model code

- US-621AXRMQO . . . Horizontal F187 Terminal、 Aluminum , no holder
- US-621AXTMQE . . . Vertical F187 Terminal、 Aluminum 、 surface type (free holder) 23.8mm
- US-621AXTMQE-LC . . . Vertical F187 Terminal、 Aluminum 、 surface type (free holder) 23.8mm 、 S.O.D type
- US-621AXTMQE-LC-FB . . . Vertical F187 Terminal、 Aluminum 、 surface type (fixed holder) 23.8mm 、 S.O.D type
- US-621AXRLQL . . . Horizontal F250 Terminal、 Aluminum 、 surface type (free holder) 24.5mm
- US-621AXTMQL-LC . . . Vertical F250 Terminal、 Aluminum 、 surface type (free holder) 24.5mm 、 S.O.D type
- US-621AXTMQL-LC-FB . . . Vertical F250 Terminal、 Aluminum 、 surface type (fixed holder) 24.5mm 、 S.O.D type
- US-621AXTLKO . . . Vertical F250 Terminal、 Aluminum 、 embedded type depth 5mm, 24.5mm
- US-621AXRVAS . . . Horizontal IEC Terminal、 Stainless steel 、 surface type 24mm

④ List of international safety standards

Model / Type	Agency	File No.	Operating temp. Ratings	Number of cycles		Max. Volts	Max. Amperes			
				Category	cycles		Resistive load	Inductive load	FLA	LRA
US-621-LC-QR	UL C-UL	E52529	220	S.O.D.	1	AC 125	15	-	-	-
						AC 250	10	-	-	-
US-621-V	UL C-UL					AC 125	15	-	-	-
						AC 250	10	-	-	-
US-621-LC-QR	VDE	40010379	200	S.O.D.	1	AC 250	10	-	-	-



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Index temperature

US-622 Snapper, Snap Action

CMJ · UL · C-UL · VDE(EN 6 0 7 3 0 A) approved

Select by Model

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Water-proof Type

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Select by Model Table

Select by Application

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Automotives



US-622AXTLQE



US-622AXRSGO



US-622AXTLQE US-622AXRSGO



US-622AXRSGO US-622AXTLQE



US-622AXRLQE

◆ More detailed image → [Click the image](#)

Features Compact, large-capacity, general-purpose low cost, unsaturated polyester resins body, SOD
Application Electronic oven, heating unit, water heater, Copier, LBP, office automation equipment, etc.

[PDF Catalog](#)

① Thermostat Specifications			
Electrical ratings	A · P type : 125 VAC, max. 15A, resistance load A · P type : 250 VAC, max. 10A, resistance load -- (min. 200mA) K type : 30 VDC, max. 1A, resistance load K type : 5 VDC, min. 1mA, resistance load		
I .Temperature setting range II .Temperature tolerance III .Differential S.O.D Specifications … (Single Operation Device) … One shot type (1 cycle only)	I .Temperature setting range ① 0 ~ 50℃ ② 51 ~ 100℃ ③ 101 ~ 150℃ ④ 151 ~ 185℃ S.O.D setting range Max. 160℃	II .Temperature tolerance ① ±4℃/±5℃ ② ±4℃/±6℃ ③ ±5℃/±7℃ ④ ±6℃/±8℃	III .Differential ① 12K ② 15K ③ 20K ④ 25K S.O.D type -35℃ or less
Circuit resistance(initial value)	A · P type : 50 mΩ or less K type : 10 mΩ or less		
Insulation resistance	100 MΩ or greater [through the 500 VDC megger]		
Withstand voltage	A · P type : 1,500 VAC/minute K type : 1,200 VAC/minute		
Thermal resistance	185℃		
Cold resistance	-20℃		
Opening-closing durability	10,000 times or more [under rated load]		

Office Equipments

※Please contact specification of the approved models are slightly different from those shown above.

Others

Specifications table

Holder Models

② Model code	
US-622□□□□□□-□-□ 1 2 3 4 5 6 7	
1	Contact material A : Ag · Ag alloy contact K : Au cross bar contact
2	Contact model X : "OFF" for temperature rise Y : "ON" for temperature rise
3	Terminal angle R : Horizontal terminal T : Vertical terminal
4	Terminal model L : Terminal for positive lock connector 250 series -- (size:6.35×0.8 material : brass 、 Ni-plated) G : Terminal for positive lock connector 250 series -- (size:6.35×0.8 material : steel 、 Ni-plated) M : Terminal for positive lock connector 187 series -- (size:4.75×0.5 material : brass 、 Ni-plated) H : Terminal for positive lock connector 187 series -- (size:4.75×0.5 material : steel 、 Ni-plated) V : connector IEC60730-1 quasi-terminal -- (size:4.8×0.8 material : brass 、 Ni-plated) J : DIN46244 quasi-terminal -- (size:6.3×0.8 material : steel 、 Ni-plated) D : DIN46244 quasi-terminal -- (size:4.8×0.8 material : brass 、 Ni-plated) I : For fixing with screw (steel , Ni-plated, t0.8) -- ※I:Combination of horizontal terminal (R) S : For soldering (Brass/t 0.5, Sn-plated)
5	Cover materials Holder model QO : Aluminum , no holder QE : Aluminum , surface type (free holder) (23.8mm) QL : Aluminum , surface type (free holder) (24.5mm) KO : Aluminum , embedded type (depth 5.0mm 、 24.5mm) GO : Aluminum , embedded type (depth 5.4mm 、 24.5mm) MO : Stainless steel , surface type (with hole type) IO : Stainless steel , embedded type (depth 4.6mm 、 24.5mm) JO : Stainless steel , embedded type (depth 5.2mm 、 24.5mm) QD : Aluminum , surface type (free holder) (30mm) QM : Aluminum , surface type (for mounting an M3 tapping screw) 23.8mm) FO : Stainless steel , no holdersurface type DO : Aluminum , no holder (with hole) NO : Aluminum , no holder (with frange) CO : Stainless steel , embedded type (depth 5.2mm、 24.5mm) (with hole type) SO : Brass , screw-mount type -- [M3,M4,M5,6-32UNC,8-32UNC,10-32UNC]
6	S.O.D model S.O.D model LC : One shot type Single operating device (S.O.D type)
7	Free Holer Fixed model (QE) FB : Aluminum , surface type (23.8mm) (QL) FB : Aluminum , surface type (24.5mm)

