SIEMENS

4884

STA..3..

STP..3..

ACVATIX™

Electrothermal actuators

STA..3.. STP..3..

for radiators, small and Combi valves

- **Operating voltage AC/DC 24 V, 2-point positioning signal or PDM (pulse-duration modulation)**
- **Operating voltage AC 230 V, 2-point positioning signal**
- **Operating voltage AC 24 V, Positioning signal DC 0…10 V**
- **Positioning force 100 N, (Variants for FHD with 90 N)**
- **Standard version with connecting cable (2 m / 1 m / 0.8 m)**
- **Actuators without connecting cable used together with:**
  - Connecting cable for up to 15 meters, halogen-free also available
  - Connecting cable with LED operating indication
  - Connecting cable with auxiliary switch or DC 0…10 V module
- **Variants supporting synchronous operation of multiple actuators switched in parallel**
- **270° visible position indication**
- **Mounting using a sliding sleeve lock (bayonet)**
- **Adaptor for mounting on third-party valves**
- **Dismantling protection (optional)**
- **Automatic adaption of close – dimension**
- **IP54**
- **Robust, maintenance-free, noise-free**

Use

- Used in interior rooms
- For Siemens valves:
  - Radiator valves VDN.., VEN.. and VUN..
  - Small valves VD1..CLC, V..P47..
  - Zone valves V..I46..
  - Combi valves VPP46.., VPI46..
  - MiniCombiValves (MCV) VPD.. and VPE..
- For third-party valves
  - Direct assembly: Heimeier, Cazzaniga, Oventrop M30 x 1.5, Honeywell-Braukmann and MNG
  - Mounting using an adapter: See "Type summary" on page 3.
- For additional valves, see "Equipment combinations" on page 6

Fast selection

The product range STA..3.. / STP..3.. covers the widest range of equipment combinations and applications. The cable in a standard length is included with actuators using connecting cables. Actuators without connecting cables can be used in combination with the appropriate cables, see Accessories / *Connecting cable*, page 4. See page 5 for additional accessories.

Examples

The following examples simplify fast selection of actuators appropriate to the application (including accessories).

Starting point	*Procedure for quick selection*
Example 1 • Valves used: VVP47.. • Connecting cable length: Approx. 0.6 m • Operating voltage: AC 230 V	1. See "Equipment combinations" on page 6. Correct actuator (group): STP.. 2. See "Type summary" on page 3, Table "Actuators with connecting cable“: Actuator **STP23** (with 1 m connecting cable)
Example 2 • Valves used: VDN.. • Connecting cable length: Ca. 5 m • Operating voltage: AC 24 V • Color Black	1. See "Equipment combinations" on page 6 Actuator (group): STA.. 2. No proper device can be found in the "Type summary" on page 3, Table "Actuators with connecting cable". 3. Select an actuator without **connecting cable** due to the desired color and length of the connecting cable: **STA73B/00** 4. Select the appropriate connecting cable from the table "Accessories / *Connecting cable*“, page 4: **ASY23L50B**

Type summary

Actuators with connecting cable

Type	*Item No.*	*Position de-energized* [1]	*Operating voltage*	*Positioning signal*	*Positioning time*	*Connecting cable*	*Weight*
STA73	S55174-A100	NC	AC/DC 24 V	2-position, PDM [2]	270 s	1 m	181 g
STA23	S55174-A101	NC	AC 230 V	2-position [4]	210 s	1 m	181 g
STP73	S55174-A102	NO	AC/DC 24 V	2-position, PDM [2]	270 s	1 m	177 g
STP23	S55174-A103	NO	AC 230 V	2-position [4]	210 s	1 m	177 g
STA63	S55174-A104	NC	AC 24 V	DC 0…10 V	270 s [5]	2 m	205 g
STP63	S55174-A105	NO	AC 24 V	DC 0…10 V	270 s [5]	2 m	201 g
STA73HD [3]	S55174-A106	NC	AC/DC 24 V	2-position	270 s	0.8 m	174 g
STA23HD [3]	S55174-A107	NC	AC 230 V	2-position	210 s	0.8 m	174 g

[1] NC = Normally Closed = (valve) powerless closed, with regart to radiator valves, VPP46../VPI46.. and VVI46../VXI46.
NO = Normally Open = (valve) powerless open , with regart to radiator valves, VPP46../VPI46.. and VVI46../VXI46.
(valve) powerless closed with regard to the small valves V..P47.. .

[2] Pulse Duration Modulation together with Desigo room controllers and other Siemens controllers according to their data sheet. Not suitable for parallel run

[3] For floor heating distributors, 90 N

[4] Pulse Duration Modulation (PDM) possible with Siemens Thermostats where explicitly stated in the thermostats data sheet. Not suitable for parallel run in connection with PDM

[5] Min. runtime ca. 40 s/mm in control mode (after heating-up time)

Actuators without connecting cables

(see "Accessories" for proper cables)

