



SSC81, SSC61...



SSC31

Electric actuators for small valves

Nominal stroke 5.5 mm

**SSC81
SSC61...
SSC31**

- **SSC81** AC 24 V operating voltage 3-position control signal
- **SSC61** AC 24 V operating voltage DC 0..10 V control signal
- **SSC61.5** AC 24 V operating voltage DC 0..10 V control signal with electrical fail-safe function
- **SSC31** AC 230 V operating voltage 3-position control signal
- Positioning force 300 N
- Nominal stroke 5.5 mm
- For direct mounting on small valves with union nut (no tools required)
- Automatic identification of valve stroke
- Display of current position
- SSC61... and SSC81 with terminal connections
- SSC31 with 1.5 m connecting cable
- Special versions with UL approval

Use

Used to operate 2-port and 3-port valves with a 5.5 mm stroke for valve types VVP45..., VXP45..., VMP45... and VMP43...

- Area of application in accordance with IEC 721-3-3 Class 3K3
- Ambient temperatures: +5 ... +50 °C
- Temperature of medium in the connected valve: +2...+110 °C
- Actuators can be used with mounting kit ASK30 to operate the former Landis&Gyr valves VVG45..., VVG45..., X3i...

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

3-position actuators
SSC81 and SSC31

- 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 remains in the current position.

DC 0 ... 10 V actuator
SSC61

The "Open" and "Close" strokes are proportional to the 0...10 V input signal. In the event of a power failure, the actuator freezes in its current position.

DC 0 ... 10 V actuator with
electrical fail-safe function
SSC61.5

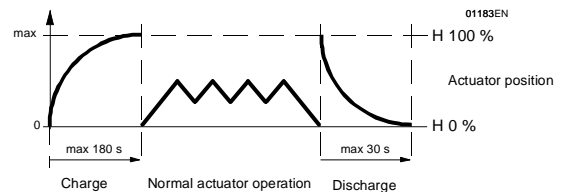
When first connected to the supply voltage, or after a power failure, the capacitor which stores energy for the fail-safe function must be charged.

This process takes up to 180 s.

While the capacitor is being charged, the actuator cannot respond to a control signal.

When charging is complete, the "Open" and "Close" strokes are proportional to the 0...10 V input signal.

In the event of a power failure lasting longer than 5 s, the actuator will return mechanically to its initial 0% stroke within 30 s, so closing the connected valve.



Calibration feature
(SSC61 and SSC61.5)

When the AC 24 V supply is applied, these two actuators carry out a self-calibration procedure independently 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 actuator does not assume the position required by the control signal until this calibration procedure is complete.

The initially stored values retain their validity while the actuator is mounted on the valve used for calibration. If this actuator is mounted on another valve (e.g. a replacement valve), the existing values must be deleted from the memory.

For further information on this procedure, refer to the mounting instructions enclosed with the product.

Types


Standard versions

Type	Operating voltage	Run-time at 50 Hz	Control	Comment
SSC81	AC 24 V	150 s	3-position	With manual adjustment
SSC61		30 s	DC 0 ...10 V	With fail-safe function
SSC61.5				
SSC31	AC 230 V	150 s	3-position	With manual adjustment

Special versions with UL approval

Type	Operating voltage	Run-time at 50 Hz	Control	Comment
SSC81U	AC 24 V	150 s	3-position	With manual adjustment
SSC81.5U		125 s		With fail-safe function
SSC61U		30 s	DC 0...10 V	With manual adjustment
SSC61.5U				With fail-safe function

Accessories

Type	Illustration	Description	Comment
PG7		Cable gland for cable entry on SSC81 and SSC61...	Included in delivery

Ordering

When ordering, please specify the quantity, product name and type code.

Example

2 actuators SSC81

Compatibility

The SSC... actuators can be used to operate the following Landis & Staefa valves:

Type		k_{vs} [m ³ /h]	Nominal pressure	Data sheet
VVP45... VVK45...	Two-port valves	0.25 ... 25	PN16/20	N4841
VXP45... VXK45...	Three-port valves	0.25 ... 25		
VMP45... VMK45...	Three-port valves with T bypass	0.25 ... 4		
VMP43... VMP43... VMP43...	Two-port valves Three-port valves Three-port valves with T bypass	0.25 ... 2.5	PN16	N4841 ex L&G
VVG45... *	Two-port valves	0.63 ... 25		
VVG45... *	Three-port valves	0.7 ... 14		
X3i... *	Three-port valves			

* with ASK30

Design

Features

The valves and actuators are packed separately. They can be assembled with screwed fittings; no tools or adjustments are required.

