GRUNER
SWITCH TO INNOVATIONS

## Technical data sheet

# 341C-024-05-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 5 Nm
- Torque spring 5 Nm
- Nominal voltage 24 VAC/DC
- Control continuous control (0)2...10 VDC
- Damper size up to approx. 1 m²
- Shaft coupling clamp ◊ 8-13 mm / Ø 8-16,5 mm

## Technical data

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|---|---|---|
| **Electrical data** | Nominal voltage | 24 VAC/DC, 50/60 Hz |
| | Nominal voltage range | 19...29 VAC/DC |
| | Power consumption motor (motion) | 5,0 W |
| | Power consumption standby (end position) | 2,0 W |
| | Wire sizing | 6,5 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 | 5 Nm |
| | Torque spring | > 5 Nm |
| | Damper size | up to approx. 1 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°)<br>> 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.

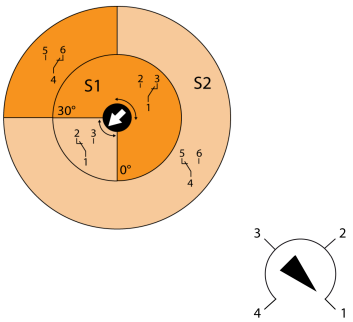
### Mode switch

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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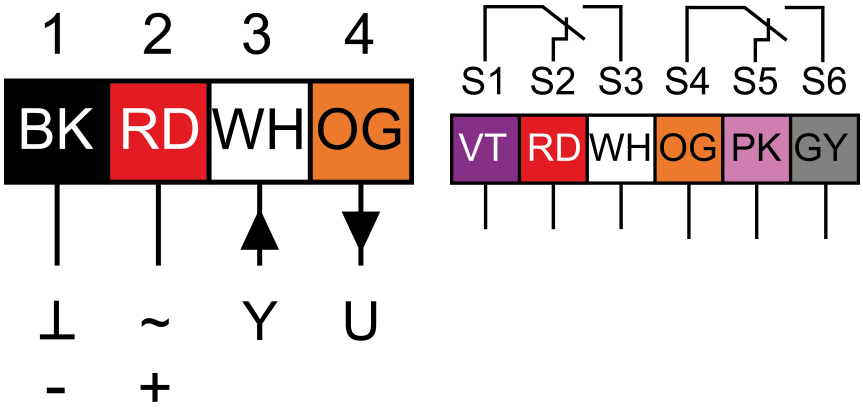
## Connector / Security Note




**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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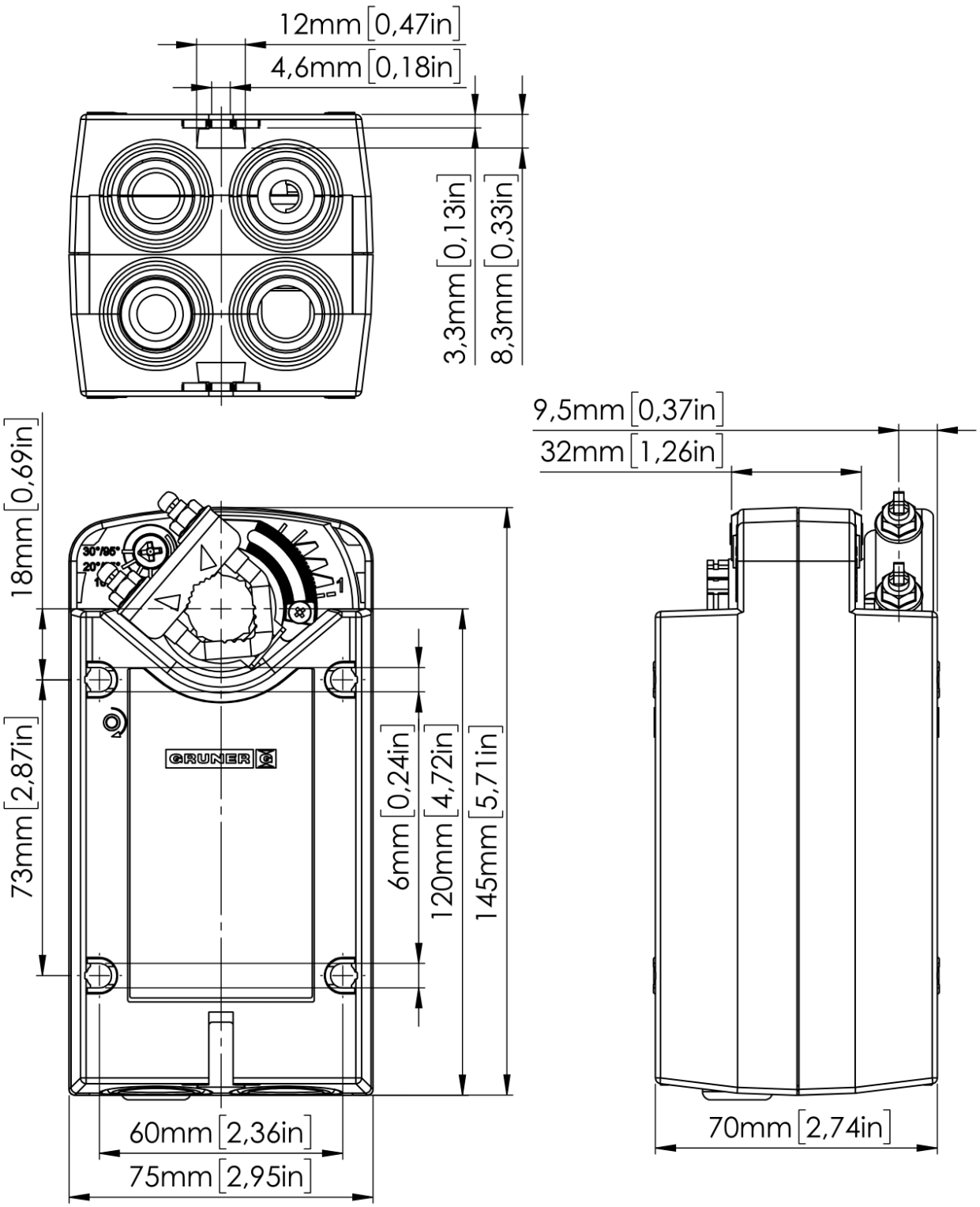
## Technical Drawing

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