



Acvatix™

## Electromotoric Actuator

## SSA31.04

for zone valves V..I46.. and small valves V..P469..

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- **Operating voltage AC 230 V**
- **3-position or on/off SPDT positioning signal**
- **Positioning force 160 N**
- **Automatic identification of valve stroke**
- **Direct mounting with coupling nut, no tools required**
- **Plug-in connecting cable included, length 1.5 m**
- **Manual override and position indication**
- **Parallel operation of multiple actuators possible**

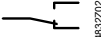
### Use

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- For 2- and 3-port-zone valves V..I46.. and 2-, 3- and 3-port small valves with bypass V..P469..
- M30 x 1.5 screwed fitting, nominal closing dimension 11.6 mm, nominal stroke 2.5 mm
- For 3-position or SPDT control in heating systems

## Type summary

Product number	Operating voltage	Positioning time at 50 Hz	Positioning signal	Connecting cable
SSA31 .04	AC 230 V	43 s	3-position or SPDT	1.5 m

SPDT = single pole, double throw 

## Accessory

Product number	Description
ASY98	Retaining screw for terminal block connectors

## Ordering

Example:	Product number	Stock number	Designation	Quantity
	SSA31.04	SSA31.04	Electromotoric actuator	1

## Rev. no.

Product number	Valid from rev. no.
SSA31.04	..H

## Equipment combinations

Product number	Valve type	Connection	$k_{vs}$ [m <sup>3</sup> /h]	PN class	Data Sheet
VVI46..	2-port	internally threaded	2.5...5	PN 16	N4842
VXI46..	3-port				
VVP469..	2-port	externally threaded	0.63...4		Q4843
VXP469..	3-port		0.25...4		
VMP469..	3-port with bypass		0.63...4		

$k_{vs}$  = nominal flow rate of cold water (5...30 °C) through the fully open valve ( $H_{100}$ ) at a differential pressure of 100 kPa (1 bar)

## Function / Mechanical design

When the actuator is driven by a 3-position positioning signal, it produces a stroke which is transmitted to the valve stem.

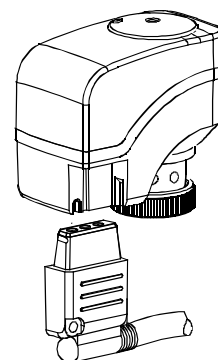
The description of operation in this document applies to the valve versions which are fully open without mounted actuator (NO).

### 3-position, SPDT positioning signal

- Voltage at Y1 / Q1: Stem retracts → Valve opens
- Voltage at Y2 / Q2: Stem extends → Valve closes
- No voltage at Y1 / Q1 and Y2 / Q2: Actuator maintains its current position

### Features and benefits

- Plastic housing
- Locking-proof, maintenance-free gear train
- Manual override with hexagonal socket wrench 3 mm
- Reduced power consumption in the holding positions
- Load-dependent switching off in the event of overload and in stroke end positions
- Parallel operation of up to 6 actuators SSA31.04

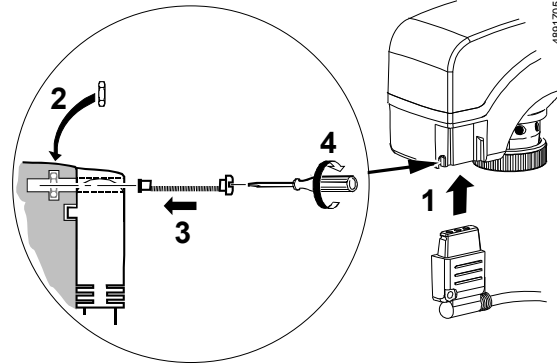


## Accessories

### Retaining screw ASY98



Type ASY98 to secure the cable connector



The cable connector snaps into position, but can be additionally secured with the retaining screw.

## Notes

### Engineering

The actuators must be electrically connected in accordance with local regulations (refer to "Connection diagram", page 6).



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

The permissible temperatures (refer to "Technical data", page 5) must be observed. The connecting cable of the actuator may come into contact with the hot valve body, provided the temperature of the valve body does not exceed 80 °C.

### Mounting

Mounting Instructions (ref. 74 319 0701 0) are enclosed in the product packaging.

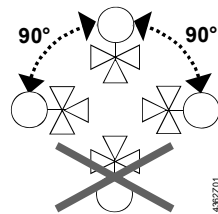
Actuator and valve are assembled with the coupling nut; no tools or adjustments are required.

The actuator must be fitted in position 1 with power disconnected (also refer to "Manual override", page 4).



- Position the actuator and tighten the coupling nut manually
- Do not use any tools such as wrenches
- Avoid lateral pressure or (cable) tension on the mounted actuator!

### Orientation



### Commissioning

When commissioning, check wiring and the functioning of the actuator and auxiliary switch, if fitted.

- Actuator stem extends (from position 1 to 0): Valve closes
- Actuator stem retracts (from position 0 to 1): Valve opens

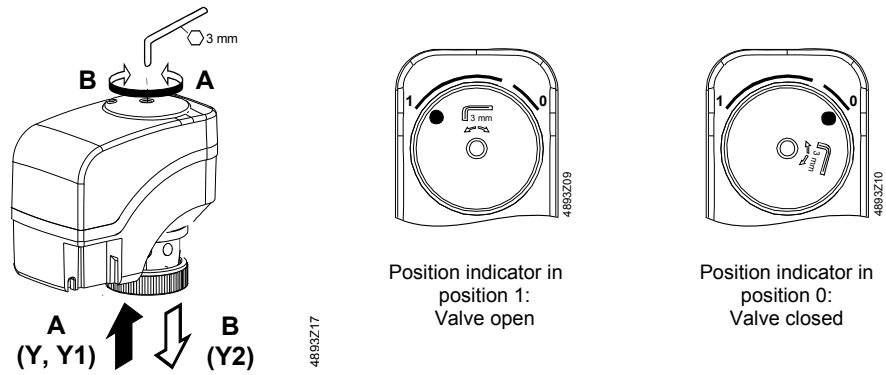
### Operating

A 3 mm hexagonal socket wrench can be used to move the actuator to any position between 0 and 1. However, if a positioning signal from the controller is present, this takes priority in determining the position.



