

ACVATIX™

Rotary actuator for ball valves in combination with the Intelligent Valve Controller

GLA161.9E/HR



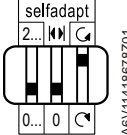
Electromotive rotary actuator for modulating control of control ball valves in combination with the Intelligent Valve Controller. Used in heating, ventilation, and air conditioning plants.

- For 2-port and 3-port control ball valves, externally threaded (VAG61..., VBG61...), DN 15...50
- Nominal torque 10 Nm
- Operating voltage AC 24 V ~ / DC 24 V =
- Prewired with 0.9 m connecting cable

Features

- Brushless, robust DC motors for reliable operation regardless of load.
- The valve actuators do not require an end position switch, are overload proof, and remain in place upon reaching the end stop.
- The gears are maintenance free and low noise.
- Suitable for operating with the Intelligent Valve Controller.

Functions

Control type	Modulating control (0...10 V)
Rotary direction	<p>Clockwise/counter-clockwise based on the DIL switch setting. DIL switch setting 'counter-clockwise':</p> <p>CCW</p>  <p>Flow = 0% at Y = 0 V Flow = 100% at Y = 10 V</p> <p>The actuator remains in the deployed position: ...if the positioning signal is maintained at a constant value. ...in the event of a power loss.</p>
Position indication, mechanical	Rotary angle position indication via position indicator/manual lever.
Position indication, electrical	<p>Position indicator: Output voltage U = DC 0...10 V is generated proportional to rotary angle.</p> <p>The direction of action (inverted or non-inverted) for output voltage U is based on the DIL switch position.</p>
The rotary angle range is self-adapting	If self-adaptation is enabled, the actuator automatically determines the mechanical end stops of the rotary angle.
Manual adjustment	The actuator can be manually adjusted by pressing the gear train disengagement button.
Rotary angle limitation	A set screw can limit the rotary angle to between 0° and 90°.

⚠ CAUTION



Adjusting DIL switch 1 prevents the complete closure of the valve.

The remaining flow can result in a loss of comfort or property damage caused by the overheating of the piping system.

- DIL switch 1 must remain at factory setting '0...10 V'.

⚠ CAUTION



Adjusting DIL switch 3 may result in the complete opening of the control valve.

Excessive flows may result in property damage due to overheating of the piping system, damage to the flow sensor on the Intelligent Valve, or damage to the plant.

- DIL switch 3 must remain at factory setting 'Counter-clockwise'.

Housing

The housing is made of fiberglass reinforced plastic:

- Flame retardant
- Non-brominated
- Non-chlorinated.

Type summary

Type	Stock number	Open-loop control	Operating voltage	Positioning signal input Y	Position indicator U = DC 0...10 V –	Self-adapting rotary angle range
GLA161.9E/HR	S55499-D444	Modulating	AC 24 V ~ / DC 24 V ==	DC 0...10 V ==	yes	yes

Accessories/spare parts

Individual spare parts are not available. Elements of the ASK77.3 mounting kit (accessory) can, however, be used as spare parts.

Order text	Components
ASK77.3 Accessory Kit BV for GLA161.03/HR	Mounting bracket (base plate) Shaft with sleeve and spring Manual lever with safety clip

Equipment combinations

Control ball valves with externally threaded connection ¹⁾

Type			k _{vs} [m³/h]	DN	Δp _{max}	Δp _a
2-port	3-port	G..B				
VAG61.15..		G 1 B	1...6.3	15	350	1400
	VBG61.15..					-
VAG61.20..		G 1¼ B	4...10	20		1400
	VBG61.20..					-
VAG61.25..		G 1½ B	6.3...16	25		1400
	VBG61.25..					-
VAG61.32..		G 2 B	10...25	32		1000
	VBG61.32..					-
VAG61.40..		G 2¼ B	16...40	40		800
	VBG61.40..					-
VAG61.50..		G 2¾ B	25...63	50		600
	VBG61.50..					-

¹⁾ Data sheet N4212



Topic	Title	Document ID
Data sheet	Rotary actuators for ball valves in combination with the Intelligent Valve Controller	A6V11418678
Mounting instructions	GLA161.9E/HR	A6V11418688
Mounting instructions	VAG61.. / VBG61..	M4212

Related documents such as environmental declarations, CE declarations, etc., can be downloaded at the following Internet address:

<http://siemens.com/bt/download>

Notes

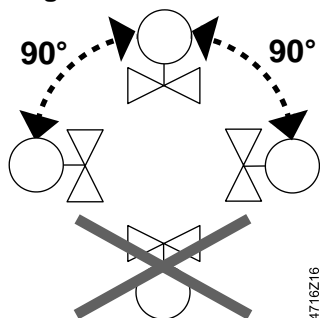
Safety

 CAUTION	
	National safety regulations Failure to comply with national safety regulations may result in personal injury and property damage. <ul style="list-style-type: none"> Observe national provisions and comply with the appropriate safety regulations.



