

Intelligent Component Series Direct Coupled Damper Actuator (Spring-Return Type) Model MY8045A

General

Model MY8045A direct coupled damper actuator is a motorized spring-return type actuator to open/close a damper.

Model MY8045A communicates with a controller via SAnet (Azbil Corporation's communication protocol).



Features

- Intelligent Component Series Model MY8045A communicates with a controller via SAnet, and thus position control signal/position feedback signal is input to /output from the controller.
- Manual open/close function allows easy adjustment without power supply.
- Torque limit circuit inside the actuator automatically stops the damper in fully closed or open positions.
- Low power consumption allows energy conservation.
- Large torque is assured despite compact, lightweight design.
- Spring-return actuator automatically closes the damper in 0 % position in case that the power is down.
- Rotary switch on the front surface easily changes the motor rotating direction.
- Simple physical structure facilitates installation on most types of the damper shafts.
- Model MY8045A damper actuator conforms to all the applicable standards of CE Marking.

IMPORTANT:

This product is applicable to 50 Hz utility frequency, not to 60 Hz utility frequency.



Safety Instructions

Please read instructions carefully and use the product as specified in this manual. Be sure to keep this manual near by for ready reference.

Usage Restrictions

This product is targeted for general air conditioning. Do not use this product in a situation where human life may be affected. If this product is used in a clean room or a place where reliability or control accuracy is particularly required, please contact Azbil Corporation's sales representative. Azbil Corporation will not bear any responsibility for the results produced by the operators.

 WARNING



- Do not disassemble the product. Disassembly may result in electrical shock or equipment damage.

 CAUTION



- This product must be operated under the operating conditions (power, temperature, humidity, vibration, shock, installation position, atmospheric condition, etc) specified in this manual to prevent equipment damages.



- This product must be operated within its rated operating ranges specified in this manual. Failure to comply will cause equipment damages.



- Operate the product within the service life, and avoid application that keeps product operating cycle excessively frequent. Overuse of the product may shorten the product service life.



- Installation and wiring must be performed by qualified personnel in accordance with all applicable safety standards.



- Do not install the product in a location with high temperature radiation. High temperature radiation may result in an actuator malfunction.



- Do not put heavy load on the product. It may get damaged.



- All wiring must comply with local codes of indoor wiring and electric installation rules.



- This product does not have a power switch. Be sure to provide a power circuit breaker in the power source.



- To prevent product damage, always disconnect the power supply from the product before performing installation and wiring.



- Make sure all the wires are tightly connected. Incomplete connection may result in an actuator malfunction.



- Do not touch the moving part of the product in operation to prevent personal injury.



- Dispose of this product as an industrial waste in accordance with your local regulations. Do not reuse all or part of this product.

Trademark information:

