GRUNER
SWITCH TO INNOVATIONS

Technical data sheet

341C-024-03-S2
Spring return actuator

Description

Spring return actuator for adjusting dampers in HVAC installations

- Running time motor 100 s / 90°
- Running time spring 20 s / 90°
- Torque motor 3 Nm
- Torque spring 3 Nm
- Nominal voltage 24 VAC/DC
- Control continuous control (0)2...10 VDC
- Auxiliary switch 2x interdependent adjustable
- Damper size up to approx. 0,6 m²
- Shaft coupling clamp ◊ 8-13 mm / Ø 8-16,5 mm

Technical data

Electrical data	Nominal voltage	24 VAC/DC, 50/60 Hz
	Nominal voltage range	19...29 VAC/DC
	Power consumption motor (motion)	4,5 W
	Power consumption standby (end position)	1,5 W
	Wire sizing	6,0 VA
	Control	continuous control (0)2...10 VDC / Ri > (100 kΩ) 50 kΩ (0)4...20 mA / Rext. = 500 Ω
	Feedback signal	(0)2...10 VDC, max. 5 mA
	Auxiliary switch	2 x SPDT (Ag)
	Contact load	5 (2,5) A, 250 VAC
	Switching point	0°...30° / 65°...95°
	Connection motor	cable 1000 mm, 4 x 0,75 mm² (halogen free)
	Connection feedback potentiometer	-
	Connection auxiliary switch	cable 1000 mm, 6 x 0,75 mm² (halogen free)

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Technical data

Electrical data	Connection GUAC	-
Functional data	Torque motor	3 Nm
	Torque spring	3 Nm
	Damper size	up to approx. 0,6 m²
	Synchronized speed	±5%
	Direction of rotation	selected by mounting
	Manual override	manual operation
	Angle of rotation	0°...max. 95° can be limited with adjustable mechanical end stops
	Running time motor	100 s / 90°
	Running time spring	20 s / 90°
	Sound power level motor	< 35 dB(A)
	Sound power level spring	< 65 dB(A)
	Shaft coupling	clamp ◊ 8-13 mm / Ø 8-16,5 mm
	Position indication	mechanical with pointer
	Service life	> 60 000 cycles (0°...95°...0°) > 1 000 000 partial cycles (max. ±5°)
Safety	Protection class	III (safety extra-low voltage)
	Degree of protection	IP 54
	EMC	CE (2014/30/EU)
	LVD	CE (2014/35/EU)
	RoHS	CE (2011/65/EU - 2015/863/EU - 2017/2102/EU)
	Mode of operation	Typ 1 (EN 60730-1)
	Rated impulse voltage supply / control	0,8 kV (EN 60730-1)
	Control pollution degree	3 (EN 60730-1)
	Ambient temperature normal operation	-30°C...+50°C
	Storage temperature	-30°C...+80°C
	Ambient humidity	5...95% r.H., non condensing (EN 60730-1)
	Maintenance	maintenance free
Dimensions / Weight	Dimensions	145 x 75 x 70 mm
	Weight	1400 g

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Functionality / Properties

Operating mode

Connect power supply to wire 1+2 and a reference signal Y to wire 3 in range of (0)2...10 VDC, actuator drives to its specified position while the pre-tensioned spring is wound up the same time. The actual damper position (0...100%) is a feedback signal U on wire 4 for example
to share with other actuators. If the power supply is interrupt, actuator drives back to position 0 by spring power. The actuator is still maintaining the minimum torque at the damper spindle.

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 shaft with a clamp, protection against rotating with enclosed anti-rotation lock or rather at intended attachment points.

Manual override

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

Signaling

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.

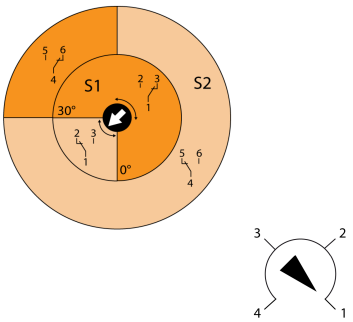
Mode switch

Mode switch with four positions at the housing:

1: rotary direction right 2-10 VDC
2: rotary direction right 0-10 VDC
3: rotary direction left 2-10 VDC
4: rotary direction left 0-10 VDC

Adaption drive

- Actuator power off
- Setting the mechanical end stops
- Supply conductor “Y” with 15 VDC
- Actuator power on
- Adaption enable
- Actuator drives to position 0
- Actuator drives to position 1
- Actuator power off, if desired angular range reached or rather if actuator reached endstop
- “Y” refers to the measured angular range



