

Data sheet

Actuators for dampers

AMD 210, 210 AS, AMD 220, 220 AS

AMD 310, 310 AS, AMD 420, 420 AS

AMD 510, 510 AS, AMD 520, 520 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
- 2/3 point control adjustable angle of rotation by mechanical end stop min 20°.
- Modulating control adjustable angle of rotation with end stop.
- 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):
230 V, 50/60 Hz
24 V, 50/60 Hz
- Control Input signal: modulating or 2/3 point (depend on wiring)
- Torque: 5/8/10/15 Nm
- Rotation angle: 0- max. 95°
- Speed: 60-150 sec /90°

Ordering

Type	Torque (Nm)	Control signal	Speed (s/90°)	Supply voltage (V)	Auxiliary switch	Max. damper size (m ²)	Code No.
AMD 210	5	2/3-point	60-120	24 VAC/DC	-	1 **	082H1100
AMD 210 AS				24 VAC/DC	1 aux. Switch *		082H1101
AMD 210				230 VAC/DC	-		082H1102
AMD 210 AS				230 VAC/DC	1 aux. Switch *		082H1103
AMD 220	5	modulating	100	24 VAC/DC	-	1,6 **	082H1104
AMD 220 AS				24 VAC/DC	1 aux. Switch *		082H1105
AMD 310	8	2/3-point	60-120	24 VAC/DC	-	1,6 **	082H1106
AMD 310 AS				24 VAC/DC	1 aux. Switch *		082H1107
AMD 310				230 VAC/DC	-		082H1108
AMD 310 AS				230 VAC/DC	1 aux. Switch *		082H1109
AMD 420	10	modulating	150	24 VAC/DC	-	2 **	082H1110
AMD 420 AS				24 VAC/DC	1 aux. Switch *		082H1111
AMD 510	15	2/3-point	150	24 VAC/DC	-	3 **	082H1112
AMD 510 AS				24 VAC/DC	1 aux. Switch *		082H1113
AMD 510				230 VAC/DC	-		082H1114
AMD 510 AS		230 VAC/DC		1 aux. Switch *	082H1115		
AMD 520		modulating		24 VAC/DC	-		082H1116
AMD 520 AS				24 VAC/DC	1 aux. Switch *		082H1117

Note:

* Actuator with built-in auxiliary switches

** Damper size:

<p>S=a×b</p>	<p>S=πr²</p>
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Working cycles

2/3-point	>60.000 cycles (0°-95°-0°)
modulating	>60.000 cycles (0°-95°-0°)
	>1.000.000 partial cycles (±5°)

Technical data

Type		210/210AS (24V/230V)	310/310AS (24V/230V)	510/510AS (24V)	220/220AS (24V)	420/420AS (24V)	520/520AS (24V)	510/510AS (230V)
Power supply	V	24 AC/DC or 230 AC/DC ± 20%						
Power consumption in motion	W	2						2,5
Power consumption in Stand by (end position)		1						
Frequency	Hz	50/60						
Control Input	V	2/3 point *			modulating			2/3 point *
	mA	/			0-10 (2-10) Ri = 100 kΩ 0-20 (4-20) Ri = 500Ω			/
Operating torque	Nm	5	8	15	5	10	15	
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	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)	< 35						
Weight	kg	0,53						
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:
* depend on wiring
** at distance 1m

Operating mode

Valid for: AMD 210, 210AS, 310, 310AS, 510, 510AS
2- point.

Through connecting the power supply to BU+BN (1+2) and the direction of rotation switch on position "R" moves the actuator to position 1. Is also BK (1+2+3) connected to the power supply the actuator is moving to position 0.

3- point.

Through connecting the power supply to BU+BN (1+2) and the direction of rotation switch on position "R" moves the actuator to position 1. If the power supply is interrupted the actuator maintains its current position. Is also BU+BK (1+3) connected to the power supply the actuator is moving in direction 0.

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

Valid for: AMD 220, 220AS, 420, 420AS, 520, 520AS

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.