Type	*Item No.*	*Position de-energized.* [1]	*Operating voltage*	*Pos.signal / pos.time* [2]			*Cable group*	*Weight*
				2-position	*PDM*	*DC 0…10 V*		
Version in white RAL 9016								
STA73/00 [5]	S55174-A109	NC	AC/DC 24 V	270 s		270 s [6]	1, 2, 7, 9	133 g
STA23/00	S55174-A110	NC	AC 230 V	210 s	–	–	1, 7	133 g
STP73/00 [5]	S55174-A111	NO	AC/DC 24 V	270 s		270 s [6]	1, 3, 8, 9	129 g
STP23/00	S55174-A112	NO	AC 230 V	210 s	–	–	1, 8	129 g
STA73PR/00 [3]	S55174-A115	NC	AC/DC 24 V	270 s		–	1, 7, 9	133 g
STP73PR/00 [3]	S55174-A116	NO	AC/DC 24 V	270 s		–	1, 8, 9	129 g
STA73 MP/00 [4]	S55174-A113	NC	AC/DC 24 V	270 s		270 s [6]	1, 7, 9	133 g
STA23 MP/00 [4]	S55174-A114	NC	AC 230 V	210 s	–	–	1, 7	133 g
Version in black RAL 9005								
STA73B/00	S55174-A117	NC	AC/DC 24 V	270 s		270 s [6]	4, 5	133 g
STA23B/00	S55174-A118	NC	AC 230 V	210	–	–	4	133 g
STP73B/00	S55174-A119	NO	AC/DC 24 V	270 s		270 s [6]	4, 6	129 g
STP23B/00	S55174-A120	NO	AC 230 V	210 s	–	–	4	129 g

[1] NC = Normally Closed = (valve) powerless closed, with regart to radiator valves, VPP46../VPI46.. and VVI46../VXI46.
NO = Normally Open = (valve) powerless open , with regart to radiator valves, VPP46../VPI46.. and VVI46../VXI46.
(valve) powerless closed with regard to the small valves V..P47.. .

[2] At an ambient temperature of 20 °C.

[3] Suitable for parallel operation even in connection with PDM (Pulse Duration Modulation) or on/off control

[4] Packaging unit: 50 pieces (OEM)

[5] In connection with an ASY6AL.. resp. ASY6PL.. DC 0…10 V connection cable/module, the operating voltage is limited to AC 24 V only.

[6] Min. runtime ca. 40 s/mm in control mode (after heating-up time)

Accessories

Connecting cable/connecting cable with function module

Type	Item No.	Cable group	Length [m]	Weight [g]	Assembled with	Cable coating	Positioning signal	Operating voltage		Color
								STA23.. STP23..	STA73.. STP73..	
ASY23L08	S55174-A121	1	0,8	42	–	PVC	2-position	AC 230 V	AC/DC 24 V	White
ASY23L10	S55174-A122		1	48						
ASY23L20	S55174-A123		2	81						
ASY23L30	S55174-A124		3	139						
ASY23L40	S55174-A125		4	181						
ASY23L50	S55174-A126		5	223						
ASY23L60	S55174-A127		6	266						
ASY23L70	S55174-A128		7	308						
ASY23L100	S55174-A129		10	435						
ASY23L150	S55174-A130		15	646						
ASY23L30B	S55174-A131	4	3	139						Black
ASY23L50B	S55174-A132		5	223						
ASY23L100B	S55174-A133		10	435						
ASY23L20HF	S55174-A134	1	2	100		Halogen-free				White
ASY23L50HF	S55174-A135		5	218						
ASY23L100HF	S55174-A136		10	466						
ASY6AL20	S55174-A137	2	2	72	Function module DC 0…10 V	PVC	DC 0…10 V	–	AC 24 V	White
ASY6AL50	S55174-A138		5	131						
ASY6AL70	S55174-A139		7	176						
ASY6PL20	S55174-A140	3	2	72						
ASY6PL50	S55174-A141		5	131						
ASY6PL70	S55174-A142		7	176						
ASY6AL20B	S55174-A143	5	2	72						Black
ASY6AL50B	S55174-A144		5	131						
ASY6AL70B	S55174-A145		7	176						
ASY6PL20B	S55174-A146	6	2	72						
ASY6AL20HF	S55174-A147	2	2	61		Halogen-free				White
ASY6AL50HF	S55174-A148		5	129						
ASY6AL70HF	S55174-A149		7	174						
ASY6PL20HF	S55174-A150	3	2	61						
ASY6PL50HF	S55174-A151		5	129						
ASY6PL70HF	S55174-A152		7	174						
ASA23U10	S55174-A153	7	1	75	Auxiliary switch for STA..	PVC	2-position	AC 230 V	AC/DC 24 V	
ASA23U20	S55174-A154		2	121						
ASP23U10	S55174-A155	8	1	75	Auxiliary switch for STP..					
ASP23U20	S55174-A156		2	121						
ASY23L20LD	S55174-A157	9	2	70	LED			-		
ASY23L50LD	S55174-A158		5	129						

Adapter

Type	*Item NO.*	*For third-party valves*	*Description*
AV53	AV53	Danfoss RA-N	Metal
AV63	S55174-A165	Giacomini M30x1.5	Plastic
AV59	AV59	Vaillant	Metal
AV64	S55174-A166	Pettinaroli M28x1,5	Plastic
AL100	AL100	Siemens 2W..-, 3W..- and 4W..- valves	Metal
AV301	S55174-A159	Valves with M30 x 1.5	Higher bayonet adapter, 5 mm[1)]
AV302	S55174-A160	Valves with M28 x 1,5 - Comap - Markaryd - Herz	Higher bayonet adapter, 5 mm[1)]
AV303	S55174-A161	Valves with M30 x 1 - TA	Higher sliding sleeve adapter (bayonet), 5 mm [1)]
AV304	S55174-A167	Various (5 pieces)	Adapter set for installers
AV305	S55174-A169	Valves with M30 x 1.5	Alternate bayonet adapter set (10 pieces)[2)]
AV306	S55174-A171	Valves with M28x1.5 - preset able radiator valves by Markaryd	Higher sliding sleeve adapter (bayonet), 5 mm (10 pieces)[2)]

[1)] The insert is with or without a 5 mm extension depending on assembly.