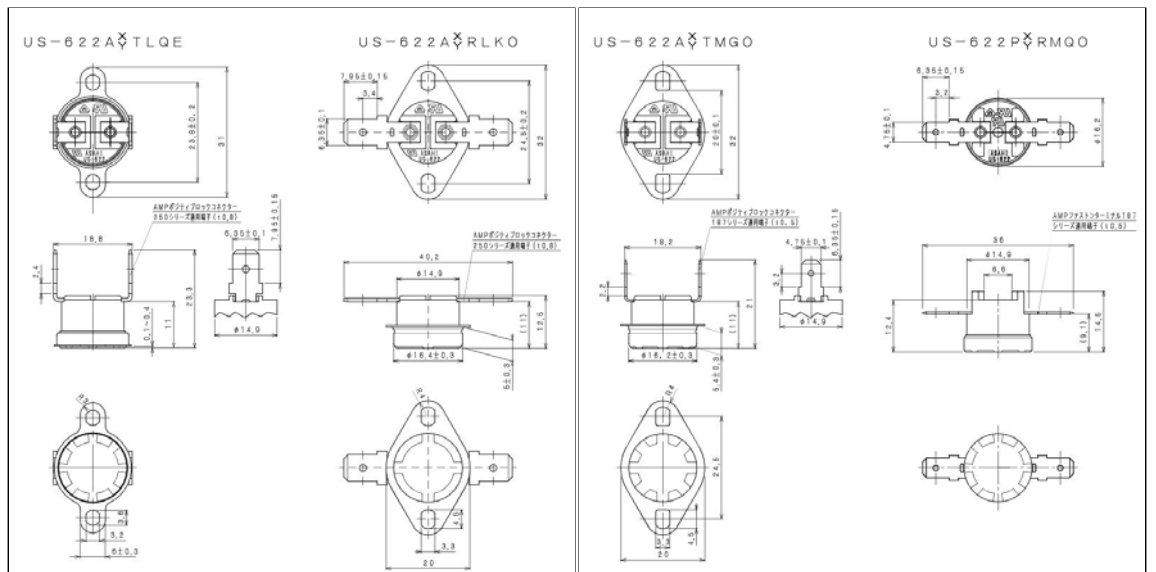
③ Sample of Model code

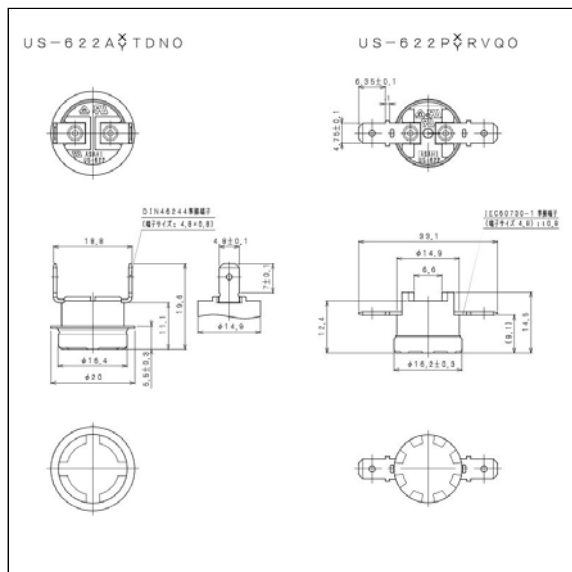
- US-622AXRMQO . . . Horizontal F187 Terminal、 Aluminum , no holder
- US-622AXTMQE . . . Vertical F187 Terminal、 Aluminum 、 surface type (free holder) 23.8mm
- US-622AXTMQE-LC . . . Vertical F187 Terminal、 Aluminum 、 surface type (free holder) 23.8mm 、 S.O.D type
- US-622AXTMQE-LC-FB . . . Vertical F187 Terminal、 Aluminum 、 surface type (fixed holder) 23.8mm 、 S.O.D type
- US-622AXRLQL . . . Horizontal F250 Terminal、 Aluminum 、 surface type (free holder) 24.5mm
- US-622AXTMQL-LC . . . Vertical F250 Terminal、 Aluminum 、 surface type (free holder) 24.5mm 、 S.O.D type
- US-622AXTMQL-LC-FB . . . Vertical F250 Terminal、 Aluminum 、 surface type (fixed holder) 24.5mm 、 S.O.D type
- US-622AXTLKO . . . Vertical F250 Terminal、 Aluminum 、 embedded type depth 5mm, 24.5mm
- US-622AXRVAS . . . Horizontal IEC Terminal、 Stainless steel 、 surface type 24mm

④ List of international safety standards										
Model / Type	Agency	File No.	Operating temp. Ratings	Number of cycles		Max. Volts	Max. Amperes			
				Category	cycles		Resistiveload	Inductiveload	FLA	LRA
US-622	UL C-UL	E52529	185	limiting	100,000	AC 125	15	-	5.8	34.8
						AC 250	10	-	2.9	17.4
US-622K	UL C-UL	E52529	130	limiting	100,000	DC 30	1	-	-	-
			160			AC 120	125VA	-	-	-
US-622-LC	UL C-UL	E52529	160	S.O.D.	1	AC 125	15	-	-	-
AC 250						10	-	-	-	
US-622-LC-QR						AC 125	15	-	-	-
						AC 250	10	-	-	-
US-622V						AC 125	15	-	-	-
AC 250	10	-	-	-						
US-622	VDE	40026861	185	thermostat	100,000	AC 250	10	-	-	-
					10,000		-	6	-	-
					30,000		16	-	-	-
US-622K	VDE	40027128	185	thermostat	100,000	DC 30	1	-	-	-
						AC 120	125VA	-	-	-
US-622-LC	VDE	40006690	185	S.O.D.	1	AC 250	10	-	-	-
US-622-LC-QR							10	-	-	-
US-622V							10	-	-	-

⑤ Dimensional outline drawing

◆ More detailed image → Click the image





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Index temperature

US-623 Snapper, Snap Action

CMD · UL · C-UL approved

Select by Model

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Manual Reset Type

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Select by Model Table

Select by Application

Household Equipments

Gas & oil Equipment

Residential Equipments

Commercial Equipments

Automotives



US-623AXRGIO

◆More detailed image → [Click the image](#)

Features Manual-reset, high temperature (200 degree C) complied, large current

Application High temperature operation equipment such as the boilers and heaters

[PDF Catalog](#)



US-623AXTGGO



US-623AXTGO

① Thermostat Specifications		
Electrical ratings	125 VAC, max. 16A, resistance load 250 VAC, max. 16A, resistance load -- (min. 200mA)	
I .Temperature setting range II .Temperature tolerance	I .Temperature setting range 151 ~ 200℃	II .Temperature tolerance ±7℃
Circuit resistance(initial value)	50 mΩ or less	
Insulation resistance	100 MΩ or greater [through the 500 VDC megger]	
Withstand voltage	1,500 VAC/minute	
Thermal resistance	200℃	
Cold resistance	-20℃	
Opening-closing durability	10,000 times or more [under rated load]	

※Please contact specification of the approved models are slightly different from those shown above.

② Model code		
US-623□□□□□ 1 2 3 4 5		
1	Contact material	A : Ag · Ag alloy contact
2	Contact model	X : "OFF" for temperature rise
3	Terminal angle	R : Horizontal terminal

Office Equipments		T : Vertical terminal
Others	4	Terminal model G : Terminal for positive lock connector 250 series -- (size:6.35×0.8 material : steel 、 Ni-plated) H : Terminal for positive lock connector 187 series -- (size:4.75×0.5 material : steel 、 Ni-plated) E : IEC60730-1 quasi-terminal -- (size:4.8×0.8 material : steel 、 Ni-plated) J : IEC60730-1 quasi-terminal -- (size:6.3×0.8 material : steel 、 Ni-plated) I : For fixing with screw (steel , Ni-plated, t0.8) -- ※I:Combination of horizontal terminal (R)
Specifications table	5	Cover materials Holder model QO : Aluminum , no holder QE : Aluminum , surface type (free holder) (23.8mm) QE-FB : Aluminum , surface type (fixed holder) (23.8mm) QL : Aluminum , surface type (free holder) (24.5mm) QL-FB : Aluminum , surface type (fixed holder) (24.5mm) KO : Aluminum , embedded type (depth 5.0mm 、 24.5mm) GO : Aluminum , embedded type (depth 5.4mm 、 24.5mm) MO : Stainless steel , surface type (with hole type) IO : Stainless steel , embedded type (depth 4.6mm 、 24.5mm) JO : Stainless steel , embedded type (depth 5.2mm 、 24.5mm) QD : Aluminum , surface type (free holder) (30mm) QM : Aluminum , surface type (for mounting an M3 tapping screw) 23.8mm FO : Stainless steel , no holdersurface type DO : Aluminum , no holder (with hole) NO : Aluminum , no holder (with frange) CO : Stainless steel , embedded type (depth 5.2mm、 24.5mm) (with hole type) SO : Brass , screw-mount type -- [M3,M4,M5,6-32UNC,8-32UNC,10-32UNC]
Holder Models		

③ Sample of Model code

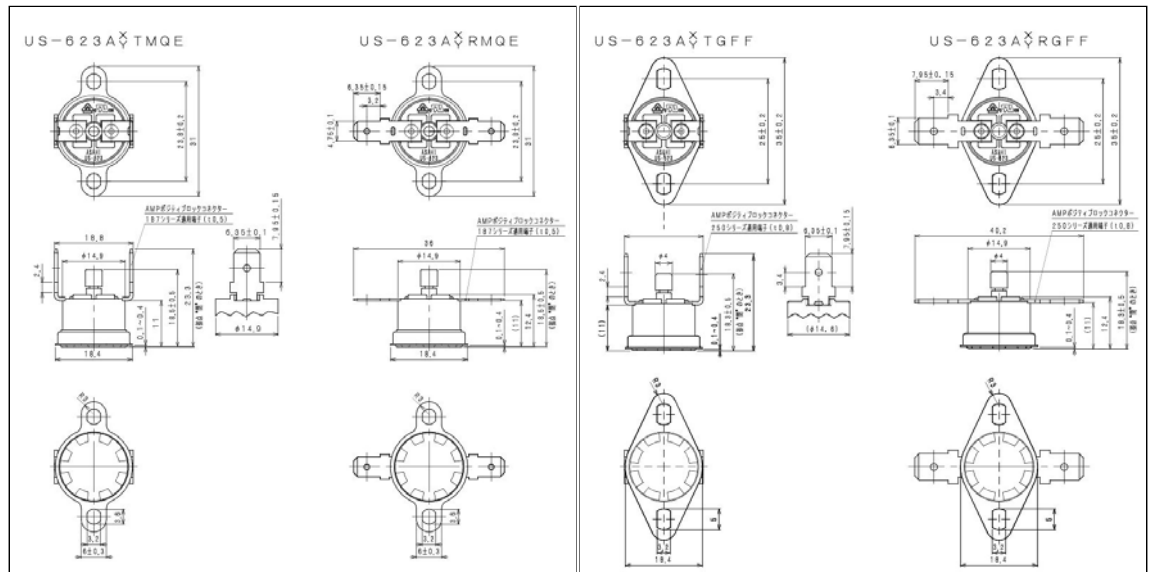
- US-623AXRMQO . . . Horizontal F187 Terminal、 Aluminum , no holder
- US-623AXTMQE . . . Vertical F187 Terminal、 Aluminum 、 surface type (free holder) 23.8mm
- US-623AXRLQL . . . Horizontal F250 Terminal、 Aluminum 、 surface type (free holder) 24.5mm
- US-623AXTLKO . . . Vertical F250 Terminal、 Aluminum 、 embedded type depth 5mm, 24.5mm
- US-623AXRVAS . . . Horizontal IEC Terminal、 Stainless steel 、 surface type 24mm
- US-623AXTSIO . . . Vertical Solderring Terminal、 Stainless embedded type depth 4.5mm, 24.5mm

④ List of international safety standards

Model / Type	Agency	File No.	Operating temp. Ratings	Number of cycles		Max.	Max. Amperes			
				Category	cycles	Volts	Resistiveload	Inductiveload	FLA	LRA
US-623	UL C-UL	E52529	205	regulating (MR)	6,000	AC 125	15	-	-	-
						AC 250	16	-	-	-

⑤ Dimensional outline drawing

◆ More detailed image → [Click the image](#)



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PDF Catalogue

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Variable temp.Type

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Select by Application

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US-625 Snapper, Snap Action

CMD · UL · C-UL · VDE(EN 6 0 7 3 0 A) approved



US-625AXRGQL

◆More detailed image → [Click the image](#)

Features High temperature, compact large capacity, ceramic body, SOD
Application Electronic oven, heating unit, water heater, Copier, LBP, office automation equipment, etc.



