

ACVATIX™

## Electromotive rotary actuators for butterfly and slipper valves

SAL..



### with 90° rotary angle

- SAL31...: Operating voltage AC 230 V, 3-position control signal
- SAL61...: Operating voltage AC/DC 24 V, control signal 0...10 V/4...20 mA/0...1000 Ω, with position feedback and override control
- SAL81...: Operating voltage AC/DC 24 V, 3-position control signal
- For direct mounting on butterfly or slipper valves, no adjustments required
- Manual adjuster, position indicator and status indication with LED
- Optional functions with auxiliary switches, potentiometer

## Use

Electromotive rotary actuators for the operation of Siemens butterfly and slipper valves of the type series VFW41..., VFL41..., VFW41..U and VBF21.. as control or shut-off valves in heating, ventilation and air conditioning plants.

## Type summary

| Type                          | Stock no.   | Angular rotation | Torque | Operating voltage    | Positioning                               |       | LED | Manual ad-<br>justment <sup>3)</sup> |               |       |
|-------------------------------|-------------|------------------|--------|----------------------|-------------------------------------------|-------|-----|--------------------------------------|---------------|-------|
|                               |             |                  |        |                      | signal                                    | time  |     |                                      |               |       |
| SAL31.00T10 <sup>1)</sup>     | S55162-A108 | 90°              | 10 Nm  | AC 230 V             | 3-position                                | 120 s | -   |                                      | -             |       |
| SAL31.00T20 <sup>1)</sup>     | S55162-A110 |                  | 20 Nm  |                      |                                           |       |     |                                      |               |       |
| SAL31.00T40 <sup>1)</sup>     | S55162-A111 |                  | 40 Nm  |                      |                                           |       |     |                                      |               |       |
| SAL31.03T10 <sup>1)</sup>     | S55162-A109 |                  | 10 Nm  |                      |                                           |       |     |                                      |               | 30 s  |
| SAL31.03T10/F05 <sup>1)</sup> | S55162-A121 |                  |        |                      |                                           |       |     |                                      |               |       |
| SAL61.00T10 <sup>2)</sup>     | S55162-A100 |                  |        | AC 24 V /<br>DC 24 V | DC 0...10 V<br>DC 4...20 mA<br>0...1000 Ω | 120 s | ✓   | Push and<br>fix                      | <sup>4)</sup> |       |
| SAL61.00T20 <sup>2)</sup>     | S55162-A102 |                  | 20 Nm  |                      |                                           |       |     |                                      |               |       |
| SAL61.00T40 <sup>2)</sup>     | S55162-A103 |                  | 40 Nm  |                      |                                           |       |     |                                      |               |       |
| SAL61.03T10 <sup>2)</sup>     | S55162-A101 |                  | 10 Nm  |                      |                                           |       |     |                                      |               | 30 s  |
| SAL81.03T10/F05 <sup>2)</sup> | S55162-A123 |                  |        |                      |                                           |       |     |                                      |               |       |
| SAL81.00T10 <sup>2)</sup>     | S55162-A104 |                  |        |                      | 120 s                                     | -     |     | -                                    |               |       |
| SAL81.00T20 <sup>2)</sup>     | S55162-A106 |                  | 20 Nm  |                      |                                           |       |     |                                      |               |       |
| SAL81.00T40 <sup>2)</sup>     | S55162-A107 |                  |        |                      |                                           |       |     |                                      | 40 Nm         |       |
| SAL81.03T10 <sup>2)</sup>     | S55162-A105 |                  |        |                      |                                           |       |     |                                      |               | 10 Nm |
| SAL81.03T10/F05 <sup>2)</sup> | S55162-A122 |                  |        |                      |                                           |       |     |                                      |               |       |

<sup>1)</sup> Approval: CE

<sup>3)</sup> Not designed for continuous operation

<sup>2)</sup> Approvals: CE, UL

<sup>4)</sup> Extra functions: Position feedback, override control

## Scope of delivery

The rotary actuator, valve and accessories are supplied in individual packaging.

## Ordering example

| Type        | Stock no.   | Designation     | Quantity |
|-------------|-------------|-----------------|----------|
| SAL31.00T10 | S55162-A108 | Rotary actuator | 1        |
| ASZ7.5      | S55845-Z106 | Potentiometer   | 1        |

### Electrical accessories

| Type      | Auxiliary switch<br>ASC10.51 | Potentiometer<br>ASZ7.5/1000 | Function module<br>AZX61.1 |
|-----------|------------------------------|------------------------------|----------------------------|
| Stock no. | S55845-Z103                  | S55845-Z106                  | S55845-Z107                |
|           | Max. 2 total                 |                              |                            |
| SAL31..   | Max. 2                       | Max. 1                       | -                          |
| SAL61..   |                              | -                            | Max. 1                     |
| SAL81..   |                              | Max. 1                       | -                          |

### Mechanical accessories

| Type       | Weather shield<br>ASK39.1 | Mounting set                        |                       |                                                                         |                                     |                                     |
|------------|---------------------------|-------------------------------------|-----------------------|-------------------------------------------------------------------------|-------------------------------------|-------------------------------------|
|            |                           | ASK31N<br>for VBF21.. <sup>1)</sup> | ASK32N for            |                                                                         | ASK33N<br>for VKF41.. <sup>3)</sup> | ASK35N<br>for VKF45.. <sup>4)</sup> |
|            |                           |                                     | VBF21.. <sup>1)</sup> | VBI31.. <sup>2)</sup><br>VCI31.. <sup>2)</sup><br>VBG31.. <sup>2)</sup> |                                     |                                     |
| Stock no.  | S55845-Z109               | S55845-Z100                         | S55845-Z211           |                                                                         | S55845-Z101                         | S55845-Z102                         |
| SAL..T10.. | ✓                         | DN 65...150                         | DN 40...50            | ✓                                                                       | ✓                                   | -                                   |
| SAL..T20.. |                           | -                                   | -                     | -                                                                       | -                                   | DN 40...65                          |
| SAL..T40.. |                           | -                                   | -                     | -                                                                       | DN 150...200                        | DN 80...200                         |

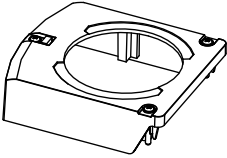
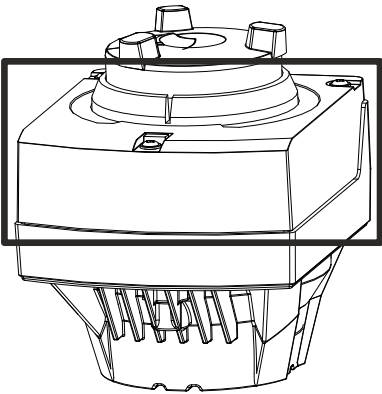
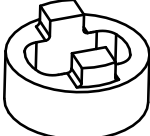
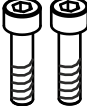
<sup>1)</sup> For installation with boiler flow from the left, the function module AZX61.1 must be used, in order to invert the actuator's acting direction.

