

Data sheet

Actuators for dampers (with spring return)

AMD 113, 113 AS, AMD 123, 123 AS

AMD 213, 213 AS, AMD 223, 223 AS

Description



AMD actuators are used for the regulation of air dampers of 90° angle of rotation to be used in heating, ventilation and air conditioning applications (HVAC).

Features:

- Manual operation
- Rotation direction selection by switch
- Adjustable rotation angle by mechanical end stop min 40°.
- Position indication
- Overload protection
- Direct mounting with universal spindle clamp
- Anti-rotation strap for preventing actuator from rotating
- Maintenance free

Main Data:

- Nominal voltage (AC or DC):
 - 24 V, 50/60 Hz
 - 230 V, 50/60 Hz
- Control input signal: modulating or 2-point (depend on wiring)
- Torque: 3-5 Nm
- Rotation angle: 0- max. 95°
- Running time motor 40...100 s /90°
- Running time spring 20 s /90°

Ordering

| Type | Torque (Nm) | Control signal | Speed (s/90°) | Supply voltage (V) | Auxiliary switch | Max. damper size (m ²) | Code No. |
|------------|-------------|----------------|---------------------------|--------------------|-------------------|------------------------------------|-----------------|
| AMD 113 | 3 | 2-point | 40 s motor / 20 s spring | 24 AC/DC | - | 0,6 ** | 082H1136 |
| AMD 113 AS | | | | 24 AC/DC | 2 aux. switches * | | 082H1137 |
| AMD 113 | | | | 230 AC/DC | - | | 082H1138 |
| AMD 113 AS | | | | 230 AC/DC | 2 aux. switches * | | 082H1139 |
| AMD 123 | | modulating | 100 s motor / 20 s spring | 24 AC/DC | - | | 082H1140 |
| AMD 123 AS | | | | 24 AC/DC | 2 aux. switches * | | 082H1141 |
| AMD 213 | 5 | 2-point | 75 s motor / 20 s spring | 24 AC/DC | - | 1 ** | 082H1142 |
| AMD 213 AS | | | | 24 AC/DC | 2 aux. switches * | | 082H1143 |
| AMD 213 | | | | 230 AC/DC | - | | 082H1144 |
| AMD 213 AS | | | | 230 AC/DC | 2 aux. switches * | | 082H1145 |
| AMD 223 | | modulating | 100 s motor / 20 s spring | 24 AC/DC | - | | 082H1146 |
| AMD 223 AS | | | | 24 AC/DC | 2 aux. switches * | | 082H1147 |

Note:

* Actuator with built-in auxiliary switches

** Damper size:

| | |
|----------------------|--------------------------|
| damper size: | |
| $S = a \times b$ | $S = \pi \times r^2$ |

Working cycles

| | |
|------------|---------------------------------|
| 2-point | >60.000 cycles (0°-95°-0°) |
| modulating | >60.000 cycles (0°-95°-0°) |
| | >1.000.000 partial cycles (±5°) |

