



ACVATIX™

## Electromotoric actuators for **SAY..P..** **VPI46**

with a 15 mm stroke

- 
- **SAY31P03** Operating voltage AC 230 V, 3-position control signal
  - **SAY61P03** Operating voltage AC/DC 24 V, control signal DC 0...10 V, 4...20 mA
  - **SAY81P03** Operating voltage AC/DC 24 V, 3-position control signal
  - **SAY61P03** Position feedback, override control, choice of flow characteristic
  - For direct mounting on valves; no adjustments required
  - Manual adjuster, position indicator and status indication per LED
  - Optional functions with auxiliary switches, function module

### Use

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Electromotoric actuators for the operation of Siemens combi valves of type VPI46.40F9.5Q and VPI46.50F12Q with 15 mm stroke as control valves in ventilation, air conditioning, and district heating systems.

## Type summary

Product no.	Stock no.	Stroke	Pos. force	Operating voltage	Positioning signal	Spr. ret. time	Pos. time	LED	Manual adjuster	Extra functions
SAY31P03	S55150-A132	15 mm	200 N	AC 230 V	3-position	-	30 s	-	Push and fix	1)
SAY61P03	S55150-A133			AC/DC 24 V	DC 0...10 V DC 4...20 mA 0...1000 Ω			✓		2), 3)
SAY81P03	S55150-A134			3-position	-			1)		

1) Optional accessories: Auxiliary switch ASC10.51

2) Positioning feedback, forced control, characteristic curve changeover

3) Optional accessories: Auxiliary switch ASC10.51, sequence control, control action changeover AZX61.1

## Electrical accessories

Product no.	Auxiliary switch ASC10.51
Stock no.	S55845-Z103
SAX31P..	Max. 2
SAX61P..	
SAX81P..	

**Mechanical Accessory** Weather shield ASK39.1

## Ordering

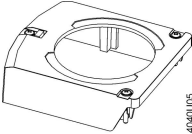

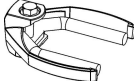
### Example

Product no.	Stock no.	Description	Quantity
SAY81P03	S55150-A134	Actuator	1
ASC10.51	S55845-Z103	Auxiliary switch	1

### Delivery

Actuators, valves and accessories are supplied in individual packs.

### Spare parts

Product number / Stock number	Housing cover	Screw (valve stem coupling)
	8000060843	 
		U-bracket
		

## Combinations

Type	Stock no.	DN	H <sub>100</sub> [mm]	$\dot{V}_{\min}$ [l/h]	$\dot{V}_{100}$ [l/h]	$\Delta p_{\min}$ [kPa]	Data sheet
VPI46.40F9.5Q	S55264-V129	40	15	1370	9500	25	N4855
VPI46.50F12Q	S55264-V130	50		1400	11500	36	

## Product documentation

Detailed Informations about the New Generation actuators can be found in the Basic documentation for actuators (P4040).

## Notes

### Engineering

SAY31P03 and  
SAY81P03

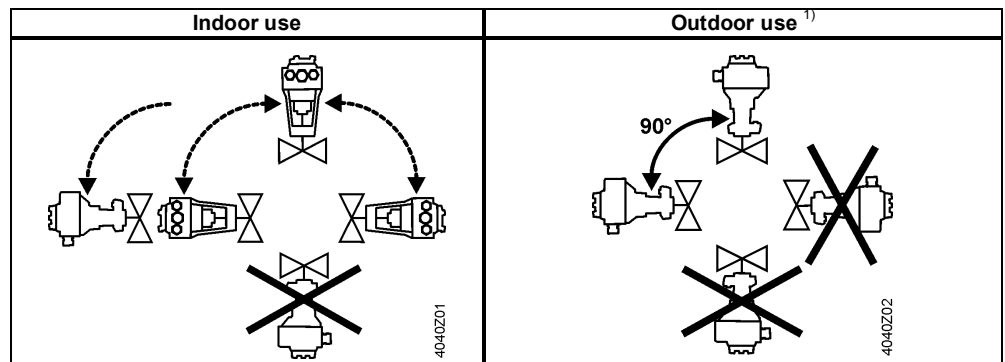
3-position actuators must have their own specific controller, refer to "Connection Diagrams" (page 8).