US-625 特注端子品



US-625AXTLGO



US-625AXRSQE

US-625AXTLGO

[PDF Catalog](#)

① Thermostat Specifications			
Electrical ratings	A type : 125 VAC, max. 15A, resistance load A type : 250 VAC, max. 10A, resistance load -- (min. 200mA) K type : 30 VDC, max. 1A, resistance load K type : 5 VDC, min. 1mA, resistance load		
I .Temperature setting II .Temperature tolerance III .Differential	I .Temperature setting range ① 0 ~ 50℃ ② 51 ~ 100℃ ③ 101 ~ 150℃ ④ 151 ~ 190℃ ⑤ 191 ~ 250℃ S.O.D setting range Max. 220℃	II .Temperature tolerance ① ±4℃/±5℃ ② ±4℃/±6℃ ③ ±5℃/±7℃ ④ ±6℃/±8℃ ⑤ ±7℃/±10℃	III .Differential① 12K ② 15K ③ 20K ④ 25K ⑤ 30K S.O.D type -35℃ or less
Circuit resistance(initial value)	A type : 50 mΩ or less K type : 10 mΩ or less		
Insulation resistance	100 MΩ or greater [through the 500 VDC megger]		
Withstand voltage	A type : 1,500 VAC/minute K type : 1,200 VAC/minute		
Thermal resistance	290℃		
Cold resistance	-20℃		
Opening-closing durability	10,000 times or more [under rated load]		

Office Equipments

Others

Specifications table

Holder Models

※Please contact specification of the approved models are slightly different from those shown above.

② Model code	
US-625□□□□□□-□-□ 1 2 3 4 5 6 7	
1	Contact material A : Ag · Ag alloy contact K : Au cross bar contact
2	Contact model X : "OFF" for temperature rise Y : "ON" for temperature rise
3	Terminal angle R : Horizontal terminal T : Vertical terminal
4	Terminal model L : Terminal for positive lock connector 250 series -- (size:6.35×0.8 material : brass 、 Ni-plated) G : Terminal for positive lock connector 250 series -- (size:6.35×0.8 material : steel 、 Ni-plated) M : Terminal for positive lock connector 187 series -- (size:4.75×0.5 material : brass 、 Ni-plated) H : Terminal for positive lock connector 187 series -- (size:4.75×0.5 material : steel 、 Ni-plated) V : connector IEC60730-1 quasi-terminal -- (size:4.8×0.8 material : brass 、 Ni-plated) J : DIN46244 quasi-terminal -- (size:6.3×0.8 material : steel 、 Ni-plated) D : DIN46244 quasi-terminal -- (size:4.8×0.8 material : brass 、 Ni-plated) I : For fixing with screw (steel , Ni-plated, t0.8) -- ※I:Combination of horizontal terminal (R) S : For soldering (Brass/t 0.5, Sn-plated)
5	Cover materials Holder model QO : Aluminum , no holder QE : Aluminum , surface type (free holder) (23.8mm) QL : Aluminum , surface type (free holder) (24.5mm) KO : Aluminum , embedded type (depth 5.0mm 、 24.5mm) GO : Aluminum , embedded type (depth 5.4mm 、 24.5mm) MO : Stainless steel , surface type (with hole type) IO : Stainless steel , embedded type (depth 4.6mm 、 24.5mm) JO : Stainless steel , embedded type (depth 5.2mm 、 24.5mm) QD : Aluminum , surface type (free holder) (30mm) QM : Aluminum , surface type (for mounting an M3 tapping screw) 23.8mm) FO : Stainless steel , no holdersurface type DO : Aluminum , no holder (with hole) NO : Aluminum , no holder (with frange) CO : Stainless steel , embedded type (depth 5.2mm、 24.5mm) (with hole type) SO : Brass , screw-mount type -- [M3,M4,M5,6-32UNC,8-32UNC,10-32UNC]
6	S.O.D model S.O.D model LC : One shot type Single operating device (S.O.D type)
7	Free Holer Fixed model (QE) FB : Aluminum , surface type (23.8mm) (QL) FB : Aluminum , surface type (24.5mm)

③ Sample of Model code

- US-625AXRMQO . . . Horizontal F187 Terminal、 Aluminum , no holder
- US-625AXTMQE . . . Vertical F187 Terminal、 Aluminum 、 surface type (free holder) 23.8mm
- US-625AXTMQE-LC . . . Vertical F187 Terminal、 Aluminum 、 surface type (free holder) 23.8mm 、 S.O.D type
- US-625AXTMQE-LC-FB . . . Vertical F187 Terminal、 Aluminum 、 surface type (fixed holder) 23.8mm 、 S.O.D type
- US-625AXRLQL . . . Horizontal F250 Terminal、 Aluminum 、 surface type (free holder) 24.5mm
- US-625AXTMQL-LC . . . Horizontal F250 Terminal、 Aluminum 、 surface type (free holder) 24.5mm 、 S.O.D type
- US-625AXTMQL-LC-FB . . . Horizontal F250 Terminal、 Aluminum 、 surface type (fixed holder) 24.5mm 、 S.O.D type

type

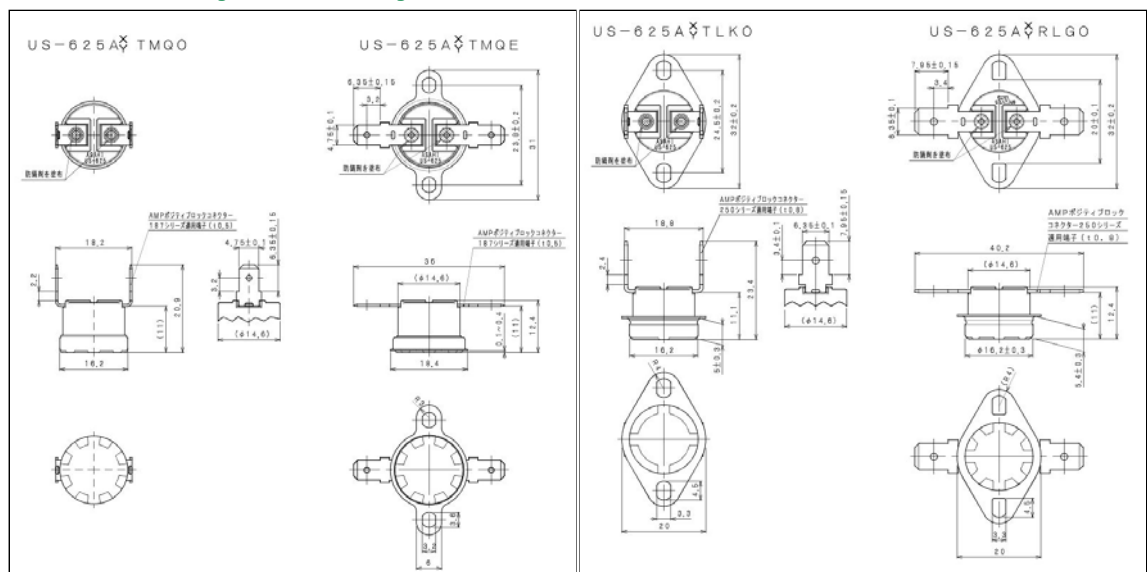
- US-625AXTLKO . . . Vertical F250 Terminal, Aluminum 、 embedded type depth 5mm, 24.5mm
- US-625AXRVAS . . . Horizontal IEC Terminal, Stainless steel 、 surface type 24mm<
- US-625AXTSIO . . . Vertical soldering Terminal, Stainless steel 、 embedded type depth 4.5mm, 24mm<

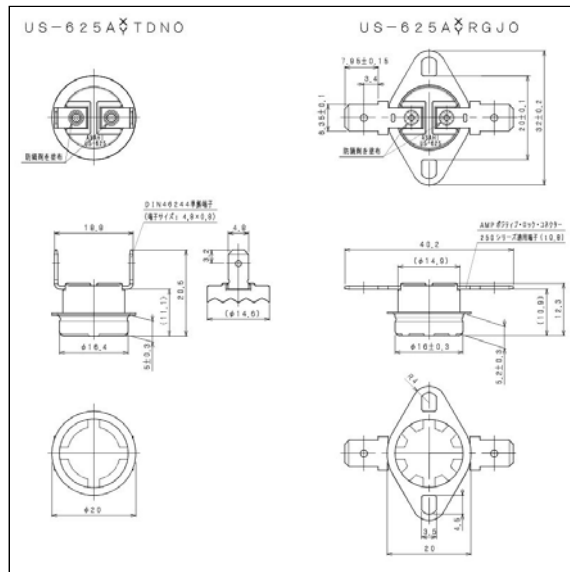
④ List of international safety standards

Model / Type	Agency	File No.	Operating temp. Ratings	Number of cycles		Max. Volts	Max. Amperes			
				Category	cycles		Resistive load	Inductive load	FLA	LRA
US-625	UL C-UL	E52529	260	limiting	100,000	AC 125	15	-	-	-
						AC 250	10	-	-	-
			200			AC 125	15	-	-	-
			AC 250			10	-	-	-	
US-625-LC	UL C-UL	E52529	220	S.O.D.	1	AC 125	15	-	-	-
AC 250						10	-	-	-	
US-625-LC-QR						AC 125	15	-	-	-
AC 250						10	-	-	-	
US-625V	AC 125	15	-	-	-					
AC 250	10	-	-	-						
US-625F	260	AC 250	15	-	-	-				
US-625	VDE	40027110	190	thermostat	100,000	AC 250	10	-	-	-
						10,000	-	6	-	-
US-625K	VDE	40027128	220	thermostat	100,000	DC 30	1	-	-	-
						AC 120	125VA	-	-	-
US-625-LC	VDE	40006690	220	S.O.D.	1	AC 250	10	-	-	-
US-625-LC-QR							10	-	-	-
US-625V							10	-	-	-
US-625F							260	15	-	-

⑤ Dimensional outline drawing

◆More detailed image → Click the image





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US-628 Snapper, Snap Action

CMJ · UL · C-UL approved

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Select by Model Table

Select by Application

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Gas & oil Equipment

Residential Equipments

Commercial Equipments

Automotives



US-628AXSSAS-F

◆More detailed image → [Click the image](#)

Features Drip-proof, compact design, general purpose, low cost
Application Suitable for wide range of applications such as gas and oil appliances, fuel cell, etc.

