

### Rotary Non-spring Return Installation Instructions

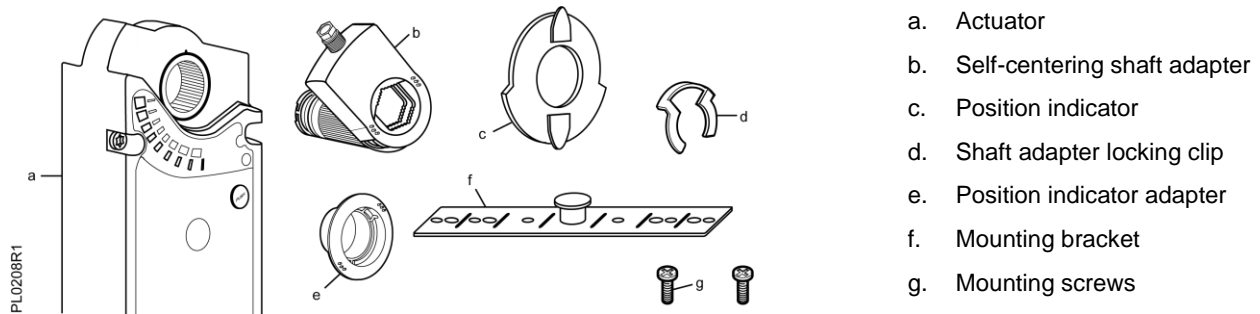


Figure 1. DKN-MS41-6353-Rotary Actuator Parts.

### Product Description

The steps for direct-coupled mounting of the Daikin DKN-MS41-6353 non-spring return (NSR) modulating control rotary electronic damper actuator.

### Product Number

DKN-MS41-6353

### Warning/Caution Notations

<b>WARNING:</b>		Personal injury or loss of life may occur if you do not follow the procedures as specified.
<b>CAUTION:</b>		Equipment damage or loss of data may occur if you do not follow procedure as specified.

### Required Tools

- 10 mm (13/32-inch) open-end wrench
- Drill and 4 mm (5/32-inch) drill bit
- Phillips screwdriver
- Marker or pencil
- Adjustable pliers

### Estimated Installation Time

30 minutes

### Mounting Positions

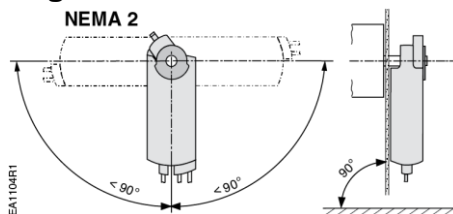


Figure 2. Acceptable NEMA 2-Mounting Positions.

### Prerequisite

The actuator is shipped from the factory with a 5° pre-load to ensure tight close-off of the damper. To release the pre-load, press the **PUSH** button before mounting the actuator.

### Installation



#### WARNING:

Do not open the actuator.

1. Place the actuator on the damper shaft with the front of the actuator accessible. The label and the manual override button are on the front side.
2. Determine the rotation of the damper shaft. Set the direction of rotation arrow to match the rotation.



Figure 3. Direction of Rotation Switch.

3. See Figure 4 and Figure 5 for clockwise-to-open (CW) installation. See Figure 6 and Figure 7 for counterclockwise-to-open (CCW) installation.

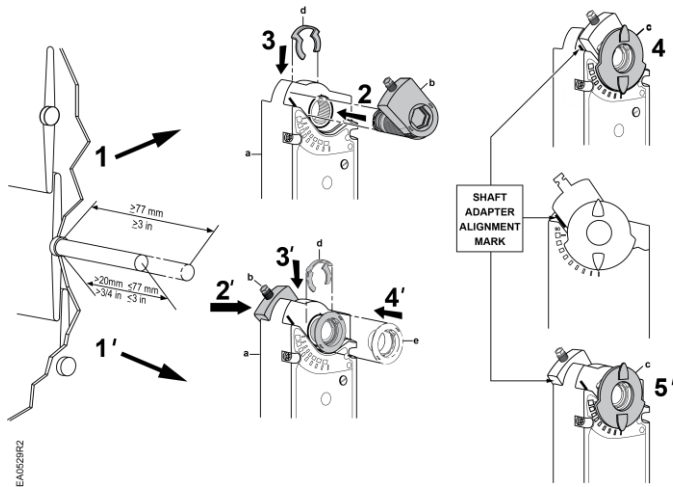


Figure 4. Shaft Adapter Placement for Clockwise Rotation on Short and Long Shafts.