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

## Manual override



## Maintenance

The actuators are maintenance-free.

When carrying out service work on the plant, following must be noted:



- Turn power off (e.g. remove the plug)
- If necessary, disconnect electrical connections from the terminals
- The actuator must be commissioned only with a correctly mounted valve in place!

Repair The SSA31.04 actuator cannot be repaired; the complete unit must be replaced.

## Disposal



The device must 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 given in this document is valid only when the actuator is used in connection with the Siemens valves listed under "Equipment combinations", page 2.

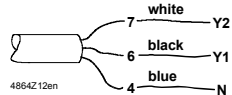
**Use of the SSA31.04 actuator in conjunction with third-party valves invalidates any warranty offered by Siemens Building Technologies / HVAC Products.**

## Technical data

		SSA31.04		
<b>Power supply</b>	Operating voltage	AC 230 V		
	Voltage tolerance	± 15%		
	Rated voltage	AC 230 V		
	Frequency	50 / 60 Hz		
	Power consumption	Max. 6 VA		
	 Fuse for incoming cable	2 A, quick blow		
<b>Control</b>	Positioning signal	3-position, SPDT		
	Parallel operation (number of actuators) <sup>1)</sup>	Max. 6		
<b>Functional data</b>	Positioning time for 2.5 mm stroke at 50 Hz	Approx. 43 s		
	Nominal stroke refer to valves V..I46 V..P469	2.5 mm		
	Nominal force	160 N		
	Perm. temperature of medium in the connected valve	1...110 °C		
<b>Electrical connections</b>	Connecting cable of basic types	1.5 m 3-core to EN 60320 / IEC 60227		
<b>Norms and standards</b>	Meets requirements for CE marking:			
	EMC directive	2004/108/EC		
	Immunity	EN 61000-6-2	Industrial <sup>2)</sup>	
	Emissions	EN 61000-6-3	Residential	
	Low voltage directive	2006/95/EC		
	Electrical safety	EN 60730-1		
	Protection class to EN 60730	II		
	Contamination level	EN 60730, Class 2		
	Housing protection (upright to horizontal)	IP40 to EN 60529		
	Environmental compatibility	ISO 14001 (environment) ISO 9001 (quality) SN 36350 (environmentally compatible products) RL 2002/95/EG (RoHS)		
<b>Dimensions / weight</b>	Dimensions	Refer to "Dimensions", page 6		
	Coupling thread to valve	Union nut M30 x 1.5		
	Weight	0.35 kg		
<b>Housing colors</b>	Base	RAL 7035 light gray		
	Cover	RAL 9003 signal white		
<b>General ambient conditions</b>		<b>Operation</b>	<b>Transport</b>	<b>Storage</b>
		EN 60721-3-3	EN 60721-3-2	EN 60721-3-1
	Environmental conditions	Class 3K3	Class 2K3	Class 1K3
	Temperature	+1...50 °C	-25...70 °C	-5...50 °C
	Humidity	5...85% r.h.	<95% r.h.	5...95% r.h.

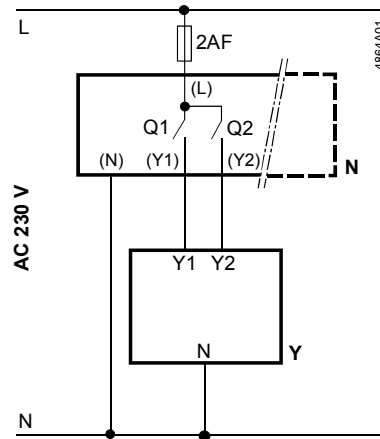
## Diagrams

### Connecting cable



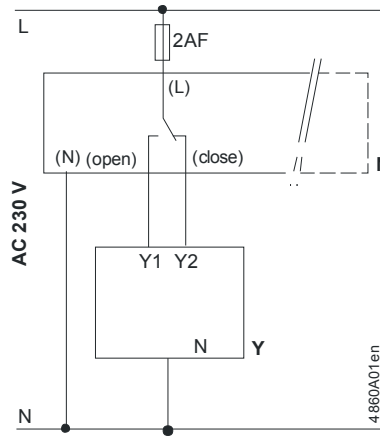
Y2 / Q2	Positioning signal CLOSE (AC 230 V)
Y1 / Q1	Positioning signal OPEN (AC 230 V)
N	Neutral conductor

### Connection diagram 3-position



N	Controller
Y	Actuator
L	System potential AC 230 V
N	System neutral
Y1, Y2	Positioning signal OPEN, CLOSE (3-position)
Q1, Q2	Controller contacts (3-position)

### SPDT



N	Controller
Y	Actuator
L	System potential AC 230 V
N	System neutral
Y1, Y2	Positioning signal OPEN, CLOSE (SPDT)
Open	Controller contacts (SPDT)
Close	

## Dimensions

### Dimensions in mm

