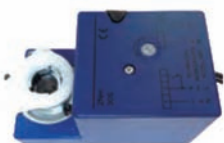


## Damper Actuators & Ball Valves





## 3005-N Series Spring Return Damper Actuator

### 1. General Information

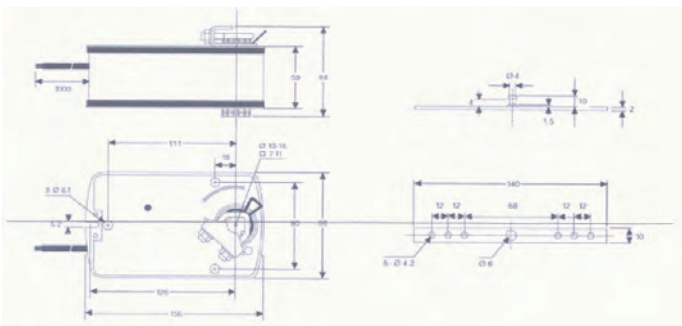
- PHC 3005N Series Spring Return damper actuator Series are designed specifically for application into the HVAC market.
- PHC high quality damper actuators are developed for use with air damper, butterfly valve, characterized ball valve and other devices that required a fail safe function.
- The actuator motorized the damper or other devices when power on and spring back to its original position when power is cut off.
- For the operation of air dampers that perform safety functions (e.g. frost and smoke protection, hygiene, etc.).
- The actuator moves the damper to its normal working position while tensioning the return spring at the same time. If the power supply is interrupted, the damper back to its safe position.



### 2. Product Features

- 2 points on/off control
- Damper Size up to 1.0 m<sup>2</sup>
- Voltage AC/DC 24V and AC 230V available
- Universal Spindle Clamp for easy direct mounting
- Shaft dimension Ø10...16 mm / 7...11 mm square
- Minimum Shaft Length 40mm
- Anti-rotation bracket provided for stability
- Adjustable angle of rotation
- Selectable direction of rotation by reversing actuator
- 1 adjustable SPDT auxiliary switches when requested
- Energy saving at end stops
- Actuators with 1m cable connection
- Customised version available on request

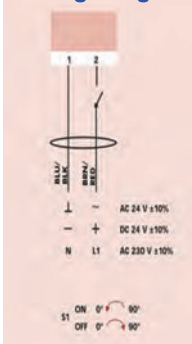
### 3. Actuator Dimensions (mm)



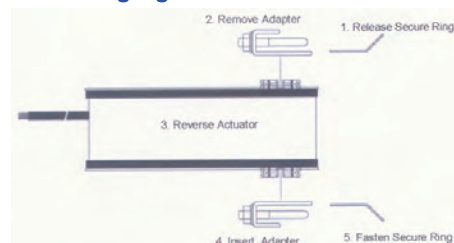
### 4. Technical Specification

	3005-N (24V AC/DC)	3005-N (230V AC)
Torque — Motor (Rated Voltage) — Spring	Min. 5 Nm Min. 5 Nm	Min. 5 Nm Min. 5 Nm
Damper Size	1 m <sup>2</sup>	1 m <sup>2</sup>
Power Supply	AC/DC 24 V	AC 230V
Frequency	50...60Hz	50...60Hz
Consumption Operating	5.0W	5.0 W
Consumption At the end stops	2.5 W	2.5 W
For wire sizing	7.0 VA	7.0 VA
Auxiliary Switches Rating (Amp and Voltage)	3 (1.5) A / 230 V (for 24 V and 230 V)	3 (1.5) A / 230 V (for 24 V and 230 V)
Protection Class	III (Safety Low Voltage)	II (Completely Insulation)
Controls Signal	2 Point On/Off	2 Point On/Off
Angle of Rotation	90° (95° mechanical)	90° (95° mechanical)
Angle of Rotation Limiting	5°...85° in 5° step	5°...85° in 5° step
Weight	1.8 Kg	1.8 Kg
Life Cycle	60,000 rotation	60,000 rotation
Sound Level	Below 62 dB	Below 62 dB
IP Protection	IP54	IP54
Ambient Temperature	-20°...50° as per IEC 721-3-3	-20°...50° as per IEC 721-3-3
Ambient Humidity	5...95% RH	5...95% RH
Inventory Temperature	+70° as per 721-3-2	+70° as per 721-3-2
Maintenance	Maintenance free	Maintenance free
Certification	CE	CE

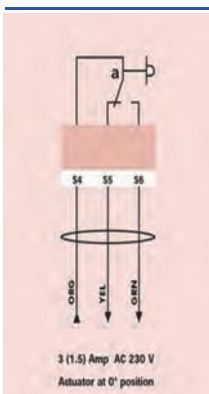
### Wiring Diagram



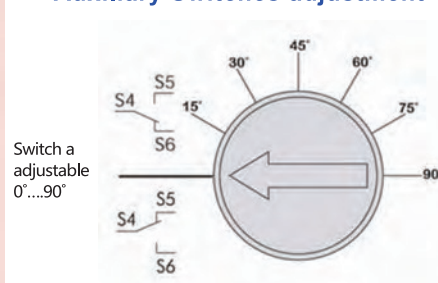
### Changing Direction of Rotation



AC/DC 24V: Connect via safety isolating transformer.  
AC 230V: To isolate from the main power supply, the system must incorporate a device which disconnects the phase conductors (with a least a 3mm contact gap)



### Auxiliary Switches adjustment



Built-in Micro Switch Adjustment  
Turn the screw from 0°...90° according to the scale

### Angle of Rotation Limiting

For 5° to 45° Adjustment (Diagram 1)

1. Loosen Screw of the mechanical limiter plate.
2. Move the limiter plate to the appropriate position.
3. Tighten the screw.

For 45° to 85° Adjustment (Diagram 2)

1. Release the secure ring of the adapter.
2. Remove the adapter and turn negative 45° as shown.
3. Insert adapter and secure the adapter ring.
4. Loosen Screw of the mechanical limiter plate
5. Move the limiter plate to the appropriate position
6. Tighten the screw

### Angle of Rotation Limiting 5° to 85° adjustment

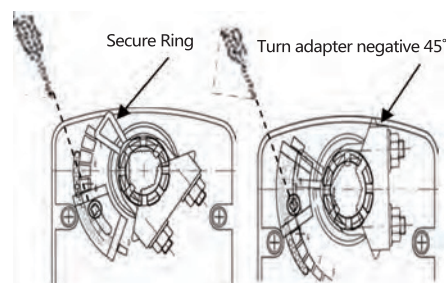
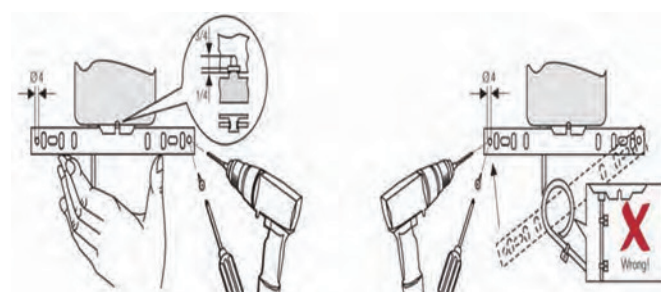


Diagram 1  
5° to 45° Adjustment

Diagram 2  
45° to 85° Adjustment

### 5. EM—Customized Version

PHC offer actuators in customized version on request in your own brand name. Please contact us for further information.





