

HOOCON AUTOMATION CONTROL EQUIPMENT

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AIR APPLICATIONS



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**Actuators for central air conditioner
terminal equipment
Professional manufacturer and total solution supplier**



Automation control equipment for central air conditioner

Professional manufacturer



Technology support, solution support

Professional team provide professional service



35,000m² high standard plant

To control the quality of the product from the source



Focus on technology research

Sufficient technical reserve



Company Profile

HOOCON is a professional manufacturer of HVAC products, we mainly produce: electronic control damper, electronic control valve, electronic motorized valve, spring return damper actuator, fire and smoke damper actuator, smoke control damper actuator, heating system valve and high precision tooling and etc., the products mainly used in the ventilation system (airport, subway, mansion, plant, communication), fire protection system, heat exchange system, power plant and petrochemical industry.

Ningbo Hoocon Automation Control Equipment Co., Ltd. is located in high-tech industrial park Cixi Zhejiang province. Cixi is in the west of Ningbo port, east of Hangzhou, south of Shanghai port. Cixi is in the center of three largest city of Shanghai, Hangzhou and Ningbo, which has unique advantage of geographical position. Hangzhou bay cross-sea Bridge passes through Cixi. And Cixi is only 60 kilometers away from Ningbo airport and port, the sea, air and land transportation is very convenient.

HOOCON has an area of 30,000 square meters and building area of 35,000 square meters. HOOCON has professional testing equipment, the whole category and the whole range of products are tested through 100,000 cycles lifetime testing, noise, anti-interference, high and low temperature detection, all the indicators of the products have reached the leading level in the world, providing the best experience to customers.

HOOCON has an idea of creating a comfortable life with science and technology, adhere to the believe of "quality wins the world, service creates brand", to provide a complete solution and high quality terminal execution equipment for global market!

Annual capacity of actuators is 1 million pieces, produces certified with EU CE, American UL, and French BV. Company has fully implemented the ISO9001-2015(CQC) international quality management system





Sales Network

Overseas market

Overseas sales area is mainly for North America, Europe and Southeast Asia. Currently, a stable sales network has been established, and products have been successfully applied in more than 30 countries in the field of refrigeration and heating.

Domestic market

The domestic sales network is complete. Headquarter office in Ningbo, sales offices have been established in Shanghai, Beijing and Shenzhen. A pre-sale / after-sales service network covering the main cities of the whole country has been established, providing high quality and efficient services for agents and customers. The company's products have successfully used in the landmark project of Shanghai Star Global port, Shanghai Jingan Center, Wanda Plaza and Shanghai, Beijing, Guangzhou, Shenzhen subway project.

1,000,000

Annual capacity 1 million sets per year



Successful Cases

Over the years, with high quality products and perfect after-sales service system, the company's products have successfully entered Beijing, Shanghai, Guangzhou, Shenzhen and other frontline cities. Products also used in the fields of landmark buildings, rail transit, electric power minerals, thermal power, nuclear power, automobile production, animal husbandry and communication base station, Hoocon provide the best quality products and services, while products get praise from customers for the extreme environment adaptability.

Building project

Shanghai Tower
Shanghai Hongqiao Sky Soho
Shanghai Star Global Port
Jinan Wanda Plaza
Jinhua Wanda Plaza
Ningbo National Development Bank
Ningbo Jiangbei Wanda Plaza
Ningbo Yinzhou District Government Building

Subway project

Shanghai Subway
Beijing Subway Line 16
Tianjin Subway Line 1/5/6
Harbin Subway Line 3(Phase 1)
Lanzhou Subway Line 1(Section 5/6)

Animal husbandry project

KFC Heilongjiang Hegang breeding base
KFC Anhui Chuzhou breeding base
KFC Russia St. Petersburg breeding base

Power plant/Minerals project

The Three Gorges Project
Guangdong Daya Bay Nuclear Power Plant
Guangxi Tianshengqiao Hydropower Station
Gezhouba Multi-Purpose Project

Automobile workshop project

Guangxi Automobile Group Co.,Ltd.(Liuzhou Wulin production workshop)
CRRC Corporation Limited (Ningbo rail transit train assembly workshop)
SAIC General Motors Corporation Limited (Roewe production workshop phase 3)

Communication base station

China mobile communication base station
China unicom communication base station
China telecom communication base station





Summary

The damper actuator is used to control air damper, widely used in heating, ventilation, air conditioning, refrigeration, building automation control system. Which has torque from 2Nm to 24Nm, each torque actuator has two kinds voltage for power supply as below,

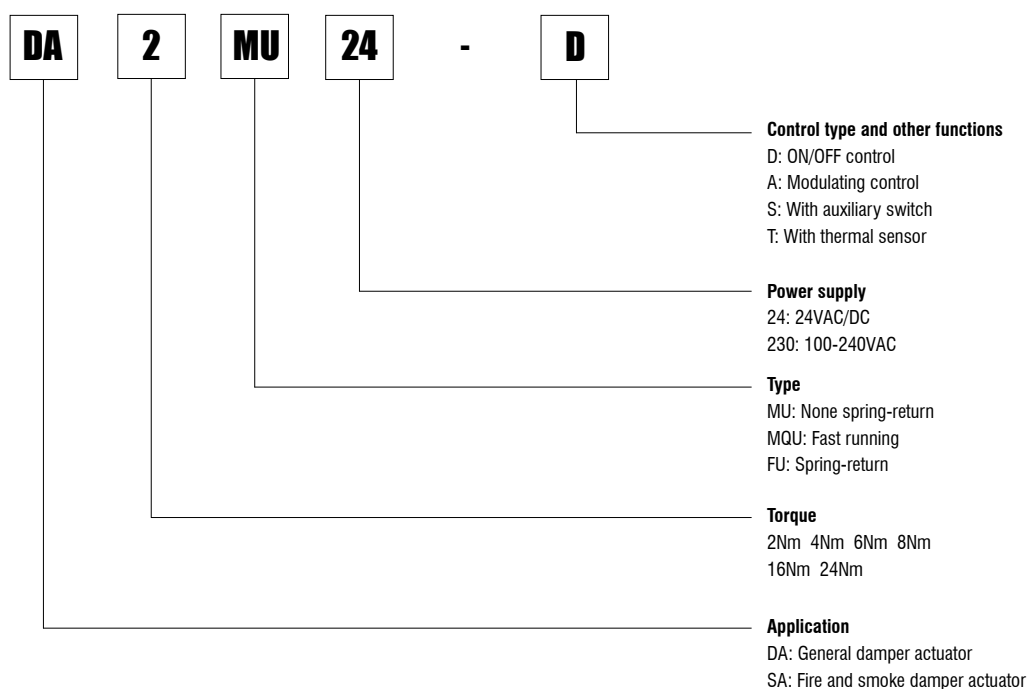
AC/DC 24V

AC 100-240V

Character

1. Convenient installation: easy to install on air damper shaft through a shaft holder
2. Manual control: manual override available when needed.
3. High reliability: the actuator designed with the function of overload protection, run to end stopped automatically without limit switch.
4. Mechanical position limit: spring return actuator has built-in adjustable mechanical position limiter.
5. Output signal: actuator can output a switch signal in the range of 0~100%.
6. The power consumption of the motor can be driven less by a specific adapter, and the reliability of the driver is improved.

Damper actuator type naming



Technical specification

	Torque	Runing Time	Power Supply	Control Mode	Auxiliary Switch	Type
General damper actuator	2Nm	< 30s	AC/DC 24V AC 100-240V	ON/OFF and Modulating	With and without auxiliary switch	DA2MU24(230)-D(A)(S)
	4Nm	< 50s				DA4MU24(230)-D(A)(S)
	6Nm	< 70s				DA6MU24(230)-D(A)(S)
	8Nm	< 55s				DA8MU24(230)-D(A)(S)
	16Nm	< 100s				DA16MU24(230)-D(A)(S)
	24Nm	< 160s				DA24MU24(230)-D(A)(S)
Fast running actuator	8Nm	8s	AC/DC 24V AC 100-240V	ON/OFF and Modulating	With and without auxiliary switch	DA8MQU24(230)-D(A)(S)
	16Nm	16s				DA16MQU24(230)-D(A)(S)
Spring-return actuator	3Nm	<75s/ <25s	AC/DC 24V AC 100-240V	ON/OFF	With and without auxiliary switch	DA3FU24(230)-D(S)
	5Nm	<70s/ <20s				DA5FU24(230)-D(S)
	10Nm	<110s/ <25s				DA10FU24(230)-D(S)
	15Nm	<150s/ <25s				DA15FU24(230)-D(S)
	20Nm	<180s/ <30s				DA20FU24(230)-D(S)
	5Nm	<120s/ <20s	AC/DC 24V	Modulating		DA5FU24-A(S)
	10Nm	<120s/ <25s				DA10FU24-A(S)
	15Nm	<120s/ <25s				DA15FU24-A(S)
Fire and smoke actuator	3Nm	<75s/ <25s	AC/DC 24V AC 100-240V	ON/OFF	With auxiliary switch	SA3FU24(230)-DS(T)
	5Nm	<70s/ <20s				SA5FU24(230)-DS(T)
	10Nm	<100s/ <25s				SA10FU24(230)-DS(T)
	15Nm	<150s/ <25s				SA15FU24(230)-DS(T)
	20Nm	<180s/ <30s				SA20FU24(230)-DS(T)
Smoke control damper actuator	10Nm	< 45s	AC/DC 24V AC 100-240V	ON/OFF	With auxiliary switch	SA10MU24(230)-DS(T)
	15Nm	<30s				SA15MU24(230)-DS(T)
	30Nm	<115s				SA30MU24(230)-DS(T)

General Damper Actuator

2Nm ON/OFF

DA2MU24-D/DS
DA2MU230-D/DS

For operation of air control dampers in HVAC system.
Torque: 2Nm
Nominal voltage: AC/DC 24V, AC100-240V
Control: ON/OFF, 2/3-Point
-DS type include 1 auxiliary switch.

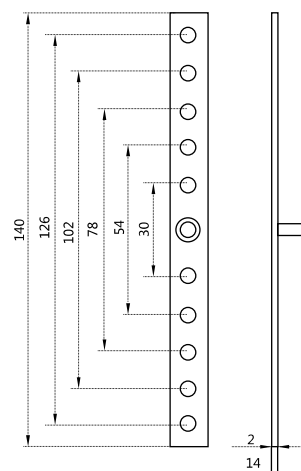
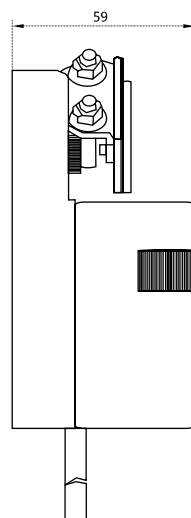
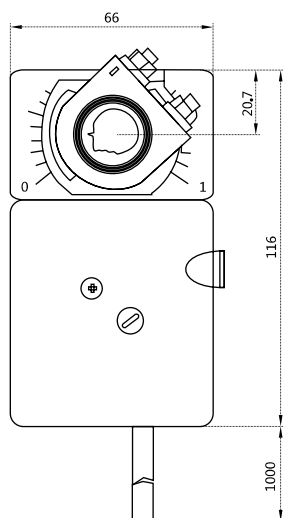
Model Selection Table

Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
2Nm	<30S	AC/DC 24V	None	DA2MU24-D
			1-SPDT	DA2MU24-DS
		AC 100-240V	None	DA2MU230-D
			1-SPDT	DA2MU230-DS

Technical specification

	DA2MU24-D/DS	DA2MU230-D/DS
Electrical data		
Nominal voltage	AC/DC 24V 50/60Hz	AC 100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	3W@Nominal toque/0.5W@holding	3W@Nominal toque/0.7W@holding
Wire sizing	0.5mm ²	
Function data		
Torque	2Nm	
Damper size	0.5m ²	
Direction of rotation	Manual regulation	
Manual override	Gearing latch disengaged by pushbutton,self-resetting	
Angle of rotation	Max90°	
Running time	<30S(90°)	
Sound power level	45dB	
Position indication	Mechanical	
Working/conditions		
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP54	
Ambient temperature	-20...+50°C /IEC 721-3-3	
Inventory temperature	-30...+80°C /IEC 721-3v-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 50mm	
Shaft diameter	○ 6...16mm □ 5x5...12x12mm	
Weight	< 0.5kg	

Actuator Dimensions(mm)

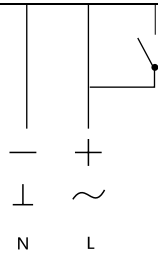


Wiring Diagram

Actuator

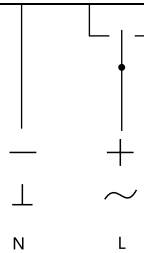
BLK	RED	WHI
BLU	BRN	WHI
1	2	3

AC/DC 24V $\pm 10\%$
AC 100-240V



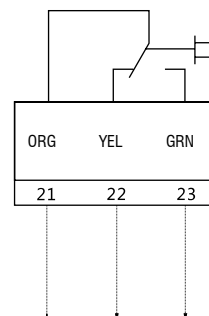
2-Point

BLK	RED	WHI
BLU	BRN	WHI
1	2	3



3-Point

Auxiliary switch



Resistance load 3A, 230V
Inductive load 1.5A, 230V

General Damper Actuator

2Nm Modulating

DA2MU24-A/AS DA2MU230-A/AS

For operation of air control dampers in HVAC system.

Torque: 2Nm

Nominal voltage: AC/DC 24V, AC 100-240V

Control: 0(2)...10VDC/0(4)...20mA

Feedback: 0(2)...10VDC/0(4)...20mA

-AS type include 1 auxiliary switch.



Model Selection Table

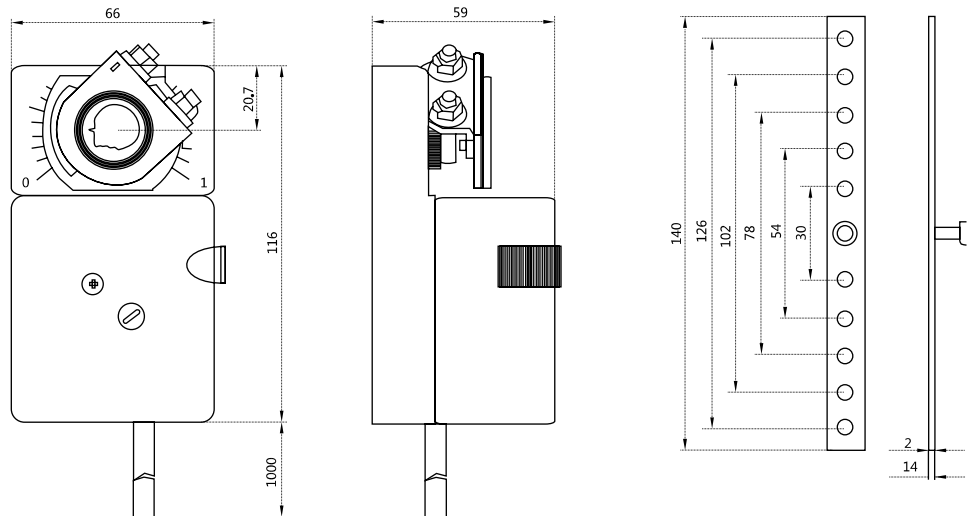
Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
2Nm	<30S	AC/DC 24V	None	DA2MU24-A
			1-SPDT	DA2MU24-AS
		AC 100-240V	None	DA2MU230-A
			1-SPDT	DA2MU230-AS

Technical specification

	DA2MU24-A/AS	DA2MU230-A/AS
Electrical data		
Nominal voltage	AC/DC 24V 50/60Hz	AC 100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	3W@Nominal toque/0.5W@holding	3W@Nominal toque/0.7W@holding
Wire sizing	0.5mm ²	
Function data		
Torque	2Nm	
Damper size	0.5m ²	
Direction of rotation	Manual regulation	
Manual override	Gearing latch disengaged by pushbutton,self-resetting	
Angle of rotation	Max90°	
Running time	<30S(90°)	
Sound power level	45dB	
Position indication	Mechanical	
Working/conditions		
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP54	
Ambient temperature	-20...+50°C /IEC 721-3-3	
Inventory temperature	-30...+80°C /IEC 721-3v-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 50mm	
Shaft diameter	○ 6...16mm □ 5x5...12x12mm	
Weight	< 0.5kg	

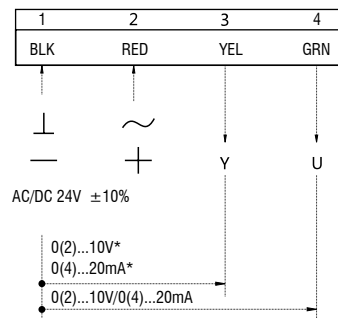
Actuator Dimensions(mm)

 6...16mm

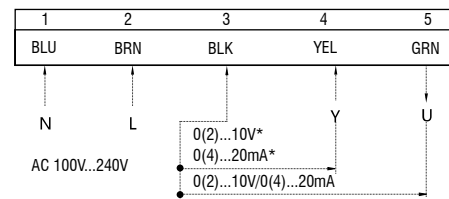


Wiring Diagram

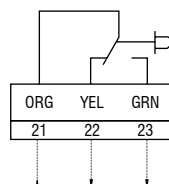
24V Actuator



230V Actuator



Auxiliary switch



General Damper Actuator

4Nm/6Nm ON/OFF

DA4MU24-D/DS
DA6MU24-D/DS
DA4MU230-D/DS
DA6MU230-D/DS



For operation of air control dampers in HVAC system.

Torque: 4Nm/6Nm

Nominal voltage: AC/DC 24V, AC100-240V

Control: ON/OFF, 2/3-Point

-DS type include 2 auxiliary switch.

