

COMBIFLOW Analog Rotary Actuator

Description

The COMBIFLOW Analog Rotary Actuator is designed to be used with the COMBIFLOW 6-way Pressure Independent Control Valve.

The actuator is installed on the valve to switch between the heating and the cooling as well as for the flow setting, modulation and shut off.

Operation

The COMBIFLOW Analog Rotary Actuator uses the input signal to achieve the sizing flows for heating and for cooling as well as to secure the shut off position.

The sizing flows for heating and cooling can be controlled either by the BMS or mechanically limited by the 2 screws.



Application

The COMBIFLOW Analog Rotary Actuator is used with the COMBIFLOW 6-way Pressure Independent Control Valve for:

- Switching between cooling and heating
- Cooling and heating nominal flow setting
- Flow modulation of cooling and heating
- Flow close off for both cooling and heating
- Error and current status reporting

Benefits

- Easy setting of the sizing flow for heating and for cooling
- Small outer dimensions
- Remote commissioning from the BMS

Features

- Operating voltage 24 V AC/DC
- 0/2 - 10 V DC control signal
- Factory mounted cable
- Feedback signal
- IP 54 protection
- Manual operation handle on the actuator
- Mechanical limitation on both the cooling and the heating side by 2 screws

COMBIFLOW Analog Rotary Actuator

Technical data

Power Supply

| | | |
|-------------------|------------------|----------------------------------|
| Operating voltage | | AC 24 V ± 20 % DC 24 V ± 20 % |
| Frequency | | 50/60 Hz |
| Power consumption | Actuator holds | 0.7 W |
| | Actuator rotates | 2.1 VA / 1.2 W |

Function data

| | |
|---|----------------|
| Positioning time for nominal rotation angle | 150 s |
| Nominal / maximum torque | 5 Nm / < 10 Nm |
| Nominal / maximum rotation angle | 90° / 95° ± 2° |
| Actuator sound power level | 28 dB(A) |

Connection cables

| | |
|----------------------------|--|
| Cable length | 0.9 m |
| Power supply/Communication | Number of cores and cross-sectional area 4 x 0.75 mm ² |

Degree of protection

| | | |
|----------------------|---|------|
| Degree of protection | Degree of protection acc. to EN 60529 (see mounting instruction) | IP54 |
|----------------------|---|------|

Environmental conditions

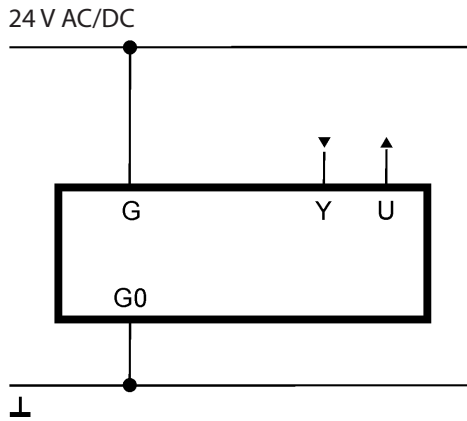
| | | |
|-------------------------------|---------------------------|-----------------------------|
| Applicable standard operation | | IEC 60721-3-x |
| | Climatic conditions | Class 3K5 |
| | Mounting location | Interior, weather-protected |
| | Temperature general | -32 - 55 °C |
| | Humidity (non condensing) | <95 % r. h. |
| Transport | Climatic conditions | Class 3K5/Class 2K3 |
| | Temperature | -32 - 70 °C |
| | Humidity | <95 % r. h. |
| Storage | Climatic conditions | Class 1K3 |
| | Temperature | -32 - 50 °C |
| | Humidity | <95 % r. h. |

Directives and standards

| | |
|---|---|
| Product standard | EN60730-x |
| Electromagnetic compatibility (application) | For residential, commercial and industrial environments |
| EU Conformity (CE) | A5W00003842 |
| RCM Conformity | A5W00003843 |
| UL | UL 60730 |