<sup>2)</sup> The type series VBI31.., VCI31.. und VBG31.. are no longer available for purchase.

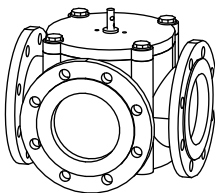
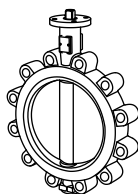
<sup>3)</sup> The type series VKF41.. was replaced by the series VFW41..U in the year 2022.

<sup>4)</sup> The type series VKF45.. was replaced by the series VKF46.. in the year 2000; the series VKF46.. was replaced by the series VFW41.. in 2022.

### Spare part kit

| Type / Stock no. |               |                                                                                      |                                                                                       |
|------------------|---------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 8000060844       | Housing cover |  |  |
|                  | 2 x adapter   |  |                                                                                       |
|                  | 4 x screw     |   |                                                                                       |

## Equipment combinations

|                                                                                                                                                                                                |                          |           |                           |                      |                      | SAL..T10                   | SAL..T10/F05             | SAL..T20 | SAL..T40 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------|---------------------------|----------------------|----------------------|----------------------------|--------------------------|----------|----------|
| Angular rotation                                                                                                                                                                               |                          |           |                           |                      |                      | 90°                        |                          |          |          |
| Torque                                                                                                                                                                                         |                          |           |                           |                      |                      | 10 Nm                      |                          | 20 Nm    | 40 Nm    |
| Datasheet                                                                                                                                                                                      | Valve type <sup>1)</sup> | DN        | k <sub>VS</sub><br>[m³/h] | Mounting set         |                      |                            |                          |          |          |
| Slipper valves                                                                                                                                                                                 |                          |           |                           |                      |                      | Δp <sub>max</sub><br>[kPa] |                          |          |          |
| PN 6                                                                                                                                                                                           | N4241                    | VBF21.40  | 40                        | 25                   | ASK32N <sup>2)</sup> | 30                         | -                        |          |          |
| <br><br><br>1...120 °C       | VBF21.50                 | 50        | 40                        |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VBF21.65                 | 65        | 63                        | ASK31N <sup>2)</sup> |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VBF21.80                 | 80        | 100                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VBF21.100                | 100       | 160                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VBF21.125                | 125       | 550                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VBF21.150                | 150       | 820                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                |                          |           |                           |                      |                      | Δp <sub>s</sub><br>[kPa]   |                          |          |          |
| Butterfly valves                                                                                                                                                                               |                          |           |                           |                      |                      |                            |                          |          |          |
| PN 6/10/16                                                                                                                                                                                     | A6V101029254             | VFW41.40U | 40                        | 40                   | -                    | -                          | 500                      | -        |          |
| <br><br><br>-20...120 °C    | VFW41.50U                | 50        | 100                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFW41.65U                | 65        | 155                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFW41.80U                | 80        | 260                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFW41.100U               | 100       | 520                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFW41.125U               | 125       | 820                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFW41.150U               | 150       | 1600                      |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFW41.200U               | 200       | 4000                      |                      |                      |                            |                          |          |          |
| PN 6/10/16                                                                                                                                                                                     | A6V101029242             | VFW41.40  | 40                        | 40                   | -                    | -                          | 1600                     | -        |          |
| <br><br><br>-20...120 °C | VFW41.50                 | 50        | 100                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFW41.65                 | 65        | 155                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFW41.80                 | 80        | 260                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFW41.100                | 100       | 520                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFW41.125                | 125       | 820                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                |                          |           |                           |                      |                      |                            | Δp <sub>s</sub><br>[kPa] |          |          |
| PN 10/16                                                                                                                                                                                       | A6V101029242             | VFL41.40  | 40                        | 40                   | -                    | -                          | 1600                     | -        |          |
| <br><br><br>-20...120 °C | VFL41.50                 | 50        | 100                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFL41.65                 | 65        | 155                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFL41.80                 | 80        | 260                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFL41.100                | 100       | 520                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                | VFL41.125                | 125       | 820                       |                      |                      |                            |                          |          |          |
|                                                                                                                                                                                                |                          |           |                           |                      |                      | Δp <sub>s</sub><br>[kPa]   |                          |          |          |
|                                                                                                                                                                                                |                          |           |                           |                      |                      |                            |                          |          |          |

<sup>1)</sup> Cf. corresponding datasheet or basic documentation for maximum flow speed.

<sup>2)</sup> For installation with boiler flow from the left (VBF21.. factory setting), the function module AZX61.1 must be used, in order to invert the actuator's acting direction.

| Title                                               | Contents                                                                                                                                                                                 | Document ID  |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Actuators SAX..., SAY..., SAV..., SAL... for valves | Basic documentation:<br>Detailed information on valve actuators, including Modbus types<br>Stroke actuators for valves with 15/20/40 mm stroke and rotary actuators for butterfly valves | CE1P4040en   |
| Valve Actuator DIL Switch Characteristic Overview   | Commissioning / configuration:<br>Illustration/description of the characteristics of the valve and actuator combination, depending on the DIL switch setting                             | A6V12050595  |
| Butterfly valves PN 6/10/16 - VFW41..., VFL41..     | Datasheet:<br>Product description                                                                                                                                                        | A6V101029242 |
| Butterfly valves PN 6/10/16 - VFW41..U              |                                                                                                                                                                                          | A6V101029254 |
| Three-port slipper valves PN 6 - VBF21..            |                                                                                                                                                                                          | N4241        |

Related documents such as the environmental declarations, declarations of conformity, etc., can be downloaded from the following Internet address:

[www.siemens.com/bt/download](http://www.siemens.com/bt/download)

## Notes

### Safety

| ⚠ CAUTION                                                                           |                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>National safety regulations</b><br>Failure to comply with national safety regulations may result in personal injury and property damage. <ul style="list-style-type: none"> <li>Observe national provisions and comply with the appropriate safety regulations.</li> </ul> |

### Engineering

#### SAL31.. / SAL81..

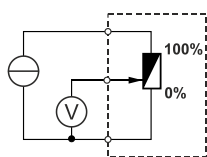
3-position rotary actuators must have their own specific controller, see "Internal diagrams [► 13]".