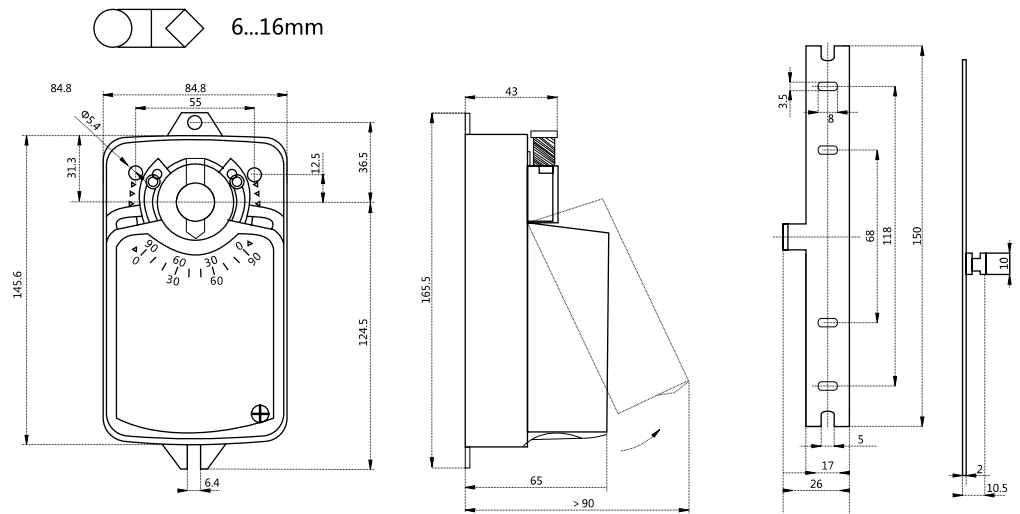
Model Selection Table

Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
4Nm	< 50S	AC/DC 24V	None	DA4MU24-D
			2-SPDT	DA4MU24-DS
		AC 100-240V	None	DA4MU230-D
			2-SPDT	DA4MU230-DS
6Nm	< 70S	AC/DC 24V	None	DA6MU24-D
			2-SPDT	DA6MU24-DS
		AC 100-240V	None	DA6MU230-D
			2-SPDT	DA6MU230-DS

Technical specification

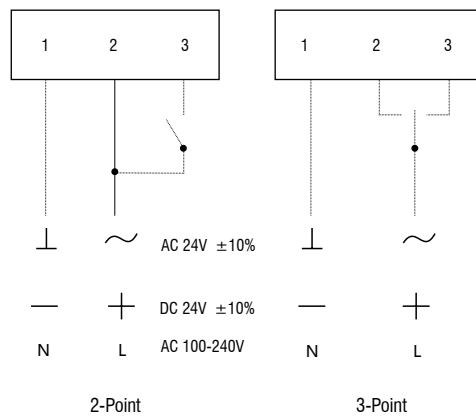
	DA4/6MU24-D/DS	DA4/6MU230-D/DS
Electrical data		
Nominal voltage	AC/DC 24V 50/60Hz	AC 100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	3W@Nominal toque/0.5W@holding	3W@Nominal toque/0.7W@holding
Wire sizing	0.5mm²	
Function data		
Terminal specification	Max2.0mm²	
Torque	4Nm/6Nm	
Damper size	0.8m²/1.2m²	
Direction of rotation	Manual regulation	
Manual override	Gearing latch disengaged by pushbutton,self-resetting	
Angle of rotation	Max90°	
Running time	<50S(90°)/<70S(90°)	
Sound power level	45dB	
Working/conditions		
Position indication	Mechanical	
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP44	
Ambient temperature	-20... + 50°C /IEC 721-3-3	
Inventory temperature	-30... + 80°C /IEC 721-3-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 50mm	
Shaft diameter	○ 6...16mm □ 8x8...12x12zmm	
Weight	< 0.75kg	

Actuator Dimensions(mm)

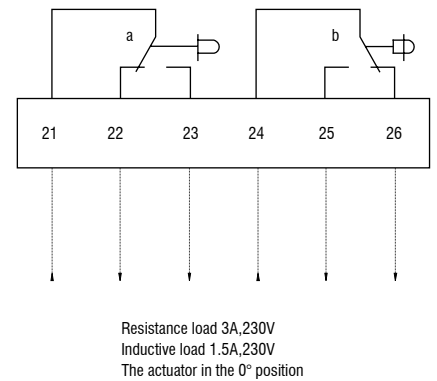


Wiring Diagram

Actuator



Auxiliary switch



Resistance load 3A, 230V
Inductive load 1.5A, 230V
The actuator in the 0° position

4Nm/6Nm Modulating

DA4MU24-A/AS
DA6MU24-A/AS
DA4MU230-A/AS
DA6MU230-A/AS



For operation of air control dampers in HVAC system.

Torque: 4Nm/6Nm

Nominal voltage: AC/DC 24V, AC 100-240V

Control: 0(2)...10VDC/0(4)...20mA

Feedback: 0(2)...10VDC/0(4)...20mA

-AS type include 2 auxiliary switch.

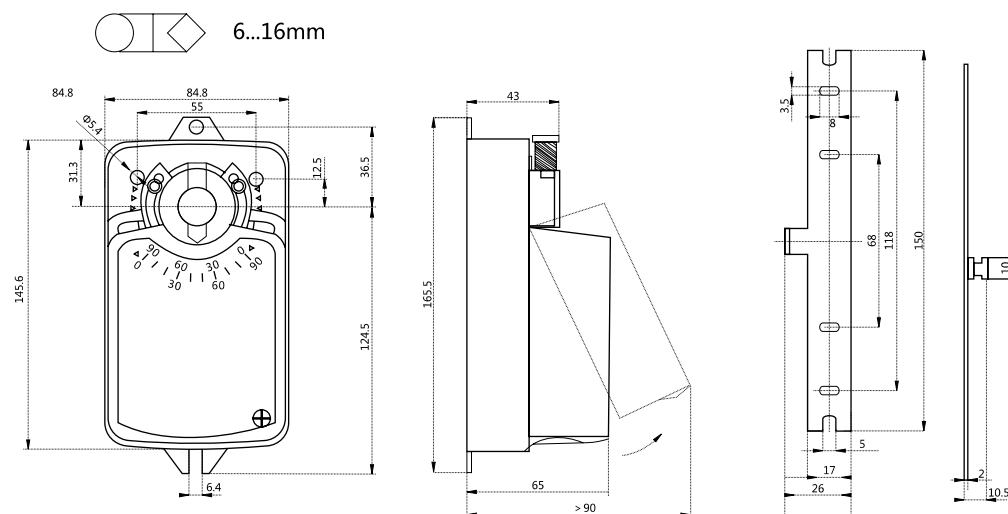
Model Selection Table

Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
4Nm	< 50S	AC/DC 24V	None	DA4MU24-A
			2-SPDT	DA4MU24-AS
		AC 100-240V	None	DA4MU230-A
			2-SPDT	DA4MU230-AS
6Nm	< 70S	AC/DC 24V	None	DA6MU24-A
			2-SPDT	DA6MU24-AS
		AC 100-240V	None	DA6MU230-A
			2-SPDT	DA6MU230-AS

Technical specification

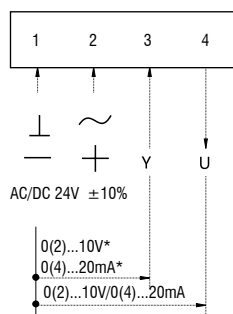
	DA4/6MU24-A/AS	DA4/6MU230-A/AS
Electrical data		
Nominal voltage	AC/DC 24V 50/60Hz	AC 100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	3W@Nominal toque/0.5W@holding	3W@Nominal toque/0.7W@holding
Wire sizing	0.5mm ²	
Function data		
Terminal specification	Max2.0mm ²	
Torque	4Nm/6Nm	
Damper size	0.8m ² /1.2m ²	
Direction of rotation	Manual regulation	
Manual override	Gearing latch disengaged by pushbutton,self-resetting	
Angle of rotation	Max90°	
Running time	<50S(90°)/ <70S(90°)	
Sound power level	45dB	
Working/conditions		
Position indication	Mechanical	
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP44	
Ambient temperature	-20... +50°C /IEC 721-3-3	
Inventory temperature	-30... +80°C /IEC 721-3-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 50mm	
Shaft diameter	○ 6...16mm □ 8x8...12x12mm	
Weight	< 0.75kg	

Actuator Dimensions(mm)

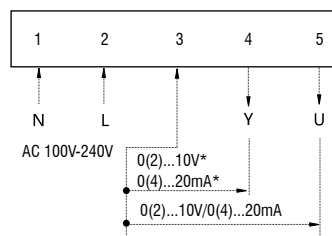


Wiring Diagram

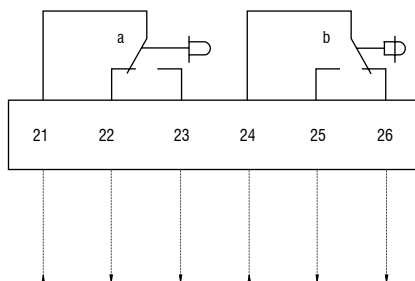
24V Actuator



230V Actuator



Auxiliary switch



Resistance load 3A, 230V
Inductive load 1.5A, 230V
The actuator in the 0° position

General Damper Actuator

8Nm/16Nm/24Nm ON/OFF

DA8MU24-D/DS
DA16MU24-D/DS
DA24MU24-D/DS



For operation of air control dampers in HVAC system.
Torque: 8Nm/16Nm/24Nm
Nominal voltage: AC/DC 24V
Control: ON/OFF, 2/3-Point
-DS type include 2 auxiliary switch.

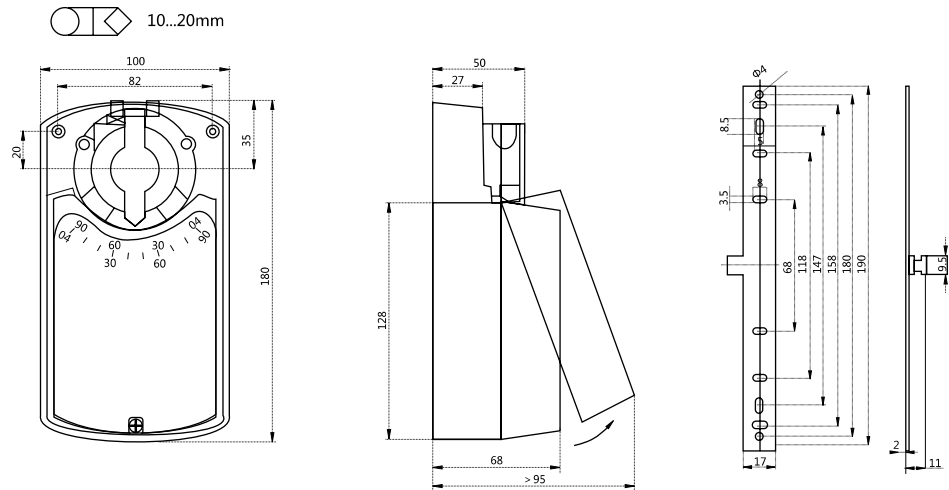
Model Selection Table

Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
8Nm	<55S	AC/DC 24V	None	DA8MU24-D
			2-SPDT	DA8MU24-DS
16Nm	<100S		None	DA16MU24-D
			2-SPDT	DA16MU24-DS
24Nm	<160S		None	DA24MU24-D
			2-SPDT	DA24MU24-DS

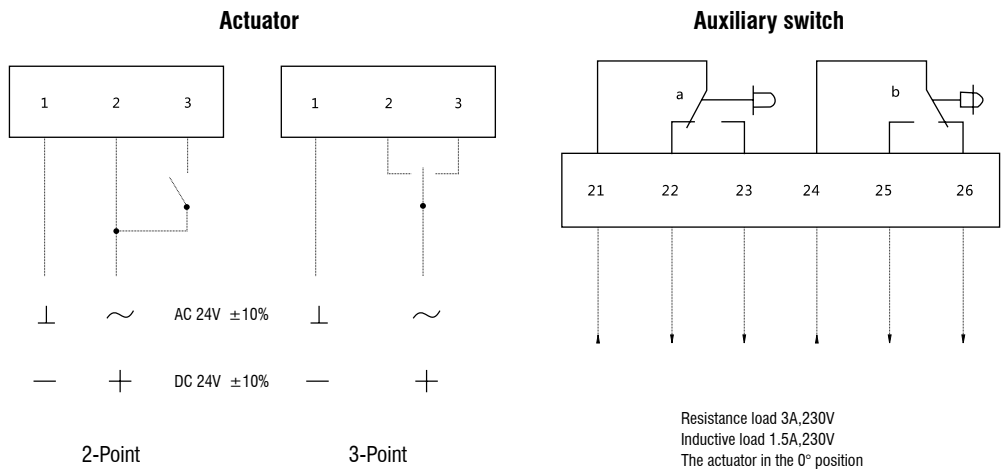
Technical specification

	DA8MU24-D/DS	DA16MU24-D/DS	DA24MU24-D/DS
Electrical data			
Nominal voltage	AC/DC 24V 50/60Hz		
Nominal voltage range	AC/DC 19.2...28.8V		
Power consumption	4.5W@Nominal toque/0.5W@holding		
Wire sizing	0.5mm²		
Function data			
Terminal specification	Max2.0mm²		
Torque	8Nm	16Nm	24Nm
Damper size	1.5m²	3m²	4.5m²
Direction of rotation	Manual regulation		
Manual override	Gearing latch disengaged by pushbutton,self-resetting		
Angle of rotation	Max90°		
Running time	<55S (90°)	<100S(90°)	<160S(90°)
Sound power level	45dB		
Working/conditions			
Position indication	Mechanical		
Protection class	III (safety low voltage)		
Protection level	IP44		
Ambient temperature	-20... +50°C /IEC 721-3-3		
Inventory temperature	-30... +80°C /IEC 721-3-2		
Humidity test	95%RH,non condensing(EN60730-1)		
Dimensions/Weight			
Dimensions(L×W×H)	See"Dimensions"		
Shaft length	> 50mm		
Shaft diameter	○ 10...20mm □ 10X10...16X16mm		
Weight	< 1.3kg		

Actuator Dimensions(mm)



Wiring Diagram



General Damper Actuator

8Nm/16Nm/24Nm ON/OFF

DA8MU230-D/DS
DA16MU230-D/DS
DA24MU230-D/DS



For operation of air control dampers in HVAC system.
Torque: 8Nm/16Nm/24Nm
Nominal voltage: AC 100-240V
Control: ON/OFF, 2/3-Point
-DS type include 2 auxiliary switch.

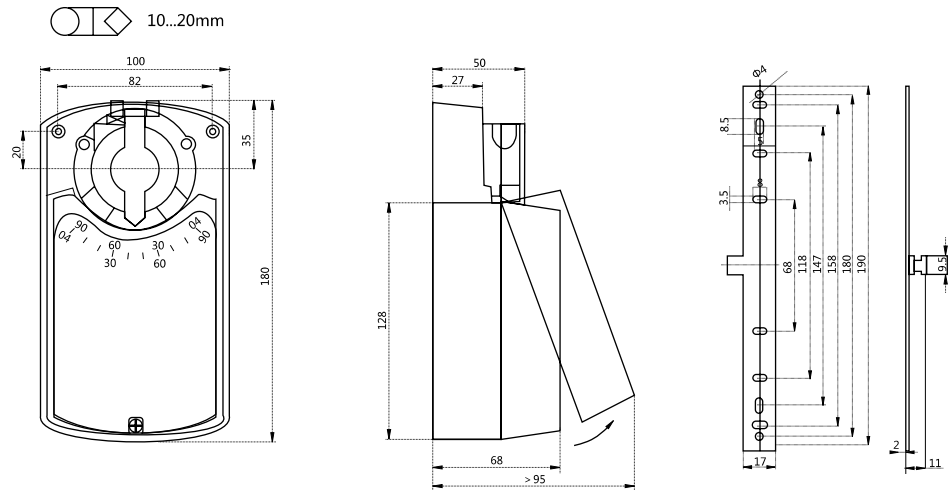
Model Selection Table

Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
8Nm	<55S	AC-100-240V	None	DA8MU230-D
			2-SPDT	DA8MU230-DS
16Nm	<100S		None	DA16MU230-D
			2-SPDT	DA16MU230-DS
24Nm	<160S		None	DA24MU230-D
			2-SPDT	DA24MU230-DS

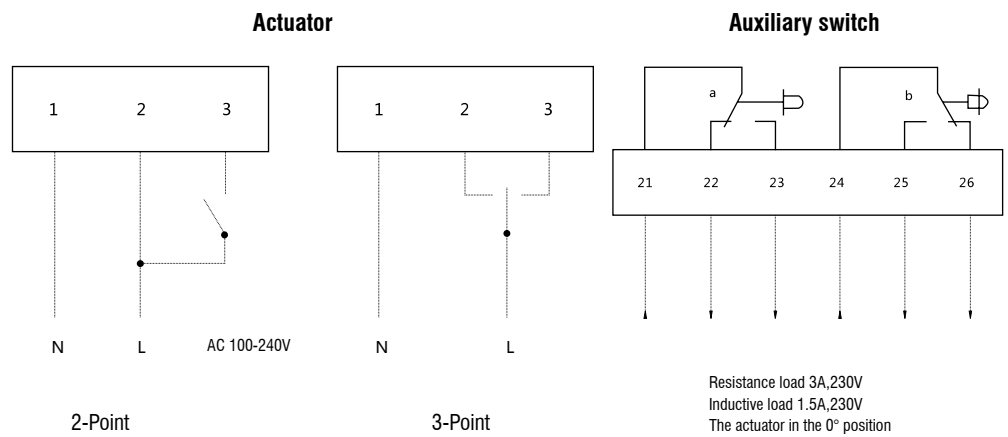
Technical specification

	DA8MU230-D/DS	DA16MU230-D/DS	DA24MU230-D/DS
Electrical data			
Nominal voltage	AC 100-240V 50/60Hz		
Nominal voltage range	AC85...265V		
Power consumption	4.5W@Nominal toque/0.7W@holding		
Wire sizing	0.5mm ²		
Function data			
Terminal specification	Max2.0mm ²		
Torque	8Nm	16Nm	24Nm
Damper size	1.5m ²	3m ²	4.5m ²
Direction of rotation	Manual regulation		
Manual override	Gearing latch disengaged by pushbutton,self-resetting		
Angle of rotation	Max90°		
Running time	<55S (90°)	<100S (90°)	<160S(90°)
Sound power level	45dB		
Working/conditions			
Position indication	Mechanical		
Protection class	II (totally insulated)		
Protection level	IP44		
Ambient temperature	-20...+50°C /IEC 721-3-3		
Inventory temperature	-30...+80°C /IEC 721-3-2		
Humidity test	95%RH,non condensing(EN60730-1)		
Dimensions/Weight			
Dimensions(L×W×H)	See"Dimensions"		
Shaft length	> 50mm		
Shaft diameter	○ 10...20mm □ 10x10...16x16mm		
Weight	< 1.3kg		

Actuator Dimensions(mm)



Wiring Diagram



General Damper Actuator

8Nm/16Nm/24Nm Modulating

DA8MU24-A/AS
DA16MU24-A/AS
DA24MU24-A/AS



For operation of air control dampers in HVAC system.