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System Configurations

Connection example of savic-net™ G5 system

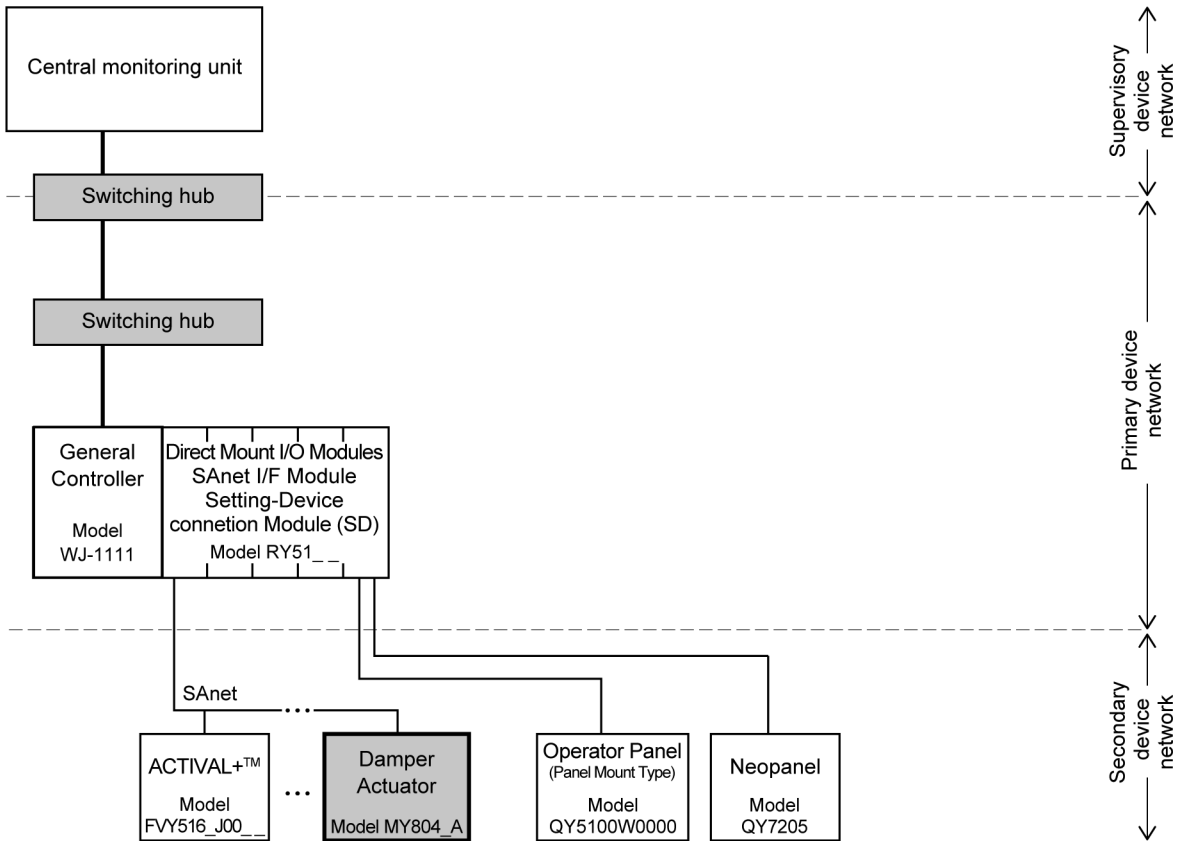


Figure 1. System configuration example: SAnet connection in savic-net™ G5 system

Connection example of savic-net™ FX system

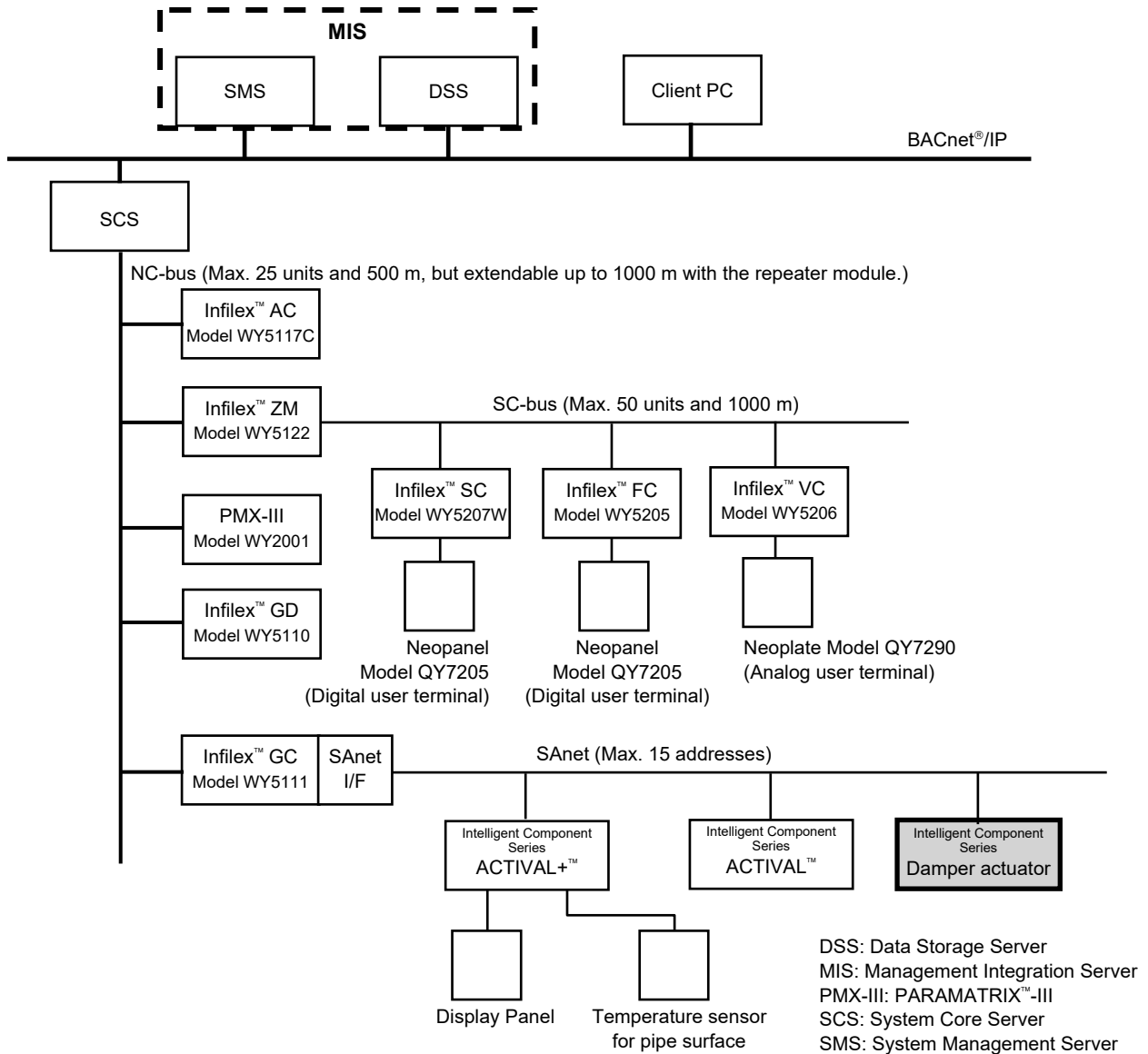


Figure 2. System configuration example: SA-net connection in savic-net™ FX system

Notes:

- * MIS may be used instead of SMS and DSS for your system. Note that MIS cannot be mixed with SMS or DSS in the same system.
- * Up to two SA-net I/F modules can be connected to one General Controller or InflexGC/InflexGD.
- * For detailed specifications of SA-net, refer to **Installation Manual of Intelligent Component Series for SA-net Communication** (AB-6713).
- * 1 damper actuator or 1 ACTIVAL requires 1 SA-net address. 1 ACTIVAL+ requires 2 SA-net addresses.

Specifications

Item		Specification
Model number		MY8045A2001
Power supply voltage		24 V AC \pm 20 %, 50 Hz (Do not use this product at 60 Hz utility frequency.)
Power consumption		10 VA
Rotating angle		Max. 95°
Operating time		Motor: Approx. 150 s / Spring-return: Approx. 16 s
Torque at the rated voltage		15 N·m
Ambient operating conditions		-20 °C to 50 °C, 10 %RH to 90 %RH (non-condensing)
Transport/storage conditions		-20 °C to 60 °C, 95 %RH or less (non-condensing)
Enclosure rating		IEC IP54 (dust-proof and splash-proof) * This product is not rain-proof and thus is for indoor use only. (Cable conduit must be facing downward.)
Cable		0.75 mm ² \times 3 cores, 1 m long
Color		Silver gray
Weight		2800 g
Applicable damper shaft		Circular: ϕ 10 mm to ϕ 20 mm, 95 mm long or longer Square: 10 mm diagonal to 16 mm diagonal, 95 mm long or longer