[PDF Catalog](#)



US-628AXSSWO-F

US-628AXSSAT-F



US-628AXSSGO-F

US-628AXSSWO-F

① Thermostat Specifications

Electrical ratings	A type : 125 VAC, max. 10A, resistance load A type : 250 VAC, max. 5A, resistance load -- (min. 200mA) K type: 24 VDC, max. 1A, resistance load K type: 40 VDC, max. 0.5A, resistance load -- (MIN. DC5V 1mA)		
I .Temperature setting range	I .Temperature setting range	II .Temperature tolerance	III .Differential
II .Temperature tolerance	① 0 ~ 50℃ ② 51 ~ 100℃ ③ 101 ~ 130℃	① ±4℃/±5℃ ② ±4℃/±6℃ ③ ±5℃/±7℃	① 12K ② 15K ③ 20K
III .Differential			
Circuit resistance(initial value)	A·K type: 70 mΩ or less (except for lead wires)		
Insulation resistance	100 MΩ or greater [through the 500 VDC megger]		
Withstand voltage	A type: 1,500 VAC/minute K type: 1,200 VAC/minute		
Thermal resistance	130℃		
Cold resistance	-20℃		
Opening-closing durability	10,000 times or more [under rated load]		

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※Please contact specification of the approved models are slightly different from those shown above.

② Model code

Office Equipments

Others

Specifications table

Holder Models

US-628□□□□□□□□-□□□□
1 2 3 4 5 - 6 7

1	Contact material	A : Ag · Ag alloy contact K : Au cross bar contact
2	Contact model	X : "OFF" for temperature rise Y : "ON" for temperature rise
3	Terminal model	S : Filling-only terminal
4	O-ring model	S : silicon rubber
5	Cover materials Holder model	QO : Aluminum , no holder QE : Aluminum , surface type (free holder) (23.8mm) QE-FB : Aluminum , surface type (fixed holder) (23.8mm) QL : Aluminum , surface type (free holder) (24.5mm) QL-FB : Aluminum , surface type (fixed holder) (24.5mm) AS : Stainless steel , surface type(24mm) FO : Stainless steel , no holdersurface type FF : Stainless steel , surface type(25mm)
6	Wire material	F : Fluoropolymer wire V : Heat-proof, lead-free PVC wire
7	Special specification	

③ Sample of Model code

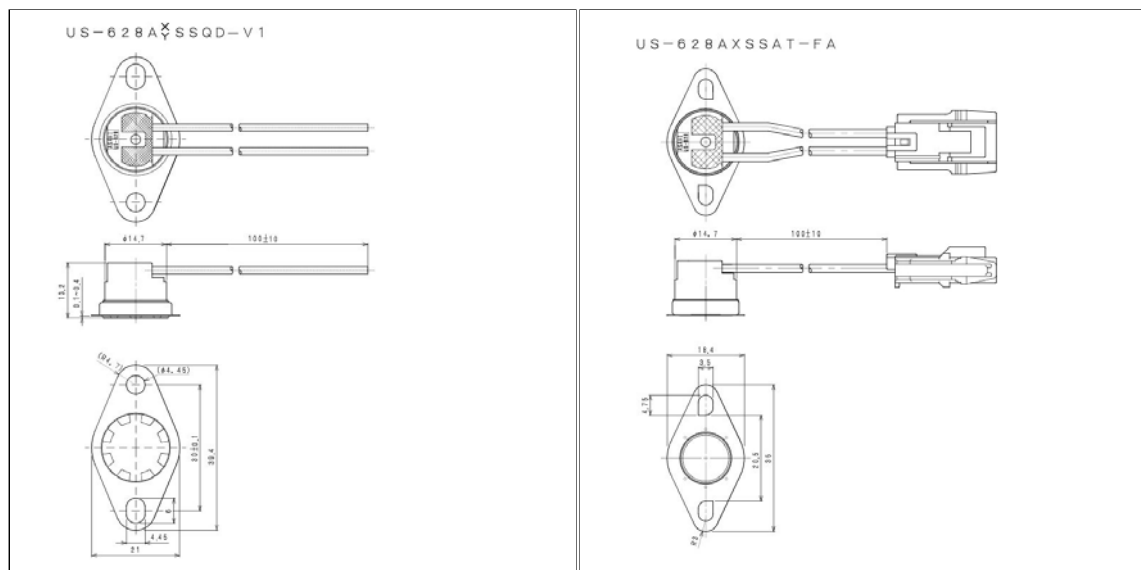
- US-628AXSSQO . . . Aluminum cover , no holder
- US-628AXSSQE . . . Aluminum cover , surface type (free holder) 23.8mm
- US-628AXSSQL . . . Aluminum cover , surface type (free holder) 24.5mm
- US-628AXSSAS . . . Stainless steel cover 、 surface type 24mm

④ List of international safety standards

Model / Type	Agency	File No.	Operating temp. Ratings	Number of cycles		Max. Volts	Max. Amperes			
				Category	cycles		Resistive load	Inductive load	FLA	LRA
US-628A	UL C-UL	E52529	150	limiting	30,000	AC 125	10	-	-	-
						AC 250	5	-	-	-
			150			DC 30	5	-	-	-
						DC 40	0.5	-	-	-
US-628K			150	limiting	30,000	DC 30	1	-	-	-
						DC 40	0.5	-	-	-

⑤ Dimensional outline drawing

◆ More detailed image → [Click the image](#)





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US-630 Snapper, Snap Action
CMD · UL · VDE approved



US-630XMWA



US-630AXAW2-T1



US-630AXAW3-T2



US-630AXAWA



US-630AXOSR

◆ More detailed image → [Click the image](#)

Features Case attachment type, Heavy case type, with / without thermal fuse
Application Electric carpet, floor heating, water heater, vending machine, etc.

[PDF Catalog](#)

① **Thermostat Specifications**

Electrical ratings	125 VAC, max. 8A, resistance load 250 VAC, max. 4A, resistance load -- (min. 200mA)		
I .Temperature setting range II .Temperature tolerance III .Differential	I .Temperature setting range ① 0 ~ 50℃ ② 51 ~ 100℃ ③ 101 ~ 120℃	II .Temperature tolerance ① ±4℃/±5℃ ② ±5℃/±5℃ ③ ±5℃/±5℃	III .Differential ① 10K ② 10K ③ 12K
Circuit resistance(initial value)	70 mΩ or less (this value varies depending on the thermal fuse and lead length)		
Insulation resistance	100 MΩ or greater [through the 500 VDC megger]		
Withstand voltage	1,500 VAC/minute		
Thermal resistance	130℃ (except the thermal fuse and lead)		
Cold resistance	-20℃		
Opening-closing durability	10,000 times or more [under rated load]		

※Please contact specification of the approved models are slightly different from those shown above.

② **Model code**

US-630 □ □ □ □ □ □ □
 1 2 3 4 5 6

Office Equipments	1	Contact material	A : Ag contact
Others	2	Contact model	X : "OFF" for temperature rise Y : "ON" for temperature rise
Specifications table	3	Thermal fuse model	A : 2A 100°C B : 2A 112°C C : 2A 129°C K : 5A 100°C L : 5A 112°C M : 5A 133°C F : 8A 99°C G : 8A 113°C H : 8A 130°C O : without thermal fuse
Holder Models	4	Case model	S : Case attachment type (without thermal fuse) W : Heavy case type (with / without thermal fuse)
	5	Lead model	R : Black, heatproof vinyl insulated wire 0.5sq, length 100 [500 , 1000] A : Black, heatproof vinyl insulated wire 0.75sq, length 100 [500 , 1000] F : Faston 187 series equivalent T : Unit specification [special lead wire] 2 : 2-ream specification 3 : 3-ream specification 4 : 4-ream specification 5 : 5-ream specification 6 : 6-ream specification
	6	Special specification	