#### SAL61..

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

#### ASZ7.5

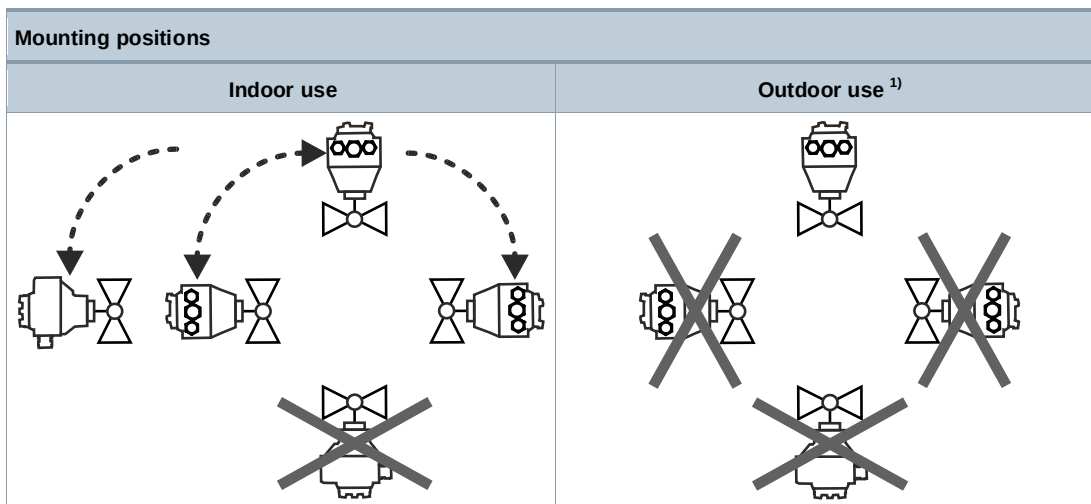
Actuators with a DC 0...9.8 V feedback signal are recommended for the combination SIMATIC S5/S7 and position feedback.



Signal peaks in potentiometer ASZ7.5 may result in error messages on Siemens SIMATIC. This is not the cause, however, when combined with Siemens HVAC controllers. The reason is the higher resolution and faster reaction time on SIMATIC.

Use the potentiometer as voltage divider on the 3-wire connection. Powering the potentiometer over the wiper may shorten the life cycle of the potentiometer. Signal peaks increase in frequency and scope over the lifespan in this operating mode.

## Mounting



<sup>1)</sup> Only in combination with weather shield ASK39.1. Protection degree IP 54 remains as is.

## Maintenance

The rotary actuators are maintenance-free.

## Disposal



This symbol or any other national label indicate that the product, its packaging, and, where applicable, any batteries may not be disposed of as domestic waste. Delete all personal data and dispose of the item(s) at separate collection and recycling facilities in accordance with local and national legislation.  
For additional details, refer to [Siemens information on disposal](#).

## Warranty service

The application-specific technical data is guaranteed only in combination with the Siemens products listed in the 'Device combinations' section. If third-party products are used, any guarantee provided by Siemens will be invalidated.



**When using the actuators in combination with slipper valves of other manufacture, correct functioning must be ensured by the user.**

**The use of rotary actuators SAL..T10.. with butterfly valves is only permitted for the Siemens type series VKF41.. and VKF41..U.**

| Power supply                     |                              |                                                                                                                                                                                                                          |                |
|----------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Operating voltage                | SAL31..                      | AC 230 V (±15 %)                                                                                                                                                                                                         |                |
|                                  | SAL61..                      | AC 24 V (±20 %) / DC 24 V (+20 % / -15 %)<br>(SELV / PELV)                                                                                                                                                               |                |
|                                  | SAL81..                      |                                                                                                                                                                                                                          |                |
| Frequency                        |                              | 45...65 Hz                                                                                                                                                                                                               |                |
| External supply line fusing (EU) |                              | <ul style="list-style-type: none"> <li>Slow-blow fuse 6...10 A</li> <li>Circuit breaker max. 13 A, tripping characteristic B, C, D as per EN 60898</li> <li>Power source with current limitation of max. 10 A</li> </ul> |                |
| Power consumption at 50 Hz       |                              | <i>Running</i>                                                                                                                                                                                                           | <i>Holding</i> |
|                                  | SAL31.00T10                  | 3.4 VA / 1.9 W                                                                                                                                                                                                           | 2.1 VA / 1.2 W |
|                                  | SAL31.00T20                  | 4.9 VA / 2.7 W                                                                                                                                                                                                           | 2.5 VA / 1.3 W |
|                                  | SAL31.00T40                  | 6.6 VA / 3.7 W                                                                                                                                                                                                           | 2.4 VA / 1.4 W |
|                                  | SAL31.03T10, SAL31.03T10/F05 | 6.6 VA / 3.7 W                                                                                                                                                                                                           | 2.1 VA / 1.2 W |
|                                  | SAL61.00T10                  | 5.7 VA / 2.2 W                                                                                                                                                                                                           | 4.5 VA / 1.7 W |
|                                  | SAL61.00T20                  | 7.6 VA / 3.1 W                                                                                                                                                                                                           | 5.1 VA / 2.0 W |
|                                  | SAL61.00T40                  | 9.2 VA / 3.9 W                                                                                                                                                                                                           | 4.8 VA / 4.8 W |
|                                  | SAL31.03T10, SAL31.03T10/F05 | 9.5 VA / 4.0 W                                                                                                                                                                                                           | 4.6 VA / 1.8 W |
|                                  | SAL81.00T10                  | 3.9 VA / 2.3 W                                                                                                                                                                                                           | 2.6 VA / 1.5 W |
|                                  | SAL81.00T20                  | 5.1 VA / 3.0 W                                                                                                                                                                                                           | 2.7 VA / 1.5 W |
|                                  | SAL81.00T40                  | 7.0 VA / 4.1 W                                                                                                                                                                                                           | 2.9 VA / 1.7 W |
|                                  | SAL81.03T10, SAL81.03T10/F05 | 6.1 VA / 3.6 W                                                                                                                                                                                                           | 2.6 VA / 1.5 W |