Torque: 8Nm/16Nm/24Nm
Nominal voltage: AC/DC 24V
Control: 0(2)...10VDC/0(4)...20mA
Feedback: 0(2)...10VDC/0(4)...20mA
-AS type include 2 auxiliary switch.

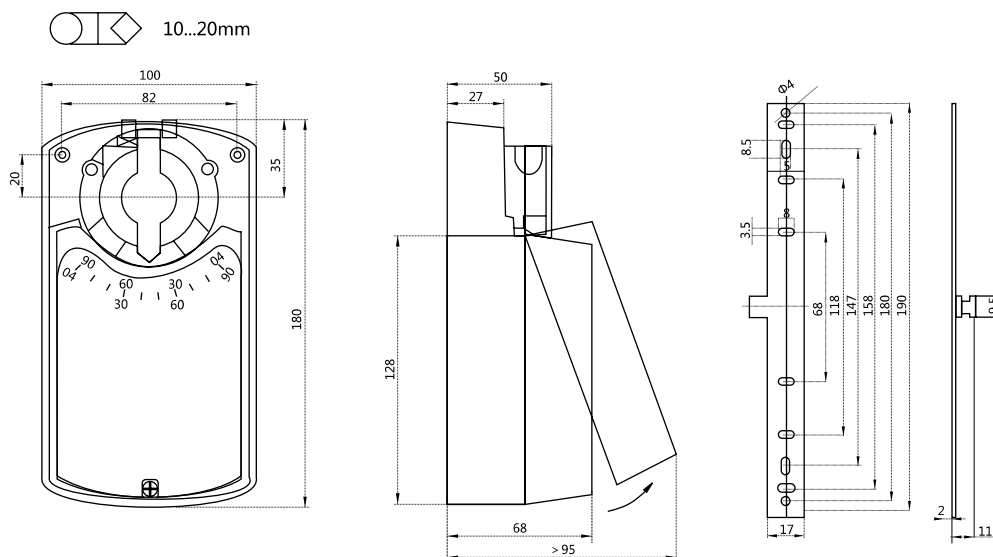
Model Selection Table

Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
8Nm	<50S	AC/DC 24V	None	DA8MU24-A
			2-SPDT	DA8MU24-AS
16Nm	<100S		None	DA16MU24-A
			2-SPDT	DA16MU24-AS
24Nm	<160S		None	DA24MU24-A
			2-SPDT	DA24MU24-AS

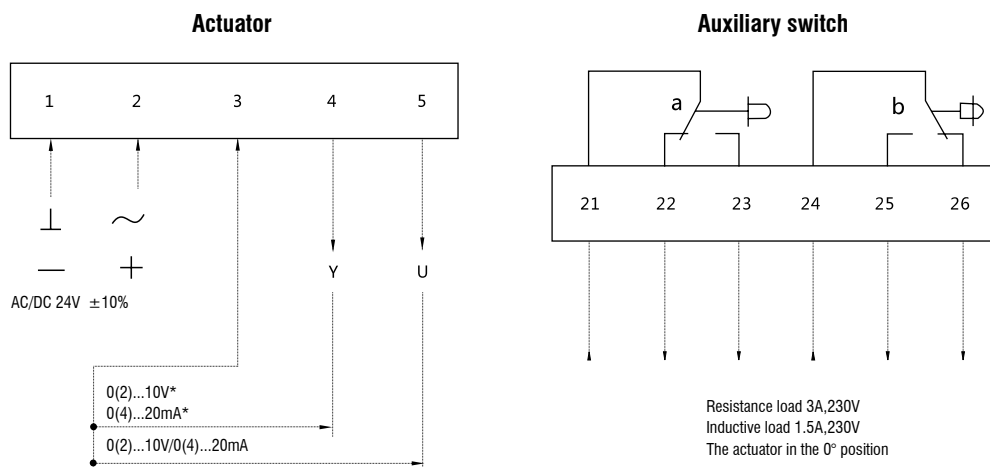
Technical specification

	DA8MU24-A/AS	DA16MU24-A/AS	DA24MU24-A/AS
Electrical data			
Nominal voltage	AC/DC 24V 50/60Hz		
Nominal voltage range	AC/DC 19.2...28.8V		
Power consumption	4.5W@Nominal toque/0.5W@holding		
Wire sizing	0.5mm²		
Function data			
Terminal specification	Max2.0mm²		
Torque	8Nm	16Nm	24Nm
Damper size	1.5m²	3m²	4.5m²
Direction of rotation	Manual regulation		
Manual override	Gearing latch disengaged by pushbutton,self-resetting		
Angle of rotation	Max95°		
Running time	<50S (90°)	<100S (90°)	<160S(90°)
Sound power level	45dB		
Working/conditions			
Position indication	Mechanical		
Protection class	III (safety low voltage)		
Protection level	IP44		
Ambient temperature	-20... + 50°C /IEC 721-3-3		
Inventory temperature	-30... + 80°C /IEC 721-3-2		
Humidity test	95%RH,non condensing(EN60730-1)		
Dimensions/Weight			
Dimensions(L×W×H)	See"Dimensions"		
Shaft length	> 50mm		
Shaft diameter	○ 10...20mm □ 10x10...16x16mm		
Weight	< 1.3kg		

Actuator Dimensions(mm)



Wiring Diagram



General Damper Actuator

8Nm/16Nm/24Nm Modulating

DA8MU230-A/AS
DA16MU230-A/AS
DA24MU230-A/AS



For operation of air control dampers in HVAC system.
Torque: 8Nm/16Nm/24Nm
Nominal voltage: AC 100...240V
Control: 0(2)...10VDC/0(4)...20mA
Feedback: 0(2)...10VDC/0(4)...20mA
-AS type include 2 auxiliary switch.

Model Selection Table

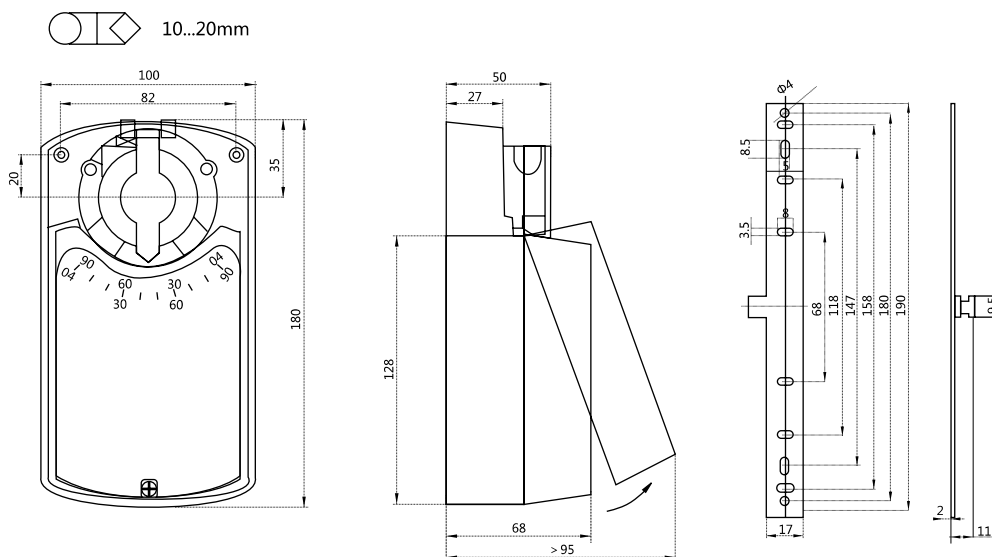
Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
8Nm	<50S	AC 100-240V	None	DA8MU230-A
			2-SPDT	DA8MU230-AS
16Nm	<100S		None	DA16MU230-A
			2-SPDT	DA16MU230-AS
24Nm	<160S		None	DA24MU230-A
			2-SPDT	DA24MU230-AS

Technical specification

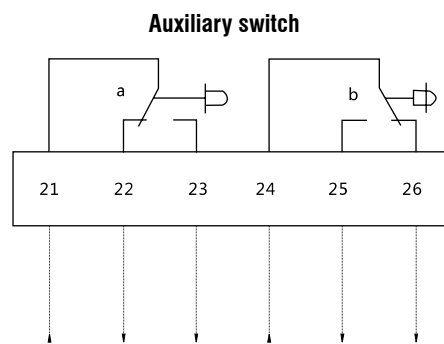
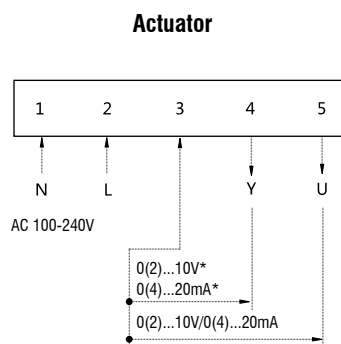
	DA8MU230-A/AS	DA16MU230-A/AS	DA24MU230-A/AS
Electrical data			
Nominal voltage	AC 100-240V 50/60Hz		
Nominal voltage range	AC85...265V		
Power consumption	4.5W@Nominal toque/0.7W@holding		
Wire sizing	0.5mm ²		
Function data			
Terminal specification	Max2.0mm ²		
Torque	8Nm	16Nm	24Nm
Damper size	1.5m ²	3m ²	4.5m ²
Direction of rotation	Manual regulation		
Manual override	Gearing latch disengaged by pushbutton,self-resetting		
Angle of rotation	Max90°		
Running time	<50S (90°)	<100S (90°)	<160S(90°)
Sound power level	45dB		
Working/conditions			
Position indication	Mechanical		
Protection class	II (totally insulated)		
Protection level	IP44		
Ambient temperature	-20...+50°C /IEC 721-3-3		
Inventory temperature	-30...+80°C /IEC 721-3-2		
Humidity test	95%RH,non condensing(EN60730-1)		
Dimensions/Weight			
Dimensions(L×W×H)	See"Dimensions"		
Shaft length	> 50mm		
Shaft diameter	○ 10...20mm □ 10x10...16x16mm		
Weight	< 1.3kg		

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27

Actuator Dimensions(mm)



Wiring Diagram



Resistance load 3A, 230V
Inductive load 1.5A, 230V
The actuator in the 0° position

Fast-running Damper Actuator

8Nm/16Nm ON/OFF

DA8MQU24-D/DS
DA16MQU24-D/DS
DA8MQU230-D/DS
DA16MQU230-D/DS

For operation of air control dampers in HVAC system

Torque: 8Nm/16Nm

Nominal voltage: AC/DC 24V, AC 100-240V

Control: ON/OFF, 2/3-Point

-DS type include 2 auxiliary switch.



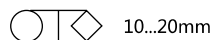
Model Selection Table

Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
8Nm	8S	AC/DC 24V	None or 2-SPDT	DA8MQU24-D/DS
		AC 100-240V		DA8MQU230-D/DS
16Nm	16S	AC/DC 24V	None or 2-SPDT	DA16MQU24-D/DS
		AC 100-240V		DA16MQU230-D/DS

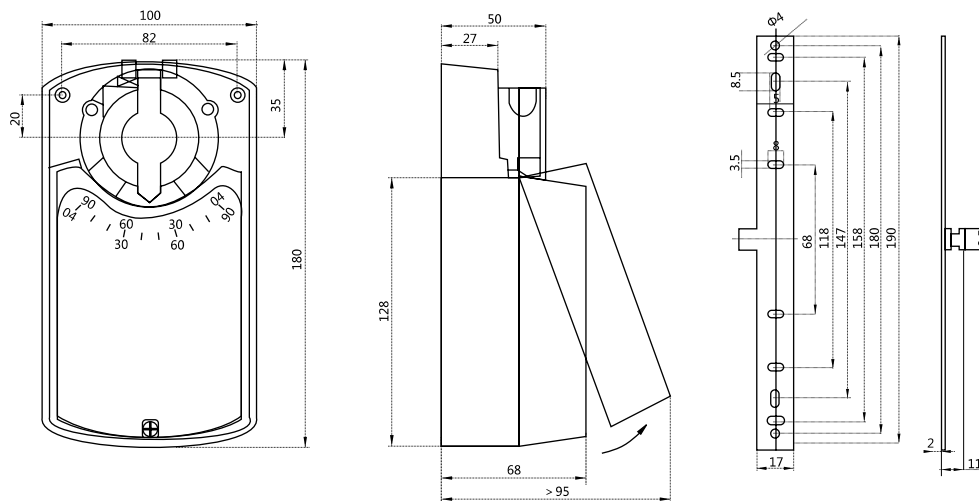
Technical specification

	DA8/16MQU24-D/DS	DA8/16MQU230-D/DS
Electrical data		
Nominal voltage	AC/DC 24V 50/60Hz	AC 100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	12W@Nominal toque/0.5W@holding	12W@Nominal toque/0.7W@holding
Wire sizing	0.5mm ²	
Function data		
Terminal specification	Max2.0mm ²	
Torque	8Nm/16Nm	
Damper size	1.5m ² /3m ²	
Direction of rotation	Manual regulation	
Manual override	Gearing latch disengaged by pushbutton,self-resetting	
Angle of rotation	Max90°	
Running time	8S(90°)/16S(90°)	
Sound power level	65dB	
Position indication	Mechanical	
Working/conditions		
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP44	
Ambient temperature	-20... + 50°C /IEC 721-3-3	
Inventory temperature	-30... + 80°C /IEC 721-3-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 50mm	
Shaft diameter	○ 10...20mm □ 10X10...16X16mm	
Weight	< 1.3kg	

Actuator Dimensions(mm)

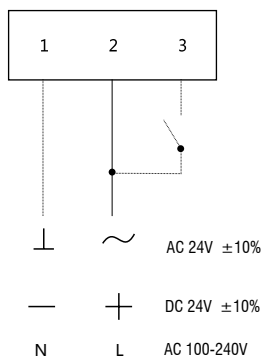


10...20mm

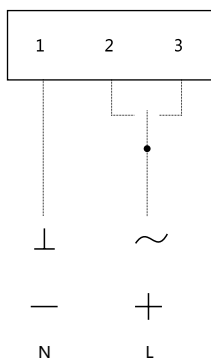


Wiring Diagram

Actuator

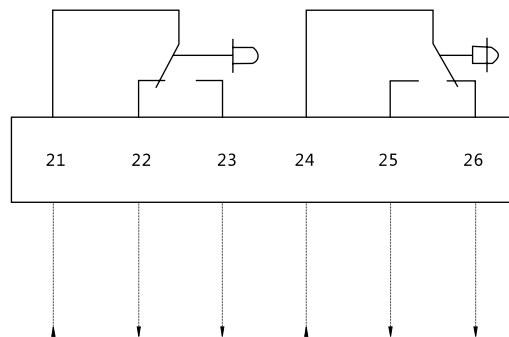


2-Point



3-Point

Auxiliary switchA



Resistance load 3A, 230V
Inductive load 1.5A, 230V
The actuator in the 0° position

Fast-running Damper Actuator

8Nm /16Nm Modulating

DA8MQU24-A/AS
DA16MQU24-A/AS
DA8MQU230-A/AS
DA16MQU230-A/AS



For operation of air control dampers in HVAC system
Torque:8Nm/16Nm
Nominal voltage: AC/DC 24V, AC 100-240V
Control: 0(2)...10VDC/0(4)...20mA
Feedback: 0(2)...10VDC/0(4)...20mA
-AS type include 2 auxiliary switch..