SAY61P03

Up to 10 actuators can drive in parallel on a controller output with a rating of 1 mA. Modulating actuators have an input impedance of 100 k $\Omega$ .

### Mounting

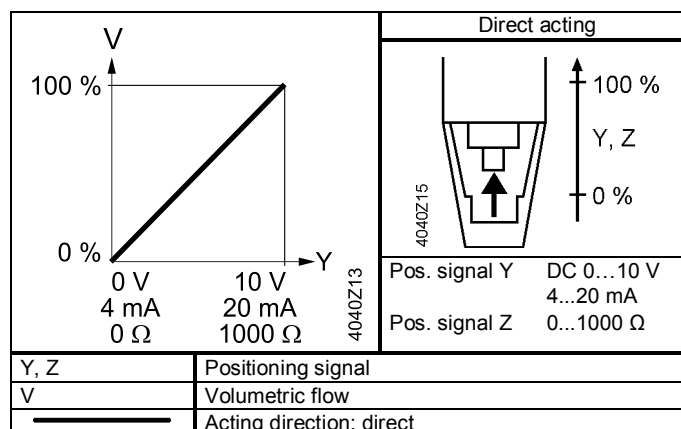
Mounting positions



<sup>1)</sup> Only in connection with weather shield ASK39.1

### Acting direction

With valves whose stem is retracted in the fully closed position, "direct acting" means that the valve is fully closed (100 %) when positioning signal Y = 0 V and Z = 0  $\Omega$  respectively.



### Maintenance

The actuators are maintenance-free.

## Warranty

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The engineering data specified in chapter "Combinations" (page 3) are only guaranteed in connection with the Siemens valves listed.

## Note

**When using the actuators in connection with valves of other manufacture, correct functioning must be ensured by the user, and Siemens will assume no responsibility.**

## Technical Data

		SAY..P
<b>Power supply</b>	Operating voltage SAY31P03 SAY61P03 SAY81P03	AC 230 V ±15% AC 24 V ± 20% / DC 24 V + 20% / -15%(SELV) AC 24 V ±20% / DC 24 V + 20 % / -15%(SELV)
	Frequency	45...65Hz
	External supply line protection (EU)	<ul style="list-style-type: none"> <li>Fuse slow 6...10 A</li> <li>Circuit breaker max. 13 A, Characteristic B, C, D according to EN 60898</li> <li>Power source with current limitation of max. 10 A</li> </ul>
	Power consumption at 50 Hz SAY31P03 Stem retracts / extends SAY61P03 Stem retracts / extends SAY81P03 Stem retracts / extends	6 VA / 3.5 W 8 VA / 3.75 W 5 VA / 3.75 W
<b>Function data</b>	Positioning times (with the specified nominal stroke) The positioning time can vary, depending on the type of valve -> refer chapter "Type summary" (page 2) SAY31P03, SAY61P03, SAY81P03 Positioning force Nominal stroke Permissible medium temperature (valve fitted)	30 s 200 N 15 mm 1...120 °C
<b>Signal inputs</b>	Positioning signal "Y" SAY31P03, SAY81P03 SAY31P.. Voltage SAY81P.. Voltage SAY61P03 (DC 0...10 V) Current draw Input impedance SAY61P03 (DC 4...20 mA) Current draw Input impedance	3-position AC 230 V ±15% AC 24 V ± 20 % / DC 24 V + 20 % / -15% ≤ 0.1 mA ≥ 100 kΩ DC 4...20 mA ± 1% ≤ 500 Ω
<b>Parallel operation</b>	SAY61P03	≤ 10 (depending on controller output)
<b>Forced control</b>	Positioning signal "Z" SAY61P03 R = 0...1000 Ω Z connected to G Z connected to G0 Voltage Current draw	R = 0...1000 Ω, G, G0 Stroke proportional to R Max. stroke 100% <sup>1)</sup> Min. stroke 0% <sup>1)</sup> Max. AC 24 V ± 20% Max. DC 24 V + 20% / -15% ≤ 0.1 mA
<b>Position feedback</b>	Position feedback U SAY61P03 Load impedance Load	DC 0...10 V ± 1% > 10 kΩ res. Max. 1 mA
<b>Connecting cable</b>	Wire cross-sectional areas	0.75...1.5 mm <sup>2</sup> , AWG 20...16 <sup>2)</sup>
	Cable entries SAY..P..	EU: 2 entries Ø 20.5 mm (for M20) 1 entry Ø 25.5 mm (for M25)
<b>Degree of protection</b>	Protection degree of housing from vertical to horizontal	IP54 as per EN 60529 <sup>3)</sup>
	Protection class Actuators SAY31P03Y AC 230 V Actuators SAY61P03Y AC / DC 24 V Actuators SAY81P03Y AC / DC 24 V	As per EN 60730-1 II III III
<b>Environmental conditions</b>	Operation Climatic conditions Mounting location Temperature General Humidity (noncondensing)	IEC 60721-3-3 Class 3K5 Indoors (weather-protected) 5...55 °C 5...95% r.h.
	Transport Climatic conditions Temperature Humidity	IEC 60721-3-2 Class 2K3 -25...70 °C <95% r.h.
	Storage Climatic conditions Temperature Humidity	IEC 60721-3-1 Class 1K3 -15...55 °C 5...95% r.h.
	Max. media temperatur when mounted on valve	120 °C