Accessories		<ul style="list-style-type: none"> • M4 tapping screws \times 2 • Universal bracket \times 1 (Part No. 12596-0001) • Mechanical stopper (Part No. ZDB-AF) • Installation instruction sheet \times 1 • Hexagon wrench \times 1
Insulation resistance		Between case and cable: 100 M Ω or higher at 500 V DC
Withstand voltage		Between case and cable: 500 V AC for 1 min., 1 mA or less
Control signal		SAnet
Communication (via SAnet)	Transmission system	Voltage transmission (SAnet)
	Transmission speed	1200 bps
	Transmission distance	Transmission distance varies depending on the number of devices and the type of devices to be connected to. For details on the transmission distance, refer to Installation Manual of Intelligent Component Series for SAnet Communication (AB-6713).

Function

Function		Description
Data monitoring* ¹		Following items can be monitored/operated from the host system (savic-net FX), General Controller (model WJ-1111), and Inflex GC/Inflex GD. Damper position setting, damper position measuring
Damper position adjustment	Adaption (setting of rotation angle)	Rotation angle of the damper (controlled by the actuator) is adjusted with PC-MMI or with Data Setter. (See P.10.)
	Synchronisation* ² (position alignment)	Actual damper position and the position of the actuator are matched with PC-MMI, with Data Setter, or when power is restored from blackout. (See P.10.)

Notes:

*1 Above functions are available in combination with General Controller (model WJ-1111), Inflex GC/Inflex GD, and savic-net FX.

*2 Positions of the actuator and of the damper are matched by fully closing the actuator and the damper.

Synchronisation at the time of power restoration is enabled/disabled by parameter setting.

