



NENUTEC AIR - ROTARY DAMPER ACTUATOR

WITH ELECTRONIC FAIL-SAFE® FUNCTION 8 Nm | 16 Nm | 24 Nm | OPEN-CLOSED CONTROL

FSAA...08/16/24 SERIES

Rotary damper actuators with Electronic Fail-Safe® (EFS®) function are designed and produced for extended functionalities in HVAC systems and opens up new perspectives in system protection.

Electronic Fail-Safe® (EFS®) is able to manage short voltage interruptions for max. 4 seconds. In case of longer voltage interruption they will move the dampers or valves if necessary to a pre-defined emergency position (EPS).



Pictures might not correspond with technical data.

- Damper size 1.5 m² / 3.0 m² / 4.5 m²
- Power supply AC/DC 24V and AC 230V
- 2 point control
- 2 adjustable auxiliary switches (SPDT)
- Digital greentech technology
- Shaft dimensions
Ø 10 to 20 mm round / 10 to 16 mm square
minimum shaft length 50 mm
- Selectable direction of rotation
- Adjustable angle of rotation
- Customised versions and functions (on request)

MODEL SELECTION TABLE

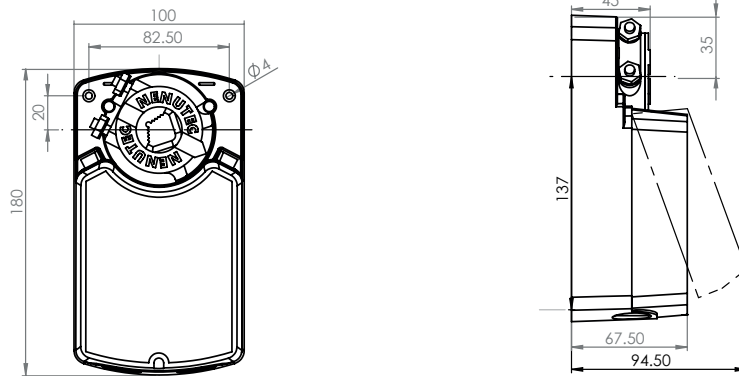
Torque	Running time (Power)	(Fail-Safe)	Power supply	Auxiliary Switches	Model / Type
8 Nm	60 sec	30 sec	AC/DC 24 V ± 15%	No	FSAA24-08
8 Nm	60 sec	30 sec	AC/DC 24 V ± 15%	2 x SPDT	FSAA24-08S
8 Nm	60 sec	30 sec	AC 230V ± 10%	No	FSAA230-08
8 Nm	60 sec	30 sec	AC 230V ± 10%	2 x SPDT	FSAA230-08S
16 Nm	145 sec	80 sec	AC/DC 24 V ± 15%	No	FSAA24-16
16 Nm	145 sec	80 sec	AC/DC 24 V ± 15%	2 x SPDT	FSAA24-16S
16 Nm	145 sec	80 sec	AC 230V ± 10%	No	FSAA230-16
16 Nm	145 sec	80 sec	AC 230V ± 10%	2 x SPDT	FSAA230-16S
24 Nm	185 sec	130 sec	AC/DC 24 V ± 15%	No	FSAA24-24
24 Nm	185 sec	130 sec	AC/DC 24 V ± 15%	2 x SPDT	FSAA24-24S
24 Nm	185 sec	130 sec	AC 230V ± 10%	No	FSAA230-24
24 Nm	185 sec	130 sec	AC 230V ± 10%	2 x SPDT	FSAA230-24S



NENUTEC AIR - ROTARY DAMPER ACTUATOR

WITH ELECTRONIC FAIL-SAFE® FUNCTION 8 Nm | 16 Nm | 24 Nm | OPEN-CLOSED CONTROL

ACTUATOR DIMENSIONS (mm)