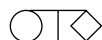
Model Selection Table

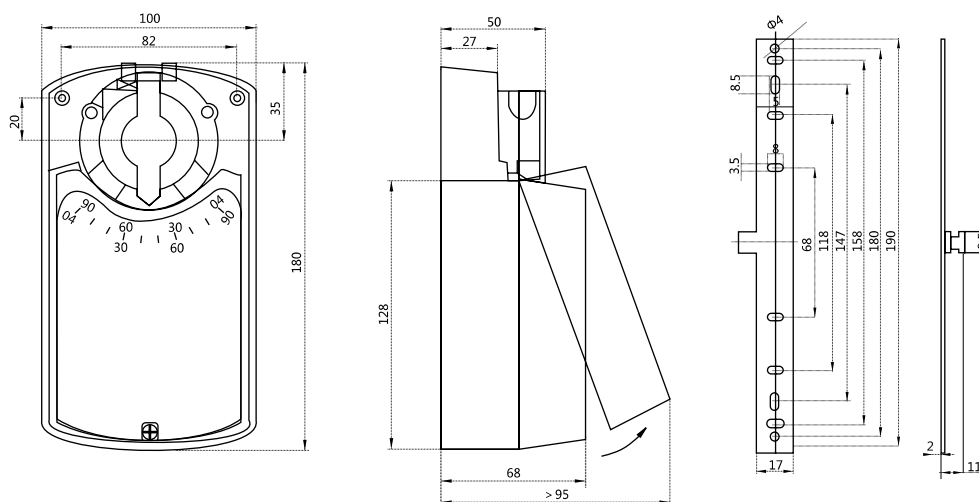
Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
8Nm	8S	AC/DC 24V	None or 2-SPDT	DA8MQU24-A/AS
		AC 100-240V		DA8MQU230-A/AS
16Nm	16S	AC/DC 24V	None or 2-SPDT	DA16MQU24-A/AS
		AC 100-240V		DA16MQU230-A/AS

Technical specification

	DA8/16MQU24-A/AS	DA8/16MQU230-A/AS
Electrical data		
Nominal voltage	AC/DC 24V 50/60Hz	AC100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	12W@Nominal toque/0.5W@holding	12W@Nominal toque/0.7W@holding
Wire sizing	0.5mm ²	
Function data		
Terminal specification	Max2.0mm ²	
Torque	8Nm/16Nm	
Damper size	1.5m ² /3m ²	
Direction of rotation	Manual regulation	
Manual override	Gearing latch disengaged by pushbutton,self-resetting	
Angle of rotation	Max90°	
Running time	8S(90°)/16S(90°)	
Sound power level	65dB	
Working/conditions		
Position indication	Mechanical	
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP44	
Ambient temperature	-20...+50°C /IEC 721-3-3	
Inventory temperature	-30...+80°C /IEC 721-3-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 50mm	
Shaft diameter	○ 10...20mm □ 10X10...16X16mm	
Weight	< 1.3kg	

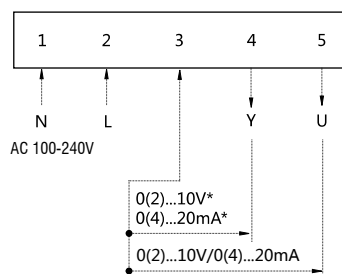
Actuator Dimensions(mm)

 10...20mm

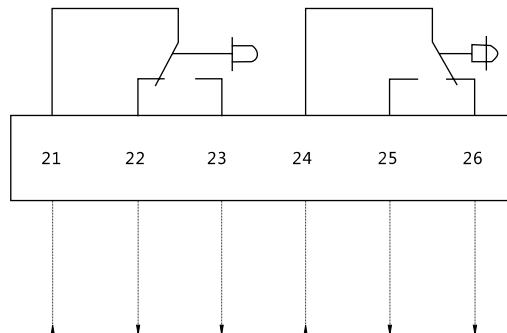


Wiring Diagram

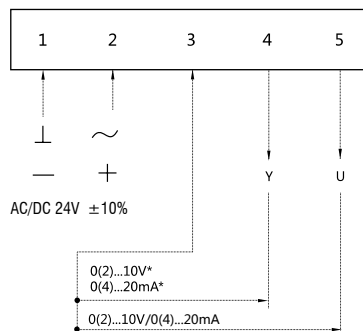
Actuator



Auxiliary switchA



Actuator



Resistance load 3A,230V
Inductive load 1.5A,230V
The actuator in the 0° position

Spring-return Damper Actuator

3 Nm ON/OFF

DA3FU24-D/DS
DA3FU230-D/DS



For operation of air control dampers in HVAC system.

Torque:3Nm

Nominal voltage: AC/DC 24V, AC 100-240V

Control: ON/OFF

-DS type include 2 auxiliary switch.

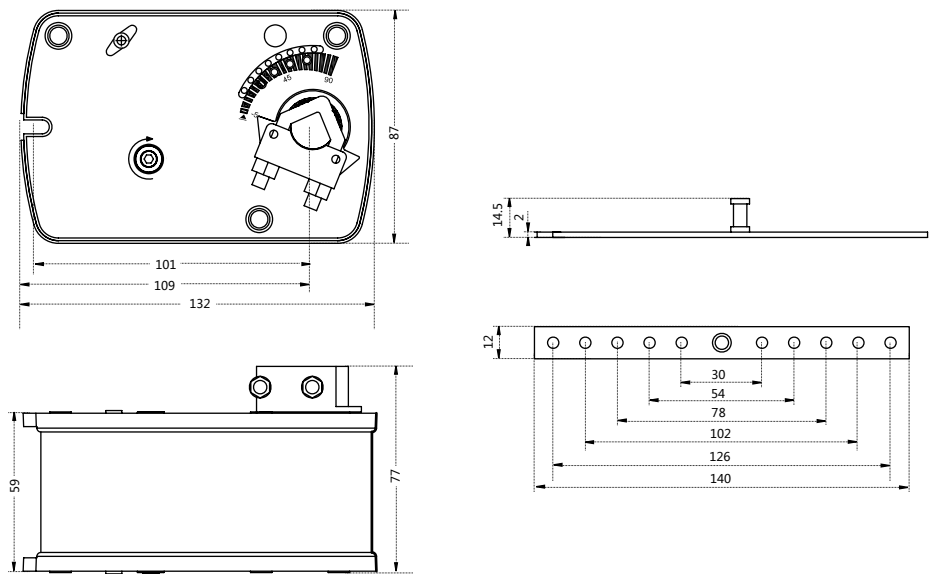
Model Selection Table

Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
3Nm	<75S/<25S	AC/DC 24V	None	DA3FU24-D
			2-SPDT	DA3FU24-DS
		AC 100-240V	None	DA3FU230-D
			2-SPDT	DA3FU230-DS

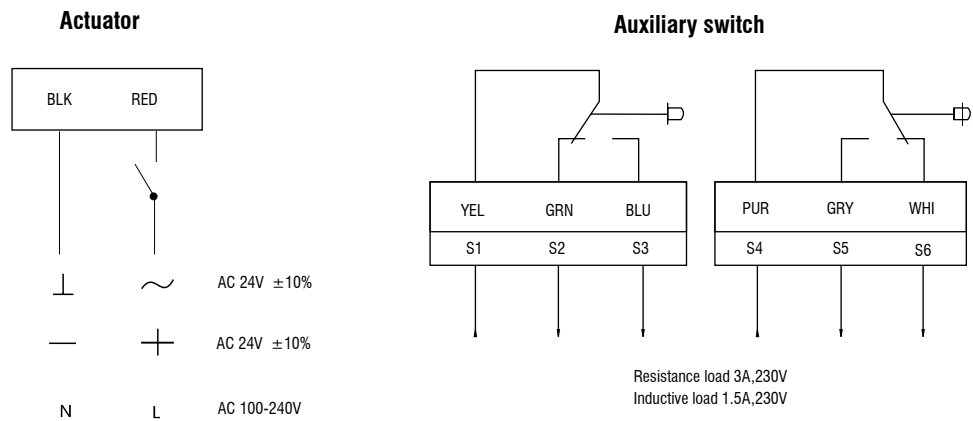
Technical specification

	DA3FU24-D/DS	DA3FU230-D/DS
Electrical data		
Nominal voltage	AC/DC 24V 50/60Hz	AC 100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	5W@Nominal toque/3W@holding	5W@Nominal toque/3W@holding
Wire sizing	0.5m ²	
Function data		
Torque	3Nm	
Damper size	0.6m ²	
Direction of rotation	Selected by mounting L/R	
Manual override	Yes	
Angle of rotation	Max95°, adjustable by mechanical stop	
Running time	<75S/ <20S(Spring reset)	
Sound power level	45dB	
Position indication	Mechanical	
Working/conditions		
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP54	
Ambient temperature	-20...+50°C /IEC 721-3-3	
Inventory temperature	-30...+80°C /IEC 721-3-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 90mm	
Shaft diameter	○ 6...16mm □ 5X5...12X12mm	
Weight	< 1.3kg	

Actuator Dimensions(mm)



Wiring Diagram



Spring-return Damper Actuator

5Nm ON/OFF

DA5FU24-D/DS
DA5FU230-D/DS

For operation of air control dampers in HVAC system.

Torque:5Nm

Nominal voltage: AC/DC 24V, AC 100-240V

Control: ON/OFF

-DS type include 2 auxiliary switch.



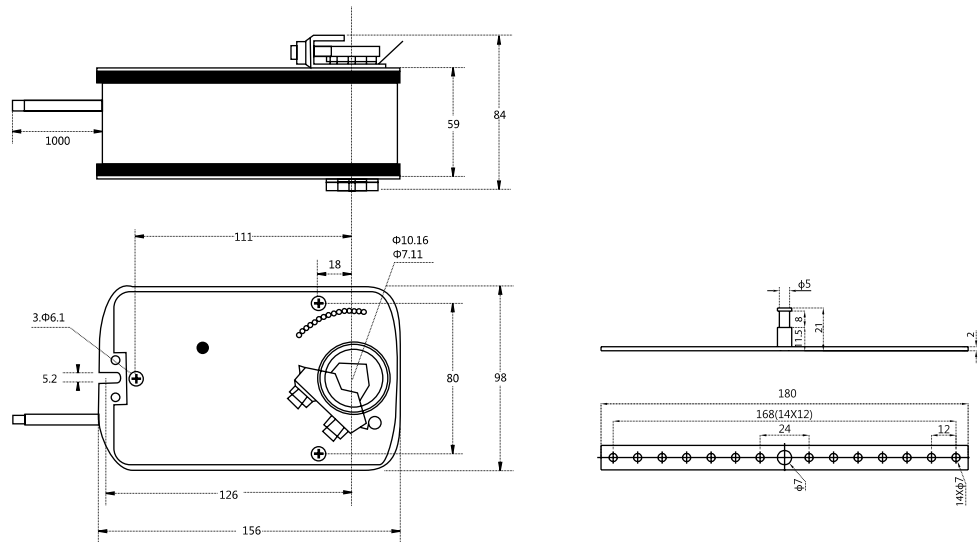
Model Selection Table

Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
5Nm	<70S/<20S	AC/DC 24V	None	DA5FU24-D
			2-SPDT	DA5FU24-DS
		AC 100-240V	None	DA5FU230-D
			2-SPDT	DA5FU230-DS

Technical specification

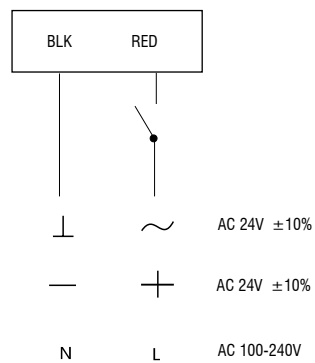
	DA5FU24-D/DS	DA5FU230-D/DS
Electrical data		
Nominal voltage	AC/DC24V 50/60Hz	AC 100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	5W@Nominal toque/3W@holding	5W@Nominal toque/3W@holding
Wire sizing	0.5m ²	
Function data		
Torque	5Nm	
Damper size	1m ²	
Direction of rotation	Selected by mounting L/R	
Manual override	None	
Angle of rotation	Max95°, adjustable by mechanical stop	
Running time	<70S/ <20S(Spring reset)	
Sound power level	45dB	
Position indication	Mechanical	
Working/conditions		
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP54	
Ambient temperature	-20...+50°C /IEC 721-3-3	
Inventory temperature	-30...+80°C /IEC 721-3-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 90mm	
Shaft diameter	○ 10...16mm □ 7X7...11X11mm	
Weight	< 1.9kg	

Actuator Dimensions(mm)

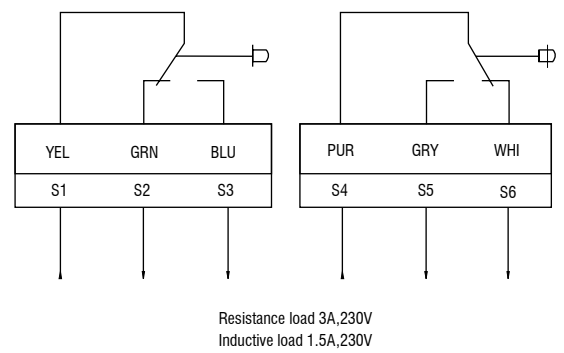


Wiring Diagram

Actuator



Auxiliary switch



Spring-return Damper Actuator

10Nm/15Nm/20Nm ON/OFF

DA10FU24-D/DS
DA10FU230-D/DS
DA15FU24-D/DS
DA15FU230-D/DS
DA20FU24-D/DS
DA20FU230-D/DS

For operation of air control dampers in HVAC system.

Torque: 10Nm/15Nm/20Nm

Nominal voltage: AC/DC 24V, AC 100-240V

Control: ON/OFF

-DS type include 2 auxiliary switch.

Model Selection Table

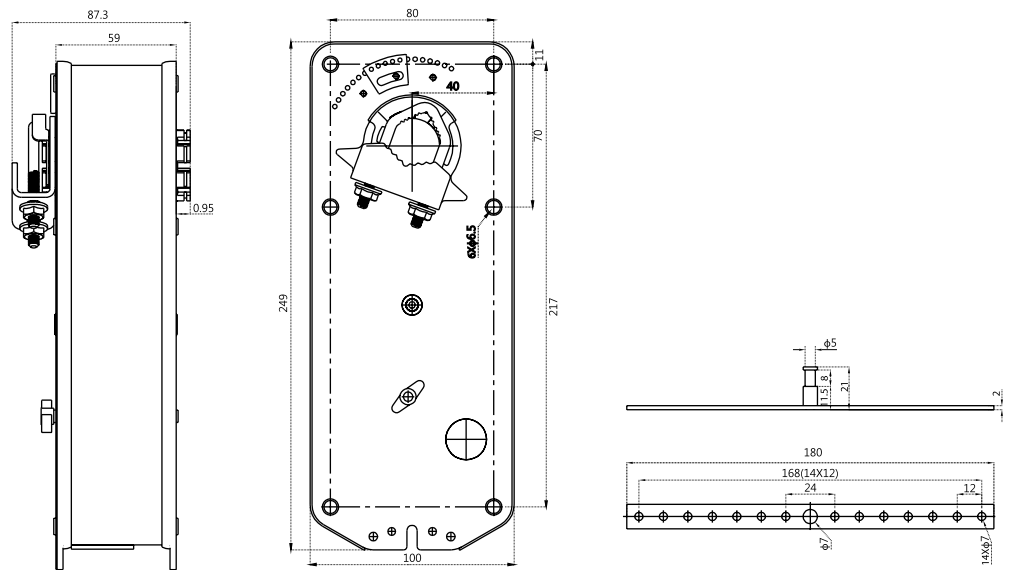
Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
10Nm	<100S/<25S	AC/DC 24V	None or 2-SPDT	DA10FU24-D/DS
		AC 100-240V		DA10FU230-D/DS
15Nm	<150S/<25S	AC/DC 24V	None or 2-SPDT	DA15FU24-D/DS
		AC 100-240V		DA15FU230-D/DS
20Nm	<180S/<30S	AC/DC 24V	None or 2-SPDT	DA20FU24-D/DS
		AC 100-240V		DA20FU230-D/DS

Technical specification

	DA10/15/20FU24-D/DS	DA10/15/20FU230-D/DS
Electrical data		
Nominal voltage	AC/DC 24V 50/60Hz	AC 100-240VV 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	5W//10W/10W@Nominal toque/3W@holding	5W//10W/10W@Nominal toque/3W@holding
Wire sizing	0.5m²	
Function data		
Torque	10Nm/15Nm/20Nm	
Damper size	1.5m²/3m²/4m²	
Direction of rotation	Selected by mounting L/R	
Manual override	Yes	
Angle of rotation	Max95°, adjustable by mechanical stop	
Running time	< 100S/ < 150S/ < 180S/ < 25S/ < 25S/ < 30S(Spring reset)	
Sound power level	45dB	
Position indication	Mechanical	
Working/conditions		
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP54	
Ambient temperature	-20...+50°C /IEC 721-3-3	
Inventory temperature	-30...+80°C IEC 721-3-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 90mm	
Shaft diameter	○ 21...21mm □ 6X6...15X15mm	
Weight	<2.3kg(DA10FU)/ <2.6Kg(DA15/20FU)	

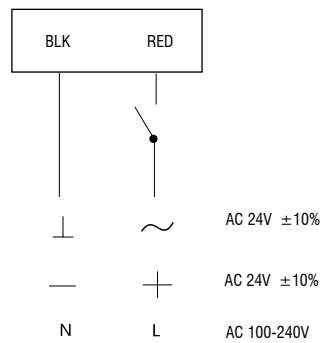


Actuator Dimensions(mm)

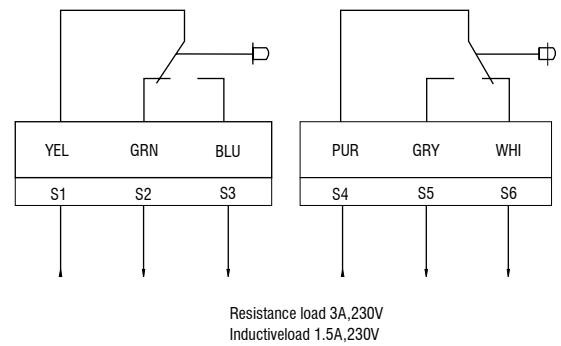


Wiring Diagram

Actuator



Auxiliary switch



Spring-return Damper Actuator

5Nm Modulating

DA5FU24-A/AS

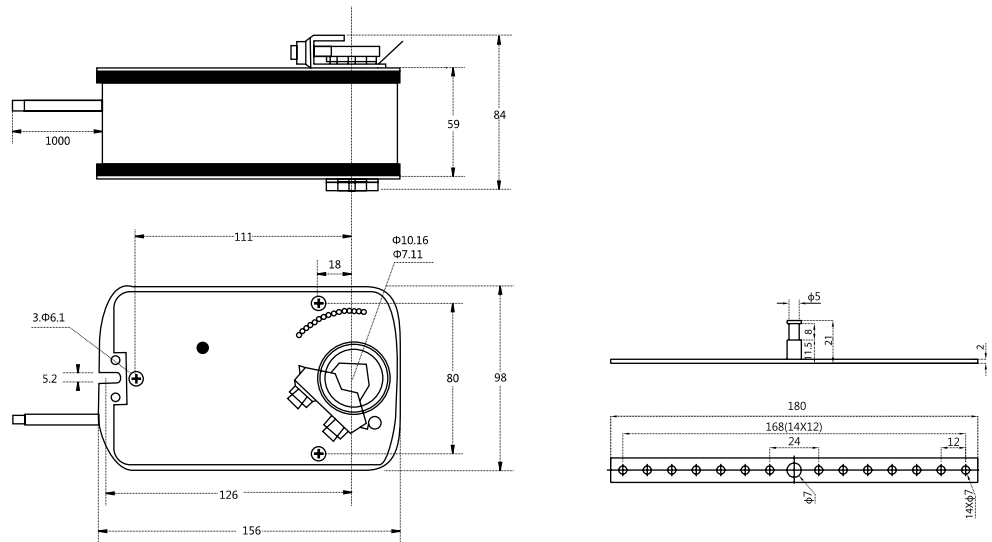


- For operation of air control dampers in HVAC system.
- Torque:5Nm
- Nominal voltage: AC/DC 24V
- Control: 0(2)...10VDC/0(4)...20mA
- Feedback: 0(2)...10VDC/0(4)...20mA
- DS type include 2 auxiliary switch.