## 3010-N Series of Spring Return Damper Actuator



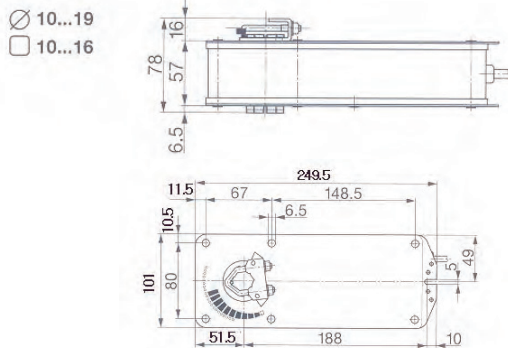
### 1. General Information

PHC 3010-N series Spring Return damper actuator Series are designed specifically for application into the HVAC market.

### 2. Product Features

- 2 point on/off control
- Damper Size up to 2.0 m<sup>2</sup>
- Voltage AC/DC 24V and AC 230V available
- Shaft dimension Ø 10...19mm / 10...16 square
- Anti-rotation bracket provided for stability
- Customized version available
- Adjustable angle of rotation
- Selectable direction of rotation by reversing actuator
- 2 adjustable SPDT auxiliary switches when requested
- Energy saving at end stops
- Actuators with 1m cable connection

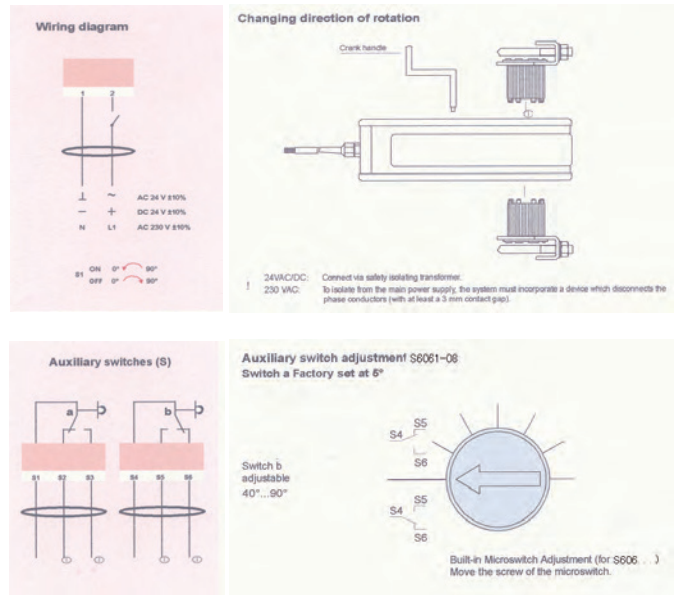
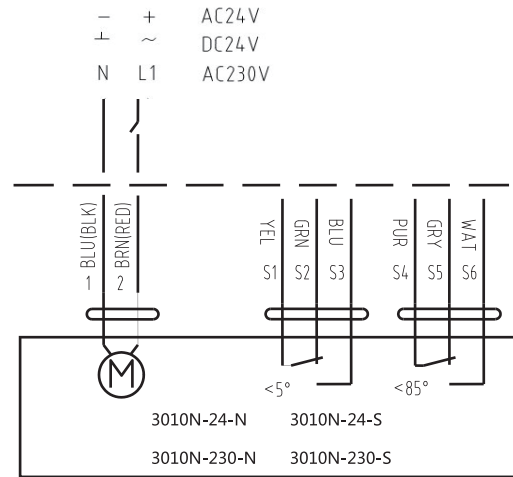
### 3. Actuator Dimensions(mm)



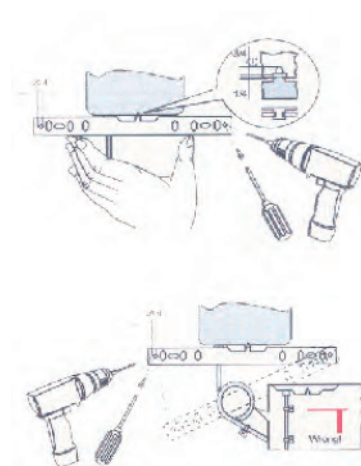
### 4. Technical Specification

Model	3010N-24-N	3010N-24-S	3010N-230-N	3010N-230-S
Torque	10Nm			
Damper Size	2m²			
Power Supply	AC/DC 24V		AC 230V	
Frequency	50....60Hz		50....60Hz	
Power Consumption	5W Operation /2.5W Stop		6.5W Operation /2.5W Stop	
For wire sizing	10VA			
Runtime	Motor 100s ; Spring Return < 25s			
Electric Level	III(Safety Low Voltage)		II (Completely Insulation)	
Controls Signal	2 Point On/Off			
Angle of Rotation	90° (95° mechanical)			
Angle of Rotation Limiting	5°.85" in 5° step			
Weight	2.7Kg			
Life Cycle	>60 , 000 times			
Noise	50dB(A) and 62dB(A)			
IP Protection	IP54			
Ambient Temperature	-20°...50° as per IEC 721-3-3			
Ambient Humidity	5...95% RH			
Inventory Temperature	+70° as per 721-3-2			
Maintenance	Maintenance free			
Certification	CE			

### 5. Wiring Diagram and Shape



### 6. Installation / Mounting







## 3015N Series of Spring Return Damper Actuators



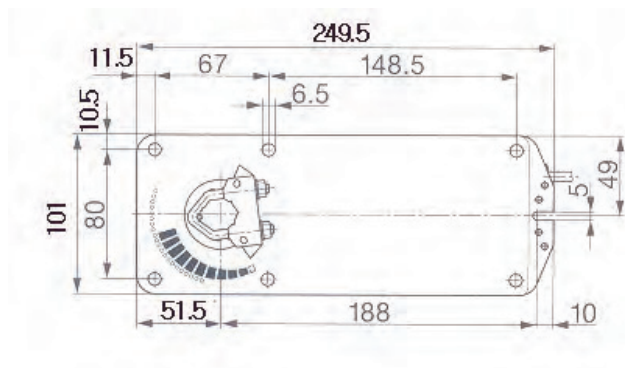
### 1. General Information

3015N Spring Return damper actuator Series are designed specifically for application into the HVAC market.