<sup>1)</sup> Observe acting direction of DIL switches

<sup>2)</sup> AWG = American wire gauge

<sup>3)</sup> Also with weather shield ASK39.1

<b>Directives and Standards</b>	Product standard Electromagnetic compatibility (Application)	EN 60730-x For residential, commercial and industrial environments A5W00000333 <sup>1)</sup> A5W00000334 <sup>1)</sup>
	EU Conformity (CE) RCM Conformity	AC 230 V -
<b>Environmental compatibility</b>	UL, cUL	AC 230 V AC / DC 24 V UL 873 <a href="http://ul.com/database">http://ul.com/database</a>
<b>Dimensions</b>		See "Dimensions" (page 9)
<b>Accessories <sup>2)</sup></b>	Auxiliary switch ASC10.51 External supply line protection US installation, UL & cUL	Switching capacity AC 24...230 V, 6 (2) A, floating See section power supply AC 24 V class 2, 5 A general purpose

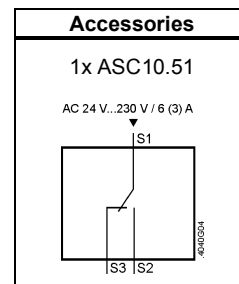
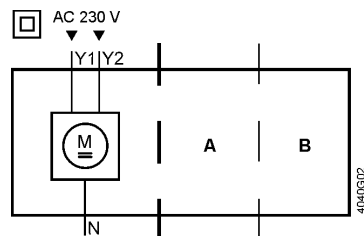
<sup>1)</sup> The documents can be downloaded from <http://siemens.com/bt/download>.

<sup>2)</sup> UL recognized component 

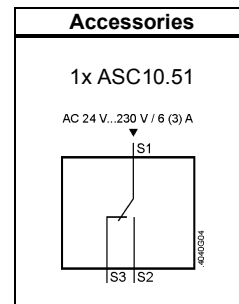
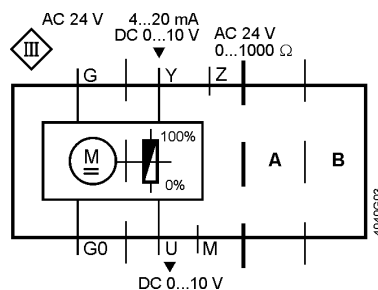
## Connection Diagrams

