



Application

Electric actuator for plant engineering and HVAC

Special features

The actuator is a linear actuator, which can be combined with Series 240 and 250 as well as Type 3260 and Type 3214 Valves.

- Attachment using an M30x1.5 or M60x1.5 ring nut including the necessary stem connector parts
- 30 and 60 mm travel
- Available with or without fail-safe action
- Mechanical override
- Motor switched off by torque-dependent limit switches
- Asynchronous motor with maintenance-free planetary gear with ball screw drive.
- No maintenance

Versions

- Three-step version
- Version with digital positioner:
 - Operation using rotary pushbutton on the actuator
 - Settings made using the TROVIS-VIEW software
 - Backlit LCD

Options

- Limit contacts
 - Mechanical
 - Over a relay (version with positioner only)
- Resistance transmitters
 - Two resistance transmitters with a resistance range of from 0 to 1000 Ω (three-step version)
- Communication
 - RS-485 module for Modbus RTU communication (actuator versions with positioner)



Fig. 1: Type 3375 Electric Actuator

Design and principle of operation

The electric actuator consists of a reversible asynchronous motor and a maintenance-free planetary gear with ball screw drive. The motor is switched off by torque-dependent limit switches. Additionally, the asynchronous motor is protected by a temperature fuse.

The Type 3375 Actuator with 30 mm or 60 mm travel is available with or without fail-safe action.

- **Fail-safe action "actuator stem extends":**
Upon supply voltage failure, the actuator stem extends.
- **Fail-safe action "actuator stem retracts":**
Upon supply voltage failure, the actuator stem retracts.
- **Limit contacts**
 - **Mechanical limit contacts**
Two mechanical limit contacts can be adjusted independently from one another. They are actuated by continuously adjustable cam disks.

- Electronic limit contacts

The electronic limit contacts consist of relays with changeover contacts. In contrast to the mechanical limit contacts, the electronic limit contacts no longer function after a power supply failure. The relays are de-energized and the contacts change to the idle state.

- Resistance transmitters

The resistance transmitter is linked to the gear and produces a resistance signal between approx. 0 and 1000 Ω (usable range 0 to 800 Ω) proportional to the valve travel.

- Modbus RTU communication

Modbus can be used to configure and connect the actuator to a control station.

Mounting

The actuator can be combined with the following valves:

- Series 240
- Series 250
- Type 3260 in DN 200, 250 and 300
- Type 3214 in DN 300 and 400
- Type 3214 balanced by a diaphragm, DN 125 to 250

