



## Electrical Actuators

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

## SSC319

## SSC819

## SSC619

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- **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, indication of position and direction of travel**
  - **Parallel connection of multiple actuators**

### Use

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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	Rated voltage	Running time at 50 Hz	Control signal
<b>SSC319</b>	AC 230 V	150 s	3-position
<b>SSC819</b>	AC 24 V		
<b>SSC619</b>	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 <sup>3</sup> /h]	PN class	Data Sheet
<b>VVP459...</b>	2-port valves	0.25...25	PN16	N4845
<b>VXP459...</b>	3-port valves			
<b>VMP459...</b>	3-port valves with T-bypass			
<b>VXG48...</b>	3-port valves	0.25...4	PN25	N4467
<b>VXI48...</b>	3-port valves	0.63...20		Q4849
<b>VVG549</b>	2-port valves	4...16		
		0.25...6.3		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 actuators

SSC319 / SSC819

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

### DC 0...10 V control

SSC619

- The valve opens / closes in proportion to the control signal at Y
- At DC 0 V, the valve is fully closed (A → AB)
- In the event of a power failure, the actuator maintains its current position

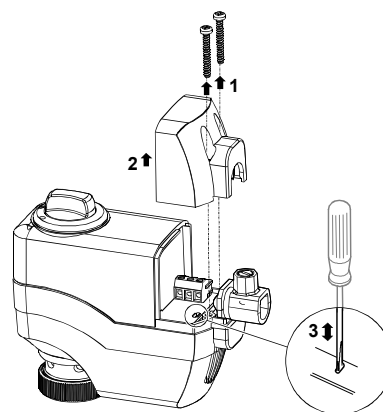
### Auto calibration

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. For that purpose, the PCB beneath the terminal cover has a slot (see illustration). To make the recalibration, use a screwdriver and 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
- 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 limit positions

## Notes

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### 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!**

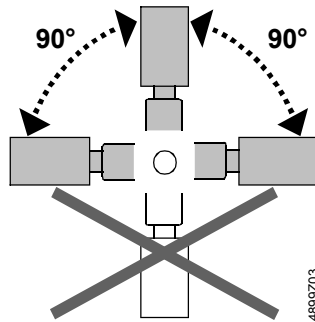
The permissible temperatures must be observed (refer to «Technical data»).

### 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 «Operation»).

### Orientation



### Commissioning

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

#### ⚠ Caution

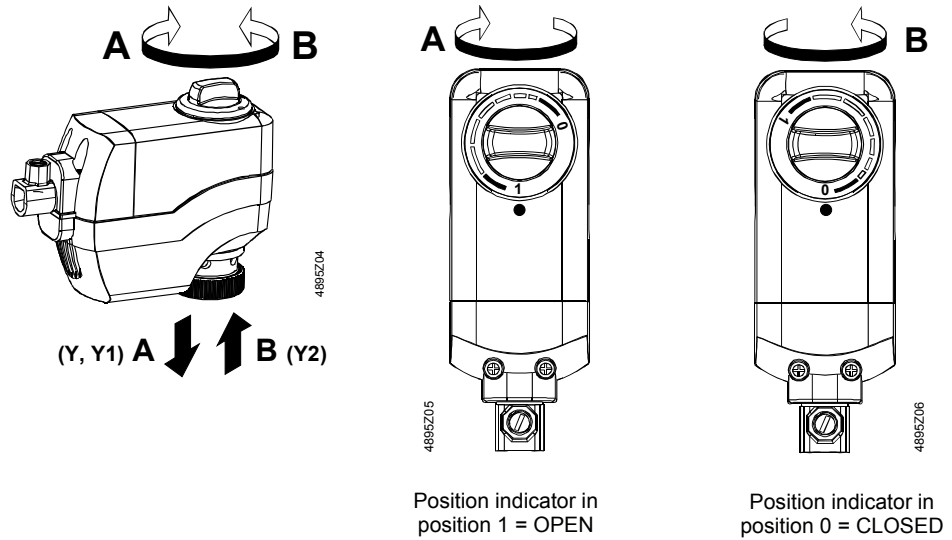
**Before testing the functioning of the SSC..., always check to ensure that the actuator concerned is mounted on a valve (refer to «Equipment combinations»).**

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. However, 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.



## 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 may not be disposed of together with domestic waste. This applies in particular to the PCB.

Legislation may demand special handling of certain components, or it may be sensible from an ecological point of view.

