SIEMENS

OEM

acvatix

Electrical Actuators

for valves VVP459.., VXP459.., VMP459..,
VXG48.., VXI48.., VVG549..

SSC319
SSC819
SSC619

- **SSC319 operating voltage AC 230 V 3-position control signal**
- **SSC819 operating voltage AC 24 V 3-position control signal**
- **SSC619 operating voltage AC/DC 24 V DC 0…10 V control signal**
- **Nominal force 300 N**
- **Automatic identification of valve stroke**
- **Direct mounting with coupling nut, no tools required**
- **Cable connection via screw terminals**
- **Manual override with indication of position and direction of travel**
- **Parallel connection of multiple actuators**

Use

For operation of Siemens 2-port and 3-port valves with a nominal stroke of 5.5 mm for water-side control of hot water and cooling water in heating, ventilation and air conditioning systems

Type summary

Standard versions

Type reference	Operating voltage	Running time at 50 Hz	Positioning signal
SSC319	AC 230 V	150 s	3-position
SSC819	AC 24 V		
SSC619	AC / DC 24 V	30 s	DC 0...10 V

Ordering

When ordering, please give quantity, product name and type reference.

Example: 10 actuators SSC819

Delivery

The actuators are delivered in multipacks of 10. The minimum order quantity is 10 pieces.
The actuators, valves and accessories are packed separately

Equipment combinations

Type reference	Type of valve	k_{vs} [m^3/h]	PN class	Data sheet
VVP459..	2-port valves	0.25...25	PN 16	Q4845
VXP459..	3-port valves			
VMP459..	3-port valves with T-bypass	0.25...4		
VXG48..	3-port valves	6.3…20		Q4467
VXI48..	3-port valves	4…16		Q4849
VVG549	2-port valves	0.7...14	PN 25	Q4380

Function / mechanical design

When the actuator is driven by a 3-position or DC 0…10 V control signal, it generates a stroke which is transmitted to the valve stem.

3-position control signal
SSC319 / SSC819

- Voltage at Y1: Actuator stem extends valve opens
- Voltage at Y2: Actuator stem retracts valve closes
- No voltage at Y1 or Y2: Actuator maintains the current position

DC 0...10 V control signal
SSC619

- The valve opens / closes in proportion to the control signal at Y.
- At DC 0 V, the valve is fully closed (A → AB).
- When power supply is removed, the actuator maintains its current position.

Self-calibration
SSC619

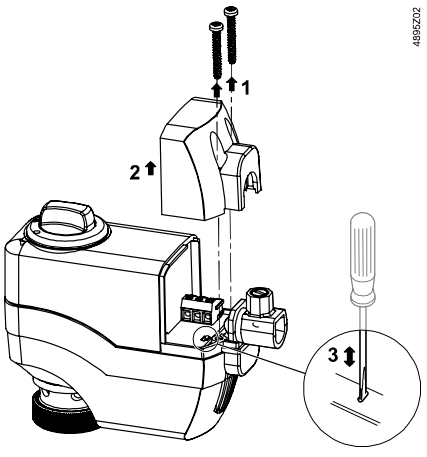
When the AC / DC 24 V supply is applied for the first time, the actuators calibrate themselves independent of the control signal. In this process, the actuator drives the valve to the mechanical end stops and stores the associated positions permanently in the form of electronic values. The positioning signal is only active on completion of this calibration process. Calibration takes about 60 seconds.

Recalibration

If the calibrated actuator is used with some other valve (e.g. a replacement valve), it must be recalibrated.

1. Unscrew screws
2. Remove cover
3. Connect the 2 contacts behind the slot for about 1 second.

⚠ The calibration can only be made correctly if the actuator is fitted to a valve (refer to «Equipment combinations»).



Features and benefits

- Plastic cover
- Position indication
- Locking-proof, maintenance-free gear train
- Manual adjustment with rotary knob
- Reduced power consumption in the holding positions
- Load-dependent switch-off in the event of overload and in stroke end positions

Notes

Engineering

The actuators must be electrically connected in accordance with local regulations (refer to «Connection diagrams»).

⚠ Caution

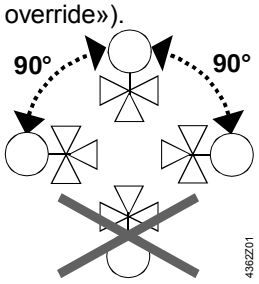
Regulations and requirements to ensure the safety of people and property must be observed at all times!

The permissible temperatures must be observed (refer to «Technical data»).

Mounting

Mounting Instructions 4 319 5614 0 are enclosed with each pack.
Assembly is made with the coupling nut; no tools or adjustments are required. The actuators should be installed so that they are initially in position 0 (also refer to «Manual override»).