Technical data

| Type | | 113/113AS (24V) | 113/113AS (230V) | 213/213AS (230V) | 213/213AS (24V) | 123/123AS (24V) | 223/223AS (24V) |
|---|-------|---|---------------------|---------------------|--------------------|-------------------------|--------------------|
| Power supply | V | 24 AC/DC or 230 AC/DC ± 20% | | | | | |
| Power consumption in motion | W | 5 | 4 / 4,5 | 5,5 | 6,5 | 4,5 | 6,5 |
| Power consumption in Stand by (end position) | | 1,5 | 1,5 | 1,5 | 2 | 1,5 | 2 |
| Frequency | Hz | 50/60 | | | | | |
| Control input | | 2 point | | | | modulating | |
| | V | - | | | | 0-10 (2-10) Ri = 100 kΩ | |
| | mA | - | | | | 0-20 (4-20) Ri = 500Ω | |
| Operating torque | Nm | 3 | | 5 | | 3 | 5 |
| Rotation angle | | 0...max 95° | | | | | |
| Ambient temperature | °C | -30 ... 50 | | | | | |
| Ambient humidity: | | 5...95% r.F., non- condensating (EN 60730-1) | | | | | |
| Storage and transport temperature | | -30 ... 80 | | | | | |
| Protection Class | | III (24V) / II (230V) | | | | | |
| Rated impulse voltage: | kV | 0,8 (EN 60730-1) | 4 (EN 60730-1) | 0,8 (EN 60730-1) | 4 (EN 60730-1) | | |
| Grade of enclosure / Degree of protection | | IP 54 | | | | | |
| Sound power level motor: * | dB(A) | < 45 motor /< 65 spring | | | | < 35 motor /< 65 spring | |
| Weight | kg | 1,2 | | | | | |
| CE marking in accordance with standards | | Low voltage directive (LVD) 2006/95/EC: EN 60730-1, EN 60730-2-14 EMC Directive 2004/108/EC: EN 61000-6-2, EN 61000-6-3 RoHS CE (2011/65/EU) | | | | | |

Note:

* at distance 1m

Operating mode

Valid for: AMD 123, 123AS, 223, 223AS

Through connecting the power supply to BU+BN (1+2) and a reference signal Y to BK (3) of 0(2)...10VDC, moves the actuator to its specified position. The actual damper position 0...100% is a feedback signal U for example to share the signal with other actuators. If the power supply is interrupted the actuator is moving to position 0 by spring power. The actuator is still maintaining the minimum torque at the damper spindle

The actuator is overload-proof and requires no end switches. It automatically stops when the end stop is reached.

Valid for: AMD 113, 113AS, 213, 213AS

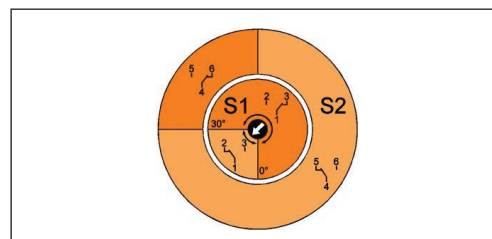
Through connecting the power supply to BU+BN (1+2), the actuator moves to position 1 while the pre-tensioned spring is wound up the same time. If the power supply is interrupted the actuator is moving back to position 0 by the spring power. The actuator is still maintaining the minimum torque at the damper spindle.

The actuator is overload-proof and requires no end switches. It automatically stops when the end stop is reached.

Auxiliary switches

(Valid for: AMD 113AS, 213AS, 123AS, 223AS)

The two integrated auxiliary switches are interdependent adjustable (S1: 0°...30° ~ S2: 65°...95°). These are activated corresponding to the adjusted angle. The damper position can be checked by the mechanical pointer.



Direct mounting

Simple direct mounting on the damper spindle with a universal spindle clamp, supplied with an anti-rotation strap to prevent the actuator from rotating.

Manual operation

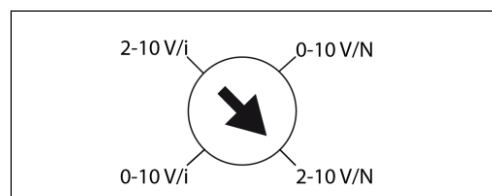
The actuator can be operated only manually while the power supply is off. The supplied lever is to open and lock the damper position. The lock stays until the power supply is put on.