- Plastic cover
- Anti-locking gear mechanism
- Manual adjustment with 3 mm hexagonal socket head wrench on all types of actuators without fail safe function..
- Reduced current consumption in the holding positions (actuator stationary).
- Load-dependent switch-off in the event of overload and in stroke limit positions.

Disposal



The device includes electrical and electronic components and must not be disposed of as domestic waste.
Current local legislation must be observed.

Engineering notes

⚠ Caution

The actuators must be electrically connected in accordance with local regulations and with the connection diagrams.

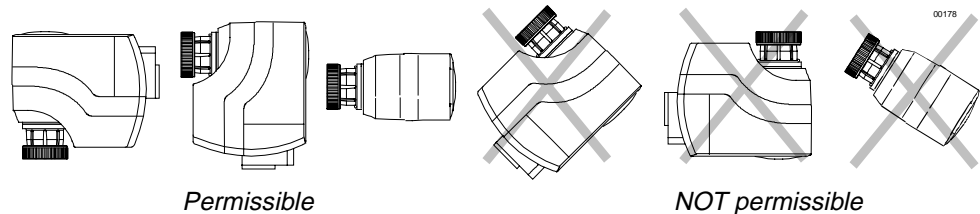
Regulations and requirements to ensure the safety of people and property must be observed at all times.

The admissible temperatures (see "Technical data") must be observed.

Mounting instructions

The mounting instructions are printed on the product packaging.

Orientation



Commissioning

⚠ Caution

When commissioning the system, check the wiring and functions.

Before testing the functioning of the SSC... actuators, always check that the actuator concerned is mounted on a valve

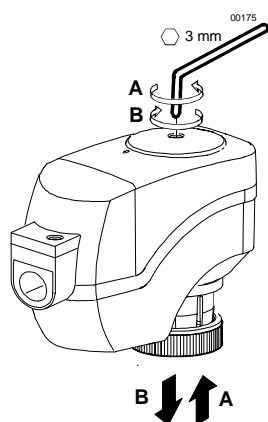
Calibrating the SSC61 or SSC61.5 without a valve connected causes the actuator to lock in Position **1**. To recalibrate (after mounting on a valve), disconnect the supply voltage and reset the stroke manually from Position **1** to **0**.

Resetting of the SSC61.5, without manual override, to the **0** position can be made by applying a 0 V signal Y while the actuator is assembled to a VVP45... valve.

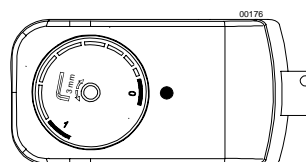
Operating notes

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

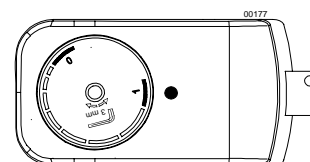
Note To retain the manually set position, unplug the connecting cable.



Manual adjustment with 3 mm hexagonal socket head wrench.



Position indicator in
Position **0** = CLOSED



Position indicator in
Position **1** = OPEN

Warranty

The technical data (Δp_{\max} , Δp_s , leakage rates, noise levels, service life etc.) relating to specific applications is valid only in conjunction with the Landis & Staefa valves listed in this data sheet under "Compatibility".

The use of type SSC... actuators in conjunction with third-party valves invalidates all claims under the Landis & Staefa warranty.

Maintenance

When servicing the valve:



- Switch off the operating voltage.
- If necessary, disconnect electrical connections from terminals.
- The actuator must be commissioned only with a correctly mounted valve in place.