Orientation



Commissioning

When commissioning the system, check wiring and the functions of the actuator.

⚠ Caution

Before testing the functioning of the SSC.., always check to ensure that the actuator concerned is mounted on a valve (refer to «Equipment combinations»).

Calibrating the SSC619 without a valve connected causes the actuator to lock in position 1. To recalibrate (after mounting on a valve), disconnect power and reset the stroke manually from position 1 to 0 (refer to «Recalibration»).

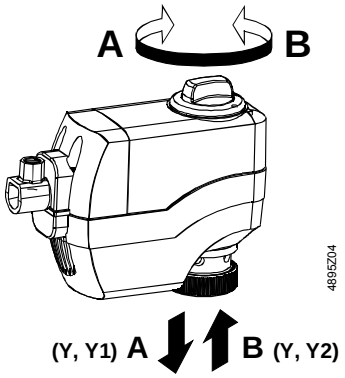
Operation

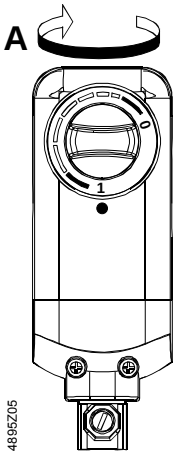
The rotary knob can be used to drive the actuator into any position between 0 and 1. If a control signal from the controller is present, this will take priority in determining the position.

Note

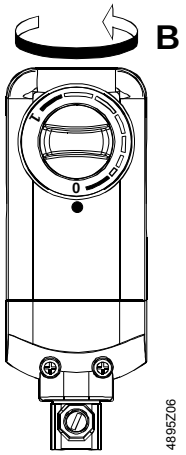
To retain the manually set position, unplug the connecting cable or switch off the rated voltage and the control signal.

Manual override





Position indicator in position 1: Valve OPEN



Position indicator in position 0: Valve CLOSED

Note SSC61.. After manual override with the rotary knob the positioning signal and the stroke synchronize autonomously, if the positioning signal is once > 9.7 V or < 0.3 V.

Maintenance

When servicing the actuator:

- Switch off power
- If necessary, disconnect the terminals
- The actuator must only be commissioned with a correctly mounted valve in place!

Repair

The SSC.. actuators cannot be repaired. They must be replaced as a complete unit.

Disposal

The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Warranty

The technical relating to specific applications are valid only in conjunction with the Siemens valves listed in this Data Sheet under «Equipment combinations».

The use of the SSC.. actuators in conjunction with third-party valves invalidates any warranty offered by Siemens Building Technologies / HVAC Products.

Technical data

		SSC319	SSC819	SSC619
Power supply	Rated voltage	AC 230 V	AC 24 V	AC 24 V or DC 24 V
	Voltage tolerance	± 15 %	± 20 %	± 20 %
	Rated frequency	50 / 60 Hz		
	Max. power consumption	6 VA	0.8 VA	2 VA
	⚠ Fuse for incoming cable	2 A, quick blow		
Control	Control signal	3-position		DC 0...10 V
	Input impedance for DC 0...10 V			> 100 kOhm
	Positioning accuracy for DC 0...10 V			< 2 % of nominal stroke
	Parallel operation (number of actuators) [1)]	max. 10		
Functional data	Running time 5.5 mm stroke at 50 Hz	150 s		30 s
	Nominal stroke	5.5 mm		
	Nominal force	300 N		
	Permissible temperature of medium in the connected valve	1...110 °C		
Electrical connections	Terminal block, pluggable	screw terminals for max. 3 mm^2		
	Terminal block color	green	grey	red
	Cable strain relief	for cables 4...11 mm dia.		
Norms and directives	Electromagnetic compatibility (Application)	For residential, commercial and light- industrial environments		
	Product standard	EN60730-x		
	EU Conformity (CE)	A5W90000898	A5W90000900	A5W90000899
	RCM Conformity	A5W90000923_A	A5W90000925_A	A5W90000924_A
	EAC Conformity	Eurasia Conformity		
	Protection class to EN 60730	II	III	
	Contamination level	EN 60730, Class 2		
	Housing protection Upright to horizontal	IP40 to EN 60529		
	UL approbation		UL 873	
	cUL approbation		C22.2 No. 24-93	
	Environmental compatibility	The product environmental declaration CE1N4895en01 contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).		
Dimensions / weight	Dimensions	refer to «Dimensions»		
	Coupling thread to valve	coupling nut G¾ inch		
	Weight	0.26 kg	0.25 kg	
Housing colors	Base, rotary knob Cover	RAL 7035, light-grey		