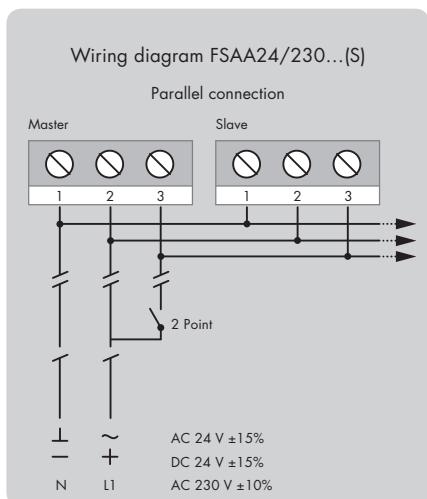
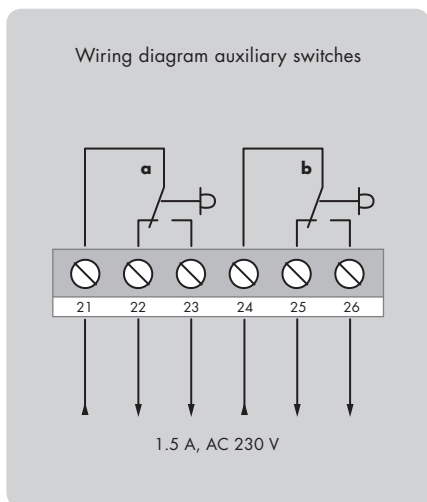
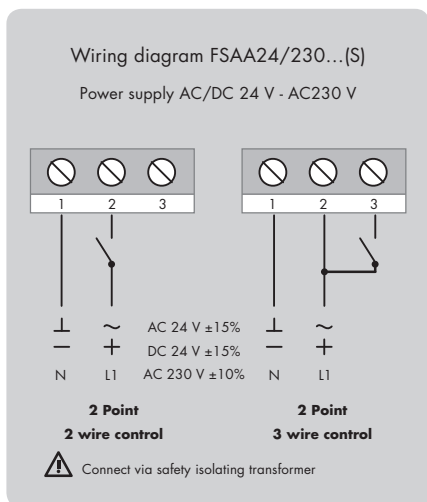
TECHNICAL SPECIFICATIONS

	FSAA24...(S)	FSAA230...(S)
Torque	8 Nm / 16 Nm / 24 Nm	8 Nm / 16 Nm / 24 Nm
Damper size	1.5 m ² / 3.0 m ² / 4.5 m ²	1.5 m ² / 3.0 m ² / 4.5 m ²
Shaft dimensions	∅ 10 to 20 mm round / 10 to 16 mm square	∅ 10 to 20 mm round / 10 to 16 mm square
Power supply	AC/DC 24V ± 15%	AC 230V ± 10%
Frequency	50 - 60 Hz	50 - 60 Hz
Control signal	2 point	2 point
Power consumption		
- Operating	3.6 W	3.6 W
- End position	0.5 W	0.5 W
For wire sizing	6.5 VA	6.5 VA
Auxiliary switch rating	1.5 A, AC 230 V	1.5 A, AC 230 V
Protection class	III ⚡	II ⚡
Charging time commissioning	30 sec	30 sec
Angle of rotation	0°...90° (93° mechanical)	0°...90° (93° mechanical)
Angle of limiting	0°...90° in 5° steps	0°...90° in 5° steps
Weight	1.2 kg - 1.4 kg	1.3 kg - 1.5 kg
Life cycle	100'000 full cycles / 1'000'000 partial cycles	100'000 full cycles / 1'000'000 partial cycles
Sound level	42 dB (A)	42 dB (A)
IP protection	IP 54 (dust protected & protected against splash water)	IP 54 (dust protected & protected against splash water)
Operating temperature	-30°...+50° C / IEC 721-3-3	-30°...+50° C / IEC 721-3-3
Non-operating temperature	-40°...+80° C / IEC 721-3-2	-40°...+80° C / IEC 721-3-2
Ambient humidity	5%...95% rH non condensing / EN 60730-1	5%...95% rH non condensing / EN 60730-1
Maintenance	Maintenance free	Maintenance free
Mode of operation	Type I / EN 60730-1	Type I / EN 60730-1
EMC	CE according to 2004 / 108 / EC	CE according to 2004 / 108 / EC



NENUTEC AIR - ROTARY DAMPER ACTUATOR

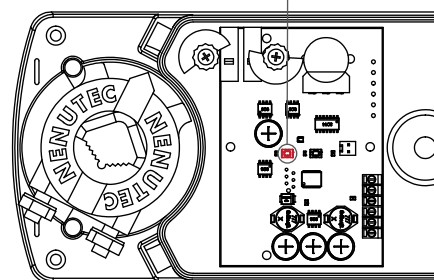
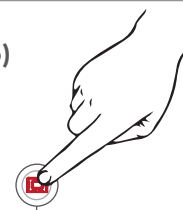
WITH ELECTRONIC FAIL-SAFE® FUNCTION 8 Nm | 16 Nm | 24 Nm | OPEN-CLOSED CONTROL



■ Changing direction of rotation FSAA24/230...(S)

Factory setting CW!