### 2. Product Features

- 2 point on/off control
- Damper Size up to 3.0 m<sup>2</sup>
- Voltage AC/DC 24V and AC 230V available
- Shaft dimension Ø 10....19mm / 10....16 square
- Anti-rotation bracket provided for stability
- Customized version available
- Adjustable angle of rotation
- Selectable direction of rotation by reversing actuator
- 2 adjustable SPDT auxiliary switches when requested
- Energy saving at end stops
- Actuators with 1m cable connection

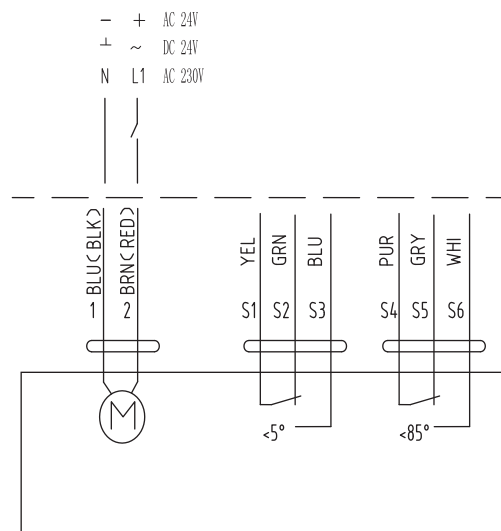
### 3. Actuator Dimensions(mm)



### 4. Technical Specification

Model	3015N-24-N	3015N-24S	3015N-230-N	3015N-230-S
Torque	15Nm			
Damper Size	3m2			
Power Supply	AC / DC24V		AC230V	
Frequency	50...60Hz			
Power Consumption	6W Operation/2.5W Stop		6.5W Operation /2.5W Stop	
For wire sizing	10VA			
Electric Level	III(Safty Low Pressure)		II(Isolation)	
Controls Signal	2 Point On/Off			
Angle of Rotation	90° (95° mechanical)			
Rotation Limiting	5°...85° in 5° step			
Weight	Around 3.0Kg			
Life Cycle	> 60 , 000 times			
Noise	Mortor Max 50dB(A) ; Spring Max 62dB(A)			
IP Protection	IP54			
Ambient Temperature	-20°...50° as per IEC 721-3-3			
Ambient Humidity	5...95% RH			
Inventory	+70° as per 721-3-2			
Maintenance	Maintenance free			
Certification	CE			

### 5. Wiring Diagram and Shape







## 4005-N Series Fire Smoke Damper Actuator

### 1. General Information

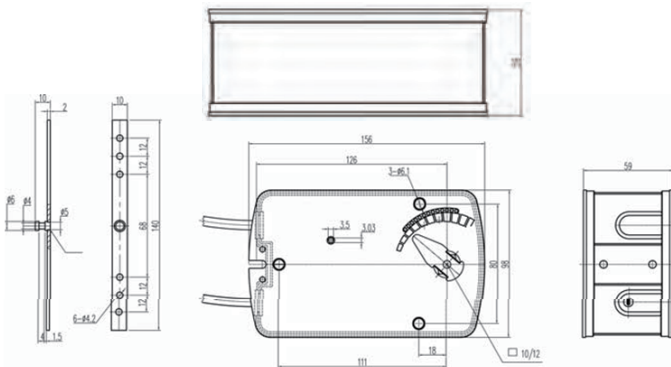
- Pric 4005-N Series Fire Smoke damper actuator Series are designed specifically for Fire and Smoke application.
- PHC high quality damper actuators are developed for use with fire and smoke damper. The actuator motorized the damper or other devices when power on and spring back to it original position when power is cut off or trip by the thermal sensor.
- For the operation of air dampers that perform safety functions(e.g. frost and smoke protection, hygiene, etc.). The actuator moves the damper to its normal working position while tensioning power supply is interrupted, the damper back to its safe osition.



### 2. Product Features

- 2 points on/off control
- Damper Size up to 1.0 m<sup>2</sup>
- Voltage AC/DC 24V and AC 230V available
- Shaft dimension Form Fit 12mm square
- Adapter supplied for Form Fit 8 or 10 mm square
- Manual Over ride by crank handle when required
- Anti-rotation bracket provided for stability
- Selectable direction of rotation by reversing actuator
- 2 SPDT Fixed auxiliary switches as Standard
- Energy saving at end stops
- Actuators with 1m cable connection
- Thermal Sensor when requested
- Customized version available on request

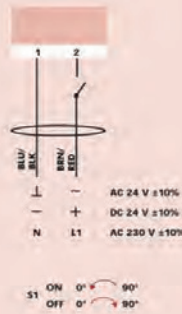
### 3. Actuator Dimensions (mm)



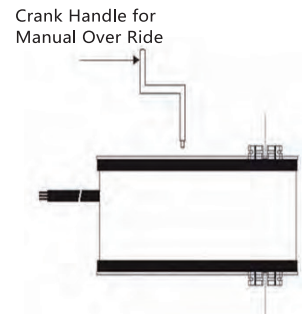
### 4. Technical Specification

	4005-N (24V AC/DC)	4005-N (230V AC)
Torque — Motor (Rated Voltage)	Min. 5 Nm	Min. 5 Nm
— Spring	Min. 5 Nm	Min. 5 Nm
Damper Size	1 m <sup>2</sup>	1 m <sup>2</sup>
Power Supply	AC/DC 24 V	AC 230V
Frequency	50...60Hz	50...60Hz
Consumption Operating	6 W	6W
Consumption At the end stops	2.5 W	2.5 W
For wire sizing	7.0 VA	7.0 VA
Auxiliary Switches Rating (Amp. and Voltage)	3 (1.5) A / 230 V (for 24 V and 230 V)	3 (1.5) A / 230 V (for 24 V and 230 V)
Protection Class	II (Safety Low Voltage)	II (Completely Insulation)
Controls Signal	2 Point On/Off	2 Point On/Off
Angle of Rotation	90° (95° mechanical)	90° (95° mechanical)
Thermal Temperature Trip	>72° Celsius	>72° Celsius
Weight	1.8 Kg	1.9 Kg
Life Cycle	60,000 rotation	60,000 rotation
Sound Level	Below 62 dB	Below 62 dB
IP Protection	IP54	IP54
Ambient Temperature	-20°...50° as per IEC 721-3-3	-20°...50° as per IEC 721-3-3
Ambient Humidity	5...95% RH	5...95% RH
Inventory Temperature	+70° as per 721-3-2	+70° as per 721-3-2
Maintenance	Maintenance free	Maintenance free
Certification	CE	CE

### Wiring Diagram



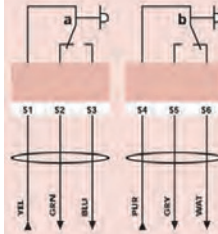
### Changing Direction of Rotation



AC/DC 24V: Connect via safety isolating transformer.

AC 230V: To isolate from the main power supply, the system must incorporate a device which disconnects the phase conductors (with a least a 3mm contact gap)

### Auxiliary Switches



### Auxiliary Switches

Auxiliary are fixed at 5° for switch (a) and 85° for switch (b)  
Auxiliary Switches are Non adjustable.

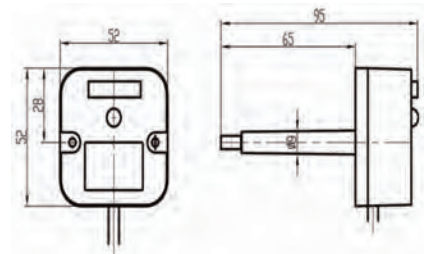
### Thermal Sensor

Thermal Sensor 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°.

