

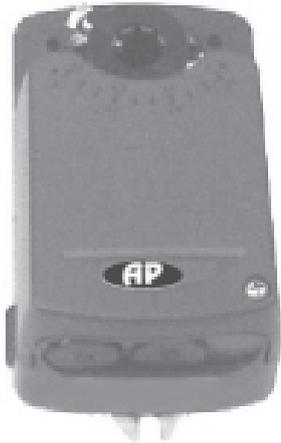


# Rotary Damper Actuator On/Off and Raise/Lower

## 4Nm

## RA4

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CE

RA4

### Features

- 4Nm torque to regulate dampers up to approx 1m<sup>2</sup>
- Manual Over-Ride by Crank Handle
- Anti-rotation bracket provided for stability
- 2 adjustable auxiliary switches (SPDT)
- Simple Direct Mounting by Universal Adapter
- Reversible rotation

### Technical Data

<b>Power Supply</b>	24Vac/dc +/-10%, 50/60Hz , +/-10% 230Vac, 50/60Hz , +/-10%
<b>Power Consumption</b>	
Operating	2,5W for 24V and 4,0W for 230V
At the end stops	0,85W for 24V and 3,0W for 230V
<b>Wiring Size</b>	4,1VA for 24V and 5,0VA for 230V
<b>Connections</b>	Screw terminals
<b>Control Signal</b>	On/Off or Raise/Lower
<b>Shaft length</b>	Min 50mm
<b>Torque</b>	4Nm
<b>Protection Class</b>	IP54 with glands
<b>Rotation Angle</b>	0-90°
<b>Angle Limiting</b>	5-85° (in 5° step)
<b>Direction of Rotation</b>	Bidirectional L/R switch (right/left)
<b>Auxiliary Switch Rat.</b>	2 x SPDT 3(1,5), 230Vac
<b>Shaft Dimension</b>	6-16mm diameter / 5-12mm square
<b>Running Time</b>	35 sec
<b>Noise Level</b>	< 45dB (A)
<b>Usage Life</b>	Min. 60.000 open-close operations
<b>Position Indication</b>	Mechanical
<b>Ambient Temperature:</b>	-20...+ 50°C
<b>Ambient Humidity:</b>	5...95%rH non-condensing
<b>Weight</b>	0,9 kg for 24V and 1,0kg for 230V
<b>Maintenance</b>	Maintenance free
<b>Standards</b>	The actuators meet CE requirements

### Short Description

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 90degree of rotation.

By using the mounting clamp the actuators can be direct couple mounted over the damper shaft

The compact size allows for easy installation where space is limited.

Manual control through buttons available in the housing.

Actuator itself has ability of over-loading protect.

It stops automatically without limit switch

### Damper Size

When calculating the torque required to operate dampers, it is essential to take into account all the data supplied by the damper manufacturer concerning cross sectional area, design, mounting and air flow conditions.

The recommended damper size are guide values

### Usage

RA on/off damper actuator is a high quality damper actuator for applications in HVAC systems.

### Ordering

<b>RA4 24D</b>	Damper Actuator	2Nm	24Vac/dc
<b>RA4 230D</b>	Damper Actuator	2Nm	230Vac
<b>RA4 24DS2</b>	Damper Actuator	2Nm	24Vac/dc aux.sw.
<b>RA4 230DS2</b>	Damper Actuator	2Nm	230Vac aux.sw

### Technical Overview

The RA4 range of actuators require 24Vac/dc or 230V supply and can accept either an on/off or floating (raise/lower) control signal input.

They are available in a 4Nm torque rating and can have an auxiliary switch option fitted.

The direction of rotation can be reversed and the angle of mechanical travel can be limited by up to 30 degree from either end.

### Installation

1. Ensure that all power is disconnected before carrying out any work on the RA4.
2. Maximum cable is 2,5mm<sup>2</sup>, care must be taken not to over tighten terminals.
3. Attach the actuator to the damper spindle, finger tighten the nut on the clamp.
4. Fix the anti-rotation strap to the back of the actuator (bend if required).
5. Move the damper to the closed position.
6. Using the manual override push button, turn the clamp until the actuator is in correct position.
7. Tighten the nut on the clamp.
8. If the damper has no fixed stops of its own, the limit stops may need to be adjusted.

To mechanically limit the angle of rotation, loosen the bolt on the required side to be limited, and re-tighten the bolt.

Note, this operation only limits the travel at one end.

If both ends need to be limited, carry out the above operation on the other bolt.

9. Undo the screw on the cover of the actuator and remove the cover.
10. Terminate the cores at the terminal block (see page 3), leaving some slack inside the unit.
11. Replace the lid after the electrical connections have been made.
12. Ensure that the voltage is within the specified tolerances.

### Auxiliary Switches

To adjust the auxiliary switches, in this example to 30° and 70°, follow the procedure below.