The direction of rotation can be changed by pushing micro switch SW1 for **1-2** seconds.



The green LED indicates the selected rotation direction with pulses.

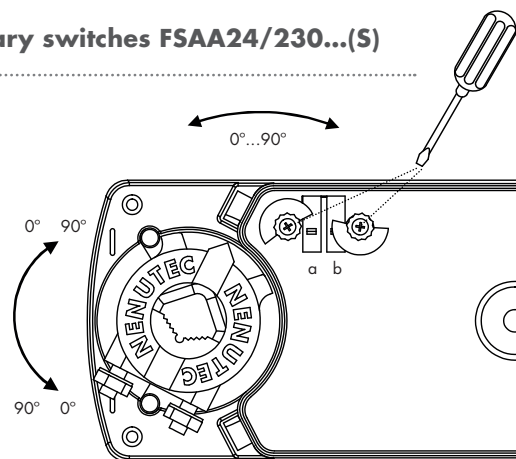


■ Adjustment of auxiliary switches FSAA24/230...(S)

Switch **a** factory-set at 10°

Switch **b** factory-set at 80°

The auxiliary switches can be optimally adjusted between 0°...90°.



■ Remark

Parallel connection of maximum five FSAA...(S) actuators is possible. The power consumption and distance between master and slave must be observed.

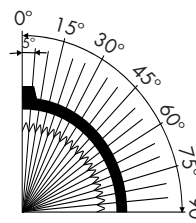
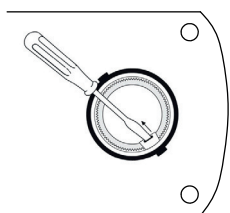
For more details of installation and commissioning, please observe our moun-



NENUTEC AIR - ROTARY DAMPER ACTUATOR

WITH ELECTRONIC FAIL-SAFE® FUNCTION 8 Nm | 16 Nm | 24 Nm | OPEN-CLOSED CONTROL

■ Limiting angle of rotation FSAA24/230...(S)



⚠ SAFETY NOTES

- The FS... actuators are not allowed to be used outside the specified field of application as described at the front page of this data sheet.
- Only to be installed by skill educated persons. Any legal regulations or issued by authorities must be observed during installation.
- This actuator includes electrical and electronic components and may not be disposed as household garbage. Please consider the local valid legislation.
- The FS... actuator may only opened by NENUTEC manufacturer site. Device does not contain any parts that can be replaced by user.
- AC 24V - 50/60 Hz - DC 24V: Connect via safety isolating transformer.
- AC 230V: To isolate from the main power supply, the system must incorporate a device which disconnects the phase conductor (with at least 3 mm contact gap).

⚠ IMPORTANT REMARKS

The EFS® actuators are completely discharged after delivery from factory and need approximately 30 sec. pre-charging time before initial commissioning in order to bring the capacitors up to the required voltage level. This ensures that, in the event of a power (voltage) supply interruption, EFS® actuators can be moved at any time from its current position into a pre-defined emergency position.

This actuator includes electrical and electronic components and may not be disposed as household garbage. Please consider the local valid legislation.



Consult NENUTEC representatives for specific requirements and material selections for your intended application. The entire content of this technical datasheet is protected by copyright with all rights reserved ©.

The performance specifications are nominal and conform to acceptable industry standards. NENUTEC shall not be liable for damages resulting from misapplication or misuse of its products.

CUSTOMISED VERSION

NENUTEC offers you actuators in customised versions, e.g. with your own brand name, with colour-coordinated applications and with your particular demand on request.

Please contact us for further information.

NENUTEC AG

Schachenstrasse 80
CH - 8645 Jona/SG - Switzerland
T: +41 55 224 40 60
F: +41 55 224 40 69
www.nenutec.com

Distributor

Distributor