### Thermal Sensor

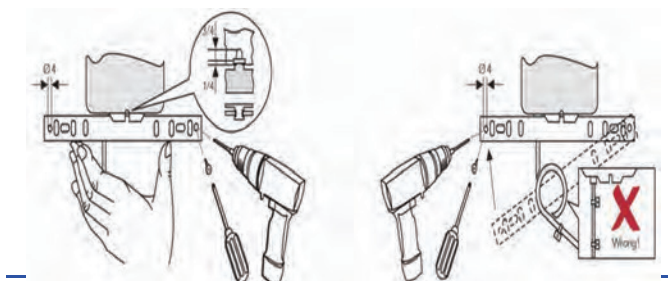


### 5. Notice: Manual Operation Instruction

Insert the hand handle into the hex hole, smoothly and slowly turn around the handle by clockwise (or counter clockwise) rotation, according to the diagram of the product label. At the same time, the output shaft will follow and turn by clockwise (or counter clockwise) rotation. When the output shaft moves to the required position, then turn the handle conversely by counter clockwise (or clockwise) with 90°, the output shaft will be blocked. Then turn slightly the handle by another clockwise (or counter clockwise), the output shaft will move again.

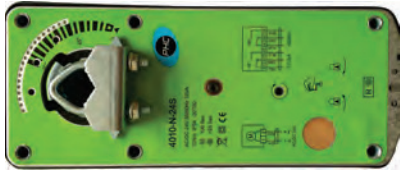
[Attention]: Please do not operate manually when the actuator is speedily rebounding, otherwise it causes easily unlocking by manual or assembly damage.

### Installation / Mounting Instruction





## 4010-N Series of Fire Smoke Damper Actuator



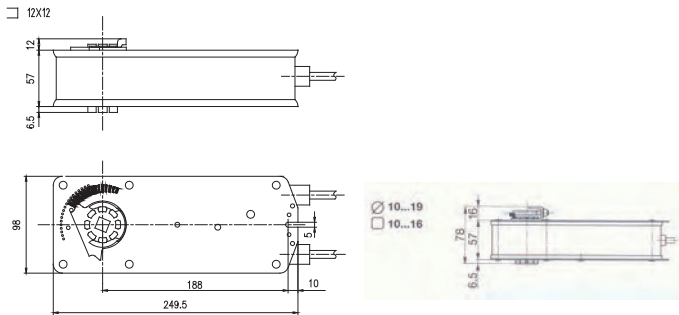
### 1. General Information

- Special designed for Fire and Smoke application.
- PHC high quality damper actuators are developed for use with fire and smoke damper. The actuator motorized the damper or other devices when power on and spring back to it original position when power is cut off or trip by the thermal sensor.

### 2. Product Features

- 2 points on/off control
- Voltage AC/DC 24V and AC 230V available
- Circular Shaft dimension Form Fit 10-19mm(diameter) or Square Shaft 10mm-16mm
- Manual Over ride by crank handle when required
- Anit-rotation bracket provided for stability
- Selectable direction of rotation by reversing actuator
- 2 SPDT Fixed auxiliary switches as Standard
- Energy saving at end stops
- Thermal Sensor when requested
- Customized version available on request

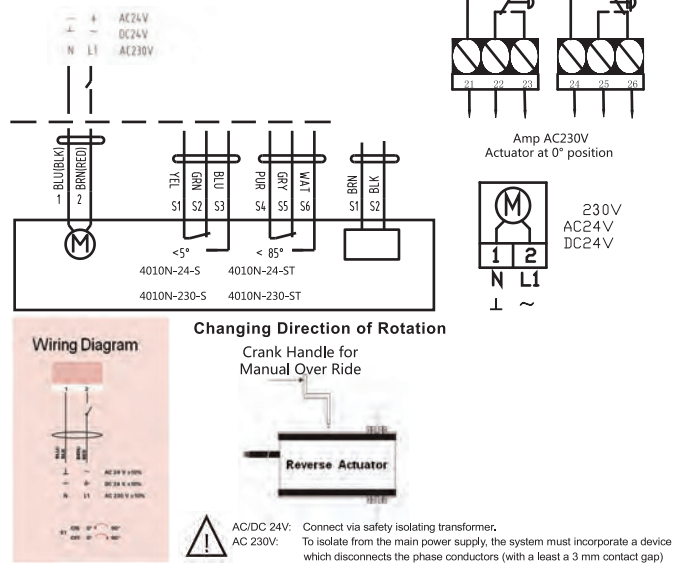
### 3. Actuator Dimensions(mm)



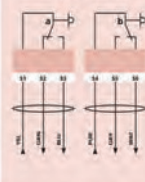
### 4. Technical Specification

Models	4010N-24-S	4010N-24-ST	4010N-230-S	4010N-230-ST
Torque	10Nm			
Damper Size	2m²			
Power Supply	AC /DC24V		AC230V	
Frequency	50...60Hz		50...60Hz	
Power Consumption	5W Operation/2.5W Stop		6.5W Operation /2.5W Stop	
For wire sizing	10VA			
Running Time	100 second and Spring Back<25 second			
Electric Level	III (Safety Low Voltage )		II (Completely Insulation)	
Controls Signal	2 Point on/off			
Angle of Rotation	90° (95° mechanical)			
Thermal Temperature Trip	>72° Celsius			
Weight	2.7 Kg			
Life Cycle	60,000 rotation			
Noise Level	Motor Max 50dB(A);Spring Max 62dB(A)			
IP Protection	IP54			
Ambient Temperature	-20°...50° as per IEC 721-3-3			
Ambient Humidity	5..95% RH			
Inventory Temperature	+70° as per 721-3-2			
Maintenance	Maintenance free			
Certification	CE			

### 5. Wiring Diagram and Shape



#### Auxiliary Switches



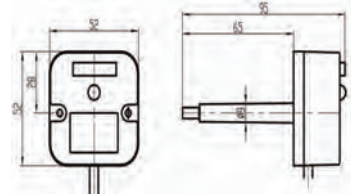
#### Auxiliary Switches

Auxiliary are fixed at 5° for switch (a) and 85° for switch (b)  
Auxiliary Switches are Non adjustable.

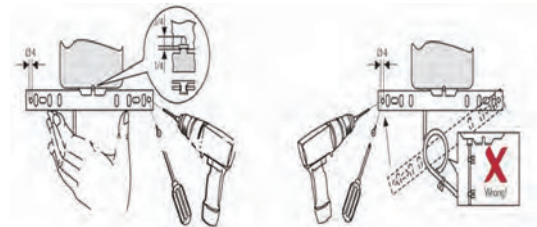
#### Thermal Sensor

Thermal Sensor NTS 72 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°.

#### Thermal Sensor



### 6. Installation / Mounting



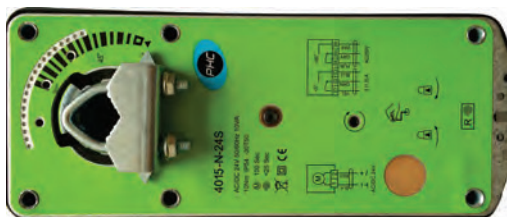
### 7. Notice: Manual Operation Instruction

Insert the hand handle into the hex hole, smoothly and slowly turn around the handle by clockwise (or counter clockwise) rotation, according to the diagram of the product label. At the same time, the output shaft will follow and turn by clockwise (or counter clockwise) rotation. When the output shaft moves to the required position, then turn the handle conversely by counter clockwise (or clockwise) with 90 °C, the output shaft will be blocked. Then turn slightly the handle by another clockwise (or counter clockwise), the output shaft will move again.