Electrical connection

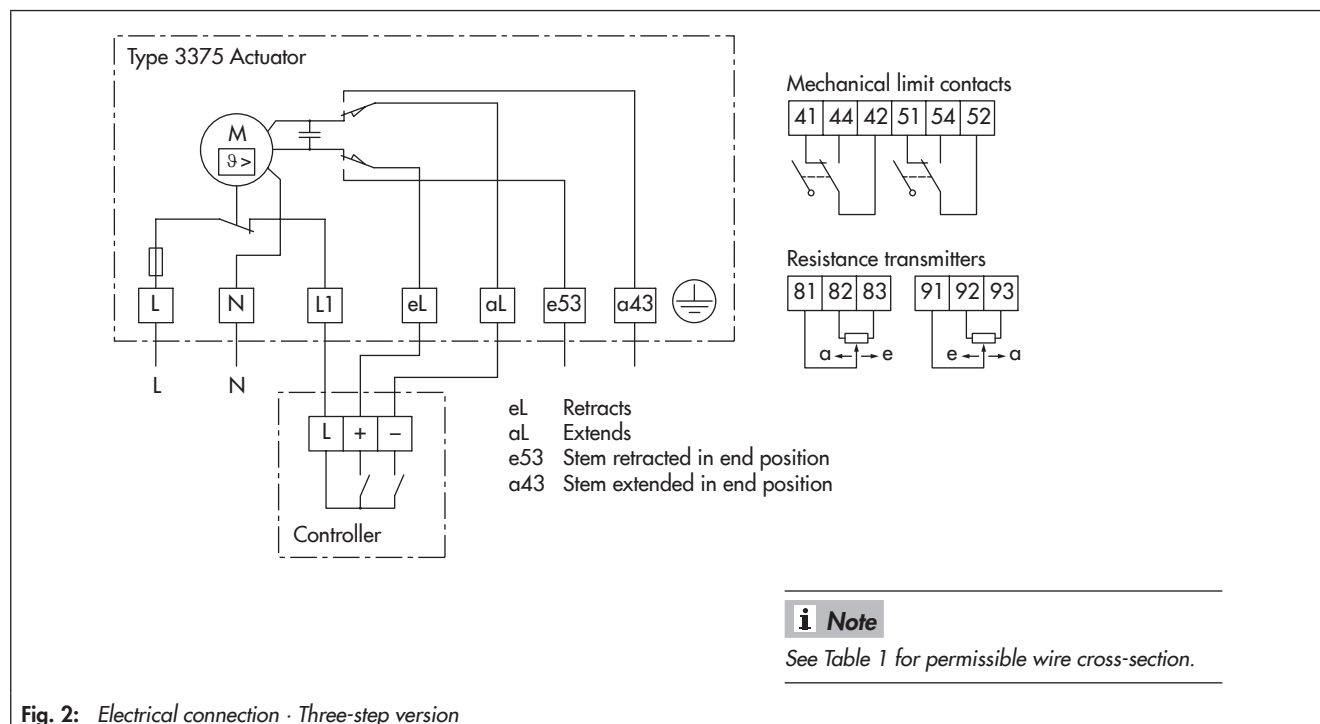
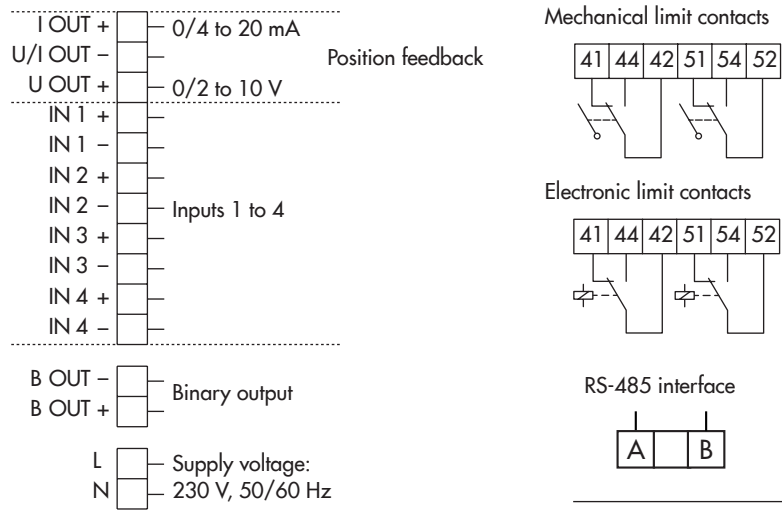


Fig. 2: Electrical connection - Three-step version

Table 1: Cables and stranded wires that can be used

Cable	Cross section
Single-wire H05(07) V-U ¹⁾	0.2 to 1.5 mm ²
Fine-wire H05(07) V-K ¹⁾	0.2 to 1.5 mm ²
With wire ferrule acc. to DIN 46228-1	0.25 to 1.5 mm ²
With wire ferrule and sleeve acc. to DIN 46228-4	0.25 to 0.75 mm ²

¹⁾ Length of insulation to be stripped off wire ends = 8 mm

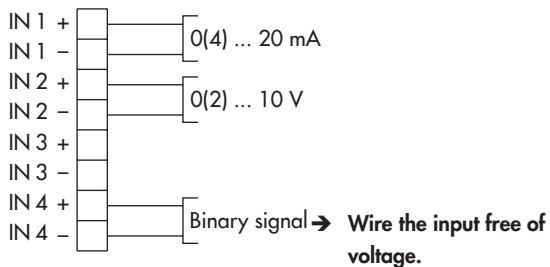


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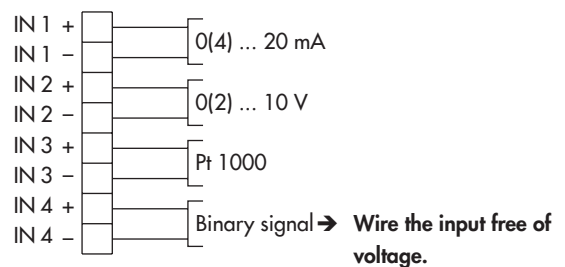
See Table 1 for permissible wire cross-section.

