



## Rotary actuators for ball valves

## GSD..41.9A

for ball valves VAI60.. / VBI60..,

AC 24 V / DC 24 V / AC 230 V

- Electromotoric rotary actuators without spring return
- For On-Off control (2 wire SPDT)
- Pre-wired with 0.9 m long connection cable

### Use

- For open/close ball valves 2-port and changeover ball valves 3-port, internally threaded connections DN15 to DN25.
- Suitable for use with 2-position controllers.

## Functions

|                                 |                                                                                                             |
|---------------------------------|-------------------------------------------------------------------------------------------------------------|
| <i>Control</i>                  | <i>On-Off *</i>                                                                                             |
| Rotary direction                | Clockwise or counter-clockwise, depending on the mounting position of the rotary actuator on the ball valve |
| Gear train disengagement slider | The rotary actuator can be manually adjusted by pressing the gear train disengagement slider                |

\* 2 wires SPDT (Single Pole Double Throw)

## Type summary

|                   |                   |                  |
|-------------------|-------------------|------------------|
| <i>Type</i>       | <i>GSD141.9A</i>  | <i>GSD341.9A</i> |
| Operating voltage | AC 24 V / DC 24 V | AC 230 V         |
| Control           | On-Off (2 wire)   |                  |

## Equipment combinations

The rotary actuators are suitable for operating the following Siemens open/close ball valves (2-port) and changeover ball valves (3-port):

| <i>Type</i>         | <i>k<sub>vs</sub> [m³/h]</i> | <i>Rp</i> | <i>DN</i> | <i>PN</i> | <i>GSD..41.9E</i>       |                       | <i>Data Sheet</i> |
|---------------------|------------------------------|-----------|-----------|-----------|-------------------------|-----------------------|-------------------|
|                     |                              |           |           |           | <i>Δp<sub>max</sub></i> | <i>Δp<sub>s</sub></i> |                   |
| <b>VAI60.15-15</b>  | 15                           | Rp ½"     | 15        | PN40      | 350                     | 1400                  | N4213             |
| <b>VAI60.20-22</b>  | 22                           | Rp 1"     | 20        |           |                         |                       |                   |
| <b>VAI60.25-22</b>  | 22                           | Rp 1"     | 25        |           |                         |                       |                   |
| <b>VBI60.15-5L</b>  | 5                            | Rp ½"     | 15        | PN40      | 350                     | –                     | N4213             |
| <b>VBI60.20-9L</b>  | 9                            | Rp 1"     | 20        |           |                         |                       |                   |
| <b>VBI60.25-9L</b>  | 9                            | Rp 1"     | 25        |           |                         |                       |                   |
| <b>VBI60.15-12T</b> | 12                           | Rp ½"     | 15        | PN40      | 350                     | –                     | N4213             |
| <b>VBI60.20-16T</b> | 16                           | Rp 1"     | 20        |           |                         |                       |                   |
| <b>VBI60.25-16T</b> | 16                           | Rp 1"     | 25        |           |                         |                       |                   |

## Notes

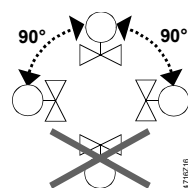
### Mounting

Additional information on rotary actuators is available in document N4603.

Both ball valve and rotary actuator can easily be assembled at the mounting location. Neither special tools nor adjustments are required.

The rotary actuator is supplied with Mounting Instructions M4655 (74 319 0884 0). The ball valve VAI60.. / VBI60.. is supplied with mounting instructions M4213 (74 319 0883 0).

### Orientation



Cables must be easily accessible.

### Commissioning Manual adjustment

When commissioning the system, check both wiring and rotary actuator functions.

The rotary actuator can be manually adjusted into any position between 0° and 90° by pushing the gear train disengagement slider.

If a control signal from the controller is present, this will take priority in determining the position after the slider is released.



For manual adjustment: Power off!