**[Attention]: Please do not operate manually when the actuator is speedy rebounding, otherwise it causes easily unlocking by manual or assembly damage.**



## 4015N Series of Fire Smoke Damper Actuators



### 1. General Information

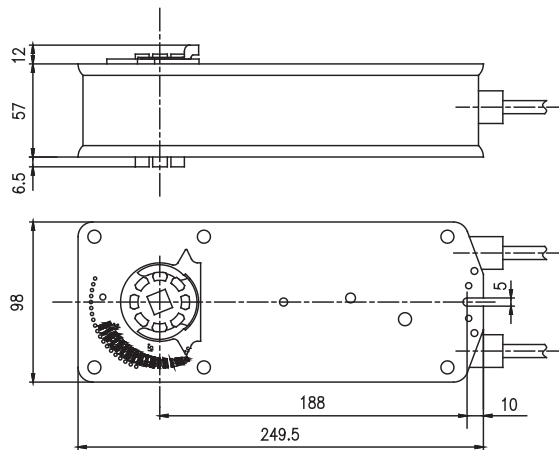
- 15NM Fire Smoke damper actuator Series are designed specifically for Fire and Smoke application.
- high quality damper actuators are developed for use with fire and smoke damper. The actuator motorized the damper or other devices when power on and spring back to it original position when power is cut off or trip by the thermal sensor.

### 2. Product Features

- 2 points on/off control
- Voltage AC/DC 24V and AC 230V available
- Manual Over ride by crank handle when required
- Anit-rotation bracket provided for stability
- Selectable direction of rotation by reversing actuator
- 2 SPDT Fixed auxiliary switches as Standard
- Energy saving at end stops
- Thermal Sensor when requested
- Customized version available on request
- Circular Shaft dimension Form Fit 10-19mm(diameter) or Square Shaft 10mm-16mm

### 3. Actuator Dimension(mm)

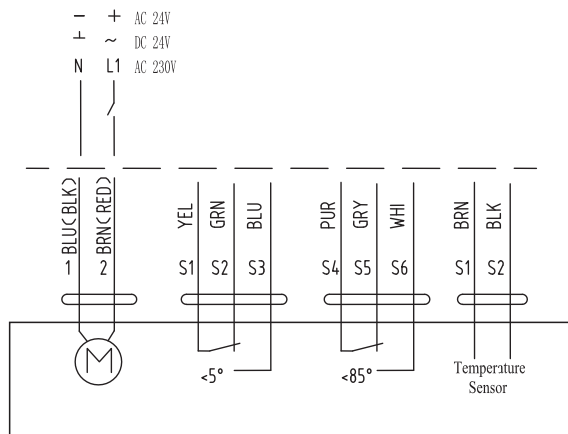
□ 12X12



### 4. Technical Specification

Model	4015N-24-S	4015N-24-ST	4015N-230-S	4015N- 230-ST
Torque	15Nm			
Damper Size	3m2			
Power Supply	AC / DC24V		AC230V	
Frequency	50....60Hz		50....60Hz	
Power Consumption	6W Operation/2.5W Stop			
For wire sizing	10VA			
Electric Level	III(Safty Low Pressure)		III(Safty Low Pressure)	
Controls Signal	2 Point On/Off			
Angle of Rotation	90° (95° mechanical)			
Rotation Limiting	>72° Celsius			
Weight	Around 3.0Kg			
Life Cycle	60,000 rotation			
Noise	Mortor Max 50dB(A) ; Spring Max 62dB(A)			
IP Protection	IP54			
Ambient Temperature	-20° ...50° as per IEC 721-3-3			
Ambient Humidity	5...95% RH			
Inventory	+70° as per 721-3-2			
Maintenance	Maintenance free			
Certification	CE			

### 5. Wiring Diagram and Shape



### 6. Notice: Manual Operation Instruction

Insert the hand handle into the hex hole, smoothly and slowly turn around the handle by clockwise (or counter clockwise) rotation, according to the diagram of the product label. At the same time, the outputshaft will follow and turn by clockwise (or counter clockwise) rotation. When the outputshaft moves to the required position, then turn the handle conversely by counter clockwise (or clockwise) with 90 °C, the outputshaft will be blocked. Then turn slightly the handle by another clockwise (or counter clockwise), the outputshaft will move again.

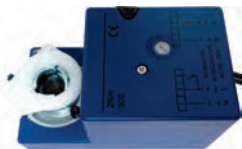
**[Attention]:**Please do not operate manually when the actuator is speedily rebounding, otherwise it causes easily unlocking by manual or assembly damage.





## 5002 Series Damper Actuator

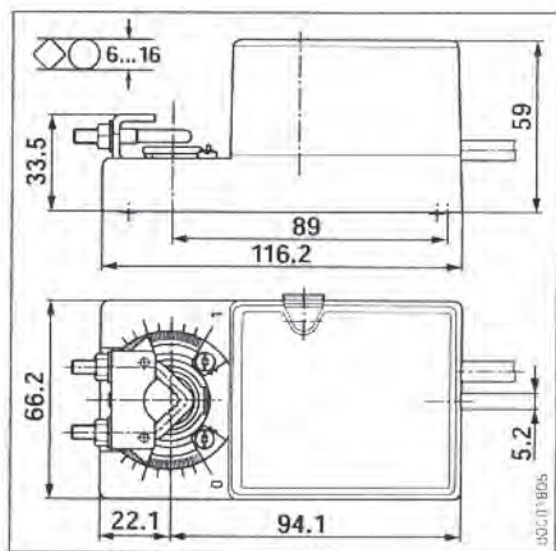
This Damper Actuator used in Heating/Ventilation conditioning Automation control.



