

MTW1 型蠟馬達驅動器 Wax motor actuator

◆ 特點和用途 Characteristics and usage

- 結構簡單可靠、安裝方便、推力大、無噪聲、省電。
Simple and reliable structure, easy to install. High thrust, no noise, energy-saving

- 廣泛應用於液體及清潔劑的分配器、洗衣機、洗碗機、冰箱、電烤箱、嵌入式蒸汽爐、換氣扇、氣流控制器、空氣阻尼器、水流換向閥、熱延時器、安全門扣及隔音裝置、風冷冰箱的風門控制器等。

Widely used in liquid and detergent distributors, washing machines, dishwashers, refrigerators, electric ovens, embedded steam stoves, ventilation fans, air flow controllers, air dampers, water flow reversing valves, thermal delay devices, safety buckles, sound insulation devices and air door controllers of air-cooled refrigerators, etc.



■ 蠟馬達驅動器工作原理

Working principle of wax motor actuator

蠟馬達驅動器是一種驅動裝置。該裝置由一個正溫度系數的熱敏電阻，安裝在一個裝滿固體蠟的密封容器內，當熱敏電阻通電後發熱，使容器內的固體蠟達到一定溫度時，蠟開始熔化及膨脹，推動被彈簧壓住的活塞向外運動，依靠殼體內腔的導向及彈簧的結構，該活塞可拉進或推出一個負載。當熱敏電阻被切斷電源時，液態蠟冷卻收縮，同時彈簧復位力使活塞回覆到原始位置。

The wax motor actuator is a driving device. The device consists of a thermistor with positive temperature coefficient, which is installed in a sealed container filled with solid wax. When the thermistor is energized and generates heat, causing the solid wax in the container to reach a certain temperature, the wax begins to melt and expand, pushing the piston pressed by the spring to move outward. By relying on the guidance of the inner cavity of the shell and the structure of the spring, the piston can pull in or push out a load. When the power of the thermistor is cut off, the liquid wax cools and contracts, while the spring resetting force causes the piston to return to its original position.

◆ 技術特性 Technical Characteristics

項目 Item		特性值 Value			
額定值 Ratings		110~240VAC, 50/60Hz, 穩態電流 Steady state current 0.12Amax, 脈衝電流 Pulse current 0.75Amax			
溫度等級 Degrees of temperature		10T70			
絕緣電阻 Insulation resistance		≥100MΩ (500VDC) (端terminal-殼case)			
耐電壓 Test voltage	端子與不帶電金屬件(外殼)之間 Between each terminal and other exposed metal parts(case)	AC2500V, 50/60Hz, 1min (端terminal-殼case)			
動作行程(mm) Pretravel		MTW1-AL635	MTW1-AS635	MTW1-AS800	MTW1-AS1200
		4.98~6.35	4.98~6.35	6~8.2	9~12.3
壽命 Life		環境溫度20~25℃, 通電90s後斷電300s Environmental temperature 20-25℃, power on for 90 seconds and power off for 300 seconds		環境溫度20~25℃, 通電120s後斷電300s Environmental temperature 20-25℃, power on for 120 seconds and power off for 300 seconds	
		18000次 MIN(無負載 No load) 10000次 MIN(30N)		18000次 MIN(無負載 No load) 7000次 MIN(70N)	10000次 MIN(無負載 No load) 5000次 MIN(70N)
安全認證 Safety approvals		UL、CQC、TUV、CE			

◆ 型號規格命名及含義 Model number legend and meanings

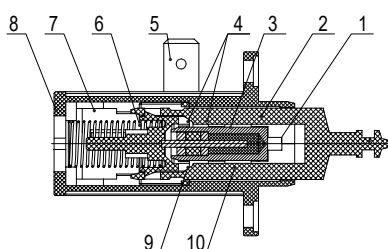
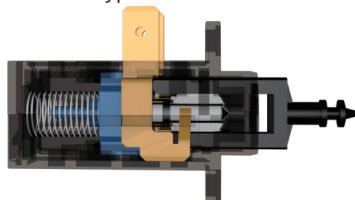
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1 額定值 Ratings	A:110~240VAC, 50/60Hz B:12VDC C:24VDC	3 工作行程 Operating travel	600-1200:6.00-12.00mm (例如such as 635:6.35mm, 1200:12.00mm)
2 驅動形式 Actuator forms	L:拉式 Pull type S:推式 Push type	4 附加代碼 Additional specs code	空白Blank/數字Number(00-99)/ 字母Letter(A-Z) (Not related to product structure)

◆ 內部構造圖 Internal configuration drawing

MTW1-AL635

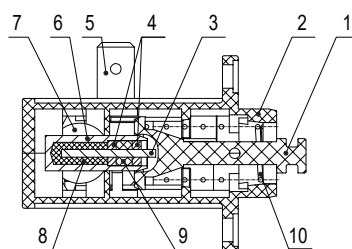
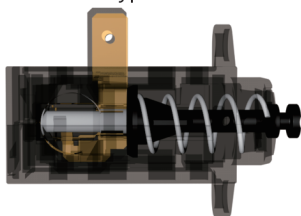
拉式 Pull type



- 1.推杆 Push rod
- 2.殼體 Housing
- 3.鋼針 Stainless Needle
- 4.墊片 Shim
- 5.端子 Terminal
- 6.滑塊 Slider
- 7.彈簧 Spring
- 8.基座 Case
- 9.密封圈 Seal Ring
- 10.蠟 Wax
- 11.電阻 Resistor