| Functional data                               |            |                |                |
|-----------------------------------------------|------------|----------------|----------------|
| Positioning time at nominal rotation angle    | SAL..00..  | 120 s          |                |
|                                               | SAL..03..  | 30 s           |                |
| Torque                                        |            | <i>Running</i> | <i>Holding</i> |
|                                               | SAL..T10.. | 10 Nm          | Min. 4 Nm      |
|                                               | SAL..T20.. | 20 Nm          | Min. 14 Nm     |
|                                               | SAL..T40.. | 40 Nm          |                |
| Nominal rotation angle                        |            | 90°            |                |
| Permissible medium temperature (valve fitted) |            | -10...120 °C   |                |

| Signal inputs        |                  |         |                                           |
|----------------------|------------------|---------|-------------------------------------------|
| Positioning signal Y |                  |         |                                           |
|                      | SAL31.., SAL81.. |         | 3-position                                |
|                      | SAL31..          | Voltage | AC 230 V (±15 %)                          |
|                      | SAL81..          |         | AC 24 V (±20 %) / DC 24 V (+20 % / -15 %) |

| Signal inputs |              |                   |                     |
|---------------|--------------|-------------------|---------------------|
|               | SAL61..      |                   |                     |
|               | DC 0...10 V  | Power consumption | ≤ 0.1 mA            |
|               |              | Input impedance   | ≥ 100 kΩ            |
|               | DC 4...20 mA | Power consumption | DC 4...20 mA (±1 %) |
|               |              | Input impedance   | ≤ 500 Ω             |

| Parallel connection |                                       |
|---------------------|---------------------------------------|
| SAL61..             | ≤ 10 (depending on controller output) |

| Override control SAL61.. |                   |                                     |
|--------------------------|-------------------|-------------------------------------|
| Positioning signal Z     |                   | R = 0...1000 Ω, G, G0               |
|                          | R = 0...1000 Ω    | Stroke / rotation proportional to R |
|                          | Z connected to G  | Max. stroke 100 % <sup>1)</sup>     |
|                          | Z connected to G0 | Min. stroke 0 % <sup>1)</sup>       |
|                          | Voltage           | Max. AC 24 V (±20 %)                |
|                          |                   | Max. DC 24 V (+20 % / -15 %)        |
|                          | Power consumption | ≤ 0.1 mA                            |

| Position feedback SAL61.. |                |                   |
|---------------------------|----------------|-------------------|
| Position feedback U       | Voltage range  | DC 0...10 V       |
|                           | Load impedance | > 10 kΩ resistive |
|                           | Load           | Max. 1 mA         |

| Connection cable          |                                                                                                                      |
|---------------------------|----------------------------------------------------------------------------------------------------------------------|
| Wire cross-sectional area | 0.75...1.5 mm <sup>2</sup> , AWG 20...16 <sup>2)</sup>                                                               |
| Cable entries             | <ul style="list-style-type: none"> <li>2 entries Ø 20.5 mm (for M20)</li> <li>1 entry Ø 25.5 mm (for M25)</li> </ul> |

| Degree and class of protection            |                     |                                     |
|-------------------------------------------|---------------------|-------------------------------------|
| Housing protection, upright to horizontal |                     | IP 54 as per EN 60529 <sup>3)</sup> |
| Protection class                          |                     | As per EN 60730                     |
|                                           | SAL31.., AC 230 V   | II                                  |
|                                           | SAL61.., AC/DC 24 V | III                                 |
|                                           | SAL81.., AC/DC 24 V |                                     |



| Environmental conditions                |                           |                                          |
|-----------------------------------------|---------------------------|------------------------------------------|
| Operation                               |                           | As per IEC 60721-3-3 (1994)              |
|                                         | Climatic conditions       | Class 3K5                                |
|                                         | Mounting location         | Indoors, weather-protected <sup>4)</sup> |
|                                         | Temperature general       | -15...55 °C                              |
|                                         | Humidity (non-condensing) | 5...95 % r.h.                            |
| Transport                               |                           | As per IEC 60721-3-2 (1994)              |
|                                         | Climatic conditions       | Class 2K3                                |
|                                         | Temperature               | -25...70 °C                              |
|                                         | Humidity                  | < 95 % r.h.                              |
| Storage                                 |                           | As per IEC 60721-3-1 (1994)              |
|                                         | Climatic conditions       | Class 1K3                                |
|                                         | Temperature               | -15...55 °C                              |
|                                         | Humidity                  | 5...95 % r.h.                            |
| Max. medium temperature at fitted valve |                           | 120 °C                                   |

| Directives and standards                     |            |                                                                                         |
|----------------------------------------------|------------|-----------------------------------------------------------------------------------------|
| Product standard                             |            | EN 60730-x                                                                              |
| Electromagnetic compatibility (field of use) |            | For residential, commercial and industrial environments                                 |
| EU conformity (CE)                           |            | 8000061820 (CE1T4502xx) <sup>5)</sup>                                                   |
| UK conformity (UKCA)                         |            | A5W00196130A <sup>5)</sup>                                                              |
| RCM conformity                               |            | A5W00002575 <sup>5)</sup>                                                               |
| EAC compliance                               |            | Eurasian compliance for all SAL..                                                       |
| UL, cUL                                      | AC 230 V   | -                                                                                       |
|                                              | AC/DC 24 V | UL 873 <a href="http://ul.com/database">http://ul.com/database</a> ;<br>File no. E35198 |

| Environmental compatibility                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The product environmental declaration 7173310562 (CE1E4502xx) <sup>5)</sup> contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal). |

| Dimensions              |
|-------------------------|
| See "Dimensions [► 14]" |

| Accessories <sup>6)</sup> |                |                  |
|---------------------------|----------------|------------------|
| Potentiometer ASZ7.5/1000 |                | 0...1000 Ω ± 5 % |
|                           | Voltage        | DC 10 V          |
|                           | Current rating | <4 mA            |