Dimensions

Actuator

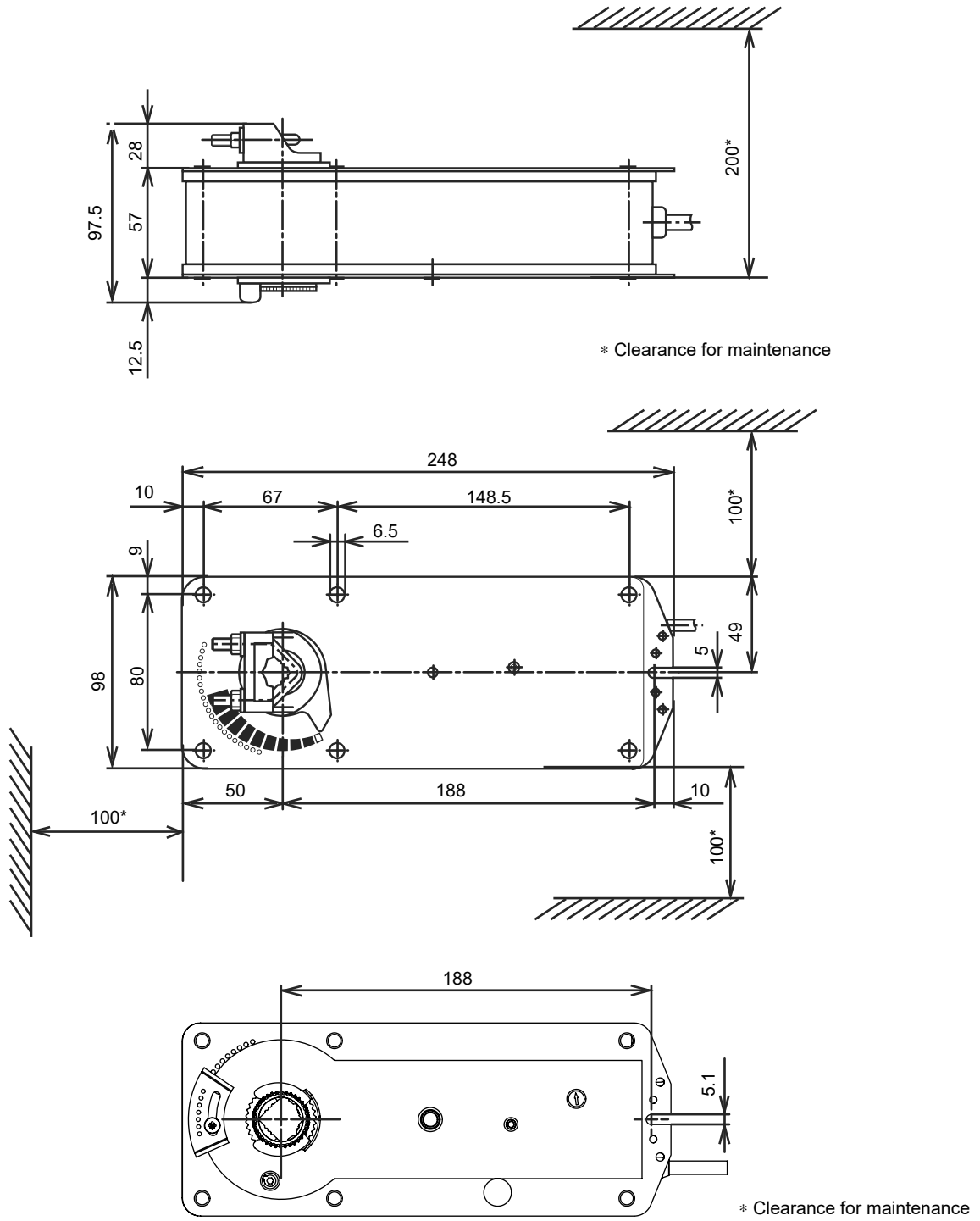


Figure 3. Dimensions (mm): Damper actuator

Universal bracket (Part No. 12596-0001)

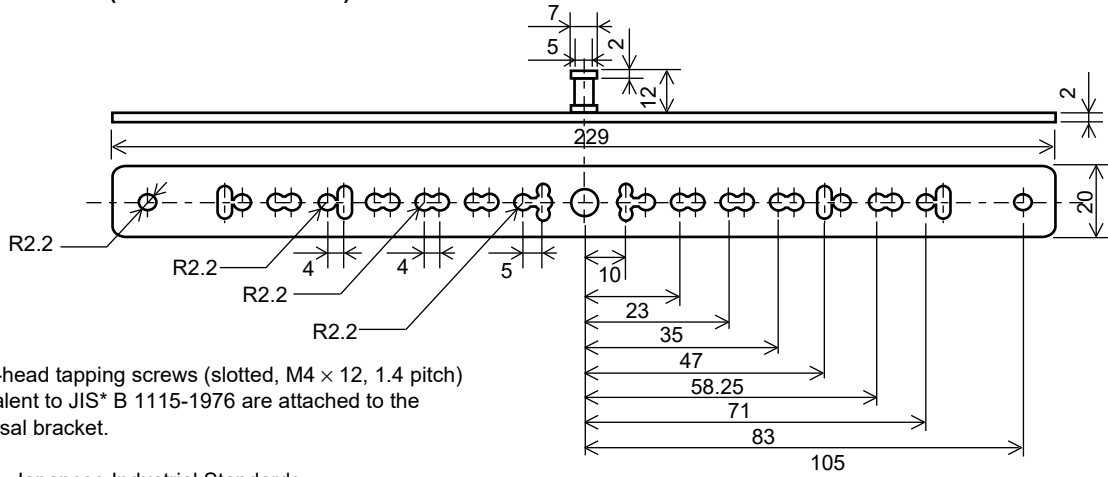


Figure 4. Dimensions (mm): Universal bracket

*Note:

Universal bracket is supplied with the product. Additionally order only when necessary.