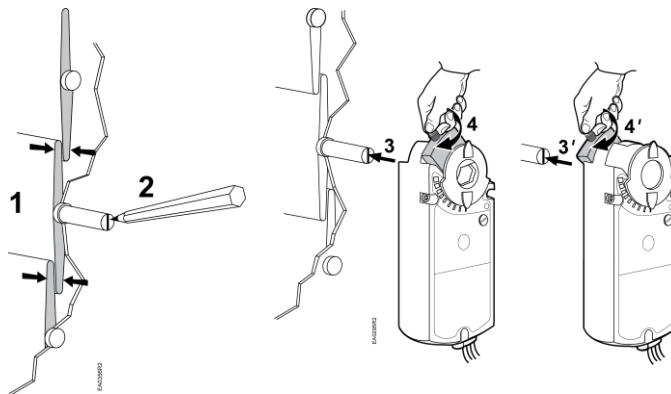


Figure 5. Mount the Actuator to the Damper Shaft. Go to Figure 9 to Complete the Mounting.

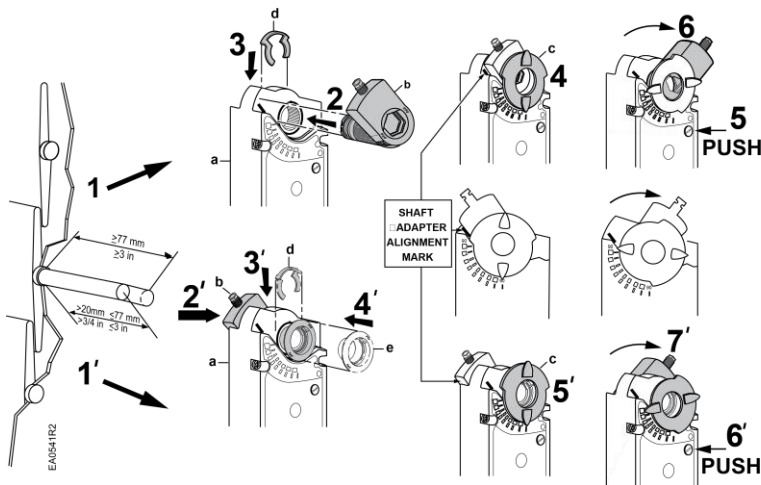


Figure 6. Shaft Adapter Placement for Counterclockwise Rotation on Short and Long Shafts.

**NOTE:** Place the shaft adapter next to the alignment mark keeping the mark visible.

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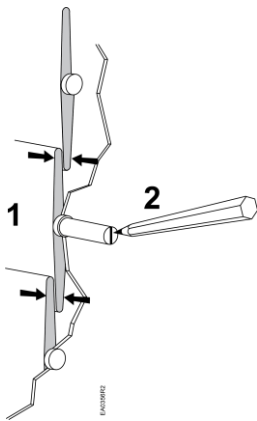


Figure 7. Mount the Actuator to the Damper Shaft.

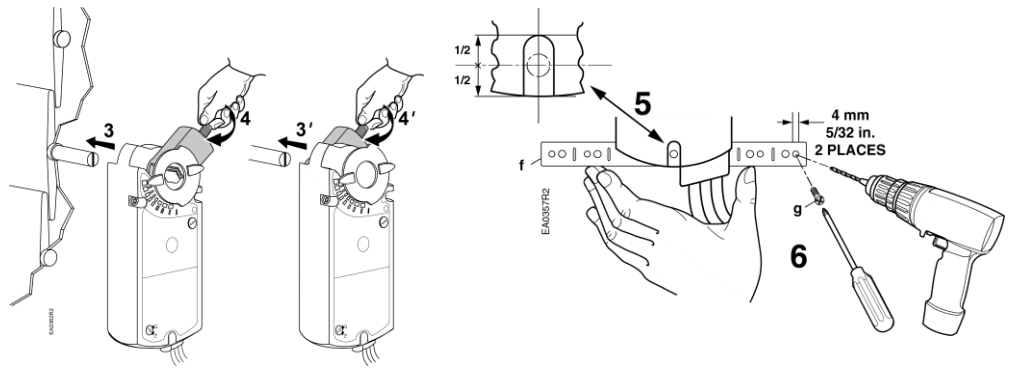


Figure 8. Attach the Mounting Bracket.