COMBIFLOW Analog Rotary Actuator

Wiring



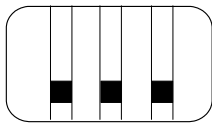
| Code | Color | Function |
|------|-------|-----------------------------|
| Y | Grey | Input signal 0/2 - 10V DC |
| U | Pink | Feedback signal 0 - 10V DC |
| G0 | Black | System neutral |
| G | Red | System potential 24 V AC/DC |

DIP-switch settings

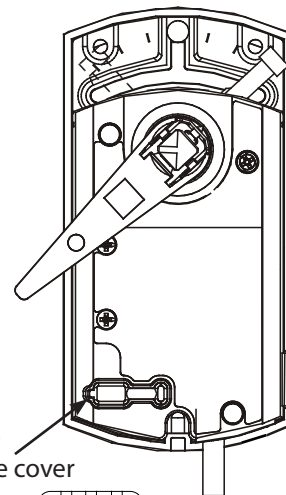
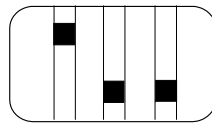
Input signal 0-10V or 2-10V

The input control signal can be set to either 0-10V or 2-10V by the DIP-switches

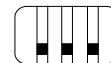
0-10V
(factory setting)



2-10V



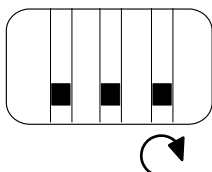
DIP-switches are placed under the cover



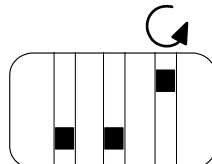
Rotation direction

The rotation can be changed from Clockwise (CW) to counter-clockwise (CCW) by the DIP-switches

Clockwise
(factory setting)



Counter-clockwise



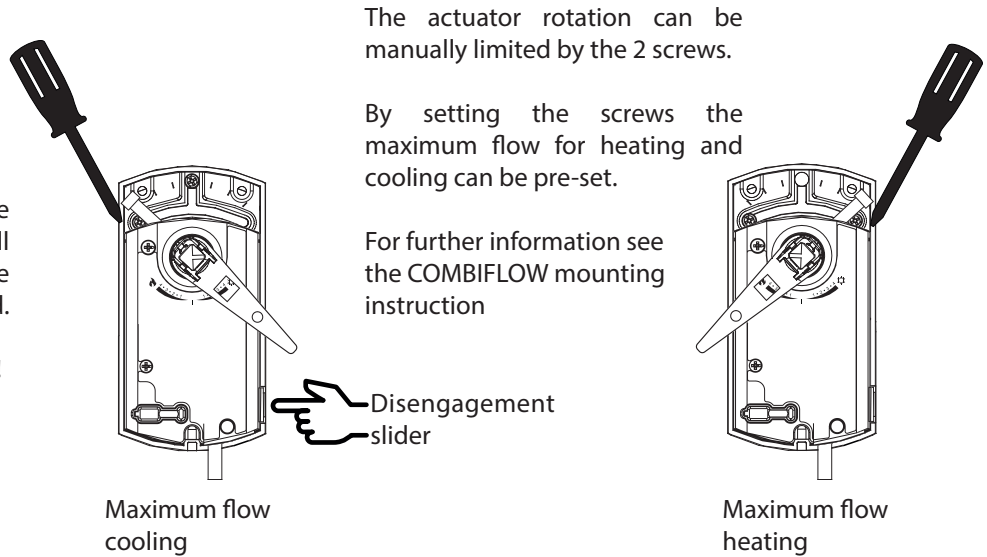
COMBIFLOW Analog Rotary Actuator

Manual operation

The rotary actuator can be manually adjusted into any position between 0° and 90° by pushing the gear train disengagement slider.

If a control signal from the controller is present, this will take priority in determining the position after the slider is released.