Fig. 3: Electrical connection · Version with digital positioner

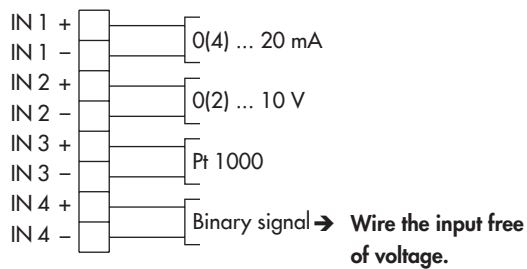
Application: Positioner (POSI)



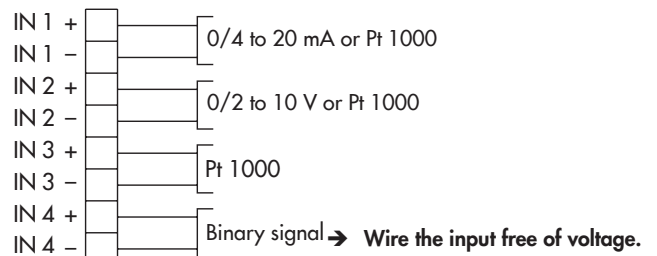
Application: PID controller (PID)



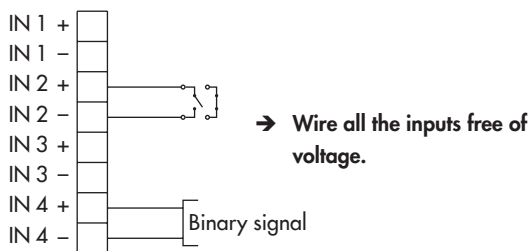
Application: Temperature closed-loop control upon input signal failure (POSF)



Application: PID controller (PID) in Modbus mode



Application: Two-step mode (2STP)



Application: Three-step mode (3STP)