Parts Identification

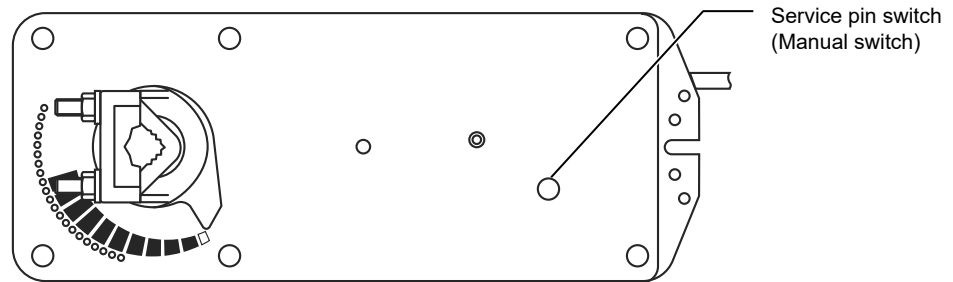



Figure 5. Parts identification

Installation

 CAUTION
<ul style="list-style-type: none"> To prevent product damage, always disconnect the power supply from the product before performing installation and wiring.

<p>IMPORTANT:</p> <ul style="list-style-type: none"> Avoid application that keeps product operating cycle excessively frequent. Meet the actuator rotating direction with the damper rotating direction. Tighten the screws so that the actuator is securely assembled with the damper. When installing this product, leave clearance for maintenance as shown in Fig. 3. Avoid salt damage, corrosive gas, flammable gas, organic solvent atmosphere.
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Installation procedure: Min. 95 mm long shaft

Actuator with forward rotation ('L' side outward)

- 1) Mount the actuator with the 'L' side facing outward to the damper shaft and temporarily tighten the hexagonal nuts of the shaft clamp. Then, set the mounting position of the universal bracket.

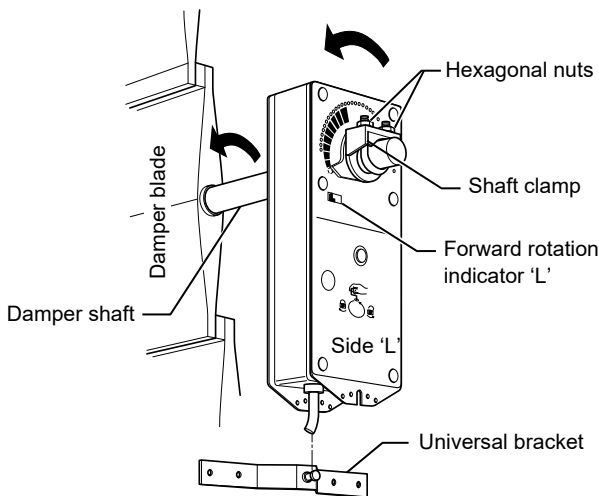


Figure 6. Installation of the actuator with forward rotation to min. 95 mm long shaft (1)

- 2) Insert the universal bracket into the slit of the actuator and fix the bracket onto the damper with the two M4 tapping screws.

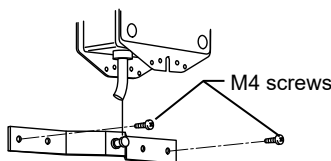


Figure 7. Installation of the actuator with forward rotation to min. 95 mm long shaft (2)

- 3) Confirm that the damper shaft is in fully closed position and tighten the hexagonal nuts to completely fix the actuator. Width across flats of the nuts is 10 mm.

Actuator with reverse rotation ('R' side outward)

- 1) Remove the C-clip from the shaft clamp and take out the shaft clamp.