Mode-switch

(Valid for: AMD 123, 223, 123AS, 223AS)

Mode switch with four rest positions at the housing

- Rotary direction Normal 2-10 V
- Rotary direction Normal 0-10 V
- Rotary direction invers 2-10 V
- Rotary direction invers 0-10 V

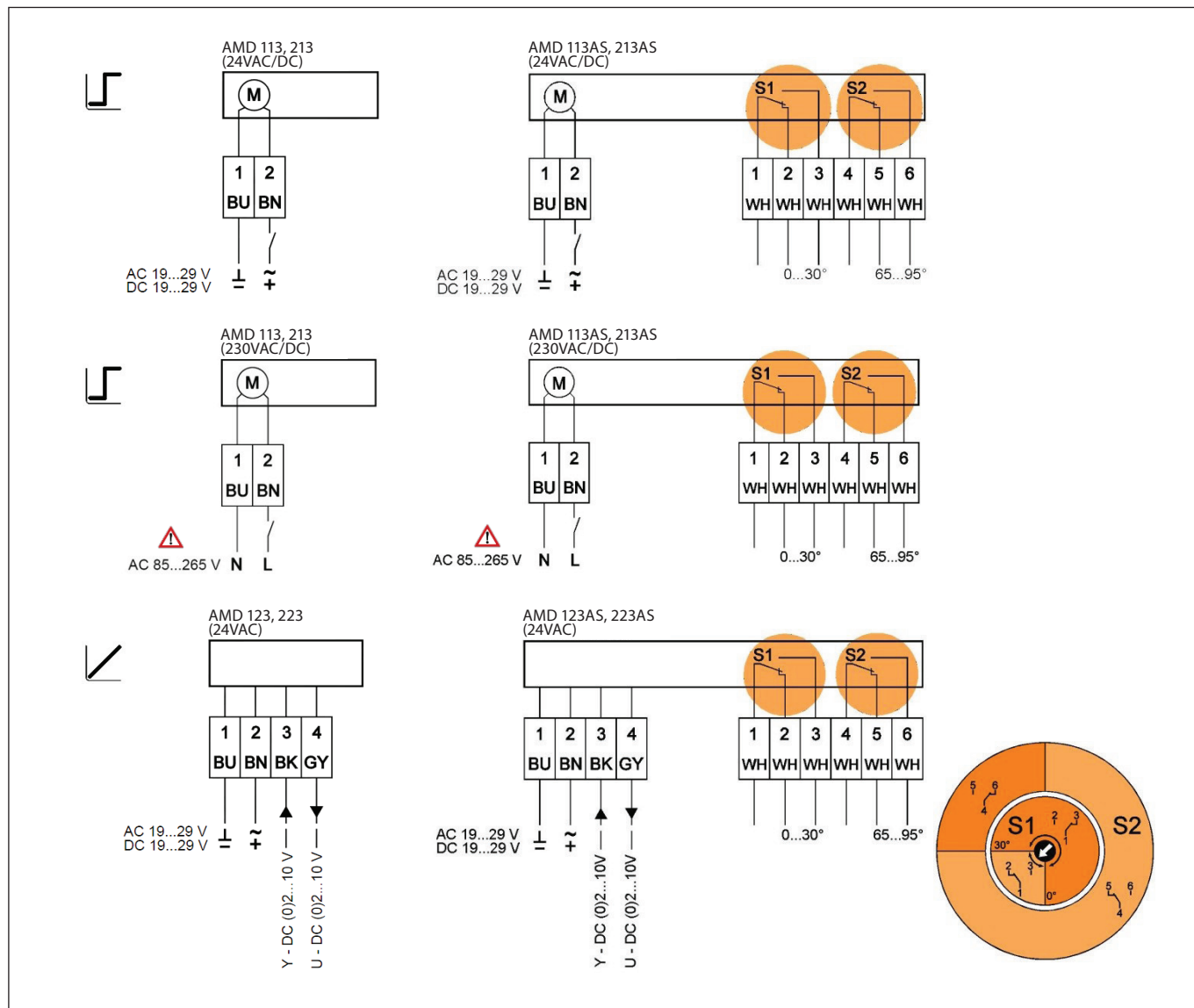


Installation

The actuators should be mounted in a dry environment, absolutely free from acrid fumes. In case of outdoor installation, the actuator has to be protected against climatic influences by suitable measures.

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|----------------------------|
| Clamp coupling dimensions: |
| ∅ 13 / ∅ 16,5 mm |

Wiring



Dimensions