### Internal Diagrams

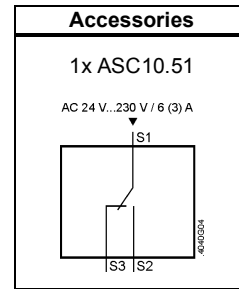
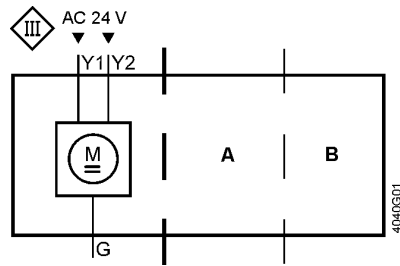
SAY31P03



SAY61P03



SAY81P03



**Connection terminals**

SAY31P03

AC 230 V, 3-position

- N** — System neutral (SN)
- Y1** — Positioning signal (actuator's stem retracts)
- Y2** — Positioning signal (actuator's stem extends)

SAY61P03

AC/DC 24 V, DC 0...10 V / 4...20 mA / 0...1000 Ω

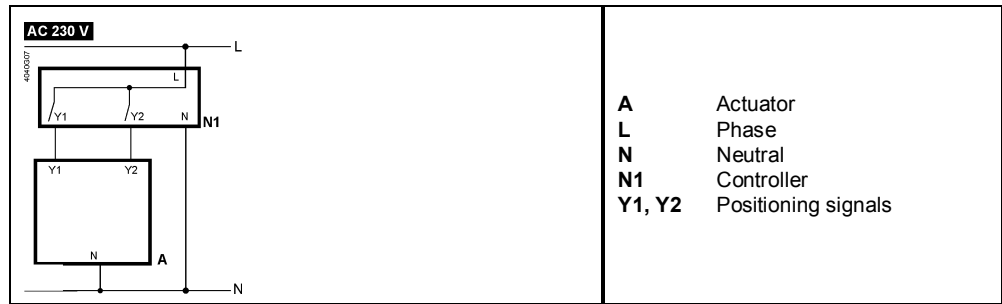
- G0** — System neutral (SN)
- G** — System potential (SP)
- Y** — Positioning signal for DC 0...10 V / 4...20 mA
- M** — Measuring neutral
- U** — Position feedback DC 0...10 V
- Z** — Positioning signal forced control