[2)] Only 10 pack available

Protection against dismantling

Type	*Item no.*	*Description*
AL431	S55174-A168	Tamper-proof fitting to prevent dismantling of the actuator

Ordering

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

Example 1
1 actuator STA23 with 1 m connecting cable and
1 adapter AV301

Example 2
1 actuator STP73/00 without connecting cable,
1 connecting cable ASY23L50LD, 5 m length with LED operating indication, operating voltage AC/DC 24 V, white
1 adapter AV301

Delivery
Actuators, valves and accessories are supplied in separate packages.

Equipment combinations

Siemens valve type	*Actuator*	*Valve type*	*k_{vs} [m^3/h]*	*$\dot{V}$ [l/h]*	*PN class*	*Data sheet valve*
VDN.., VEN.., VUN..	STA..	Radiator valves	0.09…1.41	–	PN 10	N2105, N2106
VPD.., VPE..	STA..	MCV MiniCombiValves	–	25…483		N2185
VD1..CLC..	STA..	Small valves	0.25…2.6	–		N2103
V..I46..	STA..	Zone valves	2…5	–	PN 16	N4842
V..P47..	STP..	Small valves	0.25…4	–		N4847
VPP46.., VPI46.. (DN10..DN15)	STA..	Combi valves	–	30…575	PN 25	N4855

Third-party valves, connection M30 x 1.5, without adapter

Radiator valves

- Heimeier
- Watts (Cazzaniga)
- Oventrop M30 x 1.5 (as of 2001)
- Honeywell-Braukmann
- MGN

Valves from additional manufacturers upon request

Additional radiator valves with adapters AV.. see "Accessories/Adapter" page 5

k_{vs} = Nominal flow value for cold water (5…30 °C) through a fully opened valve (H_{100}), at a differential pressure of 100 kPa (1 bar)

$\dot{V}$ = Volumetric flow at 0.5 mm stroke

Technical notes

NO, NC valves

NO valves	• Valve is opened without actuator (Normally Open) • The valve stem is fully extended • Typical examples: Radiator valves (VDN.., VEN.., VUN..), small valves (VD1..CLC), zone valves (V..I46) and Combi valves (VP..).
NC valves	• Valve is closed without actuator (Normally closed) • The valve stem is fully extended • Example: Small valve V..P47..

Most third-party valves are NO valves.

Valve and actuator combination

NO function	• STA.. actuator stem is extended when de-energized. • NC valve required.
NC function	• STA.. actuator stem is extended when de-energized. • NO valve required.

Note
NO function
(Normally Open)

The valve is closed in a de-energized state for most valve applications featuring thermal actuators

Actuators with the opposite control action, are used when the reverse function is required: The valve is open in a de-energized state.

The following table displays the appropriate combinations.

Note
Response at de-energized actuator

Valve	*Type*	*De-energized actuator*	
		STA..	STP..
Radiator valves	VDN.., VEN.., VUN..	Closed	Open [1) 2)]
Small valves	V..P47..	A ↔ AB open [1) 2)]	A ↔ AB closed
	VD1..CLC	Closed	Open [1) 2)]
Zone valves	V..I46..	AB ↔ A closed	AB ↔ A open [1) 2)]
Combi valves	VPD.., VPE.. VPP46.., VPI46..,	Closed	Open [1) 2)]

[1)] Controller must support NO valve actuator combinations.

[2)] Combination not recommended as actuator life decreases significantly due to continuous voltage applied to the drive in summer. Makes no sense in terms of energy.

Technical and mechanical design

Actuator operation

The electrothermal actuators STA.. and STP.. are noise-free and maintenance-free. When the control signal is applied to the actuator, the temperature of the heating element rises, which causes the solid expansion medium to expand. It transfers its stroke directly to the installed valve.
The valve starts to open after preheating for approx. 1.5 min if the heating element is switched on in a cold state (room temperature), and achieves the maximum stroke after another approx. 2 min (230 V) or 3 min (24 V). At power-off, the expansion element cools down and the valve will be closed by the spring.
This has the following effect for the actuator types below:

STA73.., STA23.. (NC)
2-position, PDM

The actuator stem retracts and the radiator valve is opened by the own spring. The actuator stem extends when de-energized and the radiator valve is closed.

STP73.., STP23.. (NO)
2-position, PDM

The actuator stem extends and the small valve, V..P47.., is opened. The actuator stem retracts when de-energized and the small valve is closed by the own spring.