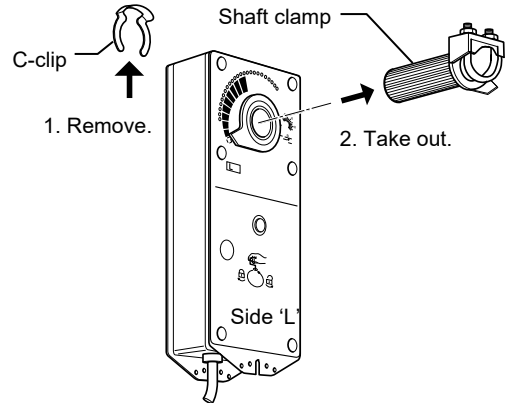


Figure 8. Installation of the actuator with reverse rotation to min. 95 mm long shaft (1)

- 2) Turn over the actuator so that its 'R' side faces outward. Refit the clamp in the actuator from the 'R' side, and then attach the C-clip to fix the clamp.

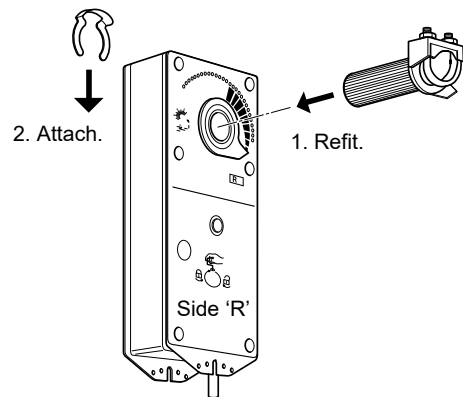


Figure 9. Installation of the actuator with reverse rotation to min. 95 mm long shaft (2)

- 3) Mount and fix the actuator to the shaft, referring to the procedure of Actuator with forward rotation ('L' side outward).

Installation procedure: 20 mm to 95 mm long shaft

- 1) Remove the C-clip and take out the shaft clamp.
- 2) Attach the shaft clamp to the damper shaft, mount the actuator to the clamp, and attach the C-clip to the shaft clamp to fix the shaft clamp.
- 3) Mount the universal bracket with 2 M4 screws, and fix the actuator.

Actuator with forward rotation ('L' side outward)

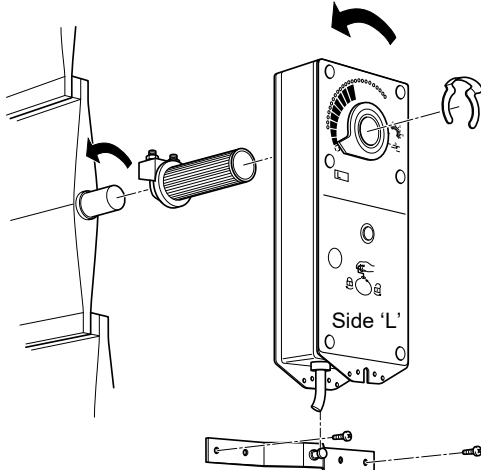


Figure 10. Installation of the actuator with forward rotation to 20-95 mm long shaft

Actuator with reverse rotation ('R' side outward)

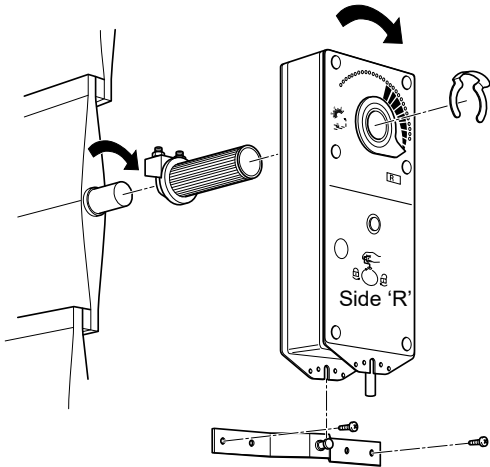
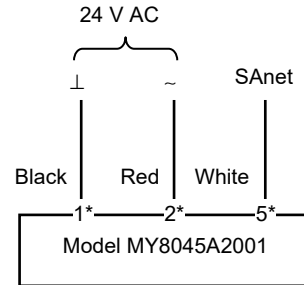


Figure 11. Installation of the actuator with reverse rotation to 20-95 mm long shaft

Wiring

⚠ CAUTION	
!	<ul style="list-style-type: none"> • To prevent product damage, always disconnect the power supply from the product before performing installation and wiring.
!	<ul style="list-style-type: none"> • This product is designed for 24 V AC power supply voltage. Do not apply any other voltage (e.g., 100 V AC, 200 V AC) to the product.

Connect the lead wires as follows:



* Lead wire number (indicated on each wire insulation)

Figure 12. Lead wires connection

For details regarding wires connection, refer to **Installation Manual of Intelligent Component Series for SAnet Communication (AB-6713)**.