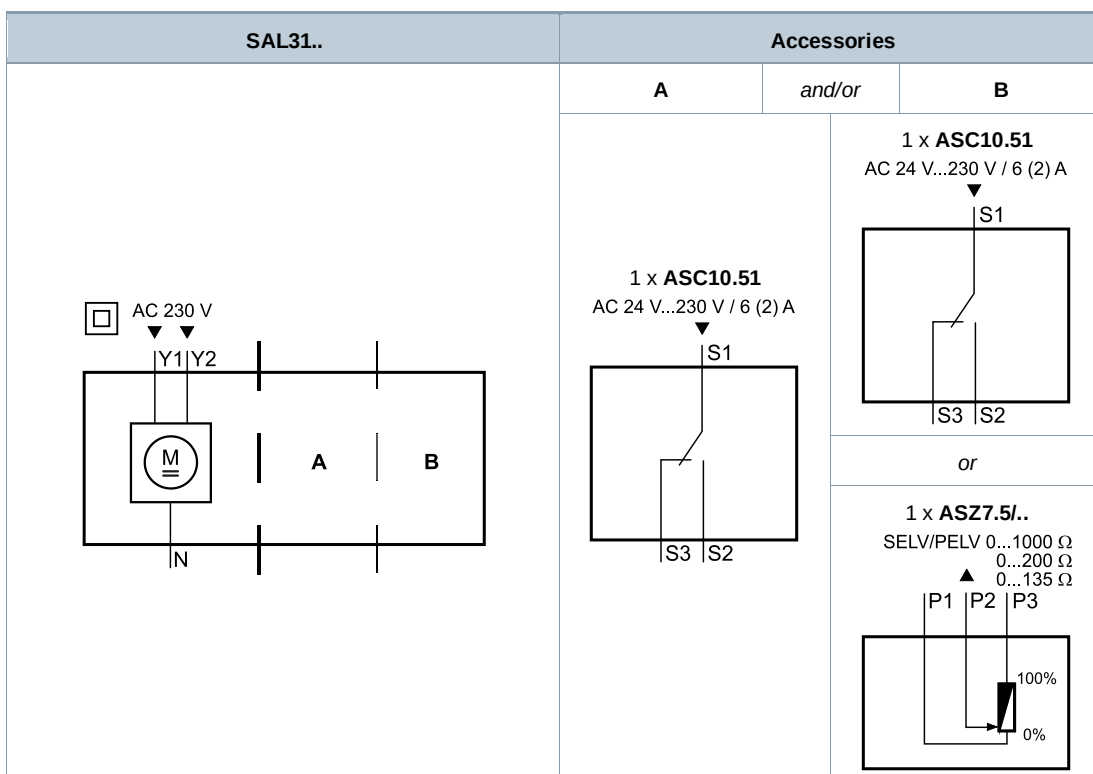
| Accessories <sup>6)</sup>   |                    |                                                                                                                                                                                                                                |
|-----------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Auxiliary switch ASC10.51   | Switching capacity | AC 24...230 V, 6 (2) A, potential free                                                                                                                                                                                         |
| External supply line fusing |                    | <ul style="list-style-type: none"> <li>• Slow-blow fuse 6...10 A</li> <li>• Circuit breaker max. 13 A, tripping characteristic B, C, D as per EN 60898</li> <li>• Power source with current limitation of max. 10 A</li> </ul> |
| US installation, UL & cUL   |                    | AC 24 V class 2, 5 A general purpose                                                                                                                                                                                           |

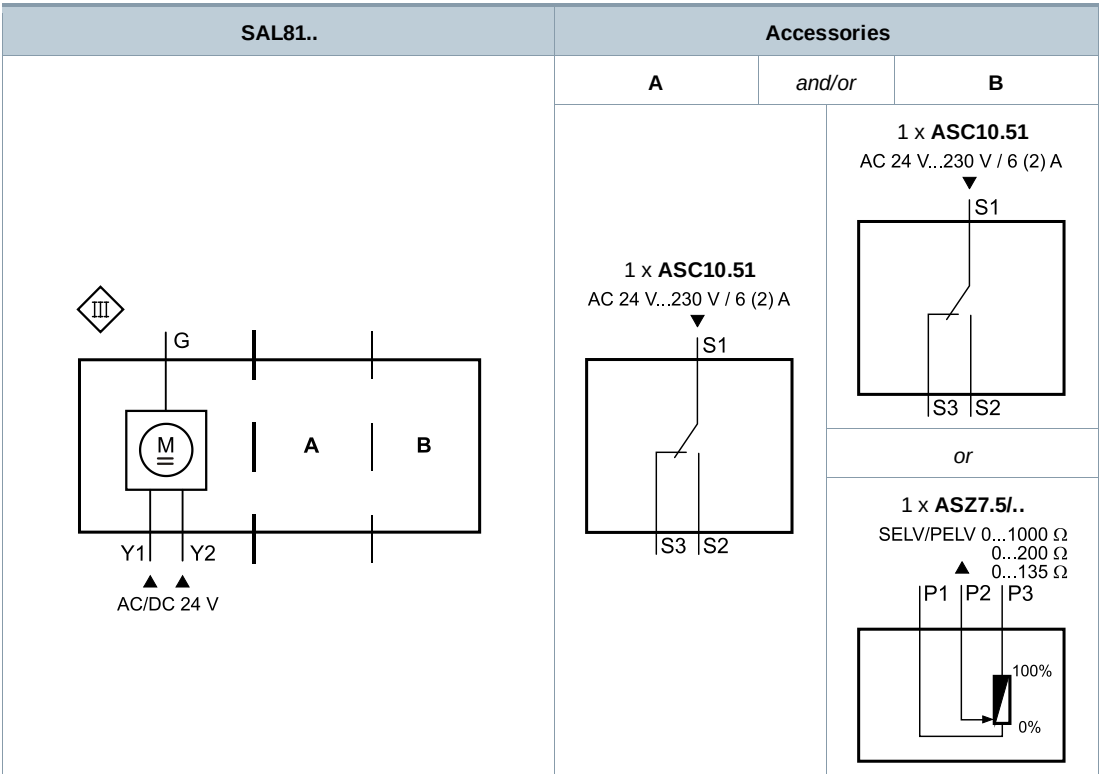
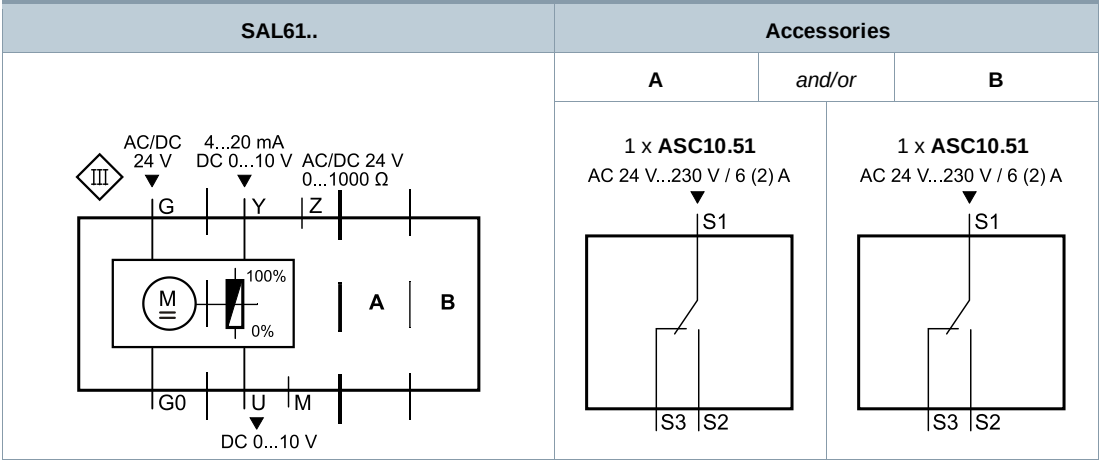
- 1) Observe acting direction of DIL switches
- 2) AWG = American wire gauge
- 3) For outdoor use, always use weather shield ASK39.1, housing protection IP 54 remains as is.
- 4) See also "Mounting [► 6]".
- 5) The documents can be downloaded at <https://www.siemens.com/bt/download>.
- 6) UL-approved component