Model Selection Table				
Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
5Nm	<120S/ <20S	AC/DC 24V	None or 2-SPDT	DA5FU24-A/AS

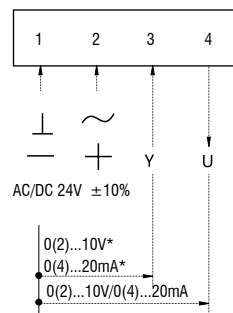
Technical specification	
	DA5FU24-A/AS
Electrical data	
Nominal voltage	AC/DC24V 50/60Hz
Nominal voltage range	AC/DC 19.2V...28.8V
Power consumption	5W@Nominal toque/3W@holding
Wire sizing	0.5m²
Function data	
Torque	5Nm
Damper size	0.5m²
Direction of rotation	Selected by mounting L/R
Manual override	None
Angle of rotation	Max95°, adjustable by mechanical stop
Running time	< 120S/ <20S(Spring reset)
Sound power level	45dB
Position indication	Mechanical
Working/conditions	
Protection class	III (safety low voltage)
Protection level	IP54
Ambient temperature	-20...+50°C /IEC 721-3-3
Inventory temperature	-30...+80°C /IEC 721-3-2
Humidity test	95%RH,non condensing(EN60730-1)
Dimensions/Weight	
Dimensions(L×W×H)	See"Dimensions"
Shaft length	>90mm
Shaft diameter	○ 10...16mm □ 7x7...11x11mm
Weight	<1.9kg

Actuator Dimensions(mm)

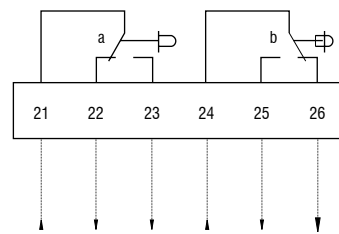


Wiring Diagram

24V Actuator



Auxiliary switch



Resistance load 3A,230V
Inductive load 1.5A,230V
The actuator in the 0° position

Spring-return Damper Actuator

10Nm Modulating

DA10FU24-A/AS

- For operation of air control dampers in HVAC system.
- Torque:10Nm
- Nominal voltage: AC/DC 24V
- Control: 0(2)...10VDC/0(4)...20mA
- Feedback: 0(2)...10VDC/0(4)...20mA
- DS type include 2 auxiliary switch.

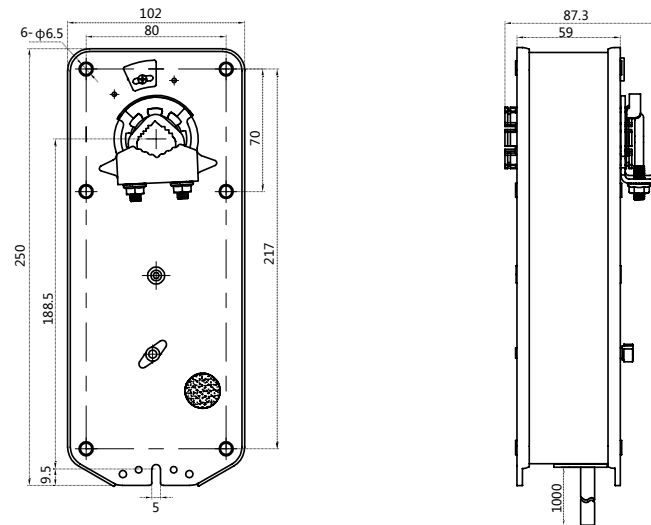


Model Selection Table				
Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
10Nm	<120S/<25S	AC/DC 24V	None or 2-SPDT	DA10FU24-A/AS

Technical specification	
	DA10FU24-A/AS
Electrical data	
Nominal voltage	AC/DC24V 50/60Hz
Nominal voltage range	AC/DC 19.2V...28.8V
Power consumption	12W@Nominal toque/3.5W@holding
Wire sizing	0.5m²
Function data	
Torque	10Nm
Damper size	1m²
Direction of rotation	Selected by mounting L/R
Manual override	None
Angle of rotation	Max95°, adjustable by mechanical stop
Running time	< 120S/<25S(Spring reset)
Sound power level	45dB
Position indication	Mechanical
Working/conditions	
Protection class	III (safety low voltage)
Protection level	IP54
Ambient temperature	-20...+50°C /IEC 721-3-3
Inventory temperature	-30...+80°C /IEC 721-3-2
Humidity test	95%RH,non condensing(EN60730-1)
Dimensions/Weight	
Dimensions(L×W×H)	See"Dimensions"
Shaft length	>90mm
Shaft diameter	○ 10...21mm □ 8x8...15x15mm
Weight	<3.0kg

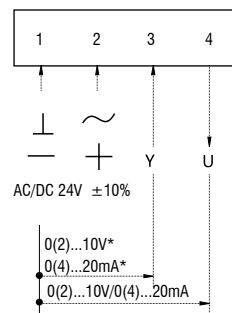
40
41

Actuator Dimensions(mm)

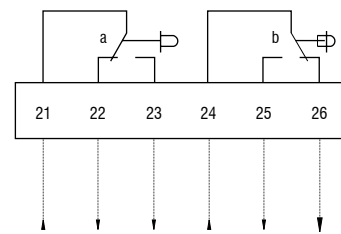


Wiring Diagram

24V Actuator



Auxiliary switch



Resistance load 3A,230V
Inductive load 1.5A,230V
The actuator in the 0° position

Spring-return Damper Actuator

15Nm Modulating

DA15FU24-A/AS

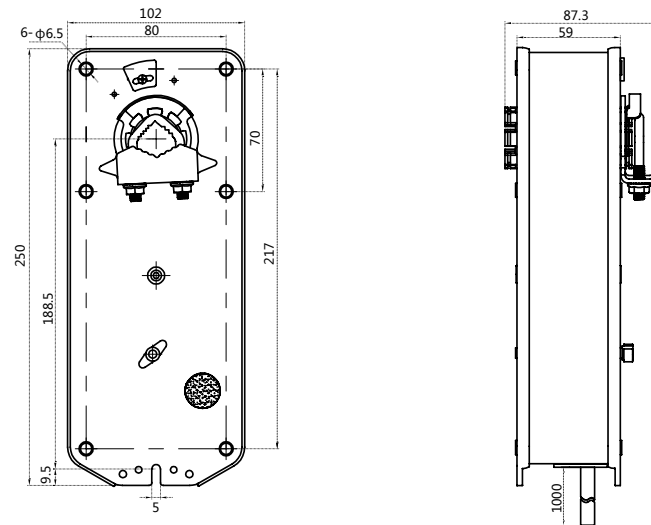


- For operation of air control dampers in HVAC system.
- Torque:15Nm
- Nominal voltage: AC/DC 24V
- Control: 0(2)...10VDC/0(4)...20mA
- Feedback: 0(2)...10VDC/0(4)...20mA
- DS type include 2 auxiliary switch.

Model Selection Table				
Torque	Running Time	Power Supply	Auxiliary Switch	Model/Type
15Nm	<120S/ <25S	AC/DC 24V	None or 2-SPDT	DA15FU24-A/AS

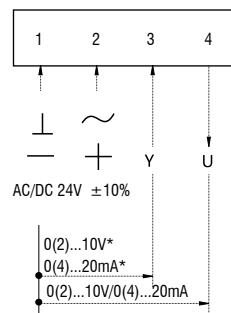
Technical specification	
	DA15FU24-A/AS
Electrical data	
Nominal voltage	AC/DC24V 50/60Hz
Nominal voltage range	AC/DC 19.2V...28.8V
Power consumption	12W@Nominal toque/3.5W@holding
Wire sizing	0.5m²
Function data	
Torque	15Nm
Damper size	1.5m²
Direction of rotation	Selected by mounting L/R
Manual override	None
Angle of rotation	Max95°, adjustable by mechanical stop
Running time	< 120S/ <25S(Spring reset)
Sound power level	45dB
Position indication	Mechanical
Working/conditions	
Protection class	III (safety low voltage)
Protection level	IP54
Ambient temperature	-20...+50°C /IEC 721-3-3
Inventory temperature	-30...+80°C /IEC 721-3-2
Humidity test	95%RH,non condensing(EN60730-1)
Dimensions/Weight	
Dimensions(L×W×H)	See"Dimensions"
Shaft length	>90mm
Shaft diameter	○ 10...21mm □ 8x8...15x15mm
Weight	<3.0kg

Actuator Dimensions(mm)

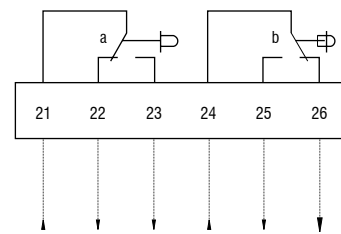


Wiring Diagram

24V Actuator



Auxiliary switch



Fire and Smoke Spring-return Damper Actuator

3Nm ON/OFF

SA3FU24-DS/DST
SA3FU230-DS/DST

For operation of air control dampers in HVAC system.
Torque: 3Nm
Nominal voltage: AC/DC 24V, AC 100-240V
Control: ON/OFF
-DST type include SAF72 thermal sensor



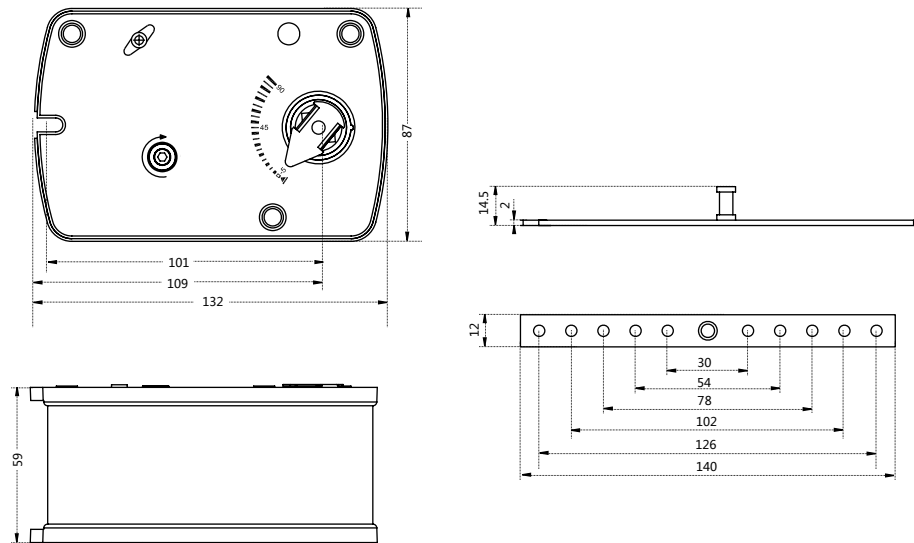
Model Selection Table

Torque	Running Time	Power Supply	Auxiliary Switch	SAF72 Thermal Sensor	Model/Type
3Nm	<75S/<25S	AC/DC 24V	2-SPDT	None	SA3FU24-DS
				Yes	SA3FU24-DST
		AC 100-240V		None	SA3FU230-DS
				Yes	SA3FU230-DST

Technical specification

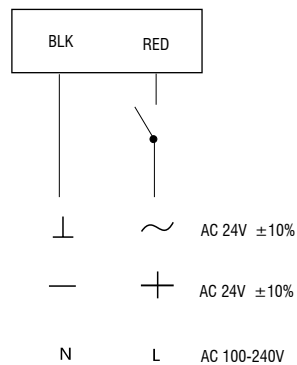
	SA3FU24-DS/DST	SA3FU230-DS/DST
Electrical data		
Nominal voltage	AC/DC 24V 50/60Hz	AC 100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	5W@Nominal toque/3W@holding	5W@Nominal toque/3W@holding
Wire sizing	0.5m ²	
Function data		
Torque	3Nm	
Damper size	0.6m ²	
Direction of rotation	Selected by mounting L/R	
Manual override	Yes	
Angle of rotation	Max95°	
Running time	<75S/<25S(Spring reset)	
Sound power level	45dB	
Position indication	Mechanical	
Working/conditions		
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP54	
Ambient temperature	-20...+50°C /IEC 721-3-3	
Inventory temperature	-30...+80°C /IEC 721-3-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 90mm	
Shaft diameter	12×12mm □ Can provide 8 x 8 , 10 x 10 shaft sleeve	
Weight	< 1.3kg	

Actuator Dimensions(mm)

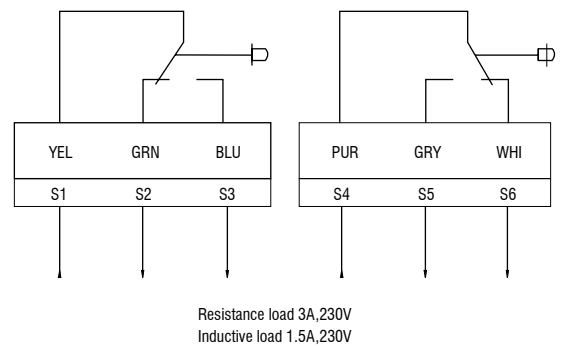


Wiring Diagram

Actuator

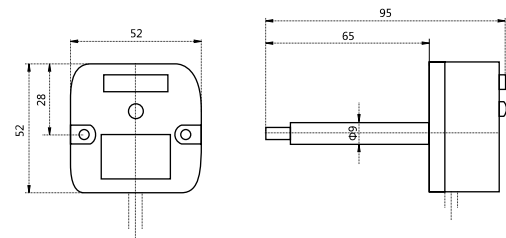


Auxiliary switch



Thermal Sensor SAF72

Thermal Sensor SAF72 Consist of both Ambient(TS1) and Duct sensor(TS2). TS1 will trip open when the ambient temperature rise above 72°. TS2 will trip open when the duct temperature rise above 72°.



Fire and Smoke Spring-return Damper Actuator

5Nm ON/OFF

SA5FU24-DS/DST
SA5FU230-DS/DST

For operation of air control dampers in HVAC system.

Torque: 5Nm

Nominal voltage: AC/DC 24V, AC 100-240V

Control: ON/OFF

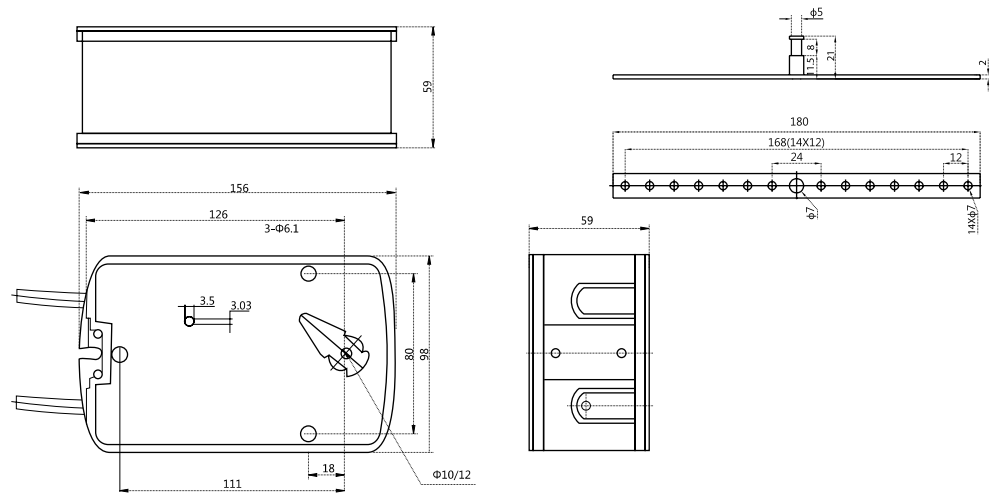
-DST type include SAF72 thermal sensor



Model Selection Table						
Torque	Running Time	Power Supply	Auxiliary Switch	SAF72 Thermal Sensor	Model/Type	
5Nm	<70S/<20S	AC/DC 24V	2-SPDT	None	SA5FU24-DS	
				Yes	SA5FU24-DST	
		AC 100-240V		None	SA5FU230-DS	
				Yes	SA5FU230-DST	

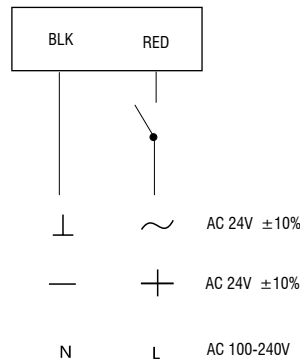
Technical specification		
	SA5FU24-DS/DST	SA5FU230-DS/DST
Electrical data		
Nominal voltage	AC/DC 24V 50/60Hz	AC 100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	5W@Nominal toque/3W@holding	5W@Nominal toque/3W@holding
Wire sizing	0.5m ²	
Function data		
Torque	5Nm	
Damper size	1m ²	
Direction of rotation	Selected by mounting L/R	
Manual override	Yes	
Angle of rotation	Max95°	
Running time	<70S/ <20S(Spring reset)	
Sound power level	45dB	
Position indication	Mechanical	
Working/conditions		
Protection class	Ⅲ (safety low voltage)	Ⅱ (totally insulated)
Protection level	IP54	
Ambient temperature	-20... +50℃ /IEC 721-3-3	
Inventory temperature	-30... +80℃ /IEC 721-3-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 90mm	
Shaft diameter	12×12mm □ Can provide 8 x 8 ,10 x 10 shaft sleeve	
Weight	< 2.0kg	

Actuator Dimensions(mm)

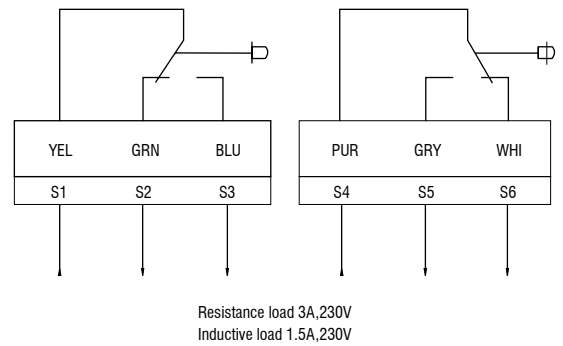


Wiring Diagram

Actuator

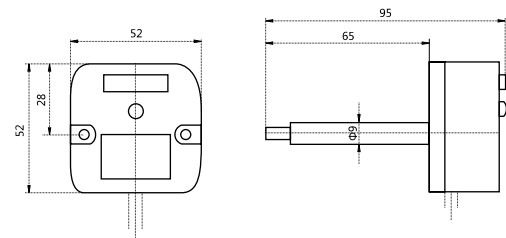


Auxiliary switch



Thermal Sensor SAF72

Thermal Sensor SAF72 Consist of both Ambient(TS1) and Duct sensor(TS2). TS1 will trip open when the ambient temperature rise above 72°. TS2 will trip open when the duct temperature rise above 72°.