Mounting

Both ball valve and rotary actuator can be easily and directly assembled at the mounting location. No special tools or adjustments required.

Alignment



Installation

 WARNING	
	No internal line protection for supply lines to external consumers Risk of fire and injury due to short-circuits! <ul style="list-style-type: none"> Adapt the wire cross sections as per local regulations to the rated value of the installed fuse.

Commissioning

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

Manual adjustment

Open the side gear disengagement slider to manually adjust the rotary actuators to any position between 0° and 90°.

The controller's control signal has a higher priority for determining the position after the slider is released

Manual adjustment: Only in a de-energized state!

Maintenance

The GLA161.9E/HR actuator is maintenance-free.

Disposal



The device is considered an electronic device for disposal in accordance with European Directive and may not be disposed of as domestic waste.

- Use only designated channels for disposing the devices.
- Comply with all local and currently applicable laws and regulations.

Warranty service

The application-specific technical data is guaranteed only in combination with the Siemens products listed in the 'Device combinations' section. If third-party products are used, any guarantee provided by Siemens will be invalidated.

Power	
Operating voltage (SELV/PELV)	AC 24 V ~ $\pm 20\%$ (19.2...28.8 V ~) DC 24 V = $\pm 20\%$ (19.2...28.8 V =)
Frequency	50/60 Hz
Power consumption: during operation	2.5 VA / 1.5 W
Power consumption: holding	0.7 W

Operating data	
Nominal torque	10 Nm
Maximum torque (when blocked)	16 Nm
Minimum holding torque	10 Nm
Nominal rotary angle (with position indication)	90°
Maximum rotational angle (mechanically limited)	95° \pm 2°
Runtime at nominal rotational angle 90°	90 s
Sound pressure level: actuator	28 dB(A)

Inputs	
Positioning signal	
Input voltage (Wires 8-2/Y-G0)	DC 0...10 V =
Power consumption	0.1 mA
Input resistance	>100 k Ω
Max. permissible input voltage	DC 35 V = limited internally to DC 10 V =
Protected against incorrect wiring	Max. AC 24 V ~
Resolution	<60 mV
Hysteresis	180 mV

Outputs	
Position indicator	
Output signal (Wires 9-2/U-G0)	DC 0...10 V =
Output voltage U	DC \pm 1 mA
Max. output current	Max. AC 24 V ~ / DC 24 V =
Protected against incorrect wiring	

Connection cable	
Cable length	0.9 m
Cross section	0.75 mm ²
Permissible length for signal wires	10 m

Ambient conditions and protection classification	
Device IP class per EN 60730	
AC 24 V ~ / DC 24 V =	III
Degree of protection of housing to EN 60529	IP54
Operation	Per IEC 60721-3-3
Climatic conditions	Class 2K3
Mounting location	Interior, weather protected
Temperature (extended)	-10...55 °C
Humidity (non-condensing)	<95 % r.h.
Transport	Per IEC 60721-3-2
Climatic conditions	Class 3K5 / class 2K3
Temperature (extended)	-32...70 °C
Humidity (non-condensing)	<95 % r.h.
Storage	Per IEC 60721-3-1
Climatic conditions	Class 1K3
Temperature (extended)	-32...50 °C
Humidity (non-condensing)	<95 % r.h.
Mechanical ambient conditions	Class 2M2

Standards, directives and approvals	
Product standards	EN 60730 Part 2-14: Particular requirements for electric actuators
Electromagnetic compatibility (field of use)	For residential, commercial, and industrial environments
EU conformity (CE)	A5W00026945 ¹⁾
UK conformity (UKCA)	A5W00221282A ¹⁾
RCM conformity	A5W00026946 ¹⁾
EAC compliance	Eurasien compliance
UL Federal Communications Commission	UL as per UL 60730 http://database.ul.com cUL as per CSA-C22.2 No. 24-93

Environmental compatibility
The product environmental declaration A5W00026068 ¹⁾ contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