③ Sample of Model code

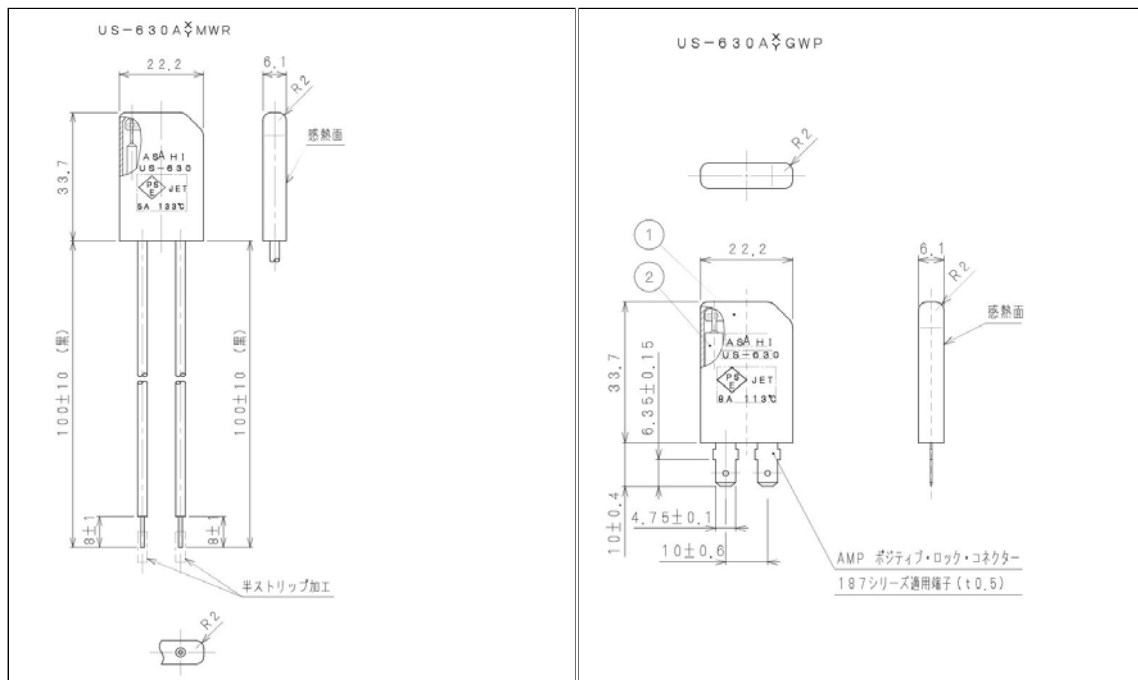
- US-630AXOSR · Case attachment, without thermal fuse, Black, heatproof vinyl insulated wire 0.5sq, 100mm
- US-630AXAWR · Heavy case, 2A Thermal fuse, Black, heatproof vinyl insulated wire 0.5sq, 100mm
- US-630AXFWA · Heavy case, 8A Thermal fuse, Black, heatproof vinyl insulated wire 0.75sq, 100mm

④ List of international safety standards

Model / Type	Agency	File No.	Operating temp. Ratings	Number of cycles		Max. Volts	Max. Amperes			
				Category	cycles		Resistive load	Inductive load	FLA	LRA
US-630U	UL	E52529	100	limiting	100,000	AC 120	5	-	-	-
						AC 120	2	-	-	-
US-630	VDE	40031106	100	thermostat	100,000	AC 250	2	-	-	-

⑤ Dimensional outline drawing

◆ More detailed image → [Click the image](#)



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US-802 Snapper, Snap Action

CMJ · UL · C-UL · VDE(EN (6 0 7 3 0 A) approved



◆More detailed image → [Click the image](#)

Features Microminiature, slim, space-saving thermostat (with temperature sensor) ideal for printed circuit boards (PCB)
Application 液LCD projector, power supply equipment, printed circuit board (PCB), etc.

[PDF Catalog](#)

① Thermostat Specifications			
Electrical ratings	125 VAC, max. 1A, resistance load -- (min. 200mA) 48 VDC, max. 1A, resistance load -- (MIN. DC5V 1mA)		
I .Temperature setting range	I .Temperature setting range 40·45·50 ··· ~ 120℃ (5K indent)	II .Temperature tolerance ±4℃/±7℃	III .Differential 15K
Circuit resistance(initial value)	50 mΩ or less		
Insulation resistance	100 MΩ or greater [through the 500 VDC megger]		
Withstand voltage	1,200 VAC/minute		
Thermal resistance	125℃		
Cold resistance	-20℃		
Opening-closing durability	10,000 times or more [under rated load]		

※Please contact specification of the approved models are slightly different from those shown above.

② Model code	
US-802□□□□□ 1 2 3	
1 Model	A : Standard
2 Contact model	X : "OFF" for temperature rise

Holder Models

		Y : "ON" for temperature rise
3	Operating temperature	Example 085 : 85°C

③ Sample of Model code

- US-802AX085 . . . temperature rise, operate temp. 85°C±5°C, contact open " OFF "
- US-802AY095 . . . temperature rise, operate temp. 85°C±5°C, contact close " ON "

Standard Calibrations (Open temperature / Close) temperature

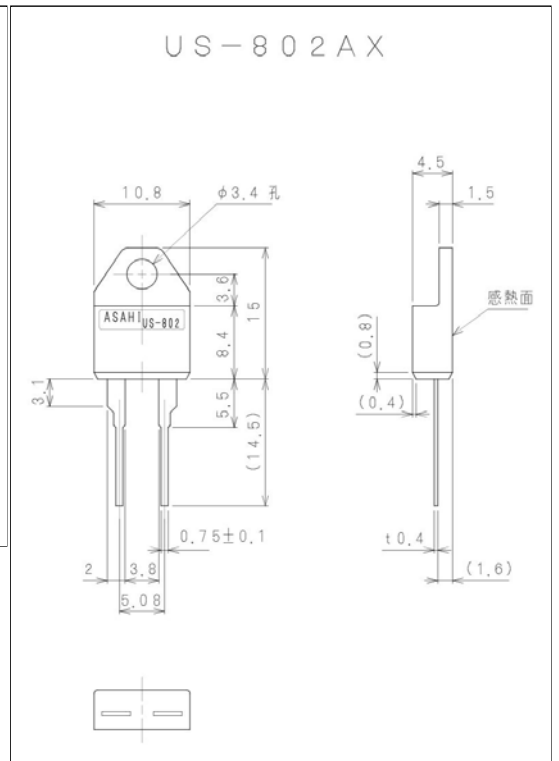
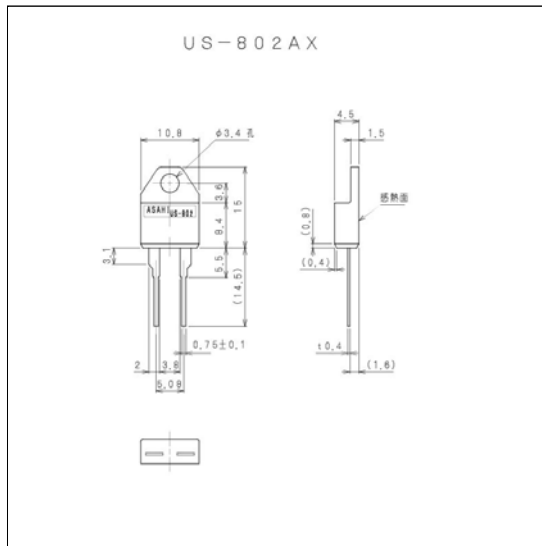
US-802AX Type (Open on temperature rise) / Limit			US-802AY Type (Close on temperature rise) / Far		
MODEL CODE	Operate Temp. °C OFF ±5K	Reset Temp. °C ON ±7K	MODEL CODE	Reset Temp. °C OFF ±5°C	Operate Temp. °C () ±7°C
802AX040	40	25	802AY040	25	40
802AX045	45	30	802AY045	30	45
802AX050	50	35	802AY050	35	50
802AX055	55	40	802AY055	40	55
802AX060	60	45	802AY060	45	60
802AX065	65	50	802AY065	50	65
802AX070	70	55	802AY070	55	70
802AX075	75	60	802AY075	60	75
802AX080	80	65	802AY080	65	80
802AX085	85	70	802AY085	70	85
802AX090	90	75	802AY090	75	90
802AX100	100	85	802AY100	85	100
802AX105	105	90	802AY105	90	105
802AX110	110	95	802AY110	95	110
802AX115	115	100	802AY115	100	115
802AX120	120	105	802AY120	105	120

④ List of international safety standards

Model / Type	Agency	File No.	Operating temp. Ratings	Number of cycles		Max. Volts	Max. Amperes			
				Category	cycles		Resistiveload	Inductiveload	FLA	LRA
US-802	UL C-UL	E52529	120	limiting	30,000	DC 48	1	-	-	-
						AC 125	1	-	-	-
US-802-LC	UL C-UL	E52529	120	S.O.D.	1	DC 48	1	-	-	-
						AC 125	1	-	-	-
US-802	VDE	40011726	120	thermostat	30,000	DC 48	1	-	-	-
						100,000	DC 5	0.02	-	-
US-802-LC			120	S.O.D.	1	DC 48	1	-	-	-

⑤ Dimensional outline drawing

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US-828 Snapper, Snap Action

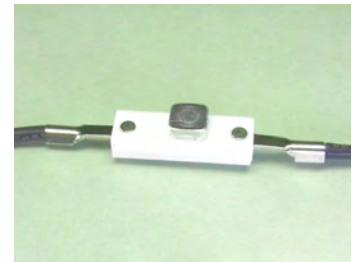
CMD · UL · C-UL · VDE(EN 6 0 7 3 0 A) approved



US-828AXAB



US-828AXBB-S



◆More detailed image → [Click the image](#)

Features Insulation-enhanced compact design, S.O.D. specification compliant model
Application Office automation equipment such as copier, printer, laser MFP, etc.
 Office automation equipment such as copier, printer, laser MFP, etc.