MTW1-AS635

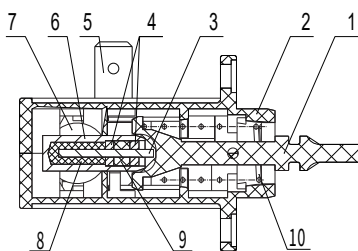
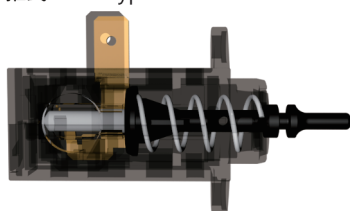
推式 Push type



- 1.推杆 Push rod
- 2.基座 Case
- 3.鋼針 Stainless Needle
- 4.墊片 Shim
- 5.端子 Terminal
- 6.殼體 Housing
- 7.電阻 Resistor
- 8.蠟 Wax
- 9.密封圈 Seal Ring
- 10.彈簧 Spring

MTW1-AS635-01

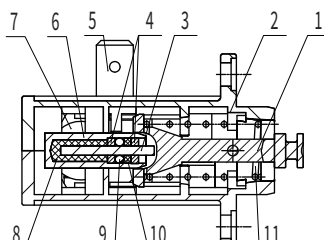
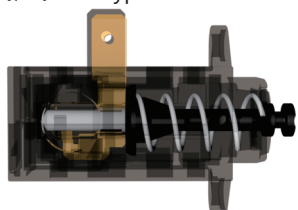
推式 Push type



- 1.推杆 Push rod
- 2.基座 Case
- 3.鋼針 Stainless Needle
- 4.墊片 Shim
- 5.端子 Terminal
- 6.殼體 Housing
- 7.電阻 Resistor
- 8.蠟 Wax
- 9.密封圈 Seal Ring
- 10.彈簧 Spring

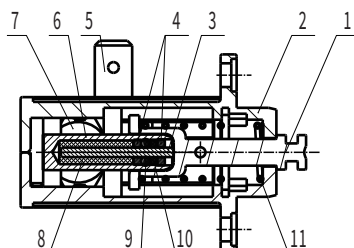
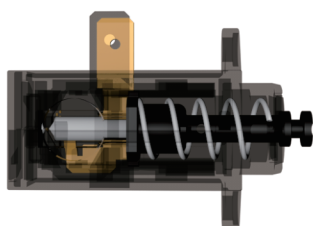
MTW1-AS800

推式 Push type



- 1.推杆 Push rod
- 2.基座 Case
- 3.鋼針 Stainless Needle
- 4.墊片 Shim
- 5.端子 Terminal
- 6.殼體 Housing
- 7.電阻 Resistor
- 8.蠟 Wax
- 9.密封圈 II Seal Ring II
- 10.密封圈 Seal Ring
- 11.彈簧 Spring

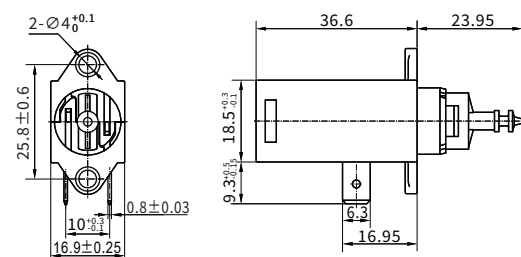
MTW1-AS1200
推式 Push type



- 1.推杆 Push rod
- 2.基座 Case
- 3.鋼針 Stainless Needle
- 4.墊片 Shim
- 5.端子 Terminal
- 6.殼體 Housing
- 7.電阻 Resistor
- 8.蠟 Wax
- 9.密封圈 II Seal Ring II
- 10.密封圈 Seal Ring
- 11.彈簧 Spring

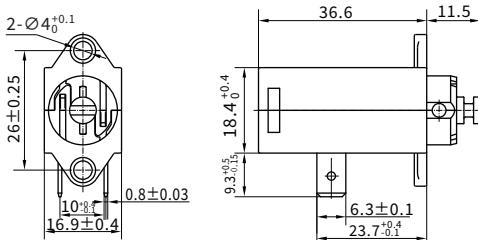
◆ 外形尺寸和動作特性 Dimensions and operating characteristics

MTW1-AL635



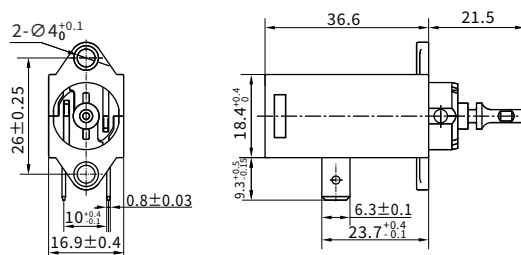
型號Model	MTW1-AL635
環境溫度 Environment temperature	20~25°C
通電時間 Power on time	90s
負載 Load	30N
行程Travel	4.98~6.35

MTW1-AS635



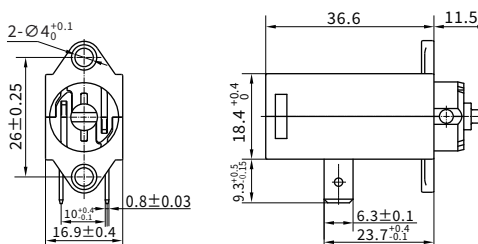
型號Model	MTW1-AS635
環境溫度 Environment temperature	20~25°C
通電時間 Power on time	90s
負載 Load	30N
行程Travel	4.98~6.35

MTW1-AS635-01



型號Model	MTW1-AS635-01
環境溫度 Environment temperature	20~25°C
通電時間 Power on time	通电90s
負載 Load	30N
行程Travel	4.98~6.35

MTW1-AS800
MTW1-AS1200



型號 Model	MTW1-AS800	MTW1-AS1200
環境溫度 Environment temperature	20~25°C	
通電時間 Power on time	通电120s	
負載 Load	70N	
行程 Travel	6~8.2	9~12.3