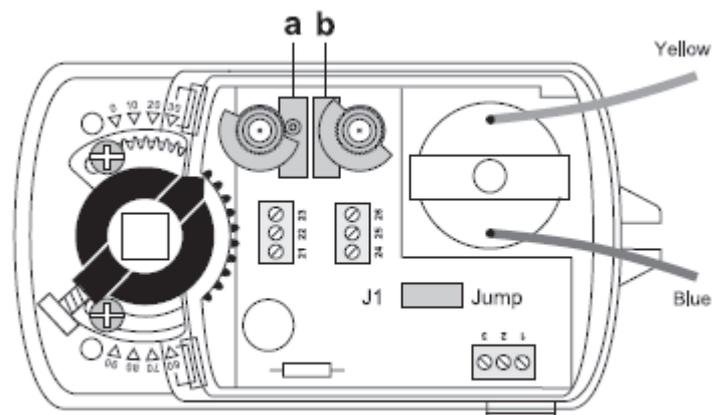
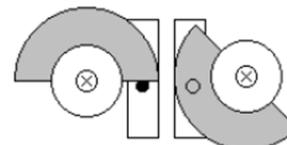
**NB:** The switches, where fitted, are factory aligned to 10° for **A** and 80° for **B**.

1. To set switch A (see fig.2) press the manual over-ride switch and rotate the adaptor (Fig.1) to the 30° position.
2. Slightly loosen the cross head screw in cam wheel A so that the wheel can be moved by hand.
3. Rotate cam wheel A until the micro switch clicks.
4. Re-tighten the cross head screw in cam wheel A.
5. To set switch B (see fig.2) press the manual override switch and rotate the adaptor (Fig.1) to the 70° position.
6. Slightly loosen the cross head screw in cam wheel B so that the wheel can be moved by hand.
7. Rotate cam wheel B until the micro switch clicks.
8. Re-tighten the cross head screw in cam wheel B.

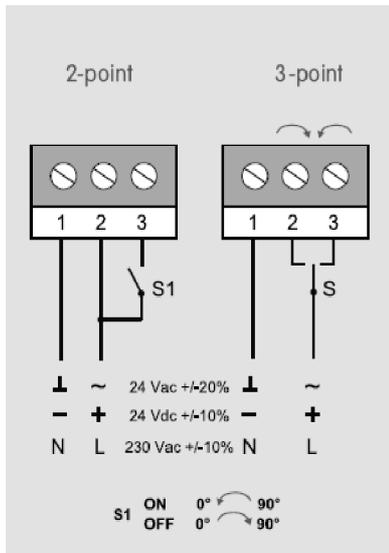
Fig 1.



Fig 2.

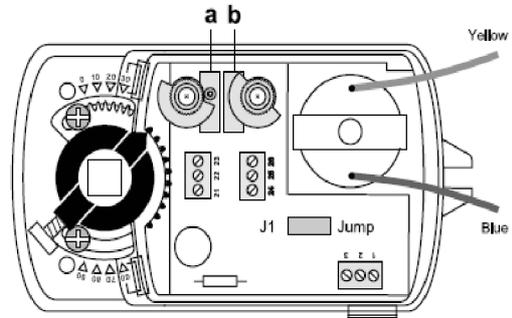
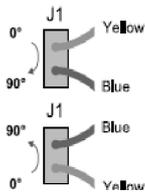


### Electrical Connection

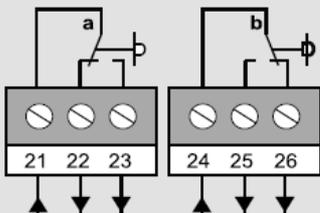


### Direction of rotation setting

The direction of rotation can be changed by reversing jumper J1.



### Auxiliary switches

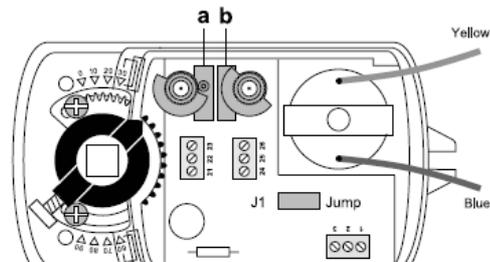


3 (1,5) Amp 230 V

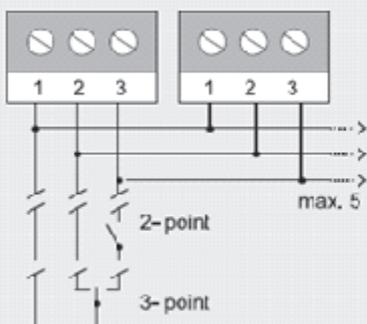
actuator in position 0°

### Auxiliary switches setting

Factory setting:  
 switch a at 10°  
 switch b at 80°  
 The switching position can be changed manually.



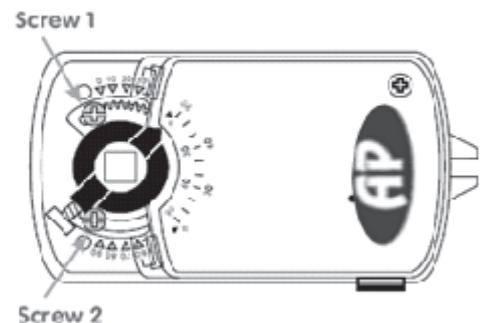
### Parallel connections



Max 5 actuators

### Limitation of rotation angle

The range of working angle (90°) can be reduced by up to 30° from each end of position by screw 1 and 2.





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## DIMENSIONS (mm)