[PDF Catalog](#)

① Thermostat Specifications		
Electrical ratings	A type : 125 VAC, max. 16A, resistance load A type : 250 VAC, max. 10A, resistance load -- (min. 200mA)	
I .Temperature setting range	I .Temperature setting range 180 ~ 290°C	II .Temperature tolerance ±10°C以上
II .Temperature tolerance		
Circuit resistance(initial value)	50 mΩ or less	
Insulation resistance	100 MΩ or greater [through the 500 VDC megger]	
Withstand voltage	1,500 VAC/minute	
Thermal resistance	300°C	
Cold resistance	-20°C	
Opening-closing durability	(With S.O.D. spacefication) 3 times or more [under rated load]	

※Please contact specification of the approved models are slightly different from those shown above.

② Model code	
US-828 □ □ □ □ □ □ 1 2 3 4 5	
1 Contact material	A : AgNi alloy contact

Office Equipments

Others

Specifications table

Holder Models

2	Contact model	X : "OFF" for temperature rise
3	Terminal model	A: Splices for the crimping (Non-insulate Pin type) B: Splices for the crimping (Non-insulate Sleeve type) Applicable wire AWG14 to 16
4	Cover materials model	B: Aluminum (no hole)
5	Base model	S: Standard

③ Sample of Model code

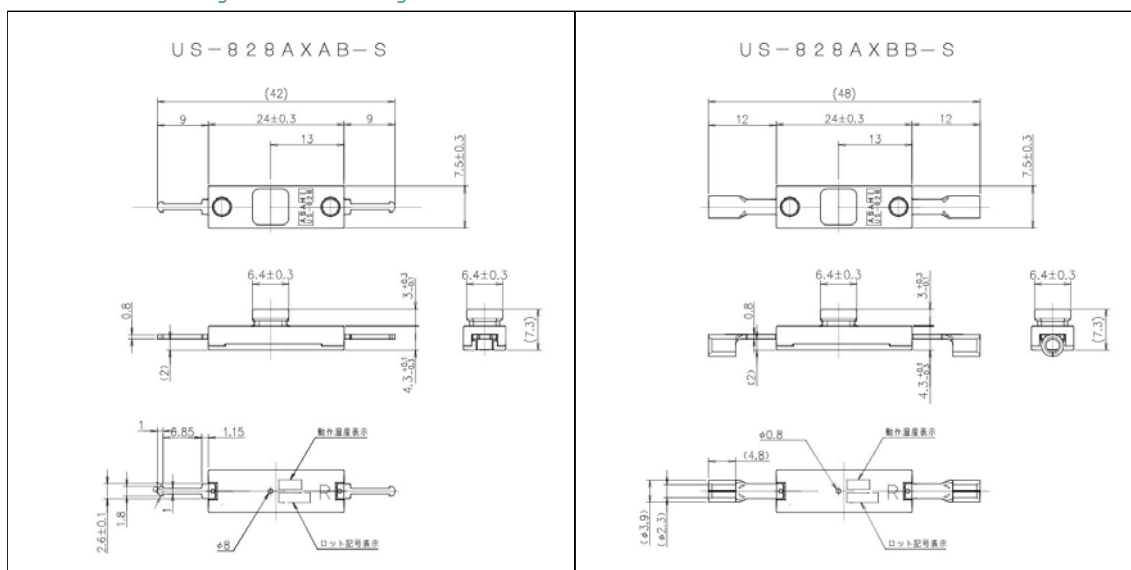
- US-828AXAB-S AgNi alloy contact, Clinching type terminals, Aluminum cover (no hole)
- US-828AXBB-S AgNi alloy contact, Sleeves terminal (Horizontal) , Aluminum cover (no hole)

④ List of international safety standards

Model / Type	Agency	File No.	Operating temp. Ratings	Number of cycles		Max. Volts	Max. Amperes			
				Category	cycles		Resistive load	Inductive load	FLA	LRA
US-828A	UL C-UL	E52529	290	S.O.D.	1	AC 250	16	-	-	-
US-828A	TUV	R 50228951	290	S.O.D.	1	AC 250	16	-	-	-

⑤ Dimensional outline drawing

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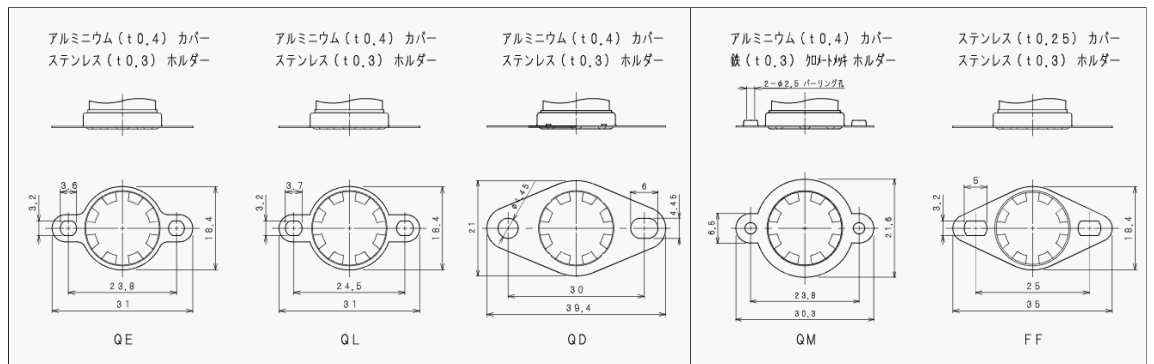
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HOUSINGS - HOLDERS

Free Holder



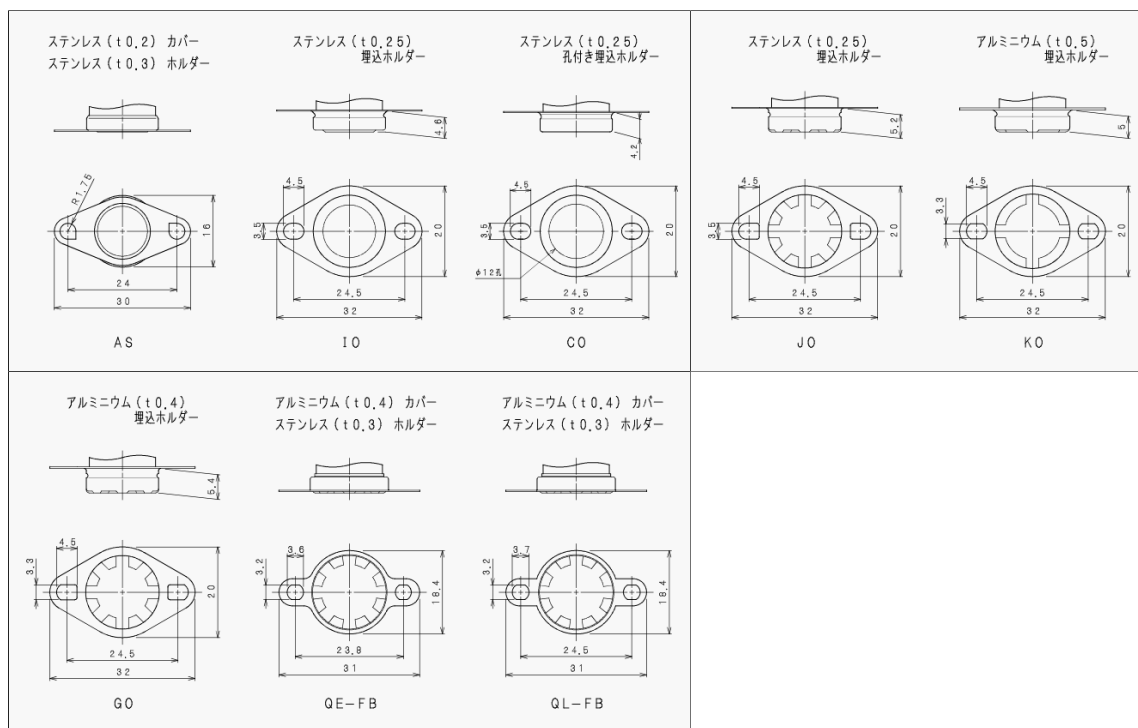
Appearance Click photo to enlarge	Holder Model	Structure Mount	Cover type Material Thickness	Holder type Material Thickness	Mounting pitch Mounting holes	Thermostat Model							
						602	603	621	622	623	625	628	
	QE	cover + free holder	Aluminum t 0.4mm	Stainless t 0.3mm	23.8mm 3.2×3.6 3.2×3.6	●	●	●	●	●	●	●	
	QL	cover + free holder	Aluminum t 0.4mm	Stainless t 0.3mm	24.5mm 3.2×3.7 3.2×3.7	●	●	●	●	●	●	●	●
	QD	cover + free holder	Aluminum t 0.4mm	Stainless t 0.3mm	30.0mm φ4.45 4.45×6	●	●	●	●	●	●		
	QM	cover + free holder	Aluminum t 0.4mm	steel Chromate plating t 0.3mm	23.8mm for M3 tapping screws	●	●	●	●	●	●		
	FF	cover + free holder	Stainless t 0.25mm	Stainless t 0.3mm	25.0mm 3.2×5 3.2×5	●	●						●

