



Acvatix™

Electromotoric Actuator

SSA31.04

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

-
- 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

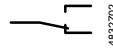
Use

- 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 ³ /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.

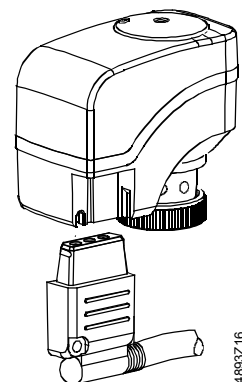
The description of operation in this document applies to the valve versions which are fully open without mounted actuator (NO).

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

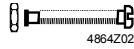
Features and benefits

- 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

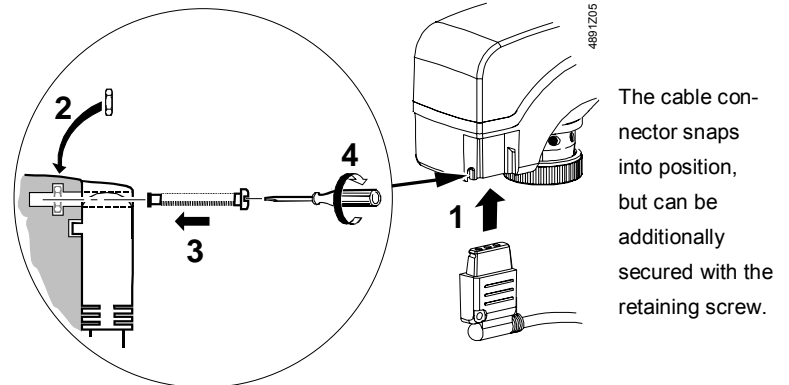


Accessories

Retaining screw ASY98



Type ASY98 to secure the cable connector



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.

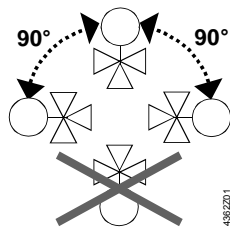
Actuator and valve are assembled with the coupling nut; no tools or adjustments are required.

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.

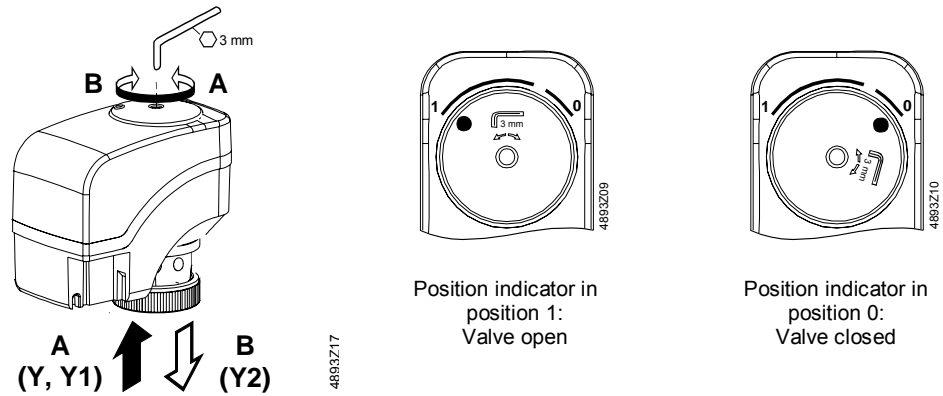
- Actuator stem extends (from position 1 to 0): Valve closes
- Actuator stem retracts (from position 0 to 1): Valve opens

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.

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

- Disassemble the valve into individual parts prior to disposing of it and sort the individual parts by the various types of materials.
- Comply with all local and currently applicable laws and regulations.