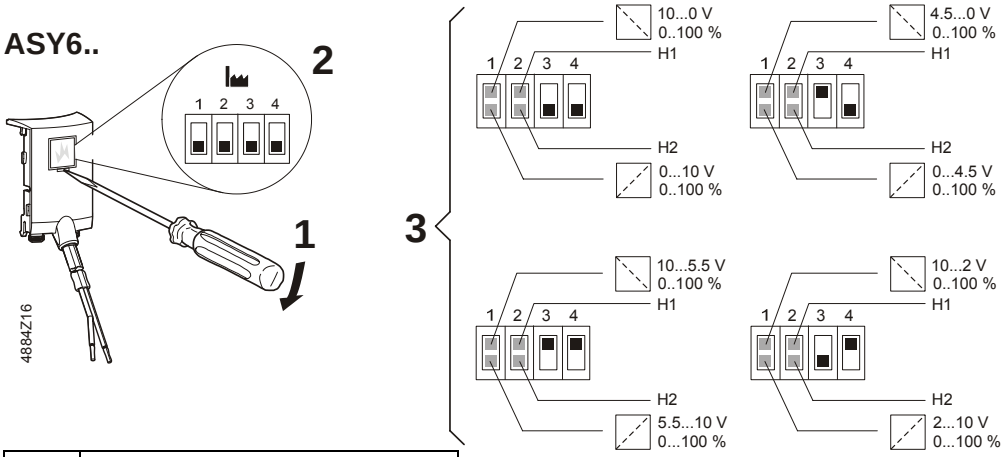
STA63..
STA73/00 with
DC 0…10 V module

The actuator stem retracts and the radiator valve is opened by the spring. The position of the stem is proportional to the DC 0…10 V positioning signal. The actuator stem extends when de-energized and the radiator valve is closed. The actuator deploys to the 50% stroke position if the positioning signal is lost when applying operating voltage.
DC 0…10 V actuators support various operation modes, see also under DIP-Switch settings

STP63..
STP73/00 with
DC 0…10 V module

The actuator stem extends and the small valve, V..P47.., is opened. The position of the stem is proportional to the DC 0…10 V positioning signal. The actuator stem retracts when de-energized and the small valve is closed by the own spring. The actuator deploys to the 50% stroke position if the positioning signal is lost when applying operating voltage.
DC 0…10 V actuators support various operation modes, see also under DIP-Switch settings

STP63../STP63..
DIP-switch settings

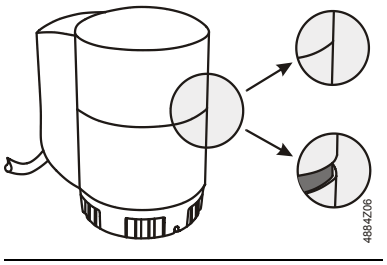


H1	3 mm stroke
H2	4.5 mm stroke

Position indication on the actuator

The movement and actual position of the actuator is indicated by the gray interior part.

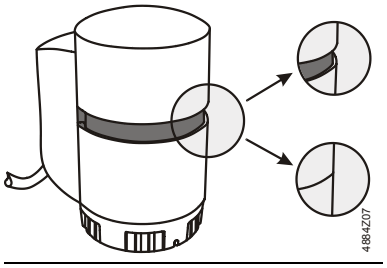
STA..



De-energized actuator
- The actuator's stem is extended
- The [1]valve is closed.

Actuator > 3 minutes with power
- The valve stem is retracted.
- The [1]valve is opened.

STP..



De-energized actuator
- The actuator's stem is retracted.
- The [2]valve is closed.

Actuator > 3 minutes with power
- The actuator's stem is extended
- The [2]valve is opened.

[1] With regard to radiator valves, VPP46../VPI46.. and VVI46../VXI46 .

[2] With regard to V..P47..

Automatic adaption of close - dimension

Locking the sliding sleeve, bayonet-ring, triggers the mechanical adaption of the close- dimension. This affects a pre-tensioning for NC types (STA..) on the valve stem resulting in a sealed valve. For NO types (STP..), the actuator stem will be positioned above the valve spindle without pre-tension.

Adaption of close-dimension for STA.. actuators (NC)

Lies in the range between 8.5…13.5 mm [1]

Adaption of close - dimension for STP.. Actuators (NO)

Lies in the range between 12.5…17.5 mm [1]

[1] when used with the supplied standard sliding sleeve

Adaption of close-dimension with higher sliding sleeve (bayonet-nut) AV301, AV302 und AV303, bayonet-nut, AV.. (accessories)

A higher sliding sleeve, bayonet nut, is used in the following cases:

a. If the diameter of the actuator's sliding sleeve, bayonet-ring (42,5 mm) prevents assembly (e.g. angle valves, valves with measurement ports) and

b. To adapt to the desired thread size for third-party manufacturers (M28 x 1.5 or M30 x 1)

It must be used with insert A (black) if a higher sliding sleeve adapter (bayonet) is used to maintain the close-dimension range.

Options

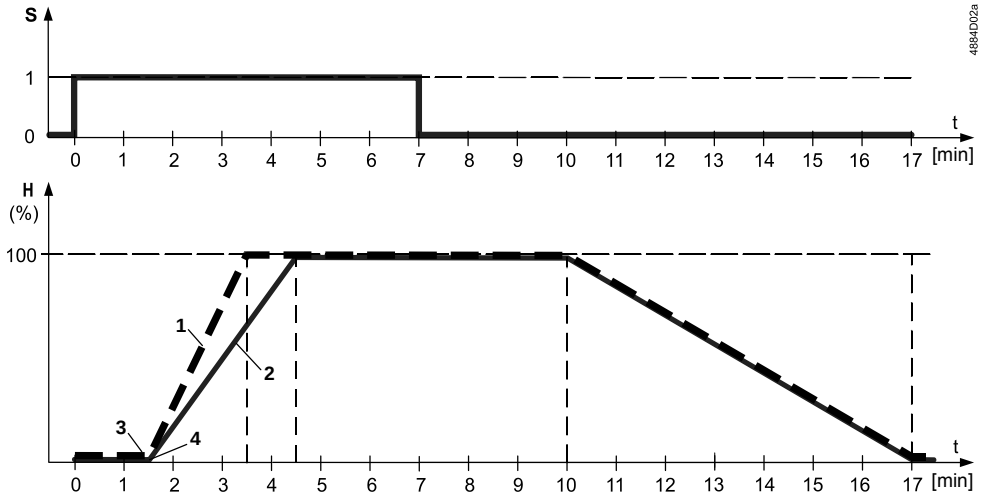
- To achieve the close-dimension range, reduced by 5 mm, the sliding sleeve adapter must be used together with insert B (white).
- To achieve the close-dimension range, increased by 5 mm, the sliding sleeve adapter must be used without insert A or B.