Fixed Holder8

Others

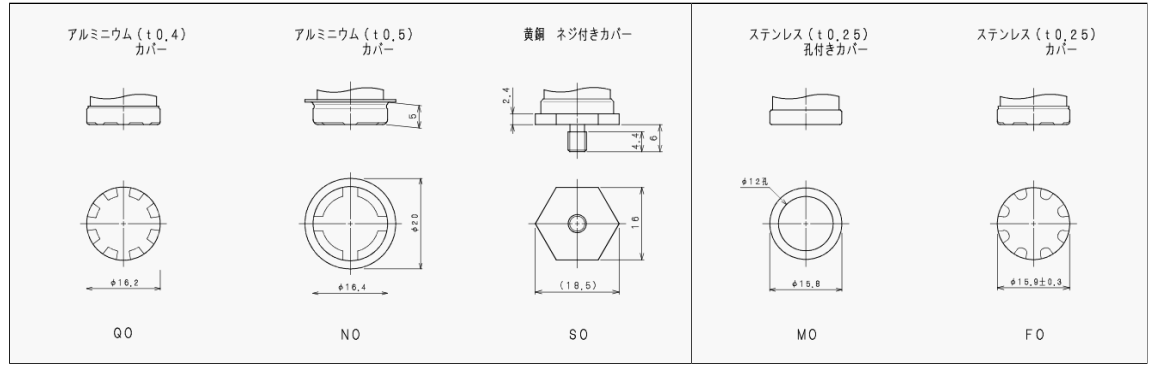
Specifications table

Holder Models



Appearance Click photo to enlarge	Holder Model	Structure Mount	Cover type Material ·Thickness	Holder type Material ·Thickness	Mounting pitch Mounting holes	Thermostat Model								
						602	603	621	622	623	625	628		
	AS	Welding holder cover Surface type	Stainless t 0.2mm	Stainless t 0.3mm	24.0mm φ3.5 φ3.5	●	●							●
	IO	Integrated holder and cover Implantable	Stainless t 0.25mm	-	24.5mm 3.5×4.5 3.5×4.5	●	●	●	●	●	●			
	CO	with φ12 hole Integrated cover Implantable	Stainless t 0.25mm	-	24.5mm 3.5×4.5 3.5×4.5			●	●	●	●			
	JO	Integrated holder and cover Implantable	Stainless t 0.25mm	-	24.5mm 3.5×4.5 3.5×4.5	●	●	●	●	●	●			
	KO	Integrated holder and cover Implantable	Aluminum t 0.5mm	-	24.5mm 3.3×4.5 3.3×4.5	●	●	●	●	●	●			
	GO	Integrated holder and cover Implantable	Aluminum t 0.4mm	-	24.5mm 3.3×4.5 3.3×4.5			●	●	●	●			
	QE-FB	Caulking holder cover Surface type	Aluminum t 0.4mm	Stainless t 0.3mm	23.8mm 3.2×3.6 3.2×3.6	●	●	●	●	●	●	●	●	●
	QL-FB	Caulking holder cover Surface type	Aluminum t 0.4mm	Stainless t 0.3mm	24.5mm 3.2×3.7 3.2×3.7	●	●	●	●	●	●	●	●	●

No holder



Appearance Click photo to enlarge	Holder Model	Structure Mount	Cover type Material ·Thickness	Holder type Material ·Thickness	Mounting pitch Mounting holes	Thermostat Model							
						602	603	621	622	623	625	628	
	QO	cover only no holder	Aluminum t 0.4mm	-	-	●	●	●	●	●	●	●	●
	NO	cover only no holder	Aluminum t 0.5mm	-	-			●	●	●	●		
	SO	cover with screw no holder	Brass	-	-	●	●	●	●	●	●		
	MO	with φ12 hole cover only no holder	Stainless t 0.2mm	-	-			●	●	●	●		
	FO	cover only no holder	Stainless t 0.25mm	-	-	●	●	●	●	●	●	●	●

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What is a thermostat?



• • Thermostat

A device that stabilizes heat and temperature

The etymology for thermostat is a compound word combining "thermo" which means temperature or heat, and "stat" which means a stationary state. "Thermo" is how the word is pronounced in English, but in German it is pronounced "terumo" or "tamu".

• • Purpose

(1) Temperature regulator (controller): Maintains a certain degree of temperature.

(2) Excess temperature rise protector (limiter/protector): Turns off the heat source when the temperature rises above a particular level.

(3) Temperature detector: Signals when the set temperature has been reached and causes another operation to occur.

These are the main purposes of the thermostat.

• • Asahi's Thermostat is a bimetal thermostat.

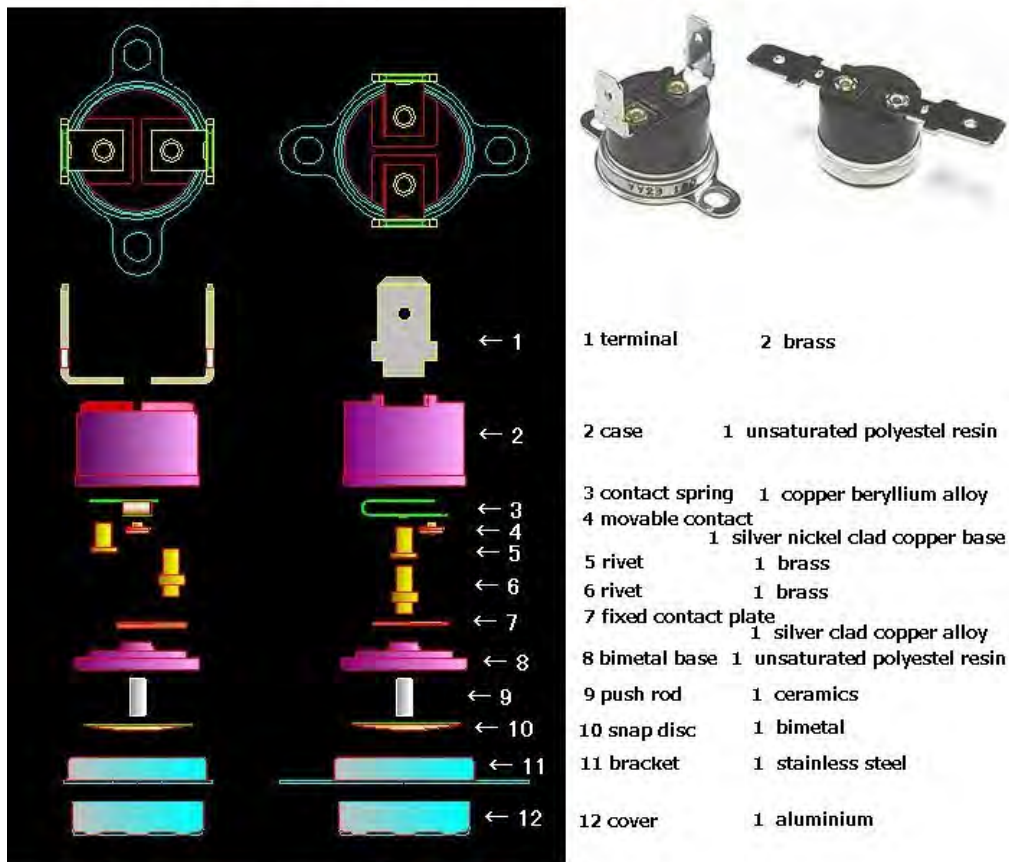
The temperature switch senses the temperature through the bimetal and controls the electricity contacts (turning them on or off).

There are various kinds of devices for temperature control and measurement.

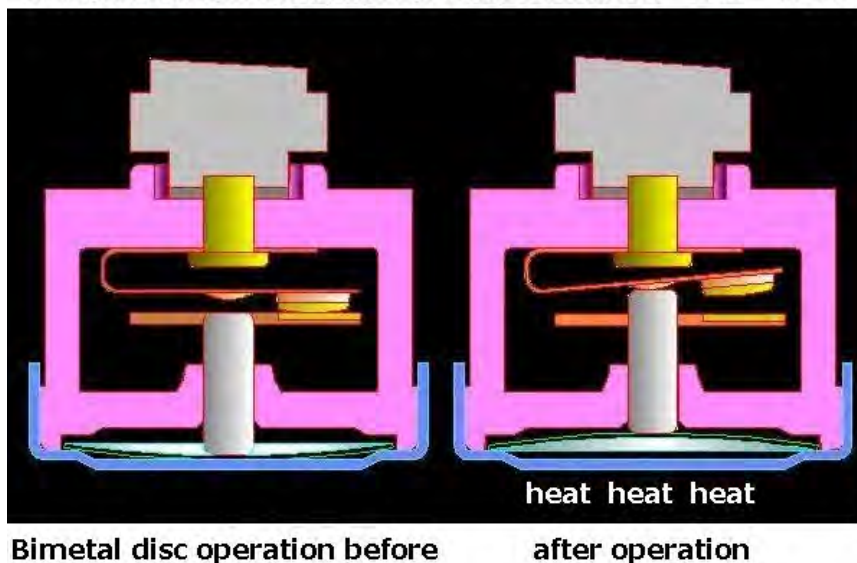
What are the principles of bimetal?