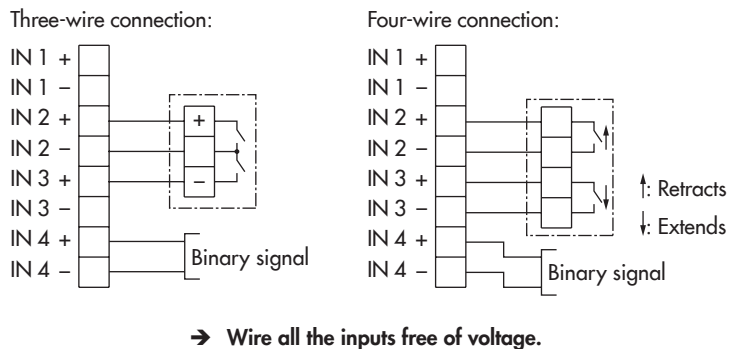



Fig. 4: Terminal assignment depending on the application selected

Table 2: Technical data · Three-step version

Type 3375		-10	-11	-20	-21	-22	-30	-31
Attachment (form-fit)		M30x1.5	M60x1.5	M30x1.5	M60x1.5	M30x1.5	M30x1.5	M60x1.5
Fail-safe action		Without		Actuator stem extends			Actuator stem retracts	
Rated travel	mm	30	60	30	60	30	30	60
Stroking speed in mm/s	50 Hz	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	60 Hz	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Transit time in s for rated travel	50 Hz	50	100	50	100	50	50	100
	60 Hz	42	84	42	84	42	42	84
Transit time in s for fail-safe action	approx.	-	-	35	80	40	40	90
Thrust (stem extends)	kN	12.5	12.5	7.5	5	4	4	4
Thrust (stem retracts)	kN	12.5	12.5	1	1	4	4	2.5
Manual override	Handwheel							
Motor switch-off	Torque-dependent limit switches							
Duty type	S3 - 50 % ED (1200 c/h) according to IEC 60034-1							
Electrical connection								
Supply voltage	230 V, 50 to 60 Hz							
Power consumption	VA	180	180	185	185	185	185	185
Permissible temperatures ¹⁾								
	Ambient	5 to 60 °C						
	Storage	-20 to +70 °C						
Materials								
Housing	Bottom section	Spheroidal graphite iron						
	Middle section	Cast aluminum alloy						
	Motor housing	Cast aluminum alloy						
	Fan guard	Plastic						
Cover	Glass-fiber-reinforced plastic							
Actuator stem	Stainless steel							
Weight								
	kg (approx.)	11.7	14.5	19.5	22.5	18	18	21
Safety								
Degree of protection	IP 54 according to EN 60529 · IP 65 with cable gland · Suspended mounting not permitted							
Class of protection	I according to EN 61140							
Device safety	According to EN 61010-1							
Noise immunity	According to EN 61000-6-2, EN 61326							
Noise emission	According to EN 61000-6-3, EN 61326							
Conformity								
Ambient conditions								
	5 to 95 % relative humidity, no dew formation							
Additional equipment								
Limit contacts (mechanical)	Two adjustable limit contacts with changeover switches; 230 V AC/1 A, without contact protection							
Resistance transmitter	Two resistance transmitters; 0 to 1000 Ω ± 15 %, max. 200 mW, usable range approx. 0 to 900 Ω							

¹⁾ The permissible medium temperature depends on the valve on which the electric actuator is mounted. The limits in the valve documentation apply.

Table 3: Technical data · Version with digital positioner

Type 3375		-10	-11	-20	-21	-22	-30	-31
Attachment (form-fit)		M30x1.5	M60x1.5	M30x1.5	M60x1.5	M30x1.5	M30x1.5	M60x1.5
Fail-safe action		Without		Actuator stem extends			Actuator stem retracts	
Rated travel	mm	30	60	30	60	30	30	60
Stroking speed in mm/s	50 Hz	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	60 Hz	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Transit time in s for rated travel	50 Hz	50	100	50	100	50	50	100
	60 Hz	42	84	42	84	42	42	84
Transit time for fail-safe action		–	–	35	80	40	40	90
Thrust (stem extends)	kN	12.5	12.5	7.5	5	4	4	4
Thrust (stem retracts)	kN	12.5	12.5	1	1	4	4	2.5
Manual override		Electric or mechanical override using handwheel		Electric only, mechanical not possible				
Motor switch-off		Torque-dependent limit switches						
Duty type		S3 - 50 % ED (1200 c/h) according to IEC 60034-1						
Electrical connection								
Supply voltage		230 V, 50 to 60 Hz						
Power consumption	VA	180	180	185	185	185	185	185
Permissible temperatures ¹⁾								
Ambient		5 to 60 °C						
Storage		–20 to +70 °C						
Materials								
Housing	Bottom section	Spheroidal graphite iron						
	Middle section	Cast aluminum alloy						
	Motor housing	Cast aluminum alloy						
	Fan guard	Plastic						
Cover		Glass-fiber-reinforced plastic						
Actuator stem		Stainless steel						
Weight								
kg (approx.)		11.7	14.5	19.5	22.5	18	18	21
Digital positioner								
Input signal	Current input	0/4 to 20 mA, adjustable · R _i = 50 Ω						
	Voltage input	0/2 to 10 V, adjustable · R _i = 20 kΩ						
	Pt 1000 input	Measuring range: –50 to 150 °C, 300 μA						
	Binary input	By jumpering the terminals (floating), not galvanically isolated						
Position feedback	Current	0/4 to 20 mA, adjustable · Error message 24 mA						
	Resolution	1000 steps or 0.02 mA						
	Load	Max. 200 Ω						
	Voltage	0/2 to 10 V, adjustable · Error message 12 V						
	Resolution	1000 steps or 0.01 V						
	Load	Min. 5 kΩ						
Binary input		Open-circuit voltage: 10 V; short-circuit current: 5 mA By jumpering the terminals, not galvanically isolated, floating control						
Binary output		Floating, max. 230 V AC/1 A						
Applications	Positioner	The travel follows the input signal						
	PID controller	Fixed set point control						
	Two-step mode	Two-step behavior, control over binary input						
	Three-step mode	Three-step behavior, control over binary input						
	Temperature closed-loop control upon input signal failure	The integrated PID controller uses a fixed set point for closed-loop control when there is no input signal.						
Operating controls								