SAY81P03

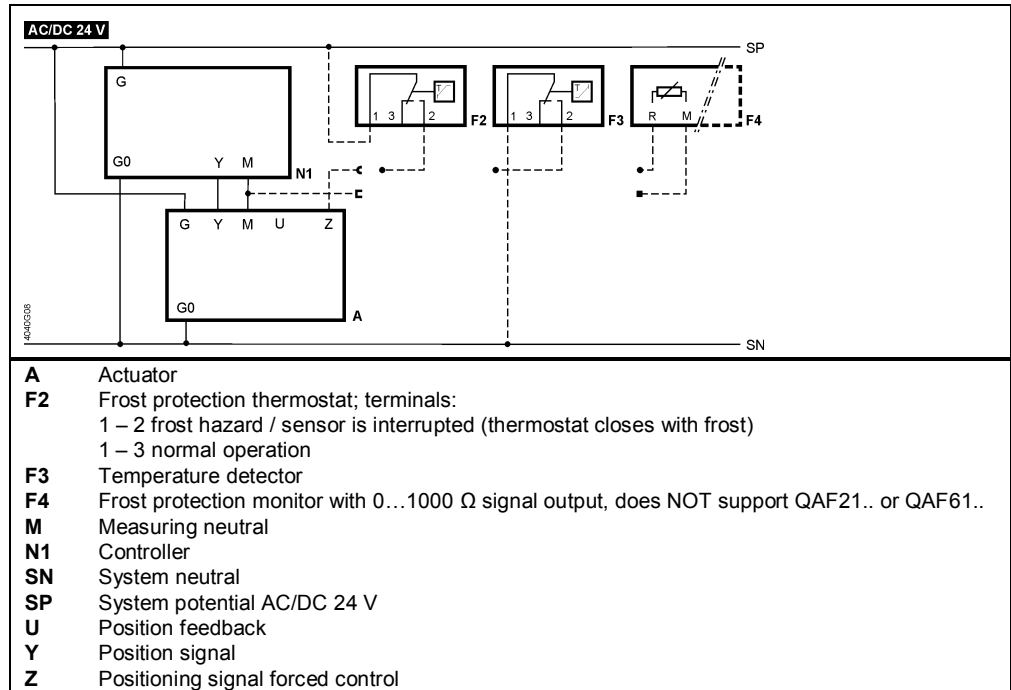
AC/DC 24 V, 3-position

- G** — System potential (SP)
- Y1** — Positioning signal (actuator's stem retracts)
- Y2** — Positioning signal (actuator's stem extends)

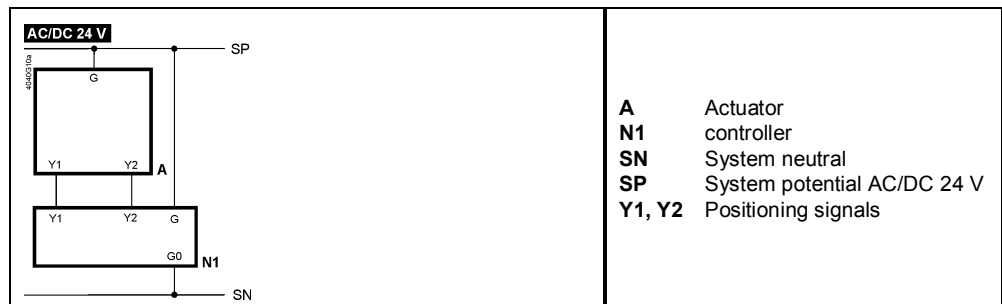
**Connection Diagrams**  
SAY31P03



SAY61P03

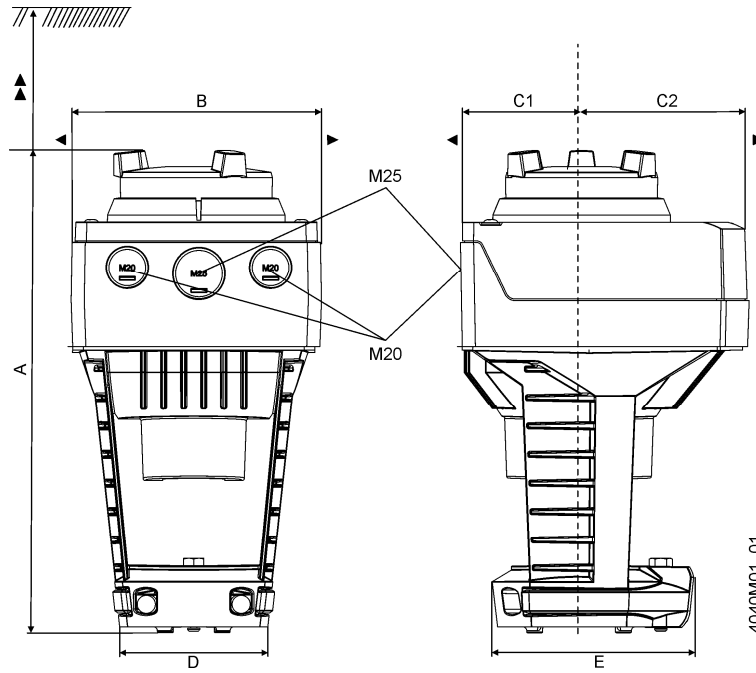


SAY81P03





## Dimensions



Type	A	B	C	C1	C2	D	E	▶	▶▶	kg
SAY..P..	242	124	150	68	82	80	100	100	200	1,850
With ASK39.1	+25	154	300	200	100	-	-	-	-	2,080

Dimensions in mm

## Revision numbers

Product no.	Valid from rev. no.
SAY31P03	..a
SAY61P03	..a
SAY81P03	..a