• • Bimetal	Two metals (a low expansion metal and a high expansion metal) are milled into a single sheet using a roller → Bimetal
• • Bimetal is a compound word	combining "bi" (a prefix meaning "two") and "metal."
• • Pressurized bonding	Bonding by cool or hot rolling (molecular bonding). No adhesive is used.
• • Materials	High expansion metal contains an iron alloy (Fe) and nickel (Ni) with added substances Cr, Mn, and Mg; low expansion metal contains iron (Fe) and nickel (Ni) as the main materials for Invar (Ni35-Fe)
• • Bimetal bends in one direction as the temperature rises and in the other direction as it falls.	
• • Force arises where the movement is controlled, and in the thermostat the set point pressure exerts a repelling force.	

U S - 6 2 2 A X T L Q E , R L Q O



Structure and mechanism of the thermostat U S - 6 2 2



Types, structures and purposes of bimetal thermostats

• Types and structures

PLaminated type	In this type, parts have been laminated together and fastened with a rivet, facilitating temperature variations in small increments.
Snap disc type	In this type, parts are contained in a covered case. It has a relatively large differential, and uses a low cost snap disc to prevent excessive temperature rises.
Protector type	This type is contained in a covered case, with, a snap disc integrated into the electric circuit for the detection and prevention of temperature rises or overcurrent situations.

- Applications

Home electric appliances	Home electric appliances: Kitchen goods (Computerized hot water kettles, coffee makers, ovens, hot plates, rice-cake makers, etc.) Heating devices: Electric space heaters, electric heating pads, electric kotatsu (coffee-table type heaters with coverlets), panel heaters, electric mats, etc.) Others: Ironing presses, hair dryers, vacuum cleaners, futon dryers, etc.)
Household goods	Lavatory seats, washlets (a seat-type of bidet incorporating seat warming and warm water irrigator), battery chargers, etc.)
Gas and oil	Bathtub boilers, water heaters, floor warmers, fan heaters, space heaters, etc.)
Others	Copy machines, automatic vending machines, automobiles, motorboats, marine jets, etc.
Industrial equipment	Construction tools, road signs, welding machines, etc.

□

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Thermostat Technical Documentation

Japanese



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The current capacity due to due to the difference in the load voltage

It is a conceptual reference case number, micro switch, toggle switch, relay (1 ~ 10A), etc.

Reference numbers is made 100% of the current capacity at the AC125V. And reference numbers is made 100% of the current capacity at the resistive load.

Voltage	Current
AC 125V	100%
AC 250V	70%
	(Micro SW 60)
DC 24V	50%
DC 125V	5%
DC 24V	[Min. 50mA]

Load	Current
Resistive load (COS φ = 1)	100%
Inductive load (COS φ = 0.4)	50% (Micro SW 60)
Motor lamp	15% (Micro SW 10)

Inrush current of the load

It is a conceptual reference case number, on the basis of the load resistance.

Load	Inrush current
Incandescent lamp	10-15 times 0.3~0.4 sec
Mercury lamp	3-4 times 3~5 sec
Fluorescent lights	3-4 times 2~7 sec
Motor	5-10 times 0.2~5 sec

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Solenoid	10-20 times 約 0.1 sec
Magnet relay	3-10 times 0.02 ~ 0.04 sec

Electrical rating of gold crossbar contact products

Applicable models US-118C, US-602K, US-603K, US-622K, US-625K, 628K

Maximum rating

Load	A C Rating	D C Rating
Resistance load	AC 125V 0.5A	DC 40V 0.5A
	AC 50V 1A	DC 24V 1A [Min. DC 5V 1mA]
Inductive load	AC 125V 0.2A	DC 40V 0.2A
	AC 24V 1A	DC 10V 1A
Circuit resistance standard of life after, at the same time as the initial standard		

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Time constant of the thermostat (Thermal response speed)

Thermal response performance of the thermostat can be compared and evaluated with a time constant.

Time constant

When it is moved to a certain temperature from room temperature samples, the time delay will occur before reaching.

Time until the 63.2% of the temperature difference between the temperature in the room temperature this is the time constant. (Thermal response speed)

Test method

- ① How to calculate the time constant from the operating time of the thermostat Topped with the thermostat on a hot plate, and measuring the time it takes to operate in a state of constant pressure mosquitoes.

After the measurement, I find the constant thermal response time in the following calculation

The basic formula for heat conduction Indesharu response $T=A(1-e^{-t/\lambda})$

t : Thermostat time until the action (s)

T : Operating temperature of the thermo

temperature difference of room temperature (K)

A : The temperature difference between the room temperature and hot plate temperature (K)

λ : Thermal response time constant (s)

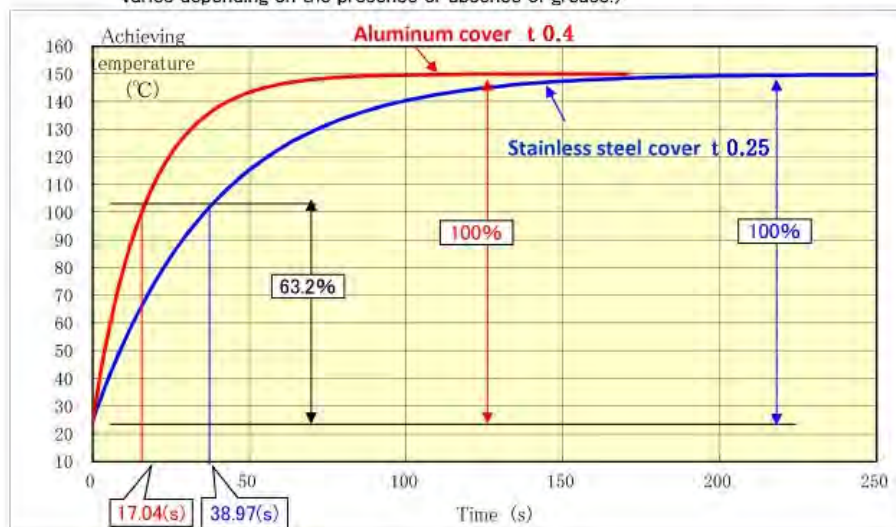
Constant thermal response time

$$\lambda = -\frac{t}{\ln \frac{A-T}{A}}$$

- ② method for determining the time constant from the test implementation chart (The temperature of the bimetal disc)

Comparing temperature tracking performance graph of the response due to cover the material of a hot plate

(Shape and area ground pressure, the cover, the material and shape of the bimetal, varies depending on the presence or absence of grease.)





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Thermostat FAQ

Japanese

Q. What's Snapper?	A. Snapper is a registered trademark of Asahi Keiki. It is a generic name for round thermostats (US-118, 602, 603, 621, 622, 625, 628) using disc bimetals.
Q. Could you explain the related domestic and overseas standards?	A. In Japan, our products have passed the tests defined in the Electric Parts/Material Registration System and the Gas Burner Parts Inspection System. In addition, they have been qualified in the overseas standards such as UL, C-UL, CSA, DEMCO, VDE and CCEE. For details, refer to our product catalog.
Q. Could you explain the rated current and rated voltage?	A. Unless otherwise stated, the rated current and rated voltage are represented by resistance loads (power factor: $\cos\phi=1$). When the load is not a resistance load, the current capacity and rush current vary. For details, refer to the relevant catalog or contact us.
Q. Could you explain the use of gold and silver contacts?	A. A gold contact should be used when the maximum rating is 125 VAC, 0.5 A, 50 VDC, 1 A, 40 VDC, 0,5 A or 24 VDC, 1A. In contrast, a silver contact should be used when the maximum rating is other than the above combinations.
Q. Could you explain the temperature range?	A. A temperature range must be 150°C for US-602 and US-603, 0 to 185°C for US-622, 50 to 250°C for US-625 and 0 to 250°C for US-118. A temperature point is set in each range. (For other models, contact us with the specifics.)
Q. Why does a sound (a snap) occur at startup?	A. This sound is generated due to the thermostat's bimetal inversion. It does not indicate a problem.
Q. Could you explain a differential?	A. In short, it means the difference between the operating temperature and the return temperature. For example, for a thermostat, the thermostat temperature is 15 degrees by default when the temperatures are set to 100°C OFF and 85°C ON.

Q. Could you explain us how to set the operating temperature?	A. The operating temperature data of our thermostats are as follows: (1) Using an air circulation high temperature furnace (2) Raising or lowering the temperature based on 1K per minute (3) Preventing load current (4) Recording the first operating temperature This method is being widely used as the regular method. In addition, when the operating temperature varies significantly depending on the mounting location and the
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Office Equipments	real load current, check the temperature of the control target and designate it before placing an order.
Others	
Specifications table	<p>Q. Please tell me the contact for product procurement or other information acquisition.</p> <p>A. Click "Contact us" on the home page.</p>
Holder Models	<p>Q. Could you explain the difference between excess temperature rise prevention and temperature control, and their purposes?</p> <p>A. Generally, excess temperature rise prevention does not take place frequently. It is usually used as a fail-safe. For example, it is used to prevent heating without water supply in water heaters. In addition, temperature control usually takes place to keep the temperature of the product constant. It frequently is used in such electrical appliances as electric rice-cookers, electric mats, and kotatsu (coffee-table type heaters with coverlets).</p> <p>Q. What physically happens to contacts that have exceeded their limits of open/close durability?</p> <p>A. All thermostats turn OFF because the contact springs of the traveling points bend or the traveling contact plate drops, except in situations where the contacts have melted due to overcurrent.</p> <p>Q. Is it possible to use a thermostat with thermal surface depression without problem?</p> <p>A. We don't recommend that you use such a thermostat because thermostats are very important components and their set temperatures sometimes vary due to thermal surface depressions or significant shock.</p>

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