Expansion to the close-dimension is required to adapt to third-party valves that do not operate within the standard close dimension range.

Close-dimension range with the different adapters:

	Standard bayonet-nut	Higher bayonet adapter AV301 → M30 x 1,5 AV302 → M28 x 1,5 AV303 → M30 x 1		
	No insert	Insert-A (black)	Insert-B (white)	No insert
STA..	8.5 … 13.5	8.5 … 13.5	3.5 … 8.5	13.5 … 18.5
STP..	12.5 … 17.5	12.5 … 17.5	7.5 … 12.5	17.5 … 22.5

Positioning times, Opening/closing



S Positioning signal
H Stroke in %
1 Actuator ST..2.. (AC 230 V)
2 Actuator ST..7.. (AC 24 V)
3/4 Warm start
– Values at 25° C (ambient temperature)
– The positioning time depends on the voltage and the ambient temperature

⚠ Warning

Some controllers drive the valve actuators with pulsed signals. This increases the response time. For optimal control, the ambient temperature of the actuator must be < 40°C.

Pulse-duration modulation

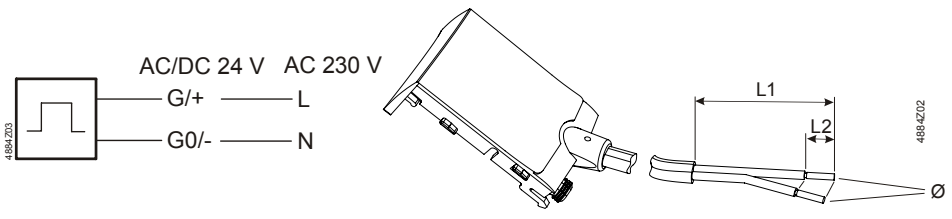
Accessories

Separate connecting cable

The actuators STA../00 and STP../00 are supplied without a connecting cable. They can be assembled as per the table "Accessories/connecting cables" on page 4. The product also includes halogen-free cable.

ASY23L..

Standard connecting cable for all STA.. and STP.. Actuators for open/close positioning signal AC 24 V or AC 230 V with PVC coating. Lengths 0.8…15 m.



G/+ L brown
G0/- N blue

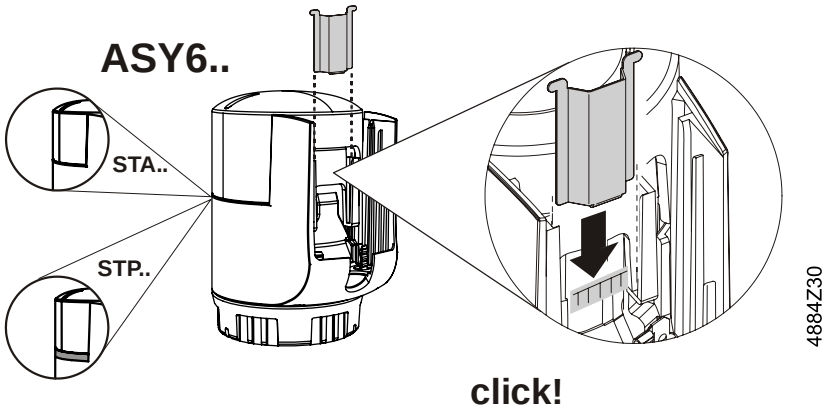
L1 ca. 50 mm
L2 ca. 6 mm
Cross section 0.75 mm^2

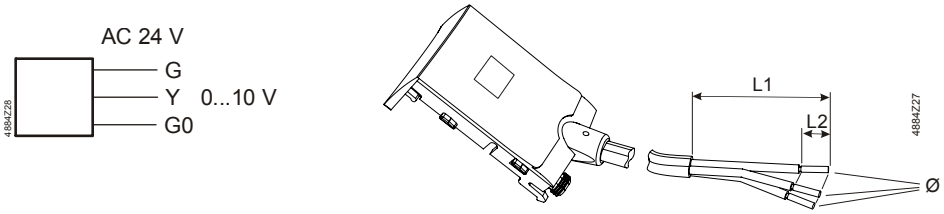
ASY6AL..

The connecting cables are available in various lengths, colors and coating quality with DC 0…10 V control module and AC 24 V voltage supply, can be combined with STA73/00 thermal actuators. To this end, the metal bridge supplied with the cable must be inserted in the actuator.

ASY6PL..

The connecting cables are available in various lengths, colors and coating quality with DC 0…10 V control module and AC 24 V voltage supply, can be combined with STP73/00 thermal actuators. To this end, the metal bridge supplied with the cable must be inserted in the actuator.