Address Setting (Addressing)

To SAnet interface module, the damper actuator Model MY8045A2001 and other Intelligent Component Series devices including ACTIVAL and ACTIVAL+ are connected via SAnet. Set address for the terminal devices (Intelligent Component Series devices) so that the SAnet interface module can recognize all the terminal devices connected. Follow the procedure below to set the address. For details regarding address setting (addressing), ask our sales/service personnel.

Setting with service pin switch (manual switch):

- 1) Start addressing operation* of Data Setter or PC-MMI. Then, press the service pin switch to change the operating direction as: L → R → L or R → L → R. Perform the operation within 5 seconds.
- 2) Address is set within 5 seconds after pressing the service pin switch.

* Communication trouble and duplicated address cause addressing error. Check that address is correctly set in Data Setter or PC-MMI.

Setting based on SAnet ID:

With Data Setter or PC-MMI, enter the SAnet ID (on the SAnet ID label) and address number to set. The SAnet ID label is attached on a side surface of the actuator, as shown in Fig. 13.

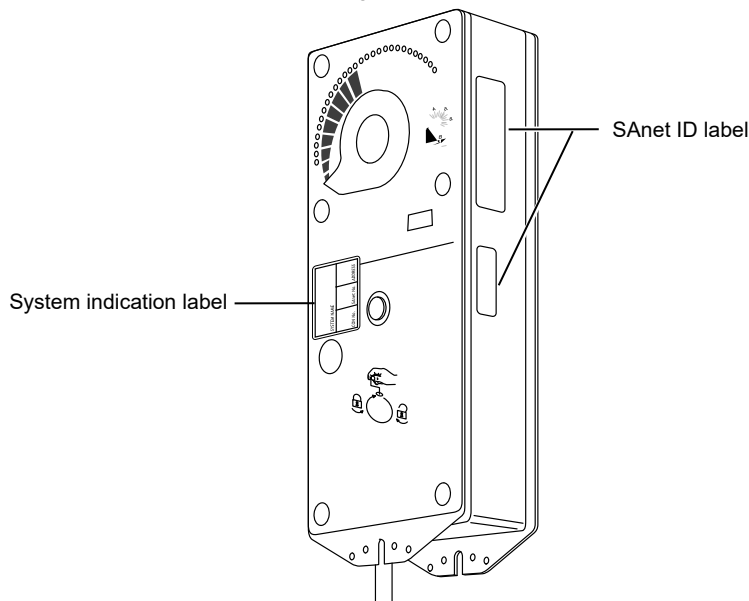


Figure 13. Locations of the labels

IMPORTANT:

Address setting must be performed by our service personnel or qualified expert.

Table 1. Basic address setting of this product and other Intelligent Component Series devices

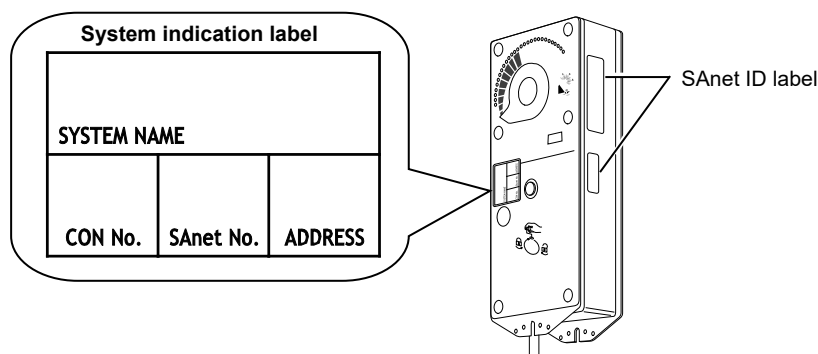
Address.	Device	Sub-DO	Sub-DI
1	Outdoor air damper		
2	Exhaust air damper		
3	Return air damper		
4	Switch damper of total heat exchanger for outdoor air		
5	Switch damper of total heat exchanger for exhaust air		
6	Chilled/hot water valve / Chilled water valve		Filter alarm
7	Hot water valve (Chilled water valve*)	Humidifying ON/OFF	
8	Humidifying valve		
9	Reserved		
A (10)	Reserved		
B (11)	Reserved		
C (12)	Reserved		
D (13)	Reserved		
E (14)	Reserved		
F (15)	Reserved		

Notes:

- *1. For 'chilled/hot water valve + chilled water valve' application, set 6 for chilled/hot water valve and 7 for chilled water valve.
- *2. Items in bold characters are the basic address to set for this product.
- *3. The above table is a basic setting example. Set address and use auxiliary I/O in response to system configuration, installation location, wiring.

System Indication Label

System indication label is attached to the front surface of the product. Write down the name of the SAnet system, host controller number of the SAnet system, SAnet line number, and address.



Write down the following.