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	
Power supply	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	
Control	Positioning signal	3-position, SPDT	
	Parallel operation (number of actuators) ¹⁾	Max. 6	
Functional data	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	
Electrical connections Norms and directives	Connecting cable of basic types	1.5 m 3-core to EN 60320 / IEC 60227	
	Electromagnetic compatibility (Application)	For residential, commercial and light- industrial environments	
	Product standard	EN60730-x	
	EU Conformity (CE)	A5W90000891 ²⁾	
	RCM Conformity	A5W90000906_A ²⁾	
	EAC Conformity	Eurasia Conformity	
	Protection class to EN 60730	II	
	Contamination level	EN 60730, Class 2	
	Housing protection (upright to horizontal)	IP40 to EN 60529	
	Environmental compatibility	The product environmental declaration CE1E4860enX1 ²⁾ contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).	
	Dimensions / weight	Dimensions	Refer to "Dimensions", page 6
		Coupling thread to valve	Union nut M30 x 1.5
		Weight	0.35 kg
Housing colors	Base	RAL 7035 light gray	
	Cover	RAL 9003 signal white	

¹⁾ Provided the controller output is sufficient

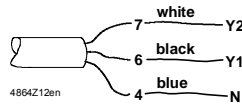
²⁾ The documents can be downloaded from <http://siemens.com/bt/download>.

General ambient conditions

	Operation	Transport	Storage
	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.

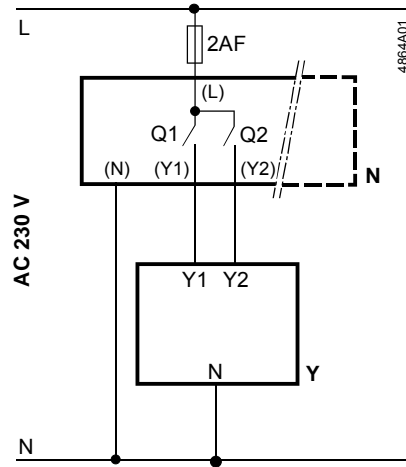
Diagrams

Connecting cable



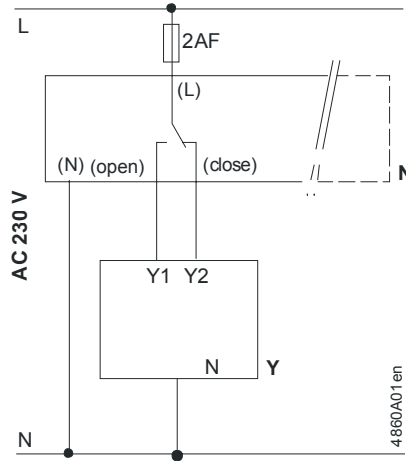
Y2 / Q2	Positioning signal CLOSE (AC 230 V)
Y1 / Q1	Positioning signal OPEN (AC 230 V)
N	Neutral conductor

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)

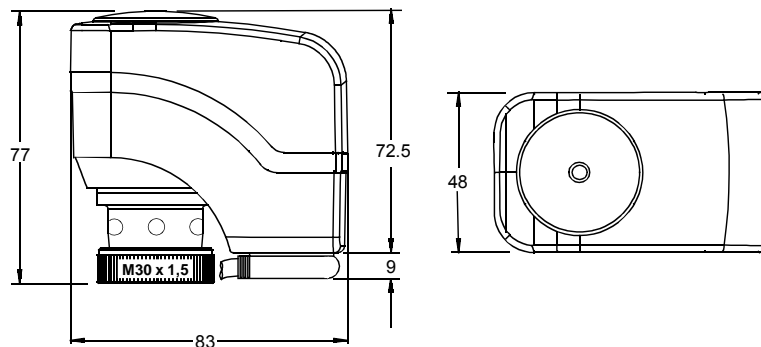
SPDT



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	Controller contacts (SPDT)

Dimensions

Dimensions in mm



Issued by
Siemens Switzerland Ltd
Building Technologies Division
International Headquarters
Gubelstrasse 22
6301 Zug
Switzerland
Tel. +41 41-724 24 24
www.siemens.com/buildingtechnologies

© Siemens Switzerland Ltd, 2009
Technical specifications and availability subject to change without notice.