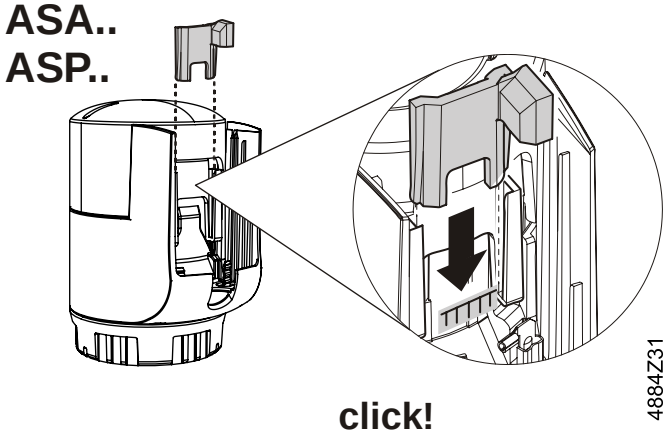




G	braun	L1	ca. 50 mm
Y	rot	L2	ca. 6 mm
G0	blau	Cross section	bis 2 m 0,5 mm^2 , >2 m 0,75 mm^2

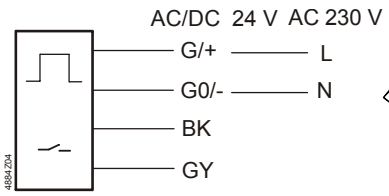
ASA23U.. with aux. switch for **STA../00**
ASP23U.. with aux. switch for **STP../00**

Connecting cable with PVC coating and integrated auxiliary switch for all STA../00, STP../00 actuators for open/close positioning signal AC 24 V or AC 230 V. Lengths 1 or 2 m. To this end, the plastic bridge supplied with the cable must be inserted in the actuator.

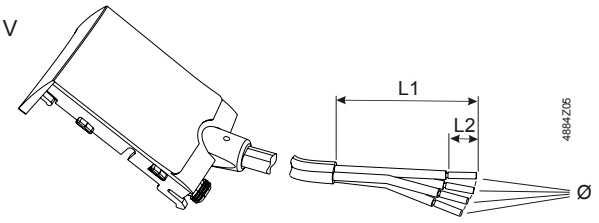


Switch power:

AC	*DC*
3 A resistive	4…30 V / 100 mA
2 A inductive	48 V / 1 A



G/+ brown
G0/- blue
BK black
GY gray

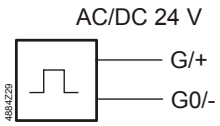


L1 ca. 50 mm
L2 ca. 6 mm
Cross section 0.5 mm^2

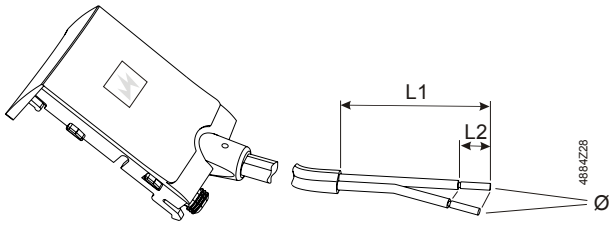
Switch-point: Between 1.5 and 2.3 mm stroke

ASY23..LD
with LED indicator

The same as AS..23U but for AC/DC 24 V only. The green LED is lit synchronously with the open/close control. It visually indicates control and provides support during commissioning and service. Lengths 1 or 2 m.



G/+ brown
G0/- blue



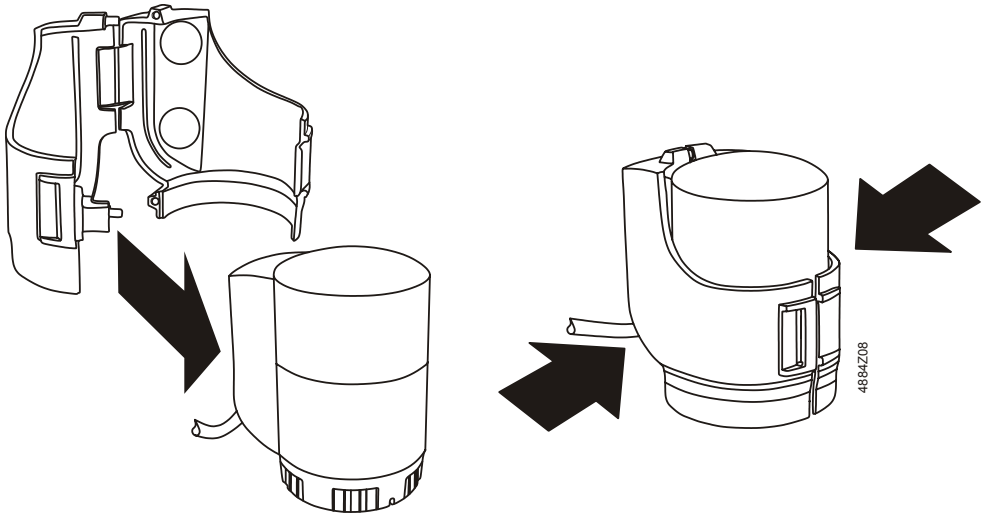
1 LED
L1 ca. 50 mm
L2 ca. 6 mm
Cross section 0.5 mm^2

Adapter AV.. for third-party valves

Adapters are available for mounting the STA.. and STP.. actuators on valves from other manufacturers (see "Accessories/Adapters" on page 5).