Display	Icons for functions, codes and text field with backlight	
Rotary pushbutton	Operating control for on-site operation to select and confirm codes and values	
Interface (standard)	RS-232 · For point-to-point connection to communication participants or for memory pen · Permanently installed · Connection: RJ-12 connector socket	
Safety		
Degree of protection acc. to EN 60529	IP 65, suspended mounting not permitted according to EN 60664	
Device safety	According to EN 61010-1	
Class of protection	I according to EN 61140	
Noise immunity	According to EN 61000-6-2, EN 61326	
Noise emission	According to EN 61000-6-3, EN 61326	
Conformity	CE · ENEC	
Additional equipment		
Limit contacts	Mechanical	Two adjustable limit contacts with changeover switches; 230 V AC/1 A, without contact protection
	Electronic	Two adjustable limit contacts with relay and changeover switches; 230 V AC/1 A, without contact protection
RS-485 module	RS-485 communication interface: two-wire bus, terminals (see Table 1 for permissible wire cross-section). Modbus RTU protocol: 8 data bits, parity adjustable, 1 (2) stop bits adjustable. Transmission rate: 1200 to 19200 bit/s (adjustable). SSP protocol: for configuration using the TROVIS-VIEW software	

- ¹⁾ The permissible medium temperature depends on the valve on which the electric actuator is mounted. The limits in the valve documentation apply.