## Technical data

|                                                      |                                                             |                                                      |
|------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------|
| Supply voltage<br>AC 24 V / DC 24 V<br>(SELV / PELV) | Operating voltage                                           | AC 24 V $\pm$ 20 %; 50 / 60 Hz<br>DC 24 V $\pm$ 15 % |
|                                                      | Power consumption                                           |                                                      |
|                                                      | Actuator running                                            | 2 VA / 1.5 W                                         |
|                                                      | Holding                                                     | 1 VA / 0.5 W                                         |
| Supply voltage<br>AC 230 V                           | Operating voltage                                           | AC 230 V $\pm$ 15 %                                  |
|                                                      | Frequency                                                   | 50 / 60 Hz                                           |
|                                                      | Fuse for power cable (fast)                                 | 2 A                                                  |
|                                                      | Power consumption                                           |                                                      |
|                                                      | Actuator running                                            | 12 VA / 2 W                                          |
|                                                      | Holding                                                     | 12 VA / 2 W                                          |
| Functional data                                      | Nominal torque                                              | 2 Nm                                                 |
|                                                      | Nominal rotary angle / max. rotary angle                    | 90° / 95 $\pm$ 2°                                    |
|                                                      | Runtime for 90° rotary angle (motor operation)              | 30 s                                                 |
| Connection cable                                     | Cross-section                                               | 0.75 mm <sup>2</sup>                                 |
|                                                      | Standard length                                             | 0.9 m                                                |
| Degree of protection                                 | As per EN 60529 (see M4655)                                 | IP40                                                 |
| Protection class                                     | Insulation class                                            | EN 60730                                             |
|                                                      | AC 24 V / DC 24 V                                           | III                                                  |
|                                                      | AC 230 V                                                    | II                                                   |
| Environmental conditions                             | Operation / Transport                                       | IEC 60721-3-3 / IEC 60721-3-2                        |
|                                                      | Temperature                                                 | -32...+55 °C / -32...+70 °C                          |
|                                                      | Humidity (non-condensing)                                   | < 95 % r.h. / < 95 % r.h.                            |
| Standards and directives                             | Product standards                                           |                                                      |
|                                                      | Automatic electrical controls for household and similar use | EN 60730-2-14<br>(Mode of operation, Type 1)         |
|                                                      | Electromagnetic compatibility (EMC)                         |                                                      |
|                                                      | Immunity                                                    | IEC 61000-6-2                                        |
|                                                      | Emissions                                                   | IEC 61000-6-3                                        |
|                                                      | CE conformity                                               |                                                      |
|                                                      | EMC directive                                               | 2004/108/EC                                          |
|                                                      | Low voltage directive                                       | 2006/95/EC                                           |
|                                                      | C-Tick conformity                                           |                                                      |
|                                                      | Emissions                                                   | AS/NZS 61000-6-3                                     |
| Weight                                               | Without packaging:                                          |                                                      |
|                                                      | GSD141.9A                                                   | 0.63 kg                                              |
|                                                      | GSD341.9A                                                   | 0.64 kg                                              |

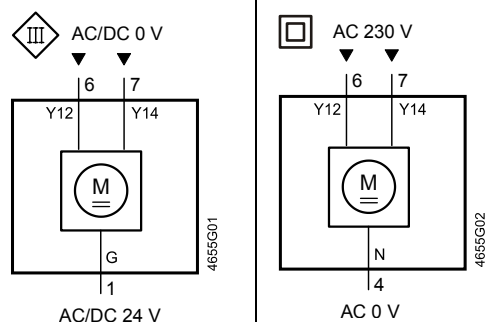
## Internal diagrams

GSD..41.9A

GSD141.9A

GSD341.9A

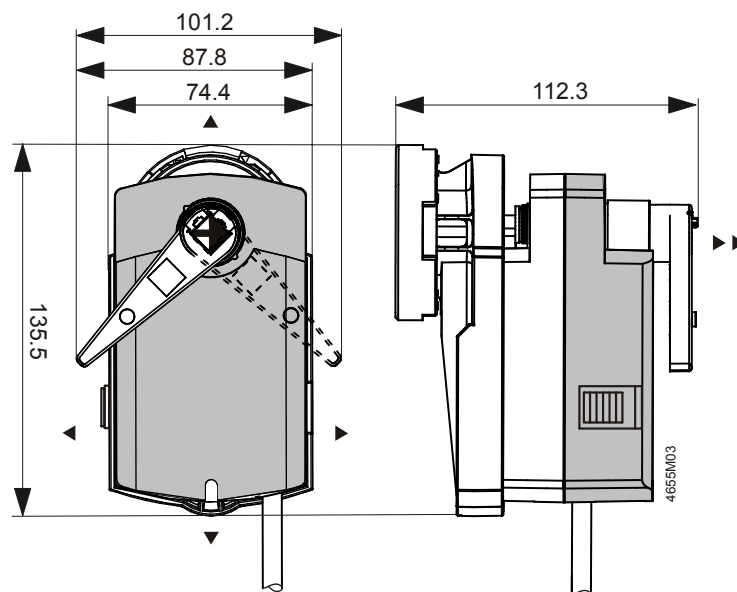
### On-Off control



### Cable designations

| Connection                     | Cable |     |        |       | Meaning                                          |
|--------------------------------|-------|-----|--------|-------|--------------------------------------------------|
|                                | Code  | No. | Color  | Abbr. |                                                  |
| Rotary actuators<br>AC/DC 24 V | G     | 1   | red    | RD    | System potential AC 24 V / DC 24 V               |
|                                | Y12   | 6   | purple | VT    | Positioning signal AC/DC 0 V "Clockwise"         |
|                                | Y14   | 7   | orange | OG    | Positioning signal AC/DC 0 V "Counter-clockwise" |
| Rotary actuators<br>AC 230 V   | N     | 4   | blue   | BU    | Neutral                                          |
|                                | Y12   | 6   | black  | BK    | Positioning signal AC 230 V "Clockwise"          |
|                                | Y14   | 7   | white  | WH    | Positioning signal AC 230 V "Counter-clockwise"  |

## Dimensions



- = >100 mm    Min. clearance from ceiling or wall for mounting,  
 ►► = >200 mm    connection, operation, maintenance, etc.