Fire and Smoke Spring-return Damper Actuator

10Nm/15Nm/20Nm ON/OFF

SA10FU24-DS/DST
SA10FU230-DS/DST
SA15FU24-DS/DST
SA15FU230-DS/DST
SA20FU24-DS/DST
SA20FU230-DS/DST



For operation of air control dampers in HVAC system.

Torque: 10Nm/15Nm/20Nm

Nominal voltage: AC/DC 24V, AC 100-240V

Control: ON/OFF

-DST type include SAF72 thermal sensor

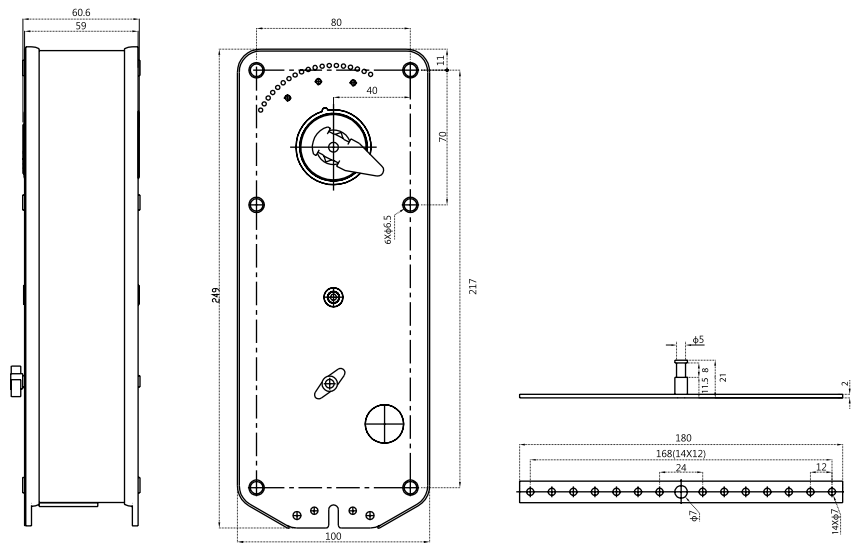
Model Selection Table

Torque	Running Time	Power Supply	Auxiliary Switch	SAF72 Thermal Sensor	Model/Type
10Nm	<100S/<25S	AC/DC 24V	2-SPDT	None or Yes	SA10FU24-DS/DST
		AC 100-240V			SA10FU230-DS/DST
15Nm	<150S/<25S	AC/DC 24V		None or Yes	SA15FU24-DS/DST
		AC 100-240V			SA15FU230-DS/DST
20Nm	<180S/<30S	AC/DC 24V		None or Yes	SA20FU24-DS/DST
		AC 100-240V			SA20FU230-DS/DST

Technical specification

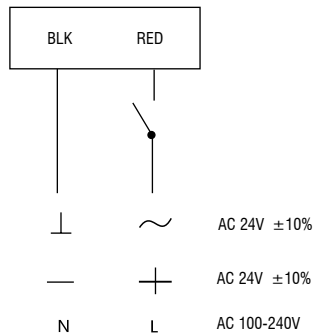
	SA10/15/20FU24-DS/DST	SA10/15/20FU230-DS/DST
Electrical data		
Nominal voltage	AC/DC24V 50/60Hz	AC 100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	5W/7W@Nominal toque3W/2W@holding	5W8W@Nominal toque3W/2.5W@holding
Wire sizing	0.5m²	
Function data		
Torque	10Nm/15Nm/20Nm	
Damper size	1.5m²/3m²/4m²	
Direction of rotation	Selected by mounting L/R	
Manual override	Yes	
Angle of rotation	Max95°	
Running time	<100S/<150S/<180S, <25S/<25S/30S(Spring reset)	
Sound power level	<45dB	
Position indication	Mechanical	
Working/conditions		
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP54	
Ambient temperature	-20...+50°C /IEC 721-3-3	
Inventory temperature	-30...+80°C /IEC 721-3-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 90mm	
Shaft diameter	12×12mm □ Can provide 8 x 8 , 10 x 10 shaft sleeve	
Weight	<2.3kg(SA10FU)/<2.6Kg(SA15/20FU)	

Actuator Dimensions(mm)

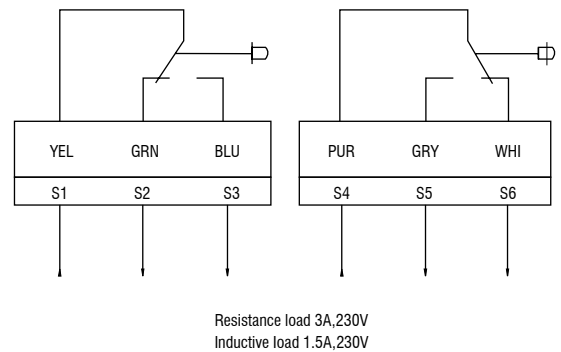


Wiring Diagram

Actuator

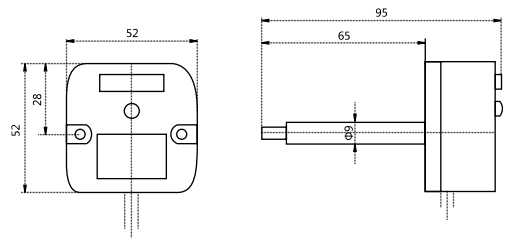


Auxiliary switch



Thermal Sensor SAF72

Thermal Sensor SAF72 Consist of both Ambient(TS1) and Duct sensor(TS2). TS1 will trip open when the ambient temperature rise above 72°. TS2 will trip open when the duct temperature rise above 72°.



Smoke Control without Spring-return Damper Actuator

10Nm/15Nm ON/OFF

SA10MU24-DS/DST
SA10MU230-DS/DST
SA15MU24-DS/DST
SA15MU230-DS/DST

For operation of air control dampers in HVAC system.

Torque: 10Nm/15Nm

Nominal voltage: AC/DC 24V, AC100-240V

Control: ON/OFF

-DST type include SAF72 thermal sensor

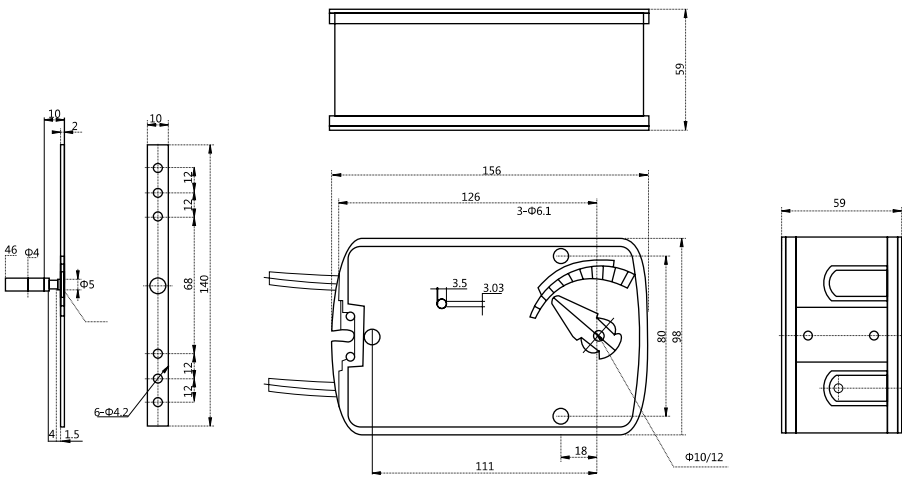
Model Selection Table

Torque	Running Time	Power Supply	Auxiliary Switch	SAF72 Thermal Sensor	Model/Type
10Nm	<45S	AC/DC 24V AC 230V	2-SPDT	None	SA10MU24-DS
				Yes	SA10MU24-DST
				None	SA10MU230-DS
				Yes	SA10MU230-DST
15Nm	<30S	AC/DC 24V AC 230V	2-SPDT	None	SA15MU24-DS
				Yes	SA15MU24-DST
				None	SA15MU230-DS
				Yes	SA15MU230-DST

Technical specification

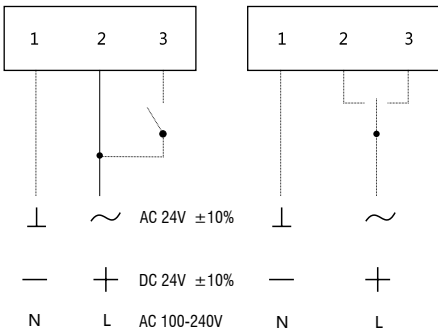
	SA10/15MU24-DS/DST	SA10/15MU230-DS/DST
Electrical data		
Nominal voltage	AC/DC24V 50/60Hz	AC 100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2V...28.8V	AC85...265V
Power consumption	5W@Nominal toque/0.5W@holding	5W@Nominal toque/0.5W@holding
Wire sizing	0.5m ²	
Function data		
Torque	10Nm	
Damper size	1.5m ² /2.0m ²	
Direction of rotation	Selected by mounting L/R	
Manual override	Yes	
Angle of rotation	Max95°	
Running time	<45S/ <30S	
Sound power level	45dB	
Position indication	Mechanical	
Working/conditions		
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP54	
Ambient temperature	-20...+50°C /IEC 721-3-3	
Inventory temperature	-30...+80°C /IEC 721-3-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 90mm	
Shaft diameter	12x12mm □ Can provide 8 x8 ,10x10shaft sleeve	
Weight	< 1.8kg	

Actuator Dimensions(mm)



Wiring Diagram

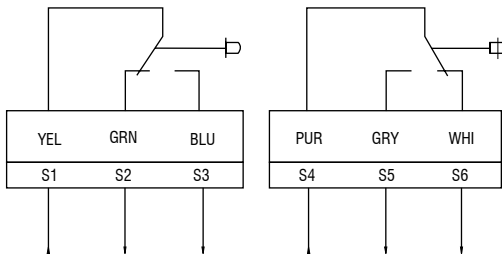
Actuator



2-Point

3-Point

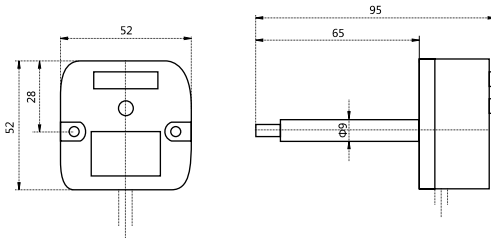
Auxiliary switch



Resistance load 3A,230V
Inductive load 1.5A,230V

Thermal Sensor SAF72

Thermal Sensor SAF72 Consist of both Ambient(TS1) and Duct sensor(TS2). TS1 will trip open when the ambient temperature rise above 72°.TS2 will trip open when the duct temperature rise above 72°.



Smoke Control without Spring-return Damper Actuator

30Nm ON/OFF

SA30MU24-DS/DST
SA30MU230-DS/DST

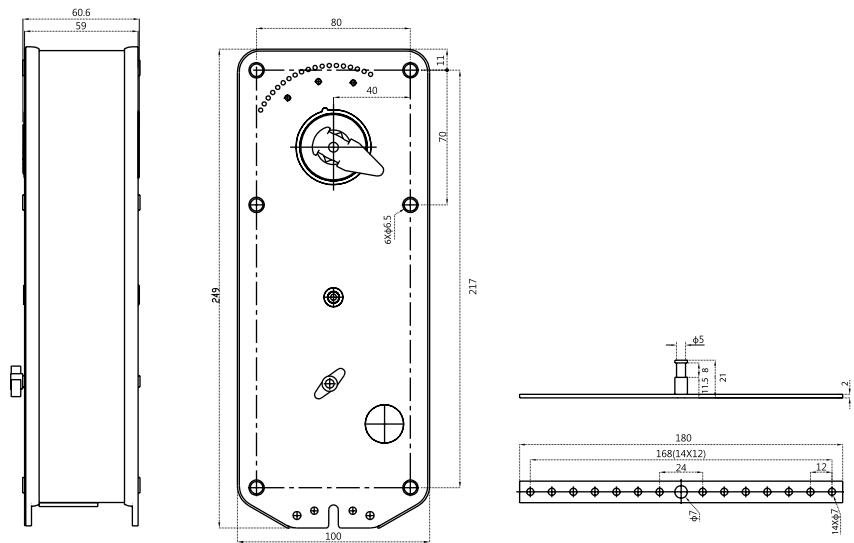
For operation of air control dampers in HVAC system.
Torque: 30Nm
Nominal voltage: AC/DC24V, AC100...240V
Controa: ON/OFF
-DST type include SAF72 thermal sensor



Model Selection Table					
Torque	Running Time	Power Supply	Auxiliary Switch	SAF72 Thermal Sensor	Model/Type
30Nm	<115S	AC/DC 24V	2-SPDT	None	SA30MU24-DS
				Yes	SA30MU24-DST
		AC 230V		None	SA30MU230-DS
				Yes	SA30MU230-DST

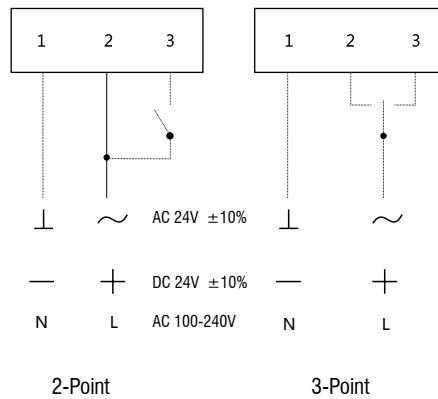
Technical specification		
	SA30MU24-DS/DST	SA30MU230-DS/DST
Electrical data		
Nominal voltage	AC/DC 24V 50/60Hz	AC 100-240V 50/60Hz
Nominal voltage range	AC/DC 19.2...28.8V	AC85...265V
Power consumption	7W@Nominal toque/2W@holding	8W@Nominal toque/2.5W@holding
Wire sizing	0.5m ²	
Function data		
Torque	30Nm	
Damper size	4m ²	
Direction of rotation	Selected by mounting L/R	
Manual override	Yes	
Angle of rotation	Max95°	
Running time	<115S	
Sound power level	<45dB	
Position indication	Mechanical	
Working/conditions		
Protection class	III (safety low voltage)	II (totally insulated)
Protection level	IP54	
Ambient temperature	-20...+50°C / IEC 721-3-3	
Inventory temperature	-30...+80°C /IEC 721-3-2	
Humidity test	95%RH,non condensing(EN60730-1)	
Dimensions/Weight		
Dimensions(L×W×H)	See"Dimensions"	
Shaft length	> 9 0mm	
Shaft diameter	12x12mm □ Can provide 8 x8 ,10x10shaft sleeve	
Weight	<2 .2kg	

Actuator Dimensions(mm)