## Connection diagrams

### Internal diagrams





### Connection terminals

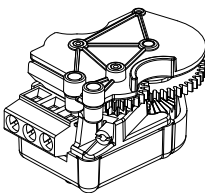
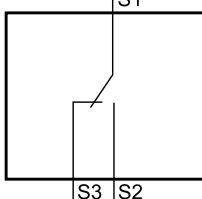
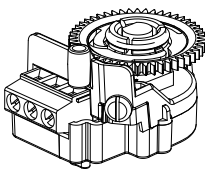
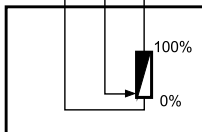
### Actuators

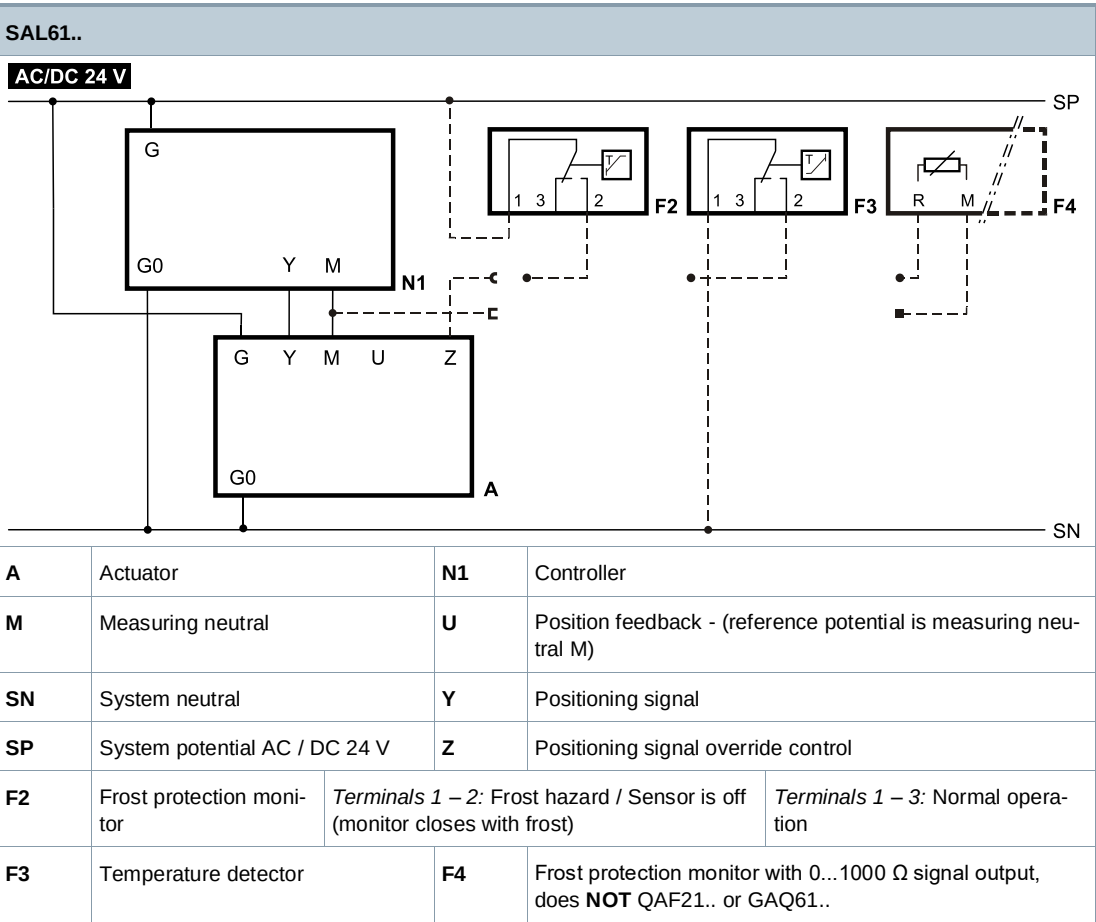
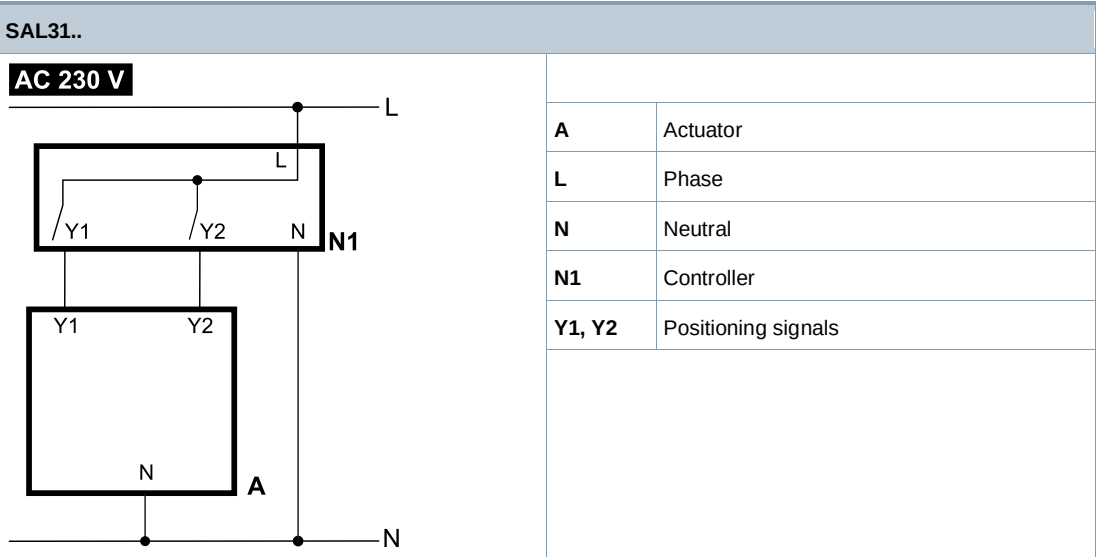
| SAL31..   | AC 230 V                                                     | 3-position |
|-----------|--------------------------------------------------------------|------------|
| <b>N</b>  | System neutral (SN)                                          |            |
| <b>Y1</b> | Positioning signal (actuator spindle turns clockwise)        |            |
| <b>Y2</b> | Positioning signal (actuator spindle turns counterclockwise) |            |