- SYSTEM NAME:
System name or device number
- CON No.:
Host controller number
(Inflex GC/Iniflex GD number)
- SAnet No.:
SAnet line number
- ADDRESS:
SAnet address

Figure 14. SAnet system indication label

Adaption (Setting Rotating Angle)

CAUTION

- Before performing Adaption, check that the rotating direction of the product is correct.

When the rotation angle of the actuator is adjusted or changed, the actuator needs to memorize (adapt) the adjusted/changed rotation angle. Note that Adaption is performed by our service personnel.

(To our service personnel: Refer to **Engineering Manual of Intelligent Component Series for SAnet Communication (AB-6685)**)

Synchronisation (Position Alignment)

Damper position which the actuator controls disagrees with the actual damper position if actuator mounting position on the shaft is changed. In such a case, the actuator requires Synchronisation so that the damper position controlled by the actuator and the actual damper position agree (synchronize). Note that Synchronisation is performed by our service personnel.

(To our service personnel: Refer to **Engineering Manual of Intelligent Component Series for SAnet Communication (AB-6685)**)

Setting of the Maximum Rotation Angle

To set the maximum rotation angle of the damper actuator to 90° or narrower, use the mechanical stopper supplied with the product. The mechanical stopper allows to set every 5° increment within 30° to 90° range.

Setting procedure

- 1) Attach the mechanical stopper to a position according to the range to be set. Insert the mechanical stopper into grooves provided on the damper actuator, as shown in the figure below.
- 2) Fix the mechanical stopper with the accessory tapping screw. There are 3 tapped holes (indicated with 'x') provided on the scale of the damper position. Insert the tapping screw into either one of the holes, through the mechanical stopper.

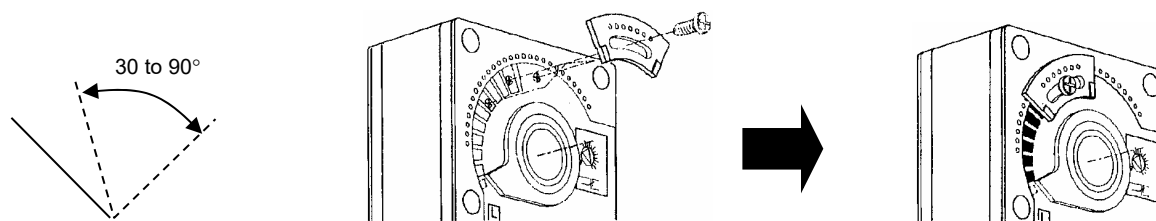


Figure 15. Mechanical stopper

Manual Operation

To lock the damper shaft at a certain position:

Insert the accessory hexagon wrench to the hexagonal hole provided on the front surface of the damper actuator. Rotate the wrench to 'open' direction (counterclockwise). When you reach the target position, reverse the rotation (clockwise) a bit to hold the position.

To release the locked damper shaft:

Insert the accessory hexagon wrench to the hexagonal hole provided on the front surface of the damper actuator. Rotate the wrench to 'open' direction until the lock is released. Once the lock is released, the actuator will shut off the damper by the spring-return operation.

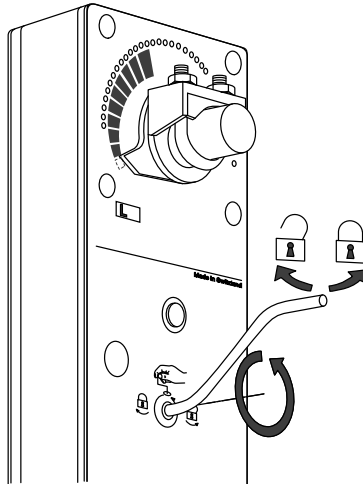


Figure 16. Manual operation

Setting of the Auxiliary Switches

This product is equipped with two SPDT switches. One is fixed at 5° and the other is adjustable between 25° and 85°. Set the switches using the accessory hexagon wrench as shown in the figure below.

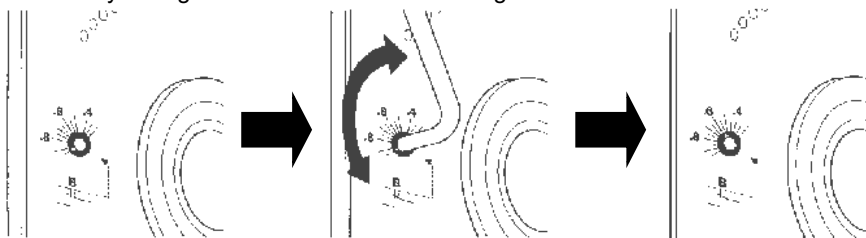


Figure 17. Auxiliary switch setting

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Specifications are subject to change without notice.

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