**Current local legislation must be observed.**

## Warranty

The technical data ( $\Delta p_{max}$ ,  $\Delta p_s$ , leakage rates, noise levels, service life, etc.) 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
	<b>△</b> Fuse for incoming cable (fast)	2 A		
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) <sup>3)</sup>	max. 10		
Functional data	Running time for 5.5 mm stroke	150 s ± 2 %		30 s ± 10 %
	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 <sup>2</sup>		
	Terminal block color	green	grey	red
	Cable strain relief	for cables 4...11 mm dia.		
Industry standards	Meets the requirements for CE marking: EMC directive	89/336/EEC	emissions immunity	EN 50081-1 EN 61000-6-2
	Low-voltage directive	73/23/EEC		EN 60730-1
	Safety class	II		III
	Housing protection standard	IP40 to EN 60529		
Dimensions / weight	Dimensions	refer to «Dimensions»		
	Coupling thread to valve	coupling nut G $\frac{3}{4}$		
	Weight	0.26 kg	0.25 kg	
Housing	Base	plastic, RAL 7035, light-grey		
	Cover, rotary knob	plastic, RAL 7035, light-grey		

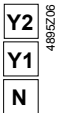
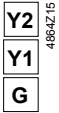
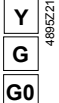
<sup>1)</sup> Provided the controllers' output is sufficient

## General ambient conditions

	Operation IEC 721-3-3	Transport IEC 721-3-2	Storage IEC 721-3-1
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.

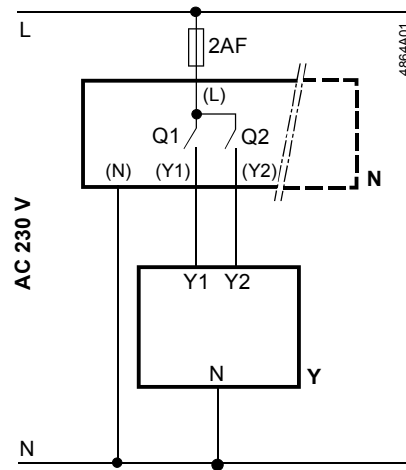
## Connection terminals

All actuators must be electrically connected and installed in accordance with local safety regulations.

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

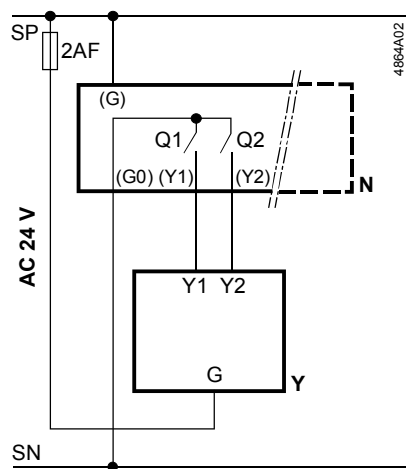
## Connection diagrams

SSC319



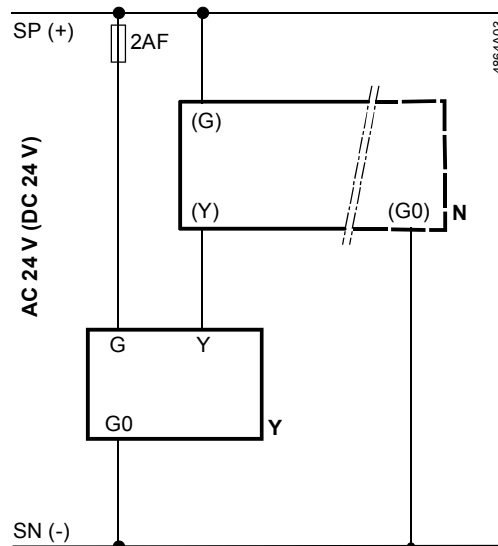
N Controller  
 Y Actuator  
 L System potential AC 230 V  
 N System neutral  
 Q1, Q2 Controller contacts

SSC819



N Controller  
 Y Actuator  
 SP System potential AC 24 V  
 SN System neutral  
 Q1, Q2 Controller contacts

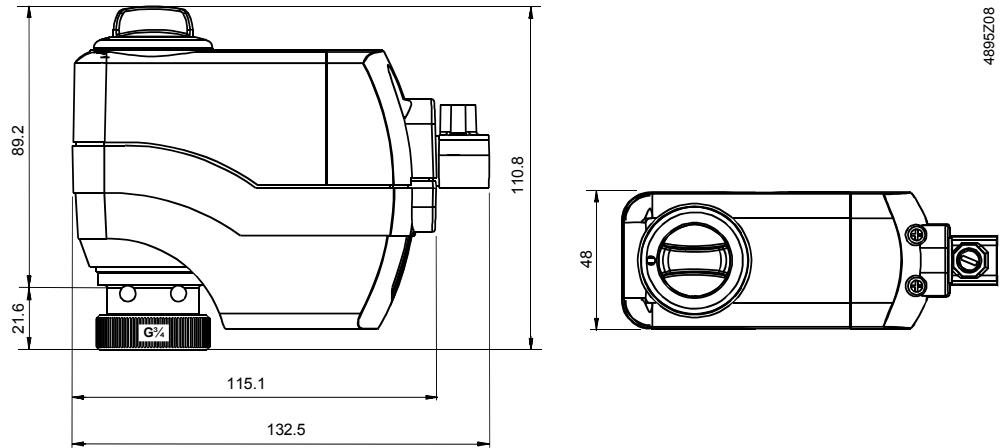
SSC619



N Controller  
 Y Actuator  
 SP System potential AC 24 V  
 SN System neutral

## Dimensions

All dimensions in mm



4895Z08