| SAL61..     | AC / DC 24 V                                                                 | DC 0...10 V / 4...20 mA / 0...1000 Ω |
|-------------|------------------------------------------------------------------------------|--------------------------------------|
| <b>G0</b> — | System neutral (SN)                                                          |                                      |
| <b>G</b> —  | System potential (SP)                                                        |                                      |
| <b>Y</b> —  | Positioning signal for DC 0...10 V / 4...20 mA                               |                                      |
| <b>M</b> —  | Measuring neutral                                                            |                                      |
| <b>U</b> —  | Position feedback DC 0...10 V - (reference potential is measuring neutral M) |                                      |
| <b>Z</b> —  | Control signal override control                                              |                                      |

| SAL81..     | AC / DC 24 V                                                 | 3-position |
|-------------|--------------------------------------------------------------|------------|
| <b>G</b> —  | System potential (SP)                                        |            |
| <b>Y1</b> — | Positioning signal (actuator spindle turns clockwise)        |            |
| <b>Y2</b> — | Positioning signal (actuator spindle turns counterclockwise) |            |

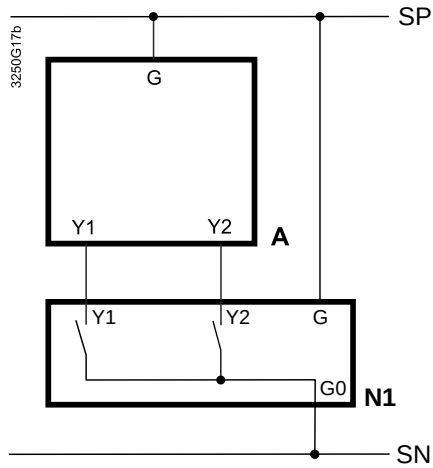
## Accessories

| Auxiliary switch<br>ASC10.51                                                        | Adjustable switching points, AC 24...230 V |                                                           | Diagram                                                                                                                                                      |
|-------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <div>1</div>                               | System potential (SP)                                     | <div>AC 24 V...230 V / 6 (2) A</div> <div></div>                        |
|                                                                                     | <div>2</div>                               | Closing contact (actuator spindle turns clockwise)        |                                                                                                                                                              |
|                                                                                     | <div>3</div>                               | Opening contact (actuator spindle turns counterclockwise) |                                                                                                                                                              |
|                                                                                     |                                            |                                                           |                                                                                                                                                              |
| Potentiometer<br>ASZ7.5                                                             | Adjustment of zero point, DC 10 V          |                                                           | Diagram                                                                                                                                                      |
|  | <div>1</div>                               | Measuring neutral                                         | <div>SELV/PELV 0...1000 Ω<br/>0...200 Ω<br/>0...135 Ω</div> <div></div> |
|                                                                                     | <div>2</div>                               | 0...x Ω                                                   |                                                                                                                                                              |
|                                                                                     | <div>3</div>                               | x...0 Ω                                                   |                                                                                                                                                              |
|                                                                                     | x = 135 Ω, 200 Ω, 1000 Ω                   |                                                           |                                                                                                                                                              |

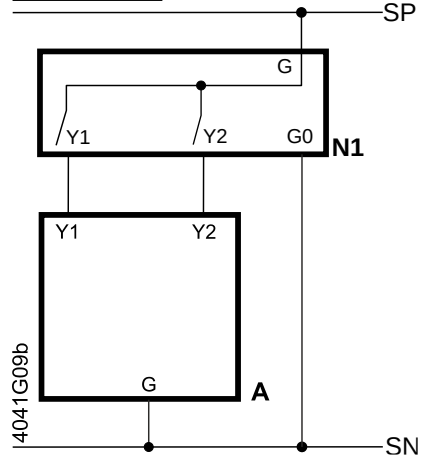


SAL81..