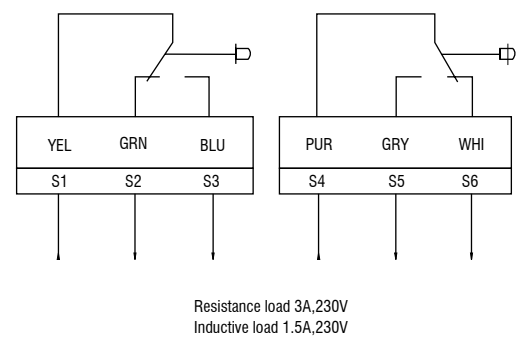


Wiring Diagram

Actuator

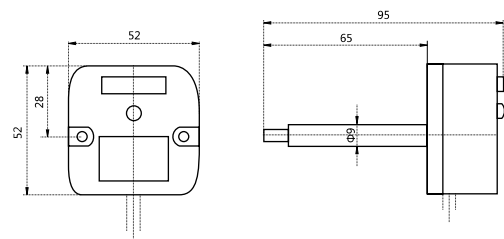


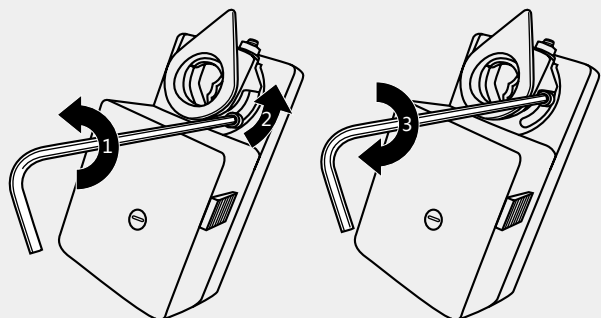
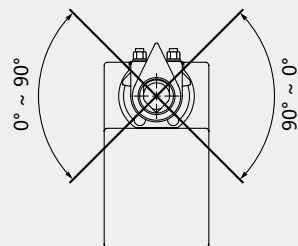
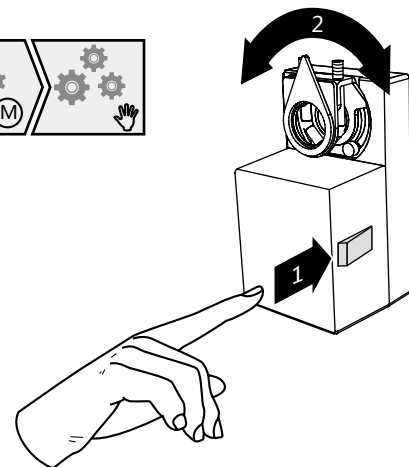
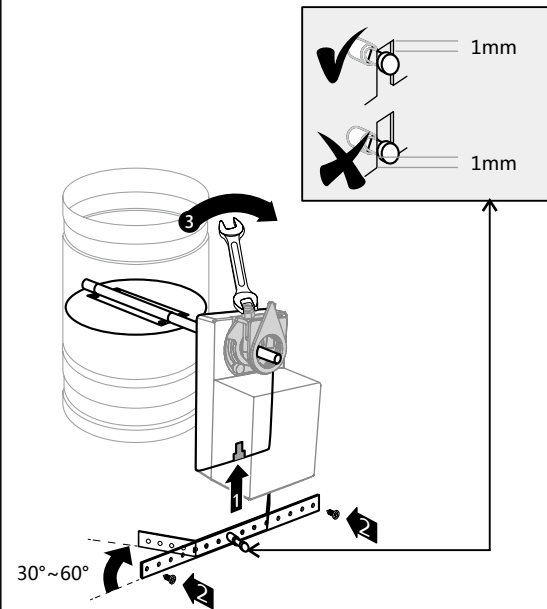
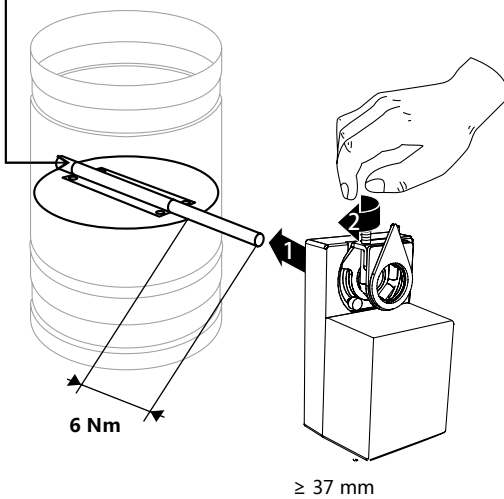
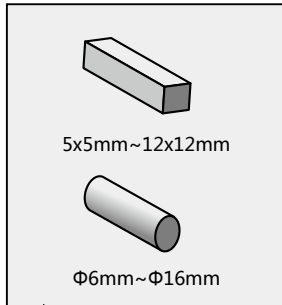
Auxiliary switch



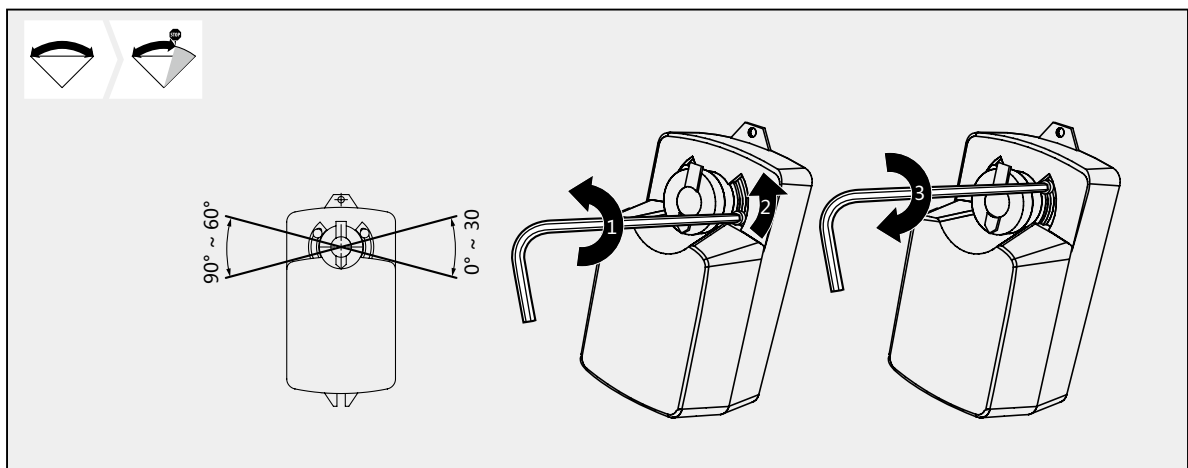
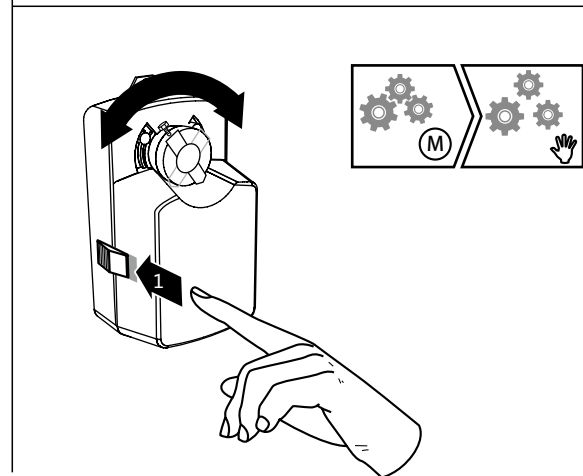
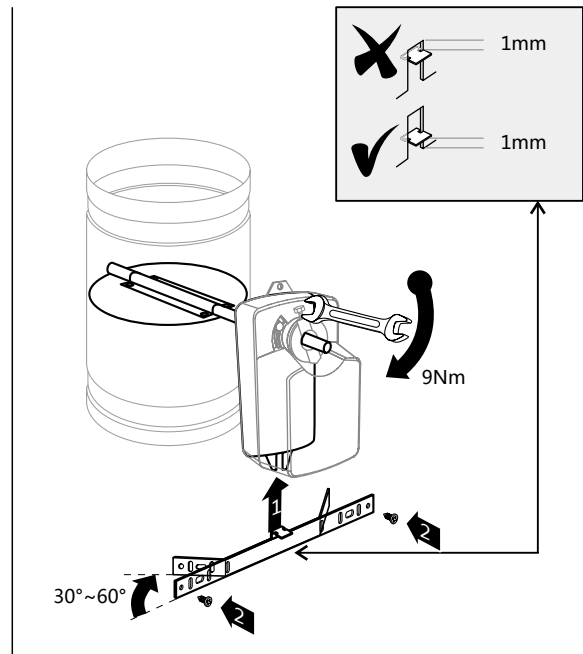
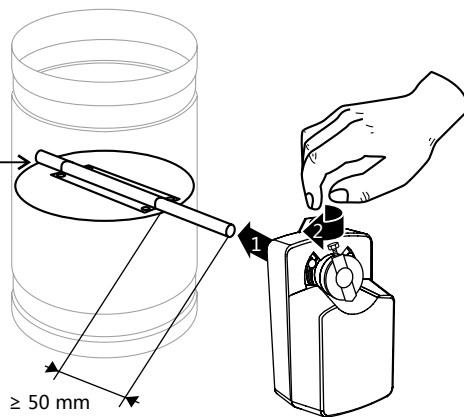
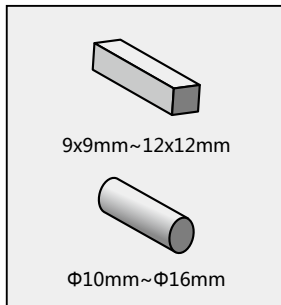
Thermal Sensor SAF72

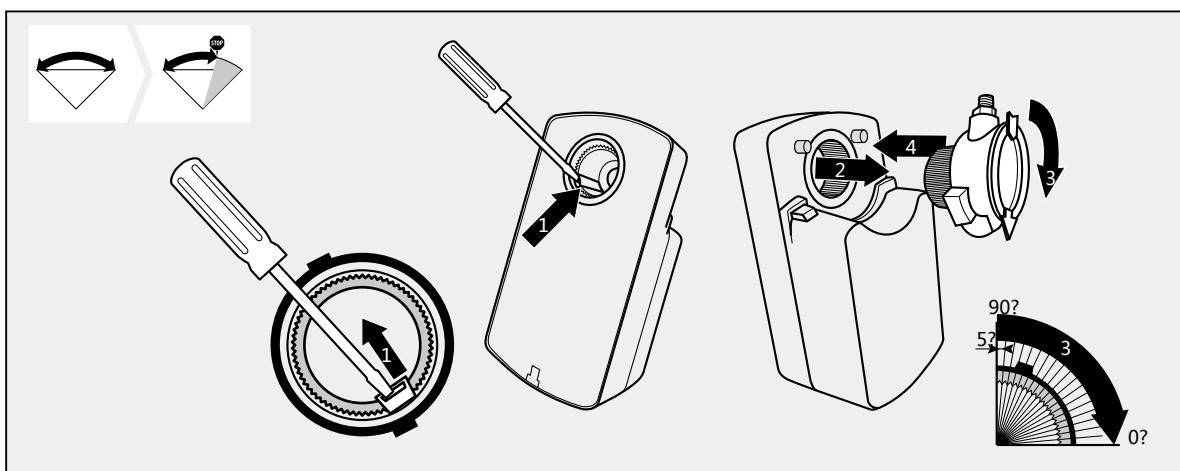
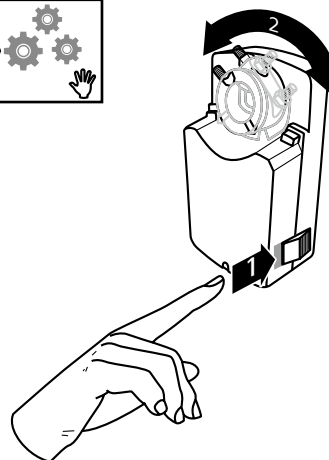
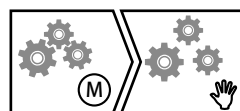
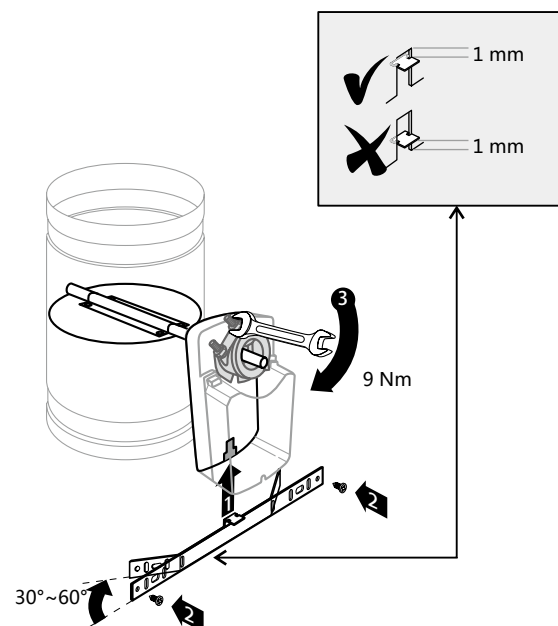
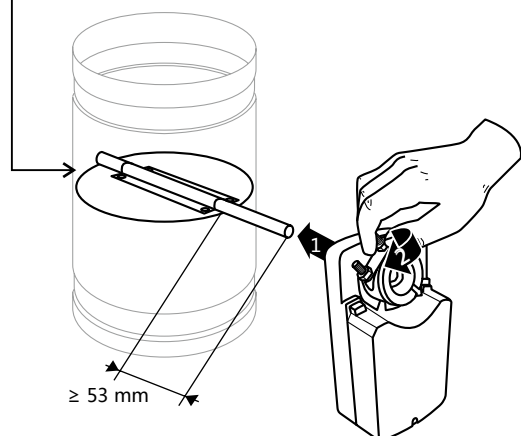
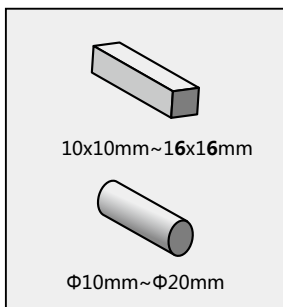
Thermal Sensor SAF72 Consist of both Ambient(TS1) and Duct sensor(TS2). TS1 will trip open when the ambient temperature rise above 72°. TS2 will trip open when the duct temperature rise above 72°.



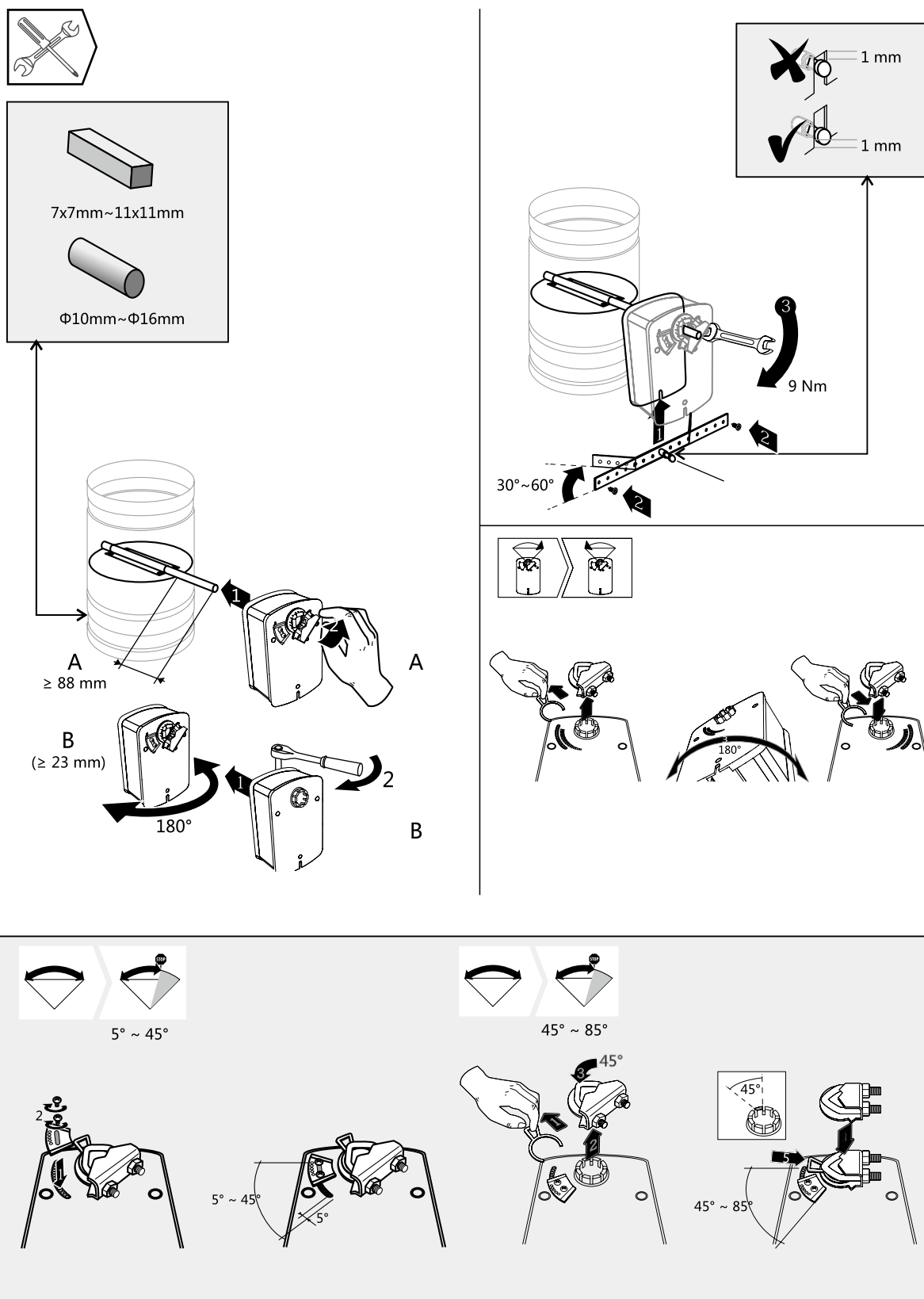


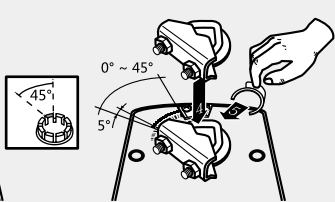
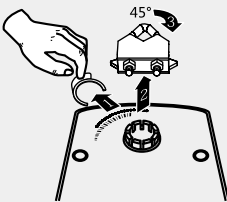
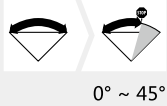
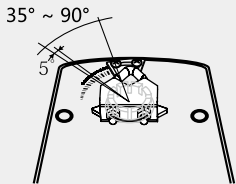
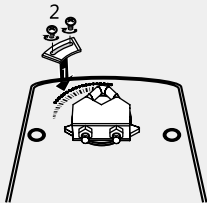
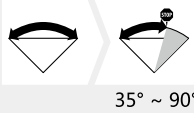
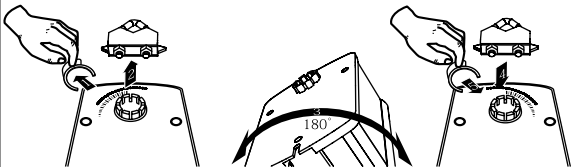
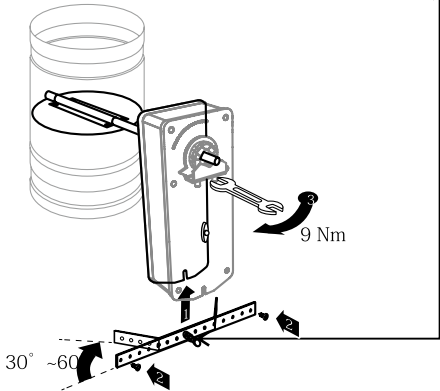
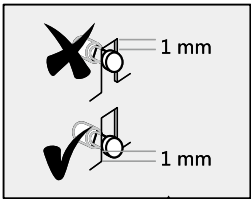
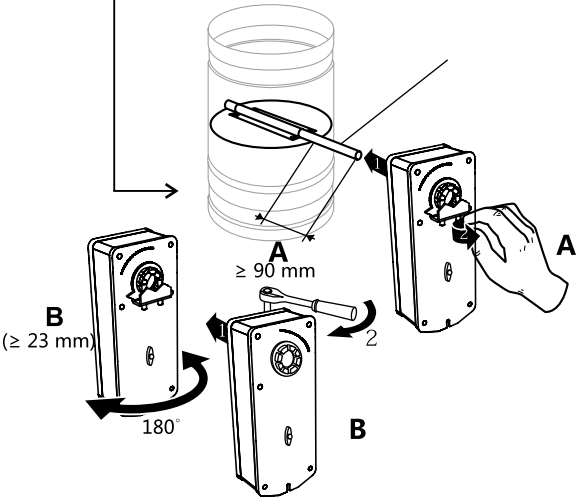
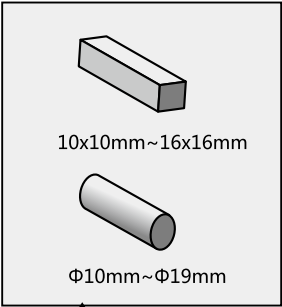
DA4/6MU Series