Repair

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

Technical data

		SSC81	SSC61	SSC61.5	SSC31
Power supply	Operating voltage	AC 24 V	AC 24 V (DC 24 V also possible)		AC 230 V
	Voltage tolerance	± 20%	± 20%		± 15%
	Frequency	50/60 Hz			
	Max. power consumption	0.8 VA	2 VA	2 VA *	6.0 VA
Control	Control signal	3-position	DC 0...10 V		3-position
	Input impedance for DC 0...10 V	—	> 100 kOhm		—
	Positioning accuracy for DC 0...10 V	—	< 2% of nominal stroke		—
	Parallel operation	—	Max. 10 actuators		—
Operating data	Run-time for 5.5 mm stroke	150 s ± 2%	30 s ± 10%		150 s ± 2%
	Capacitor charging time	—		Max. 180 s	—
	Fail-safe run-time	—		30 s	—
	Nominal stroke	5.5 mm			
	Nominal force	> 300 N			
Electrical connections	Terminals	Screw terminals for max. 2.5 mm ²			—
	Cable entry	PG7 cable gland			—
	Cable according to EN 60335-1	—			3-core, 1500 mm
General ambient conditions	Admissible temperature of medium in the connected valve	+2 ... +110°C			
	Operation	To IEC 721-3-3			
	Environmental conditions	Class 3K3			
	Temperature	+5 ... +50°C			
	Humidity	5 ... 95% rh			
	Transport	To IEC 721-3-2			
	Environmental conditions	Class 2K3			
	Temperature	–25 ... +70°C			
	Humidity	< 95% rh			
	Storage	To IEC 721-3-1			
	Environmental conditions	Class 1K3			
	Temperature	–25 ... +70°C			
	Humidity	5 ... 95% rh			
Industry standards	Meets the requirements for CE marking				
	EMC Directive	89/336/EEC Emission EN 50081-1 Immunity EN 61000-6-2			
	Low Voltage Directive	73/23/EEC EN 60730-1			
	UL approval	UL873 listed			
	CUL approval **	Certified to Canadian Standard C22.2 No. 24-93			
	Protection class	III			II
Dimensions / Weight	Housing protection standard	IP40 to EN 60529			
	Dimensions	See “Dimensions”			
	Coupling thread to valve	G¾B			
	Weight	0.25 kg		0.27 kg	0.31 kg
Housing colors	Base	Light gray			
	Cover	Light blue			

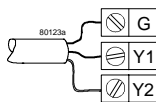
* 3 VA, when capacitor charged

** Applies to type SSC... actuators with the suffix U. U

Connection terminals

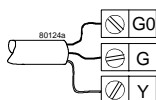
All actuators must be electrically connected and installed in accordance with local regulations.

SSC81



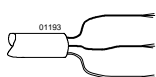
AC 24 V phase
Control voltage OPEN (AC 24 V)
Control voltage CLOSED (AC 24 V)

SSC61...



System neutral (*– with DC voltage*)
AC 24 V phase (*+ with DC voltage*)
Control signal DC 0...10 V

SSC31

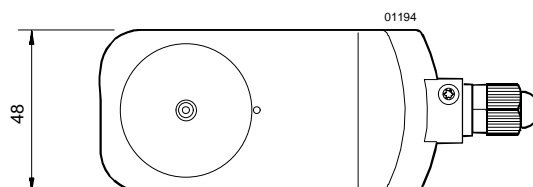
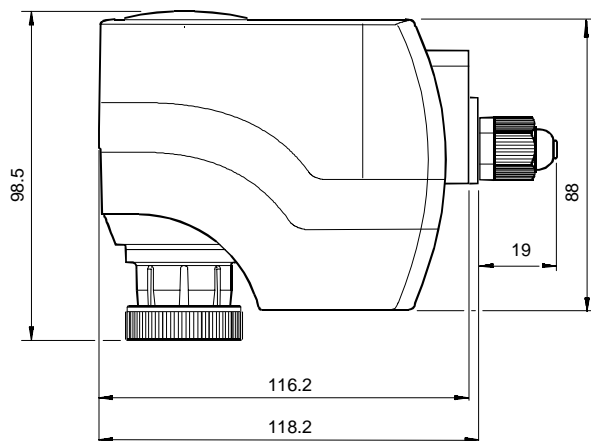


White (7) Y2 Control voltage CLOSED (AC 230 V)
Black (6) Y1 Control voltage OPEN (AC 230 V)
Blue (4) N AC 230 V neutral

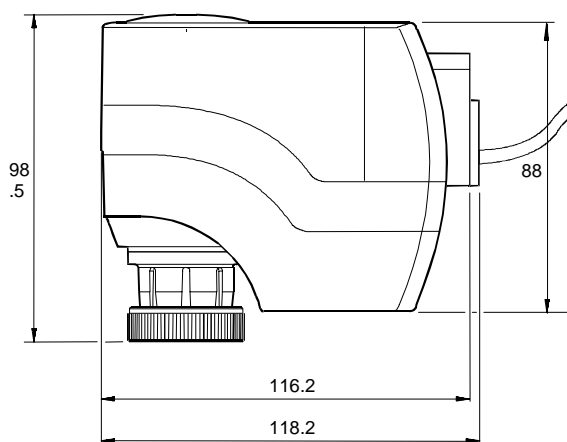
Dimensions

All dimensions in mm

SSC81, SSC61...



SSC31



Cable length 1500 mm