Dimensions

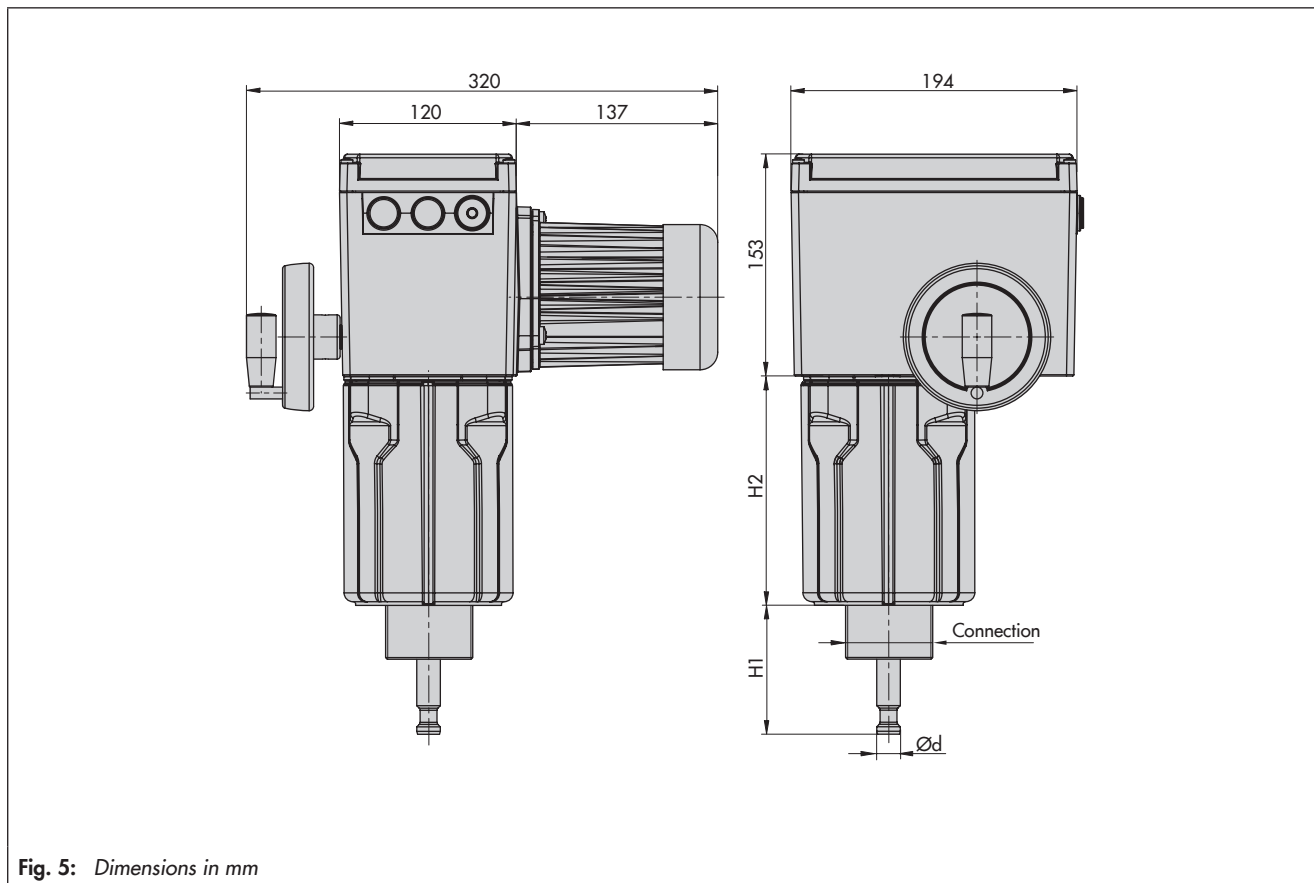


Fig. 5: Dimensions in mm

Table 4: Dimensions for Type 3375 Actuator

Type 3375		-10	-11	-20	-21	-22	-30	-31
Connection		M30x1.5	M60x1.5	M30x1.5	M60x1.5	M30x1.5	M30x1.5	M60x1.5
Rated travel	(mm)	30	60	30	60	30	30	60
Actuator stem	Ød in mm	16	22	16	22	16	16	22
H1 stem retracted	(mm)	60	105	60	105	60	60	105
H1 stem extended	(mm)	90	165	90	165	90	90	165
H2	(mm)	124	174	229	279	229	229	279

Accessories

For all versions	Ordering number
Set with three cable glands M20x1.5 with metal nut (SW 23/24)	1400-8828
For version with digital positioner	Ordering number
Hardware package consisting of: <ul style="list-style-type: none"> - Memory pen-64 - Connecting cable - Modular adapter 	1400-9998
Memory pen-64	1400-9753
Connecting cable RJ-12/D-sub, 9 pin	1400-7699
Modular adapter D-sub 9-pin/RJ-12 for memory pen	1400-7698
USB to RS232 adapter	8812-2001
RS-485 module:	1402-1522
Software	
TROVIS-VIEW (free of charge)	► www.samsongroup.com > Service & Support > Downloads > TROVIS-VIEW

Ordering text

Type 3375-... Electric Actuator

– Three-step version

Rated travel

30/60 mm

Fail-safe action

Stem extends/Stem retracts/Without

Supply voltage:

230 V, 50/60 Hz

Additional electrical equipment

Two mechanical limit contacts

With/without

Two resistance transmitters

With/without

– Version with digital positioner

Rated travel

30/60 mm

Fail-safe action

Stem extends/Stem retracts/Without

Supply voltage:

230 V, 50/60 Hz

Additional electrical equipment

Two limit contacts

Mechanical/electronic/without

RS-485 module

With/without

Special version

Standard/three-key operation

Associated mounting and operating instructions

- Type 3375 (three-step version): ▶ **EB 8332-1**
- Type 3375 (version with positioner) ▶ **EB 8332-2**