Tamper-proof fitting AL431

Tamper-proof fittings can be used to prevent unauthorized intervention on the actuators.



Mounting and installation notes

Mounting on valve

Mounting instructions are included in the packaging.

Actuators STA.. or STP.. are supplied as separate units. They can be assembled with just a few movements prior to commissioning:

- Remove the protective cover from the valve body
- Insert the sliding sleeve, bayonet-nut, on the valve and manually tighten
- Put actuator in position and manually tighten (clockwise) the bayonet-ring until a second click
- STA../00, STP../00: Plug in the connecting cable
- Connect to operating voltage only after mounting

Hints for the dismounting:

- Interrupt the power supply and disconnect the connection cable
- Wait for 6 min. until the actuator is cooled down
- Turn the sliding sleeve, bayonet-ring, counter clockwise to the end-position

At dismounting the actuator will be set automatically to the original position (factory setting).

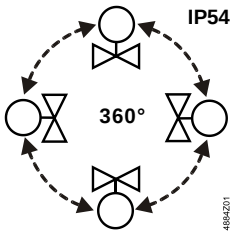
Seldom may happen that the actuator will be released from the valve together with the valve whereby the bayonet-nut stuck in the actuator. In order to re-use the actuator, the actuator's stem has to be re-set to the original position (factory setting). For this purpose, turn the actuator up-side-down and push back the stem with simultaneous counter clock wise turning of the sliding sleeve, bayonet-ring, until latching.

⚠ Warning

Do not use pipe wrenches, spanners or similar!

Mounting positions

Actuators may be installed in all positions (IP54 standard guaranteed).



Notes on electrical installation

- Comply with all local regulations when installing.
- Connect the connecting cable downward and away from the bottom.
- Provide for a means to isolate from mains power/connecting voltage, e.g. by connecting an automatic circuit breaker or switch fuse upstream of the control unit.

Maintenance

The actuator is maintenance-free.

Repair

Disconnect the connecting cable from the operating voltage prior to replacing.
Opening the actuator can cause irreparable damage. It may also result in injury from the installed, strong spring.
The actuator cannot be repaired; the entire unit must be replaced.

Disposal

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

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Warranty

The technical data relating to specific applications are valid only in conjunction with the valves listed under "Equipment combinations" in this data sheet on page "6".

When using STA.. and STP.. actuators, users are responsible for ensuring the proper functioning of actuators when used together with third-party valves; any guarantees on the part of Siemens Building Technologies expire accordingly.

Technical data

		STA73.. / STA73../00 STA73HD STP73.. / STP73../00	STA23.., STA23../00 STA23HD STP23.., STP23../00	STA63.. STP63..
Power supply	Operating voltage Frequency	AC/DC 24 V ± 20 % [1] 50 / 60 Hz	AC 230 V ± 15 % 50 / 60 Hz	AC 24 V ± 20 % 50 / 60 Hz
	Power consumption at 50 Hz Operation At power-up	 2.5 W 6 VA	 2.5 W 58 VA	 2.5 W 6 VA
	Switch-on current (transient)	250 mA	250 mA	250 mA
	Primary fuse	External		
Signal input	Positioning signal	2-position, PDM [2] DC 0…10 V [3]	2-position	DC 0…10 V
	Parallel operation of multiple actuators	For PDM ST..3PR/00	May be limited by the controller's output power	
Operating data	Positioning time at 20 °C, 50 Hz	270 s	210 s	270 s [6]
	Positioning force	100 N, STA..HD 90 N		
	Nominal stroke	Max. 4.5 mm		4.5 mm (adjustable 3 mm[4])
	Permissible temperature of medium in the connected valve	1…110 °C		
	Actuator stem for "de-energized actuator"	STA.. extended STP.. retracted		
	Radiator valves (e.g. VD..)	See "Equipment combinations" on page 6.		
	Small valves (V..P47..)			
	Zone valves (V..I46..)			
	Maintenance	No maintenance required		
Electrical connection	Cable length	See page 3, "Type summary" or page 4, "Connecting cables" and page 5, "Adapter"		2 m
	Cross section [5]	Strands 2 x 0.5 mm^2	Strands 2 x 0,75 mm^2	Strands 3 x 0.5 mm^2
Mounting	Attached to the valve	Bayonet-nut/-ring M30 x 1.5; – see also under adapters		
	Mounting position	Any, 360°		
Colors	Cover	White, RAL 9016, STA..B/00 and STP..B/00 black, RAL 9005		
	Lower part	STA.. light gray, RAL 7035, STP.. Traffic gray, RAL 7042 STA..B/00 and STP..B/00 black, RAL 9005		
	Connecting cables	See "Connecting cables" on page 4 and page 5, "Adapter"		
Norms and directives for actuators and connecting cables	Electromagnetic compatibility (Application)	For residential, commercial and industrial environments		
	Product standard	EN60730-x and EN60335-x		
	EU Conformity (CE) STA.. STP..	 8000072738 [7] A5W00004469 [7]		
	Protection class as per	EN 60730 Class III	EN 60730 Class II	EN 60730 Class III
	Degree of pollution	As per EN 60730 class II		
	Housing type	IP54 as per EN 60529		
	Environmental compatibility	The product environmental declaration CE1E4884en [7] contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).		
Dimensions Weight	Dimensions	See "Dimensions" on page 17		
	Actuator weight	See table "Type summary" actuators with and without connecting cable on page 3.		
	Weight of connecting cable ASY..	See table Accessories page 4		
Materials **STA.., STP..**	Cover and lower part	Polycarbonate		
Conn. cables	ASY.., ASP..	PVC		
	ASY..HF	Halogen-free as per VDE 0207-24		