### 1.Product Features

- Convenient install: Fix on throttle axis through universal holding device
- Manual control: Manual control through buttons available in case.
- High reliability: Actuator itself has ability of over-loading protect.
- It stops automatically without a limit switch
- Mechanical limit : A mechanical limit operator is placed inside
- Output signal : Output a signal amount 0-100%

### 2.Actuator Dimensions (mm)

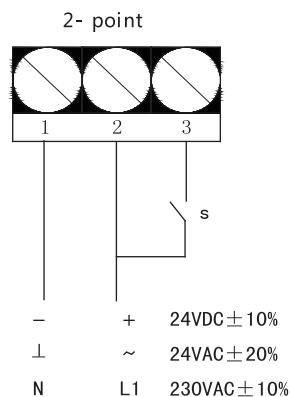


### 3.Technical Specification

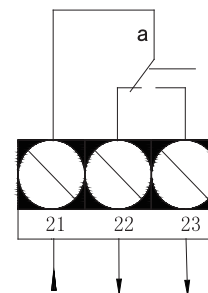
Project	5002M-24-N	5002N-24-N	5002N-230-N
Torque	Not less than 2Nm		
Damper Area	0.5m <sup>2</sup>		
Running Time	80-110S	25-35S	
Power Supply	AC/DC24V 50/60 Hz		AC220V
Operating Power	2.5W	2W	1.5W
Wiring Size	4.5VA	3VA	1.5VA
Shipping Weight	0.6Kg		
Control Signal	2-10V	Signal Line	
Rotation Angle	MAX 95°		
Rotation Ways	L/R switch		
Auxiliary Switch Rating	1×SPDT 5 ( 2.5 ) A, AC250V		
Life Cycle	60 , 000 cycles		
Noise Level	MAX 45dB		
Protection Level	IP54		
Ambient	-20~+50°C and -30~+50°C		
Ambient Humidity	5~95%RH		
Storage	-40~+70°C		
Certificate	CE		

### 4.Wiring Diagram

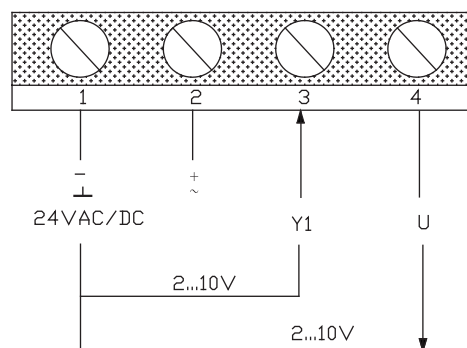
5002N Wiring Diagram



Auxiliary Switches



5002M Wiring Diagram



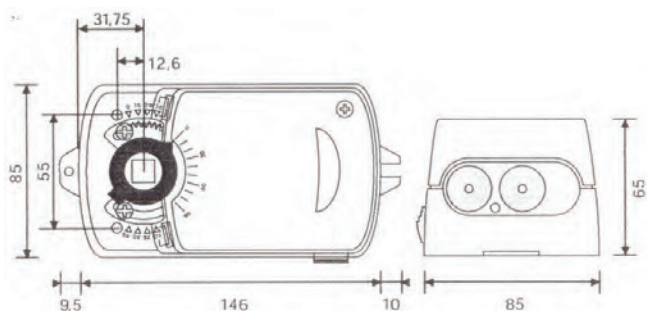


## 5004 Series Rotary Damper Actuator



This compact, non-spring return actuator has a 4Nm running torque in a compact easy-to-install package. It has a nominal 35-second travel time for 90° of rotation.

### 1. Actuator Dimensions (mm)

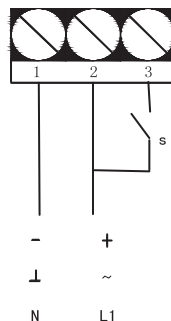


### 2. Technical Specifications

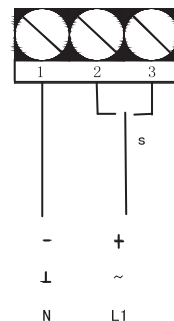
Model	5004N-24	5004N-230	5004M-24
Torque	4Nm		
Damper Area	1m <sup>2</sup>		
Running Time	35s		
Power Supply	24VAC/DC	230VAC	24VAC/DC, 4~20mA
Frequency	50/60Hz		
Power Consumption	Operating: 2.5W(24V) 4.0W(230V)		
	At the end stops: 0.85W(24V) 3.0W(230V)		
Wiring Size	4.1 VA	5.0VA	4.1 VA
Shipping Weight	0.9Kg	1.0Kg	0.9Kg
Control Signal	2point and 3point		0~10 VDC
Rotation Angle	0~90°		
Limit Angle	5~85°(5°increment)		
Auxiliary Switch Rating	3 (1.5) Amp 230V		
Life Cycle	60,000 cycles		
Noise Level	45dB(A)		
Protection Class	II		
IP Protection	IP44or IP54		
Ambient Temperature	-20~+50℃		
Ambient Humidity	5~95%RH		
Storage	-40~+70℃		
Certificate	CE		

### 3. Wiring Diagram

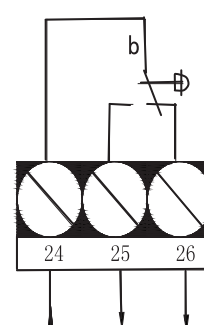
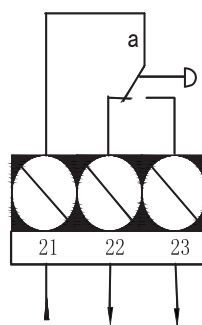
2-point



3-point

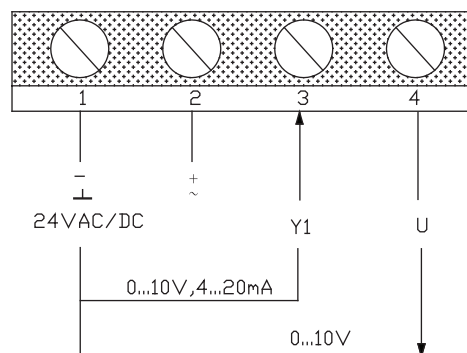


### Auxiliary Switches



3(1.5) Amp 230v  
Actuator at 0° position

4-1



4-2

Notice: Drawing out the actuator wiring through the PG joint, the protection level can reach to IP54.

## 5102 Series Damper Actuator

### 1. Description

This damper actuator is for small and medium-sized air damper and the air volume system terminal control unit of the special design, small size and flexible control; it is suitable for the position of the narrow space.



### 2. Features

Proportional control

Setup independent running time

Shaft terminal connection

Universal joint transform: circular shaft  $\phi$  6-16 mm, square shaft  $\square$  5-11 mm

It can choose rotation Angle

It can choose an auxiliary switch

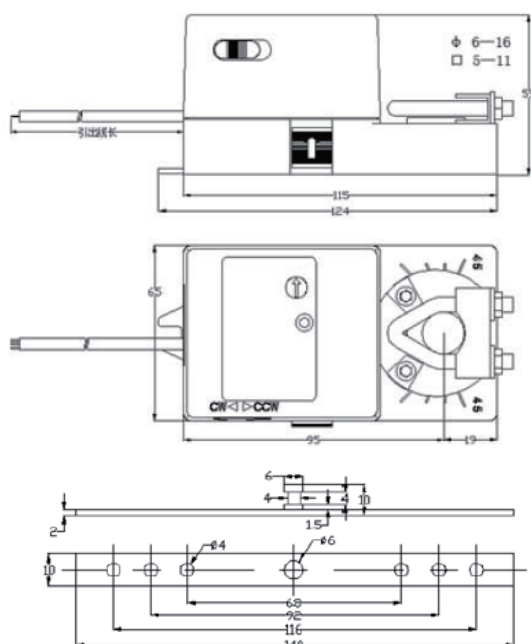
It can effectively set in advance

### 3. Model Annotation

#### 5102N-24-S

S: ON-OFF Feedback	R: Resistance feedback
24: AC/DC 24V	230: AC 230V
N: ON-OFF	M: Modulating
02: Output Torque 2NM	