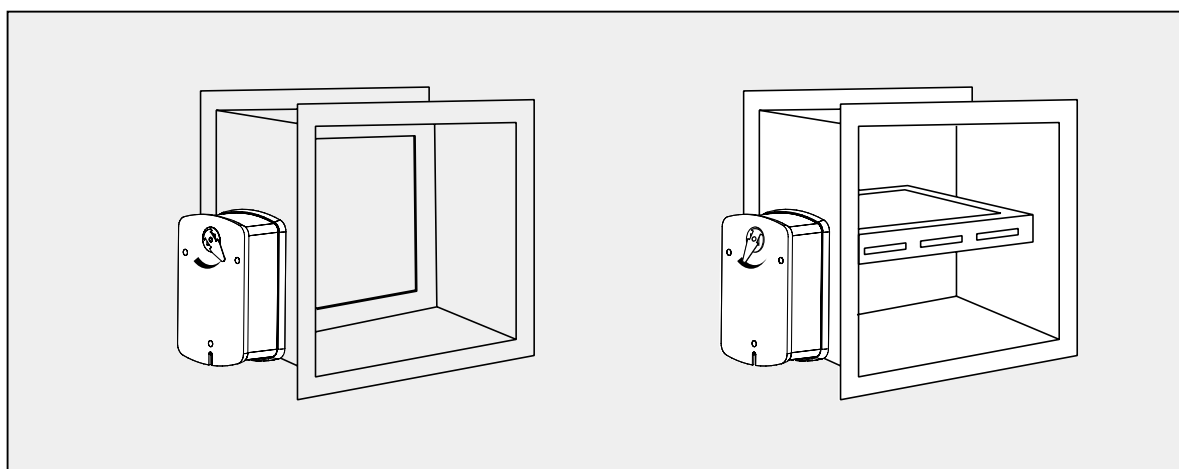
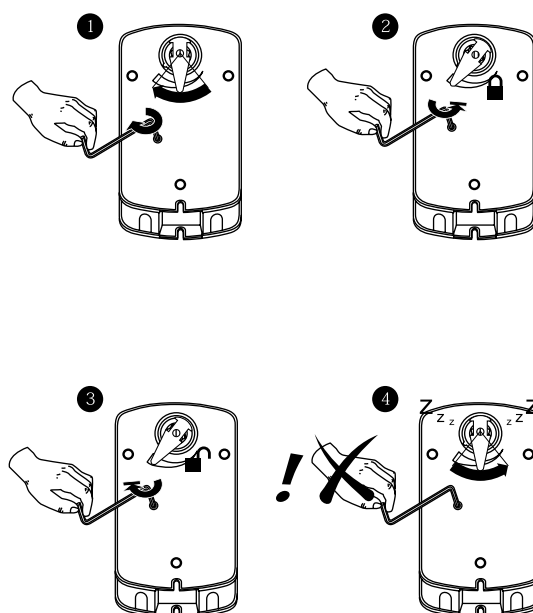
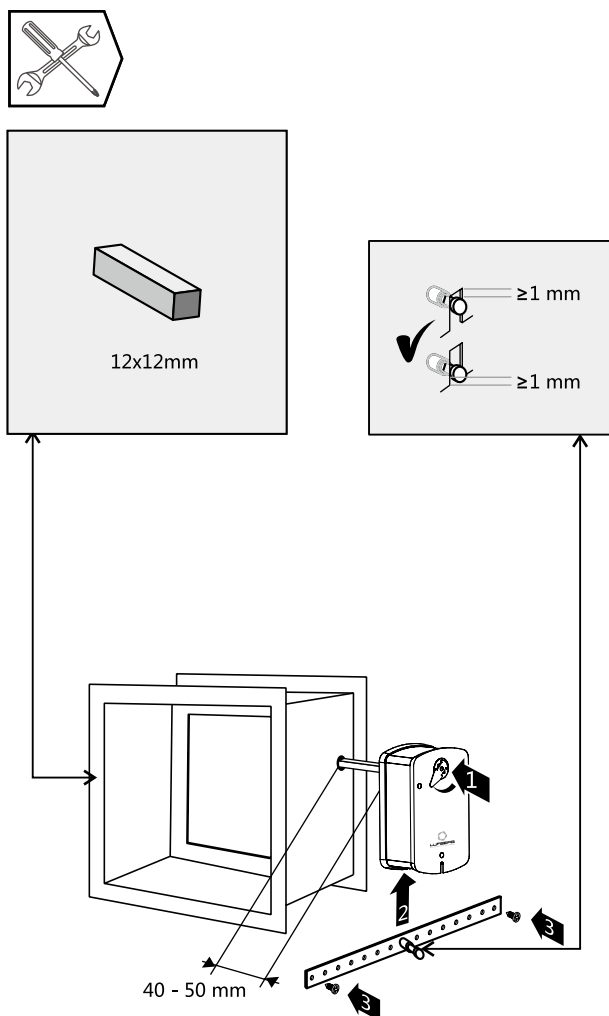


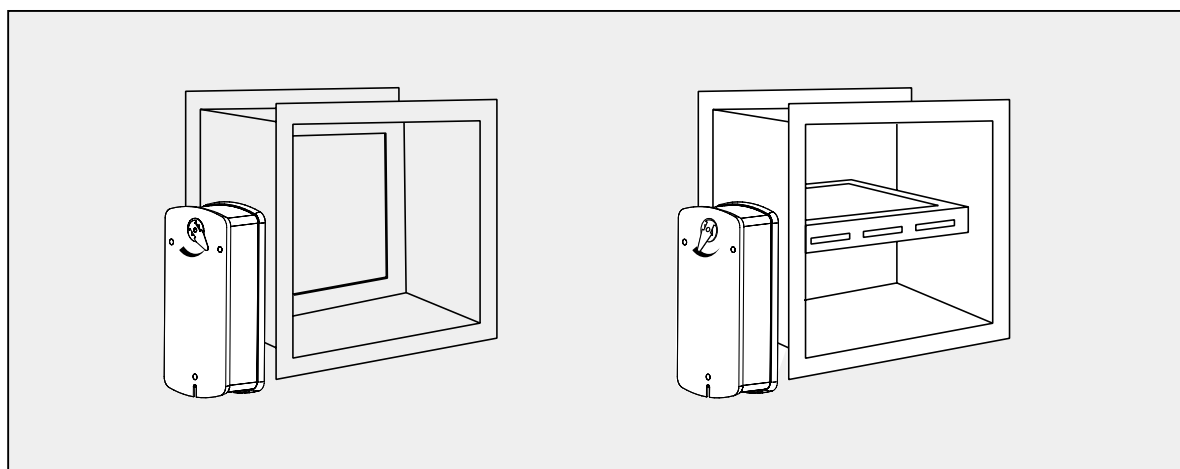
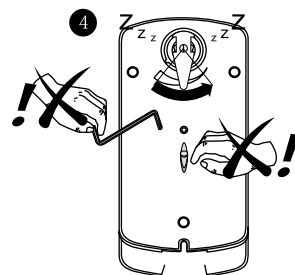
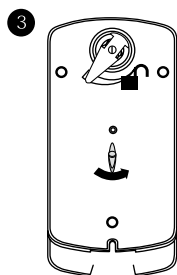
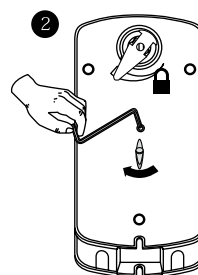
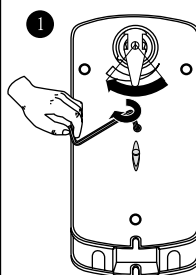
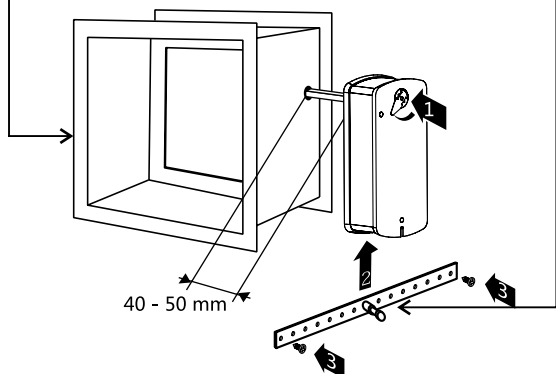
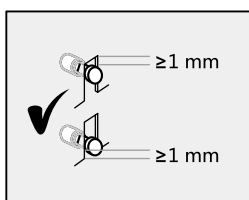
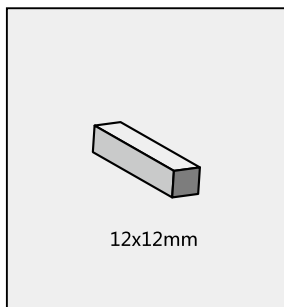
DA5FU Series



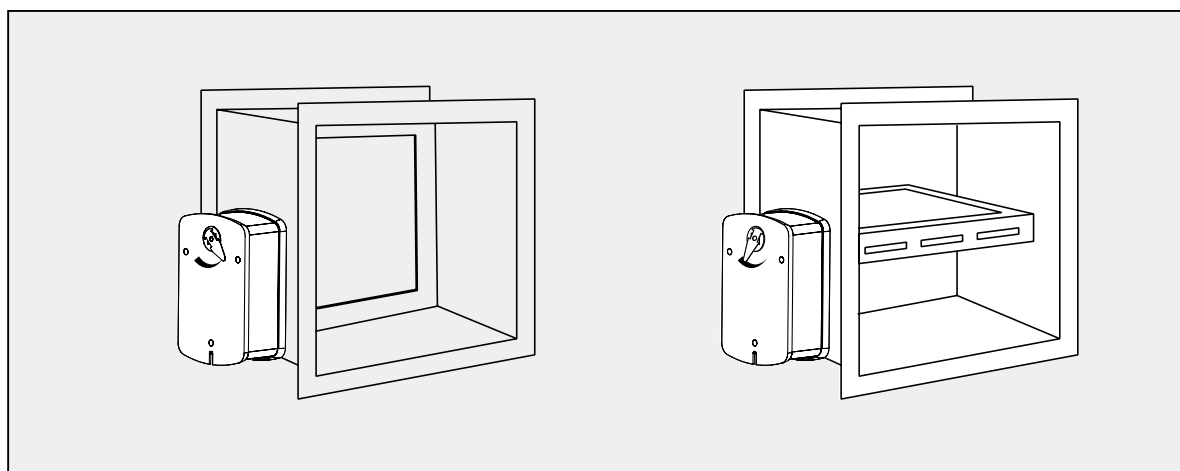
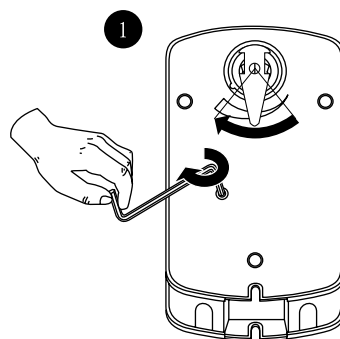
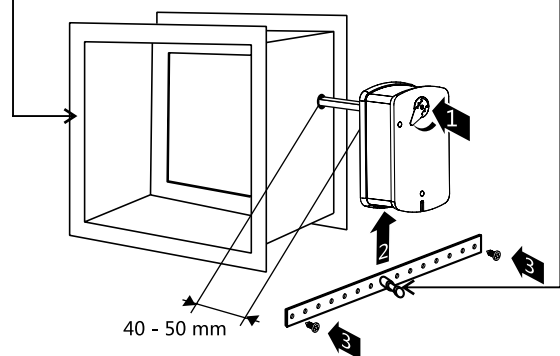
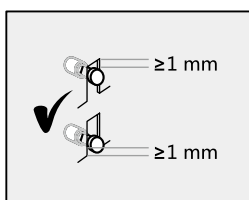
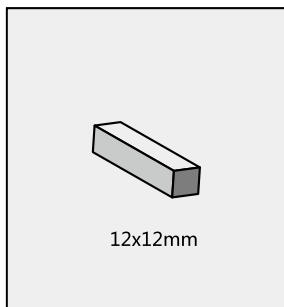


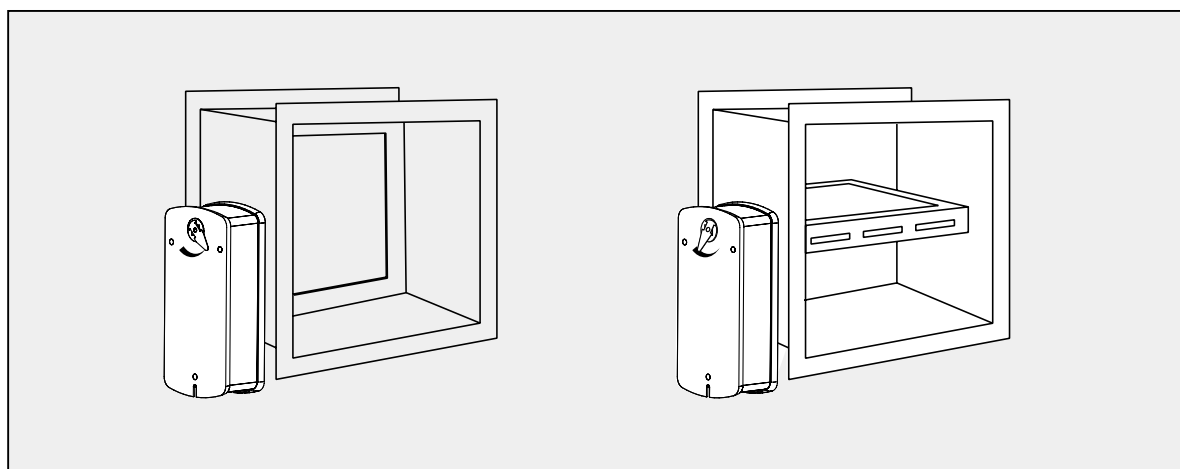
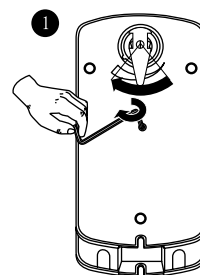
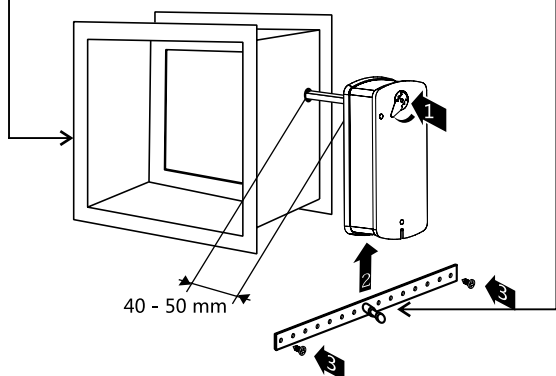
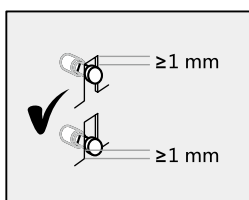
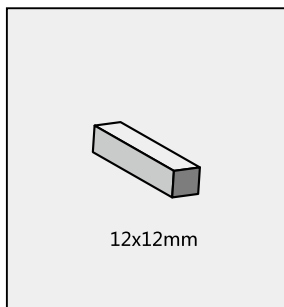
SA5FU Series





SA10MU Series







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