**AC 24 V**

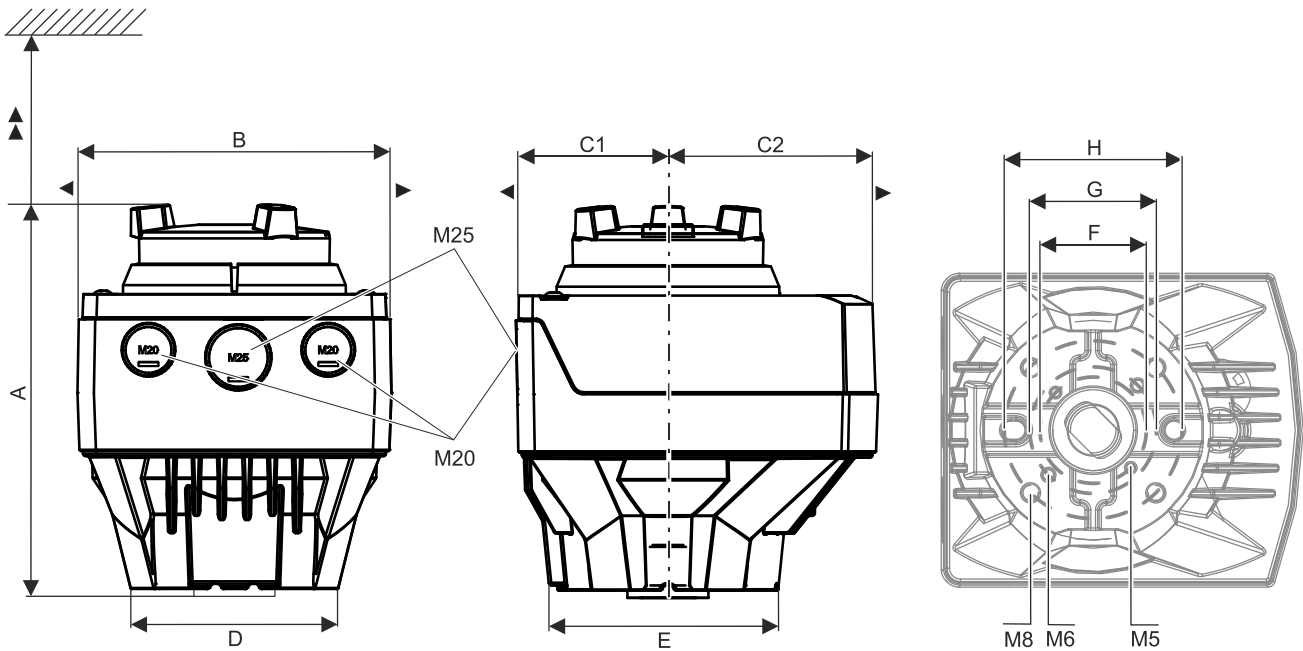


**AC/DC 24 V**



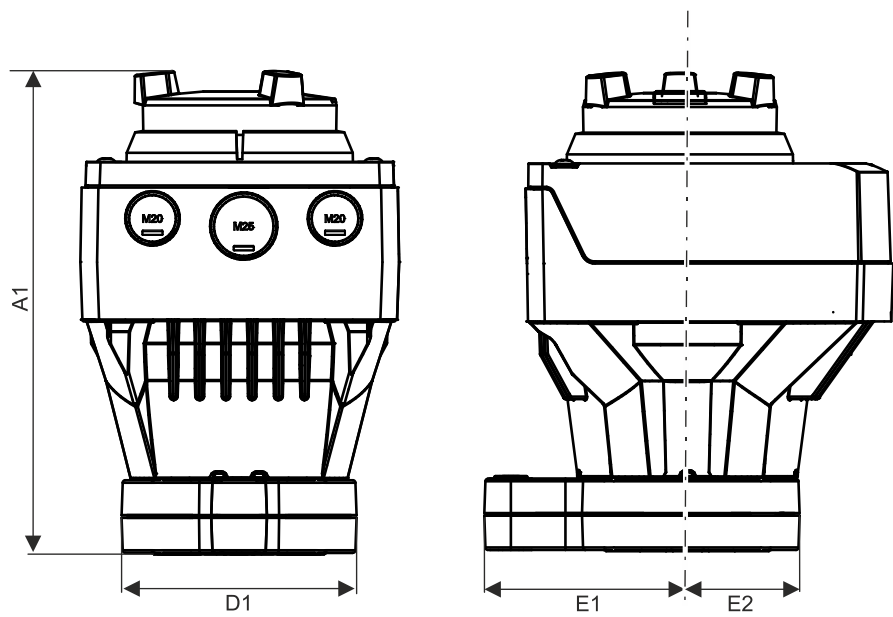
|               |                     |           |                  |
|---------------|---------------------|-----------|------------------|
| <b>A</b>      | Actuator            | <b>SN</b> | System neutral   |
| <b>N1</b>     | Controller          | <b>SP</b> | System potential |
| <b>Y1, Y2</b> | Positioning signals |           |                  |

## Dimensions



| Type         | A    | B   | C   | C1  | C2  | D  | E  | F  | G  | H  | ▶   | ▶▶  | kg         |          |          |
|--------------|------|-----|-----|-----|-----|----|----|----|----|----|-----|-----|------------|----------|----------|
|              | [mm] |     |     |     |     |    |    |    |    |    |     |     | SAL..T10.. | SAL..T20 | SAL..T40 |
| SAL..        | 160  | 124 | 150 | 68  | 82  | 82 | 88 | 42 | 50 | 70 | 100 | 200 | 1.475      | 1.600    | 1.625    |
| With ASK39.1 | 185  | 154 | 300 | 200 | 100 | -  |    |    |    |    |     |     | + 0.235    |          |          |

With mounting  
set ASK3..N



| Type               | A1  | D1 | E1 | E2 |  |
|--------------------|-----|----|----|----|--|
| SAL.. with ASK3..N | 188 | 88 | 80 | 44 |  |
| With ASK39.1       | 213 | -  |    |    |  |

Revision numbers

|  | Type            | Stock no.   | Valid from rev. no. |
|--|-----------------|-------------|---------------------|
|  | SAL31.00T10     | S55162-A108 | ..F                 |
|  | SAL31.00T20     | S55162-A110 | ..E                 |
|  | SAL31.00T40     | S55162-A111 | ..C                 |
|  | SAL31.03T10     | S55162-A109 | ..F                 |
|  | SAL31.03T10/F05 | S55162-A121 | ..A                 |
|  | SAL61.00T10     | S55162-A100 | ..E                 |
|  | SAL61.00T20     | S55162-A102 | ..D                 |
|  | SAL61.00T40     | S55162-A103 | ..B                 |
|  | SAL61.03T10     | S55162-A101 | ..E                 |
|  | SAL61.03T10/F05 | S55162-A123 | ..A                 |
|  | SAL81.00T10     | S55162-A104 | ..E                 |
|  | SAL81.00T20     | S55162-A106 | ..D                 |
|  | SAL81.00T40     | S55162-A107 | ..B                 |
|  | SAL81.03T10     | S55162-A105 | ..E                 |
|  | SAL81.03T10/F05 | S55162-A122 | ..A                 |

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