1) Permitted for safety extra-low voltage only (SELV, PELV)
2) PDM = Pulse-duration modulation
3) STA73/00, STA73 MP/00 and STA73B/00, with connecting cable ASY6AL..
STP73B/00 STP73/00 and with connecting cable ASY6PL..
4) Can be set using the DIP switch under the cover on the connecting cable. See Mounting instructions M4884
5) Separate cable, see page 4
6) Min. runtime ca. 30 s/mm in control mode (heat-up time)
7) The documents can be downloaded from http://siemens.com/bt/download

General ambient conditions

	Operation EN 60721-3-3	Transportation EN 60721-3-2	Storage EN 60721-3-1
Temperature	5…50 °C	–20…60 °C	5…50 °C
Temperature for quasi-continuous control	5…40 °C	–	–
Humidity	< 85 % r.h.	< 95 % r.h.	5…100 % r.h.

Connecting cables

Connecting cables w/o 0…10 V module

	ASY23..	ASY23..B	ASY23..HF	ASY23..LD	ASA23..	ASP23..
Length [m]	0.8…15	3…10	2…10	2 / 5	1 / 2	1 /2
Cross section [mm^{2}]	≤ 2 m: 0.50 > 2 m: 0.75	0.75	0.75	1 m: 0.50 5 m: 0.75	0.50	0.50
Operating voltage [V]	24 / 230 [1]	24 / 230 [1]	24 / 230 [1]	24	24 / 230 [1]	24 / 230 [1]
Housing color	White, RAL 9016	Black, RAL 9005	White, RAL 9016	White, RAL 9016	White, RAL 9016	White, RAL 9016
Coating	PVC	PVC	Halogen-free	PVC	PVC	PVC
Auxiliary switch	–	–	–	–	x	x
Switch-point auxiliary switch	–	–	–	–	1.5 ... 2.3 mm stroke	1.5 ... 2.3 mm stroke
Indicator	–	–	–	LED	–	–
Weight	See Table on page 4					

[1] AC 230 V with STA23../STP23.., AC/DC 24 V with STA73../STP73..

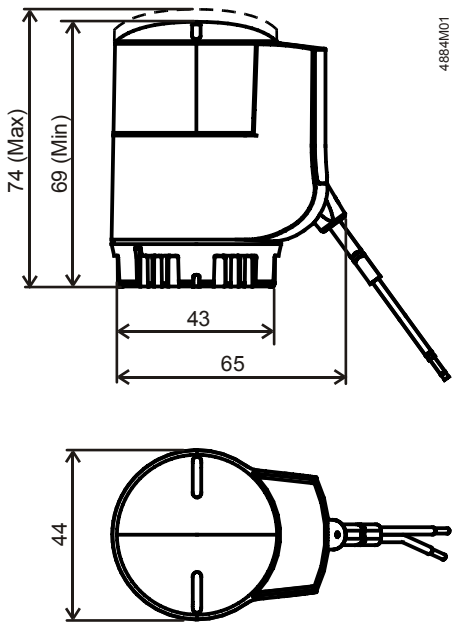
Connecting cables with 0…10 V module

	ASY6A..			ASY6P..		
	ASY6A..	ASY6A..B	ASY6A..HF	ASY6P..	ASY6P..B	ASY6P..HF
Length [m]	2 / 5 / 7	2 / 5 / 7	2 / 5 / 7	2 / 5 / 7	2	2 / 5 / 7
Cross section [mm^{2}]	0.22	0.22	0.22	0.22	0.22	0.22
Operating voltage [V AC]	24	24	24	24	24	24
Color	White, RAL 9016	Black, RAL 9005	White, RAL 9016	White, RAL 9016	Black, RAL 9005	White, RAL 9016
Coating	PVC	PVC	Halogen-free	PVC	PVC	Halogen-free
Signal	0…10 V	0…10 V	0…10 V	0…10 V	0…10 V	0…10 V
Interior resistance Ri	100 kΩ	100 kΩ	100 kΩ	100 kΩ	100 kΩ	100 kΩ
Weight	See Table on page 4					

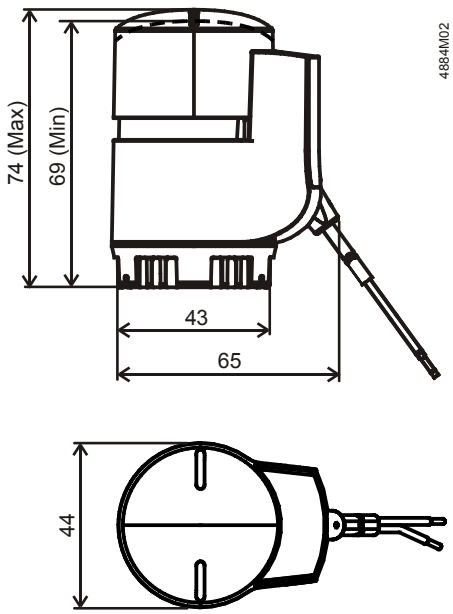
Dimensions

Dimensions in mm

STA..



STP..



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