For manual operation: **Power off!**

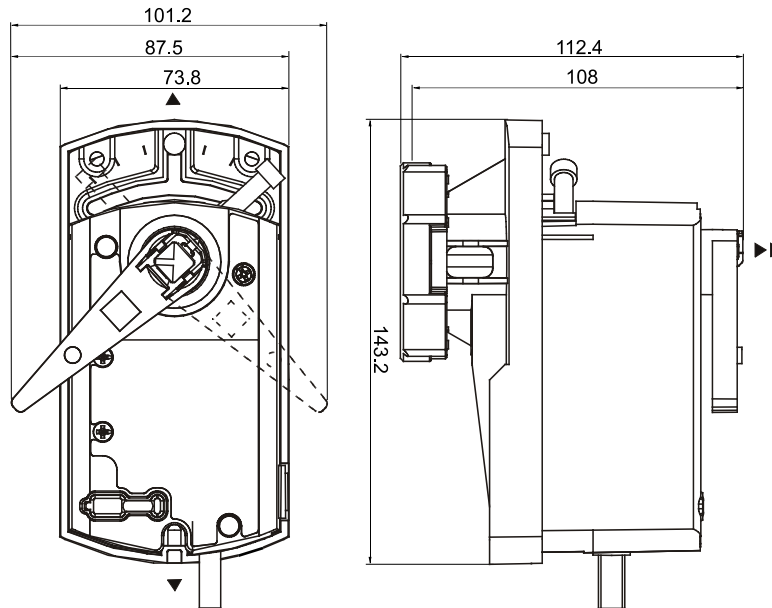


The actuator rotation can be manually limited by the 2 screws.

By setting the screws the maximum flow for heating and cooling can be pre-set.

For further information see the COMBIFLOW mounting instruction

Dimensions



Dimensions in mm

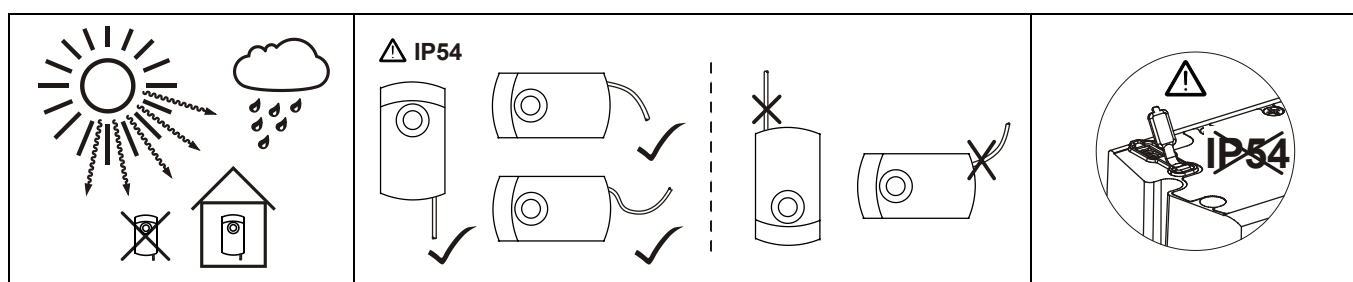
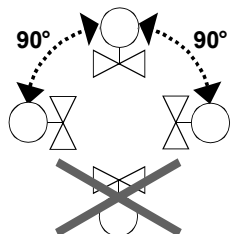
- ▶ = >100 mm | Minimum clearance from ceiling or wall for mounting,
- ▶▶ = >200 mm | connection, operation, maintenance etc.

Product programme

| | Type | Weight kg. | Frese no. |
|--|-------------------------------------|------------|-----------|
| | COMBIFLOW Analog Rotary Actuator | 0,7 | 48-5397 |

COMBIFLOW Analog Rotary Actuator

Mounting



Protect against direct sunlight and rain

Correct mounting position and cable connection

Protection class only with closed cover

Opening the actuator is not allowed and will void the warranty

Maintenance

The COMBIFLOW Rotary Actuator is maintenance-free. Disconnect the electrical connections from the terminals if you want to work at the device.

Environmental compatibility

The product environmental declaration A6V10209938 contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

Disposal

The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.



Note

Failure to comply with national safety regulations may result in personal injury and property damage. Observe national provisions and comply with the appropriate safety regulations.

Frese A/S assumes no responsibility for errors, if any, in catalogues, brochures, and other printed matter. Frese A/S reserves the right to modify its products without prior notice, including already ordered products, if this does not alter existing specifications. All registered trademarks in this material are the property of Frese A/S. All rights reserved.