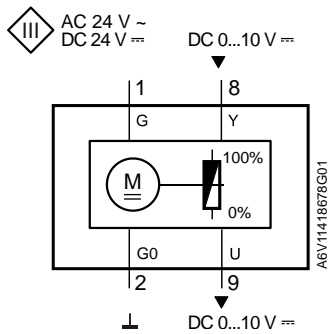
Dimensions	
See Dimensions [► 9]	

Weight	
Excl. packaging	0.69 kg

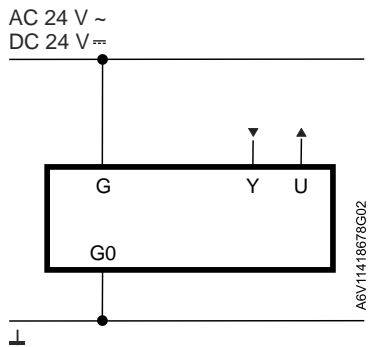
¹⁾ Documents can be downloaded at <http://www.siemens.com/bt/download>

Connection diagrams

Connection diagram



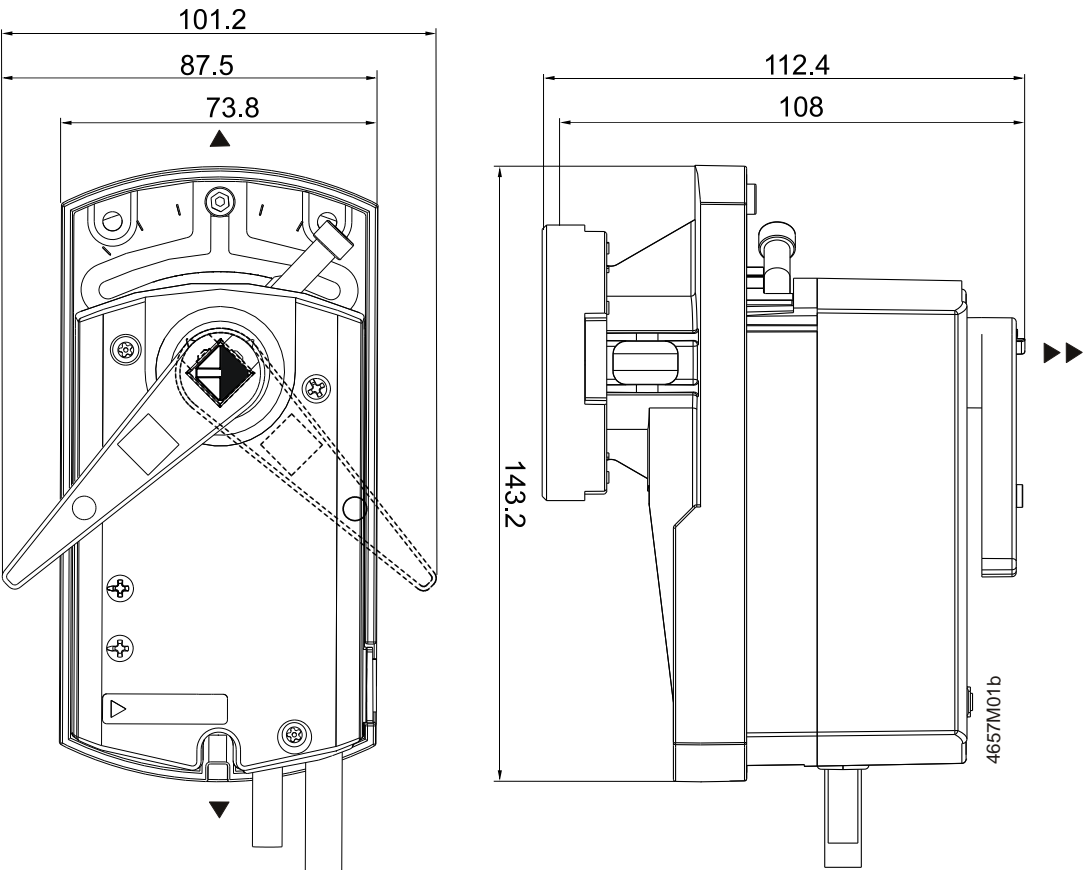
Connection diagram



Cable designations

Connection	Code	No.	Color	Abbreviation	Meaning
Actuators AC 24 V ~ DC 24 V ~	G	1	Red	RD	System potential AC 24 V ~ / DC 24 V ~
	G0	2	Black	BK	System zero
	Y	8	Gray	GY	Signal input
	U	9	Pink	PK	Signal output

Dimensions



Dimensions in mm

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

Revision numbers

Type	Valid from rev. no.
GLA161.9E/HR	..A

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