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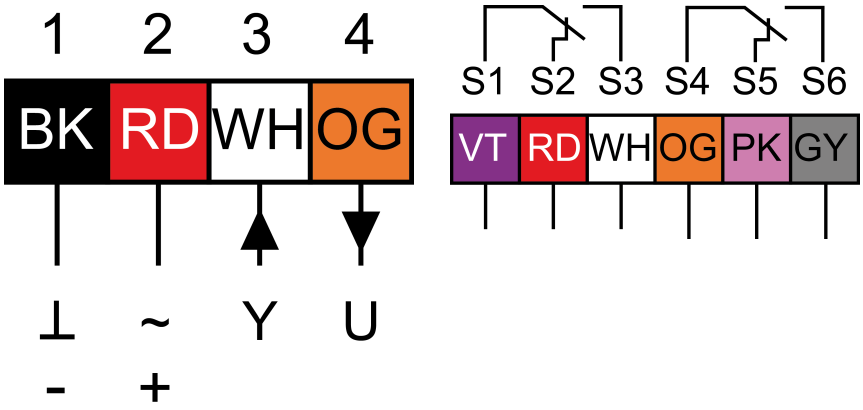
Connector / Security Note



Safety remarks

- Connect via safety isolation transformer!
- The device is not allowed to be used outside the specified field of application, especially in airplanes.
- It may only be installed by suitably trained personnel. Any legal regulations or regulations issued by authorities must be observed during assembly.
- The device may only be opened at the manufacturer´s site.
- Cables must not be removed from the device.
- The cable of this actuator cannot be replaced. If the cable is damaged, the actuator should be scrapped.
- The device is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.
- When calculating the required torque, the specifications supplied by the damper manufacturer´s (cross-section, design, installation site), and the air flow conditions must be observed.

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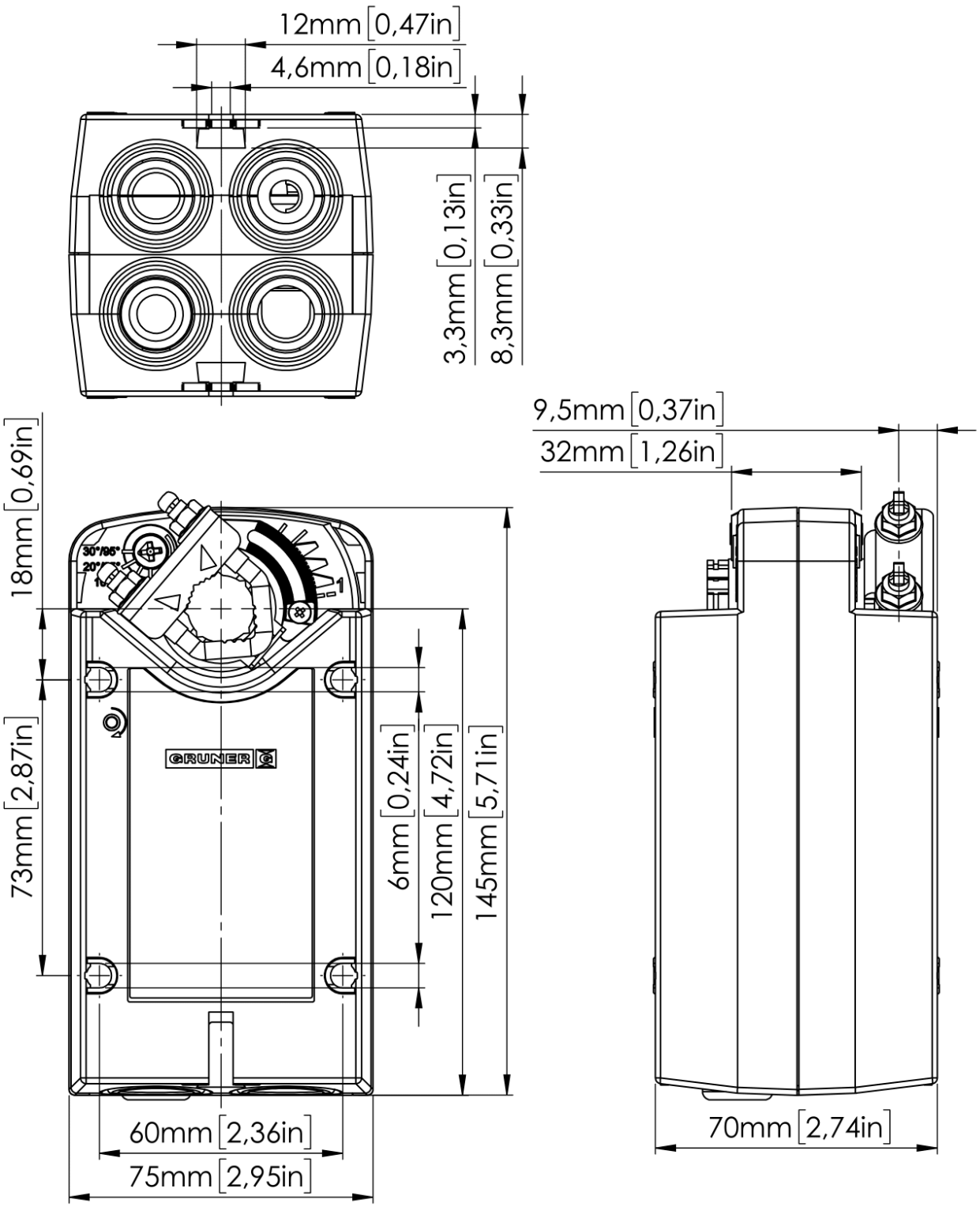
Technical Drawing



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