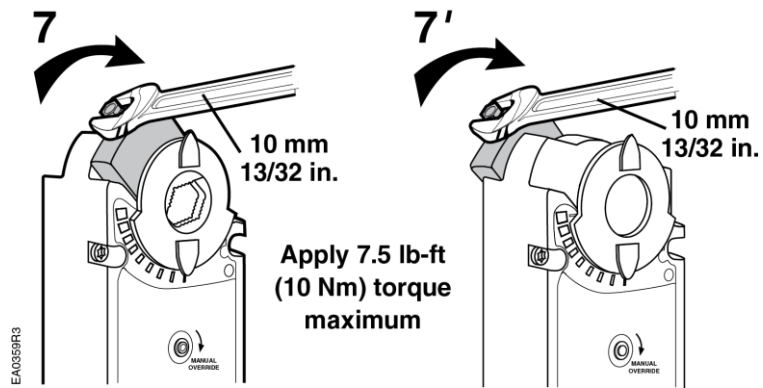


Figure 9. Fasten the Shaft Adapter to the Damper Shaft.

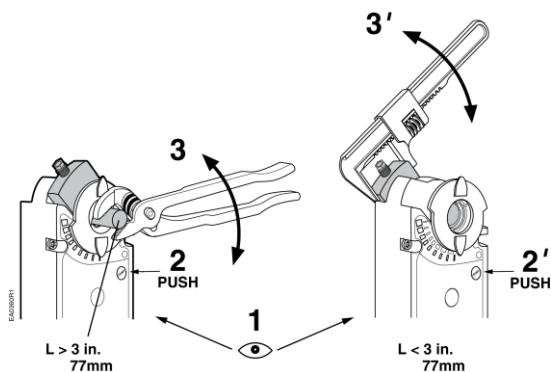
## Manual Override

To move the damper blades without power present, do the following:

1. Hold down the **PUSH** button.
2. Make adjustments to the damper position.
3. Release the **PUSH** button.

**NOTE:** If there is no load, the actuator will hold the new damper position. If load conditions exist, the actuator might not be able to hold.

Once power is restored, the actuator returns to automated control.

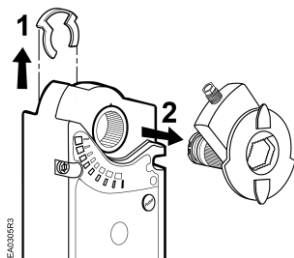


**Figure 10. Manual Override for Long and Short Damper Shafts.**

## Mechanical Range Adjustment

The angular rotation is adjustable between 0° and 90° at 5-degree intervals.

1. Loosen the shaft adapter from the damper shaft and remove the actuator from the damper shaft.
2. Remove the clip and shaft adapter from the actuator. See Figure 11.

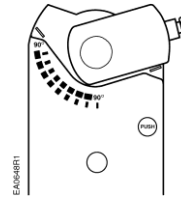


**Figure 11.**

3. Return the actuator gear train to the **0** position using the steps which follow for the clockwise or counterclockwise damper shaft rotation.

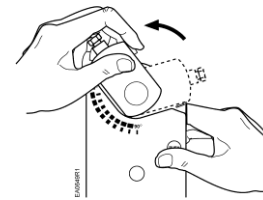
### Clockwise-to-open:

- a. Insert the shaft adapter to the right as close as possible to the raised stop. Figure 12.



**Figure 12.**

- b. Hold down the **PUSH** button and rotate the shaft adapter to the left until it stops. Figure 13.