### 4. Dimension



### 5. Technical Parameters

Model	5102N - 24-N 5102N - 24-S	5102N - 230-N 5102N - 230-S
Torque	2NM	
Damper Area	0.5 m <sup>2</sup>	
Running Time	70 ~ 100S	
Working Voltage	AC/DC 24V $\pm$ 10% 50/60Hz	AC 230V $\pm$ 10% 50/60Hz
Operating Power	2.5W	
Standby Power	0.5W	
Weight	0.5KG	
Control Type	2 / 3 Floating-Point	
Rotation Angle	0 ~ 90°	
Limit Angle	10 ~ 80°	
Life	60000 Times	
Aux. Switch Rating	3 (1.5) A, AC 250V; 2A, DC 30V	
Noise	40dB (A)	
Electrical Level	II (Fully insulated)	
Protection Level	IP54	
Working Temperature	-20 ~ +50 °C	
Storage Temperature	-30 ~ +60 °C	
Environment Humidity	5 ~ 95% RH	
Certification	CE	



## 5104 Series Damper Actuator

### 1. Description

This damper actuator is for small and medium-sized air damper and the air volume system terminal control unit of the special design, small size and flexible control; it is suitable for the position of the narrow space.

### 2. Features

Proportional control

Setup independent running time

Shaft terminal connection

Universal joint transform: circular shaft  $\phi$  6-16 mm, square shaft  $\square$  5-11 mm

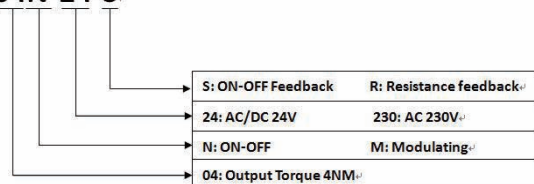
It can choose rotation Angle

It can choose an auxiliary switch

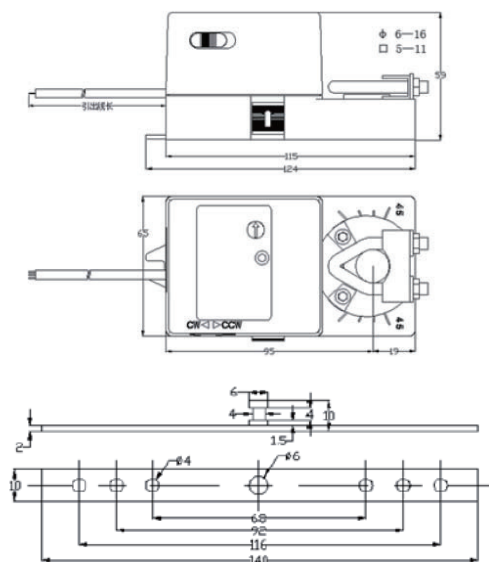
It can effectively set in advance

### 3. Model Annotation

#### 5104N-24-S



### 4. Dimension



### 5. Technical Parameters

Model	5104N - 24-N 5104N - 24-S	5104N - 230-N 5104N - 230-S
Torque	4NM	
Damper Area	1 m <sup>2</sup>	
Running Time	70 ~ 100S	
Working Voltage	AC/DC 24V±10% 50/60Hz	AC 230V±10% 50/60Hz
Operating Power	2.5W	
Standby Power	0.5W	
Weight	1.1KG	
Control Type	2 / 3 Floating-Point	
Rotation Angle	0 ~ 90°	
Limit Angle	10 ~ 80°	
Life	60000 Times	
Aux. Switch Rating	3 (1.5) A, AC 250V; 2A, DC 30V	
Noise	40dB (A)	
Electrical Level	II (Fully insulated)	
Protection Level	IP54	
Working Temperature	-20 ~ +50 °C	
Storage Temperature	-30 ~ +60 °C	
Environment Humidity	5 ~ 95% RH	
Certification	CE	



# PHC Electronic Products(Beijing)Co., Ltd.

## 5008/16/24 Rotary Damper Actuator

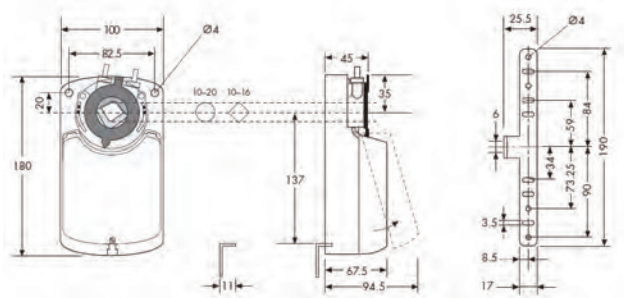


High quality damper actuators have been designed for use with air damper, butterfly valve, characterized ball valve and globe valve with the use of special adapter.

### 1. Product Feature

- 0(2)...10 VDC and 0(4)...20 mA control
- Universal Spindle Clamp for easy direct mounting
- Anti-rotation bracket provided for stability
- Manual over ride by push button when required
- Adjustable angle of rotation
- Parallel connection up to 10 actuators
- 2 adjustable SPDT auxiliary switches when requested
- Power saving at end stops
- Customized version available, on request

### 2. Actuator Dimensions (mm)



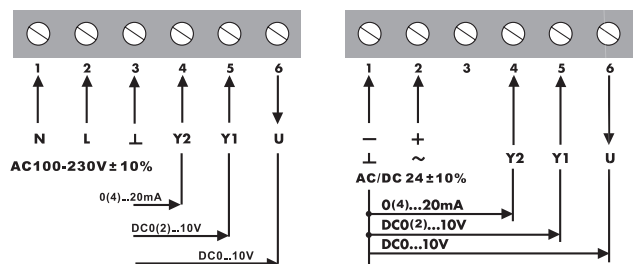
### 3. Technical Specifications

Item	5008N	5016N	5024N
Torque	8Nm	16Nm	24Nm
Damper Area	1.5m <sup>2</sup>	3m <sup>2</sup>	4.5m <sup>2</sup>
Running Time	30s	80s	125s
Power Supply	AC/DC24V; AC100-230V		
Frequency	50/60Hz		
Power Consumption	Operating: 3.5W(24V) 4W(230V) At the end stops: 0.3W(24V) 0.5W(230V)		
Wiring Size	6.5 VA		
Shipping Weight	1.1Kg (24V) ; 1.2Kg (230V)		
Control Signal	2point and 3point		
Rotation Angle	0~90°		
Limit Angle	5~85°(5°increment)		
Auxiliary Switch	3 (1.5) Amp 230V		
Life Cycle	60,000 cycles		
Noise Level	45dB(A)		
Protection Class	II		
IP Protection	IP44 or IP54		
Ambient	-20~+50℃		
Ambient Humidity	5~95%RH		
Storage	-30~+60℃		
Certificate	CE		