[1)] Provided the controllers' output is sufficient

General ambient conditions

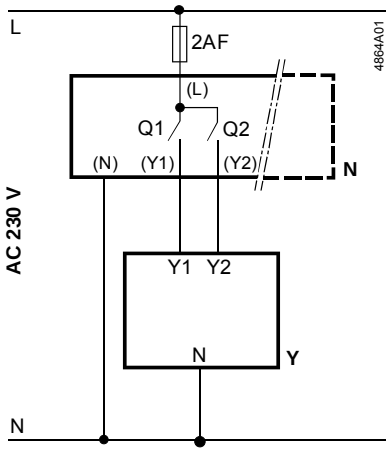
	Operation EN 60721-3-3	Transport EN 60721-3-2	Storage EN 60721-3-1
Environmental conditions	class 3K3	class 2K3	class 1K3
Temperature	+5...+50 °C	–25...+70 °C	–25...+70 °C
Humidity	5...95 % r.h.	< 95 % r.h.	5...95 % r.h.

Connection terminals

SSC319	Y2	Control signal CLOSE (AC 230 V)	
	Y1	Control signal OPEN (AC 230 V)	
	N	Neutral	
SSC819	Y2	Control signal CLOSE (AC 24 V)	
	Y1	Control signal OPEN (AC 24 V)	
	G	System potential AC 24 V	
SSC619	Y	Control signal DC 0...10 V	
	G	System potential AC 24 V	(+ with DC 24 V)
	G0	System neutral	(- with DC 24 V)

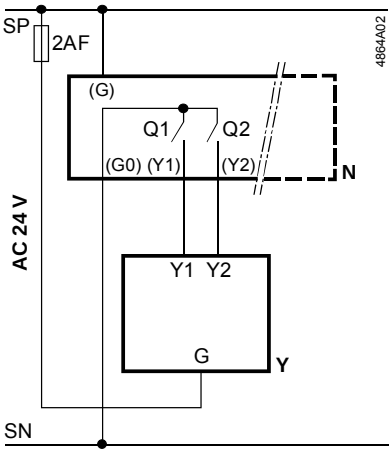
Connection diagrams

SSC319



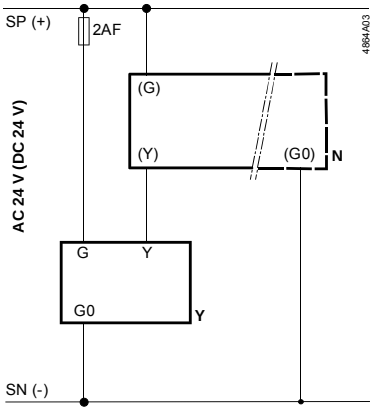
N	Controller
Y	Actuator
L	System potential AC 230 V
N	System neutral
Y1, Y2	Control signal OPEN, CLOSE
Q1, Q2	Controller contacts

SSC819



N	Controller
Y	Actuator
SP, G	System potential AC 24 V
SN, G0	System neutral
Y1, Y2	Control signal OPEN, CLOSE
Q1, Q2	Controller contacts

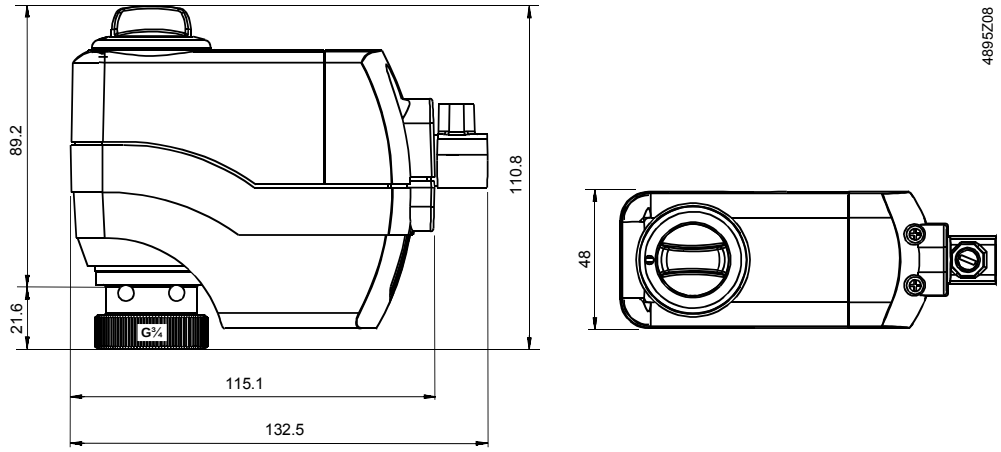
SSC619



N	Controller
Y	Actuator
SP G	System potential AC / DC 24 V
SN, G0	System neutral
Y	Control signal

Dimensions

All dimensions in mm



Revision numbers

Type reference	Valid from Rev.-No.	Type reference	Valid from Rev.-No.
SSC319	J	SSC619	J
SSC819	J	-	-

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