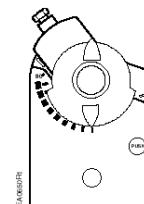


**Figure 13.**

- c. Release the **PUSH** button.
- d. If the shaft adapter is not resting against the left raised stop, remove the adapter and insert it against the left stop.
- e. Place the position indicator to the **0** position on the outside scale. Figure 14.

### Counterclockwise-to-open:

- a. Insert the shaft adapter to the left as close as possible to the raised stop.
- b. Hold down the **PUSH** button and rotate the shaft adapter to the right until it stops.
- c. Release the **PUSH** button.
- d. If the shaft adapter is not resting against the right raised stop, remove the adapter and insert it against the right stop.
- e. Place the position indicator to **0** on the inside scale.



**Figure 14.**

4. Determine the angle of rotation for the damper blade shaft. Subtract that amount from 90°.
5. Remove the shaft adapter and insert it with the position indicator pointing to mark on the scale calculated in the previous step. Figure 15.

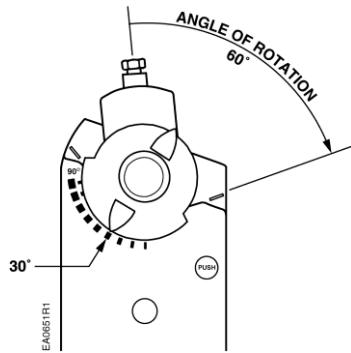


Figure 15.

6. Attach the clip.
7. Rotate the damper blade shaft to its 0 position.
8. Return the actuator to the damper shaft and tighten the shaft adapter to the damper shaft.

### Wiring

- All wiring must conform to NEC and local codes and regulations.
- Use earth ground isolating step-down Class 2 transformers. Do not use auto transformers.
- The maximum rating for a Class 2 step-down transformer is 100 VA. Determine the supply transformer rating by summing the total VA of all actuators and components used. It is recommended that no more than 10 actuators are powered by one transformer.



#### WARNING:

Do not parallel wire DKN-MS41-6353 actuators with any other type of actuator.



#### WARNING:

It is recommended to switch off the power during two-position control when the actuator has reached the open or closed position to enhance life span and reduce power consumption.

**NOTE:** With plenum cables, only UL-Class 2 voltage is permitted.

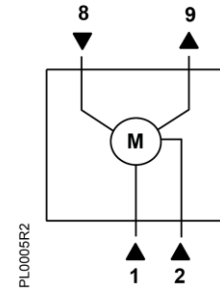


Figure 16.  
 DKN-MS41-6353 Modulating Control, 24 Vac.

Table 1. Wire Designations.

Standard Symbol	Function	Terminal Designations	Color
1	Supply (SP)	G	Red
2	Neutral (SN)	G0	Black
8	0 to 10 Vdc input signal	Y	Gray
9	Output for 0 to 10 Vdc position indication	U	Pink

### 环境注意事项 (Environmental Notice)

[执行器](#)  
[\(Actuator\)](#)

中国电器电子产品有害物质限制使用管理办法  
 (Management Methods for the Restriction of the Use of Hazardous Substances in  
 Electrical and Electronic Products \_ China RoHS)

产品中有毒物质的名称及含量  
 (Name and Content of the Hazardous Substances in Product)

部件名称 (electric actuator)	有害物质 (Hazardous Substances)					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
电路板组件 (PCBA)	X	O	O	O	O	O
金属部件 (Metal Parts)	X	O	O	O	O	O

本表格依据 SJ/T 11364 的规定编制。  
 (This table is prepared in accordance with the provisions of SJ/T 11364.)  
 O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。  
 (O indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.)  
 X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。  
 (X indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.)  
 所售产品中可能不含有上述部件, 请以产品实际销售配置为准, 个别部件可能单独标识环保使用期限。  
 (Parts listed above may not be included within the product. Please refer to the actual configuration of the sold product. Some parts may have individual EUP.)  
 注: 环保使用期限取决于产品正常工作的温度和湿度等条件。  
 (Remark: Environmental Protection Use Period depends on the product normal operation condition, such as temperature, humidity, etc.)