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

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

Manual operation is possible with the self-resetting pushbutton (the gearing latch remains disengaged as long as the pushbutton is pressed)

Rotary direction switch

R= clockwise
L= counter clockwise

Valid for: AMD 210, 210AS 310, 310AS

R= clockwise
Adp= adaption
L= counter clockwise

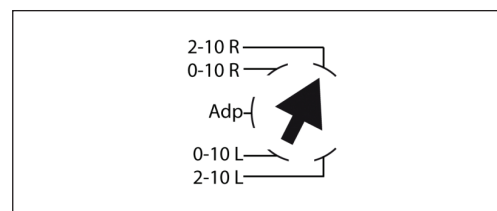
Valid for: AMD 510, 510AS

Mode- switch

Valid for AMD:
(220, 220AS, 420, 420AS, 520, 520AS)

Mode switch with four rest positions at the housing

- Rotary direction Normal 2-10 V
- Rotary direction Normal 0-10 V
- Adp= adaption
- Rotary direction invers 2-10 V
- Rotary direction invers 0-10 V



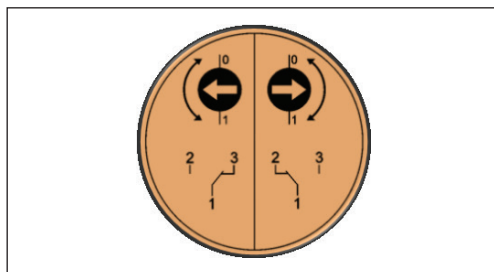
Adaption drive (Adp)

Valid for AMD:
(510, 510AS, 220, 420, 520)

- Adaption on angle of rotation < 90°
- Actuator power-off
- Setting the mechanical end stops
- Actuator power-on
- Adaption to enable
- Actuator adaption on angular range
- Adaption to disable
- “Y” refers to the measured angular range

Auxiliary switches

Valid for AMD:
(210AS, 310AS, 510AS, 220AS, 420AS, 520AS)

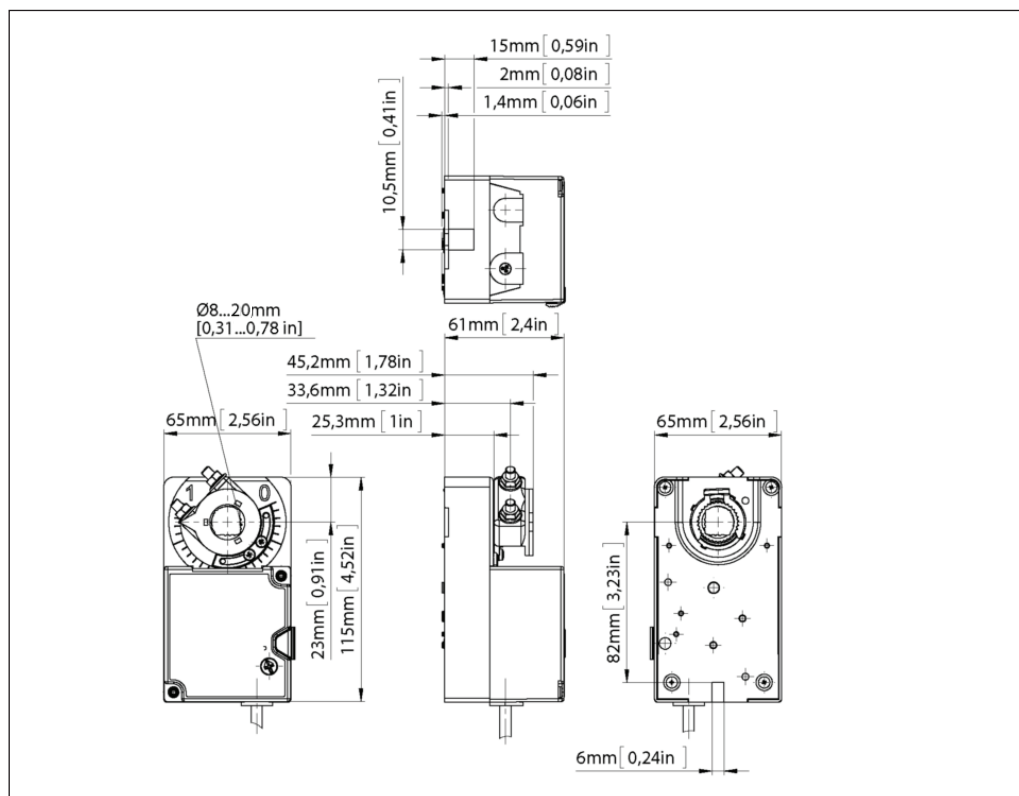


Installation

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.

Clamp coupling dimensions: Ø 8-20 mm

Dimensions



Wiring