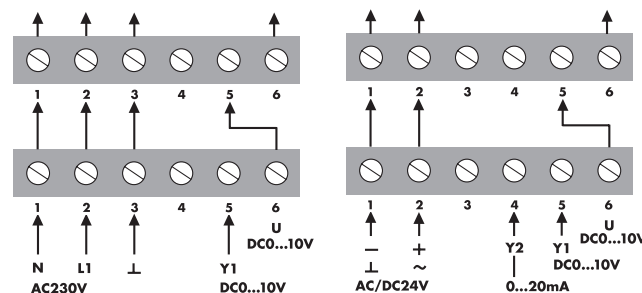
Item	5008M	5016M	5024M
Torque	8Nm	16Nm	24Nm
Damper Area	1.5m <sup>2</sup>	3m <sup>2</sup>	4.5m <sup>2</sup>
Running Time	30s	80s	125s
Power Supply	AC/DC24V; AC100-230V		
Frequency	50/60Hz		
Power Consumption	Operating: 3.5W(24V) 4W(230V) At the end stops: 0.3W(24V) 0.5W(230V)		
Wiring Size	6.5 VA		
Shipping Weight	1.1Kg (24V) ; 1.2Kg (230V)		
Control Signal	0(2)...10 VDC 0(4)...20 mA		
Rotation Angle	0~90°		
Limit Angle	5~85°(5°increment)		
Auxiliary Switch	3 (1.5) Amp 230V		
Life Cycle	60,000 cycles		
Noise Level	45dB(A)		
Protection Class	II		
IP Protection	IP44or IP54		
Ambient	-20~+50℃		
Ambient Humidity	5~95%RH		
Storage	-30~+60℃		
Certificate	CE		

Notice: Drawing out the actuator wiring through the PG joint, the protection level can reach to IP54.

### 4. Wiring Diagram



5008/16/24 A master/sub-control



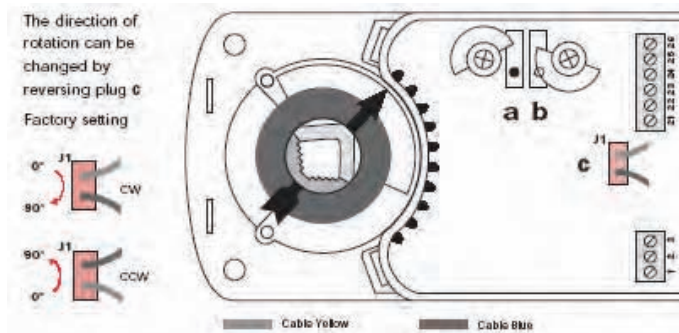
max. 5



## Auxiliary switches

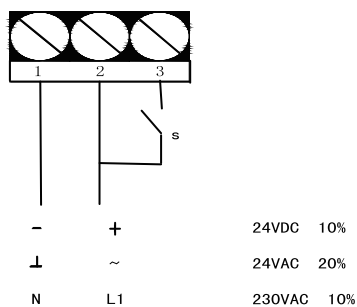


3(1.5) Amp 230v  
Actuator at 0° position

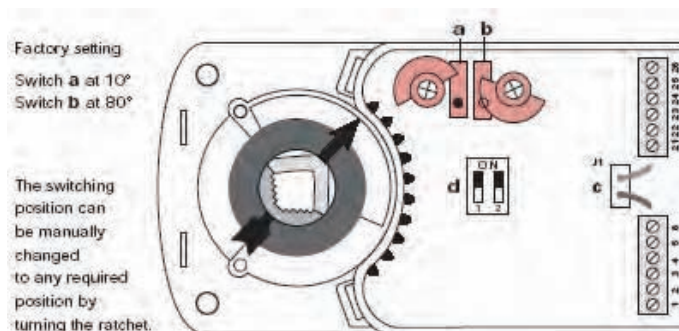
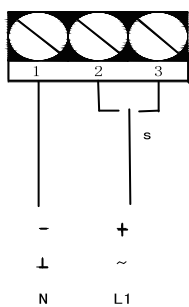


## 6.Auxiliary Switch Adjustment

### 2-point



### 3-point



## 5.Selection of Rotating Direction

### Microswitch c

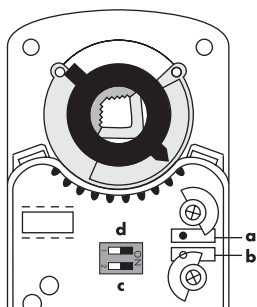
DC0...10V  
0-20mA



DC2...10V  
4-20mA



### Microswitch d







## 6010N Series Fire Smoke Damper Actuator

### 1. Summary

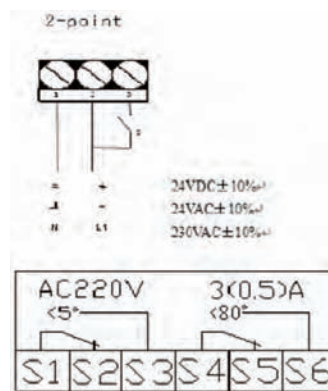
6010N Series Fire Smoke Damper Actuators (Non-spring return ) could be used to adjust and control damper in HVAC systems. The actuator motorized the damper or other devices when power on.

### 2. Functions

- 2 and 3 Points on / off control
- Setting up running time independently.
- Screw terminal connection
- Square shaft: 12×12mm ( at most )
- Manual control by pressing slider.
- 2 SPDT fixed auxiliary switches as standard.
- Manual over ride by crank handle when required.
- Steel housing with anti-shock, compact and stability.
- Permanent sealed housing meets IP 54 Standard.
- Selectable direction of rotation by reversing actuator.
- Thermal sensor when requested.
- Actuators with 1m cable connection.
- Adapter supplied for Form Fit 8 or 10 mm square.

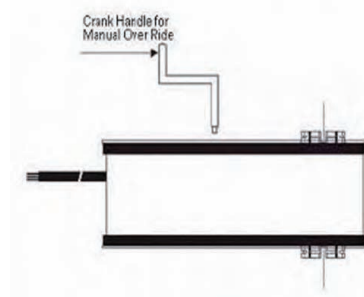


### 4. Wiring Diagram



### 3.Specification

Items	Unit	6010N-24-S	6010N-230-S
Torque	Nm	10Nm	10Nm
Damper size	m2	2 m <sup>2</sup>	2 m <sup>2</sup>
Running time	sec	Motor running time :45 S	
Power	V	AC24V 50/60Hz	AC230V 50/60Hz
Operating power	W	7.5W	5W
Maintaining Power	W	2.5W	2.5W
For wire sizing	VA	10	
Connection Cables		Power : 1m Cable 2*0.75 m2	
		Auxiliary switch ( F ) : 1m Cable 6*0.5 m2	
		Thermal sensor ( S ) : 1m Cable 2*0.5 m2	
Weight	Kg	1.68	1.75
Control signal		2 and 3 Point ON/OFF	
Rotation angle		At most 95°	
Limited angle		5~85° ( per step 5° )	
Auxiliary switch rated		1mA...3 ( 0.5 ) A, AC250V	
Life Cycle		60 , 000 cycles	
Noise		50dB(A)	
Protection Level		II	II
Protection standard		IP54	
Ambient temperature		-20~+50°C	
Ambient humidity		5~95%RH	
Inventory temperature		-40~+70°C	
Certificate		CE	
Thermal sensor		>72°C	



### 5. External Dimension and Installation (mm)

