



#### 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 contacts
- 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 resistance range of from 0 to 1000  $\Omega$  (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 contacts. 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  $\Omega$  (usable range 0 to 800  $\Omega$ ) proportional to the valve travel.

## - Modbus RTU communication

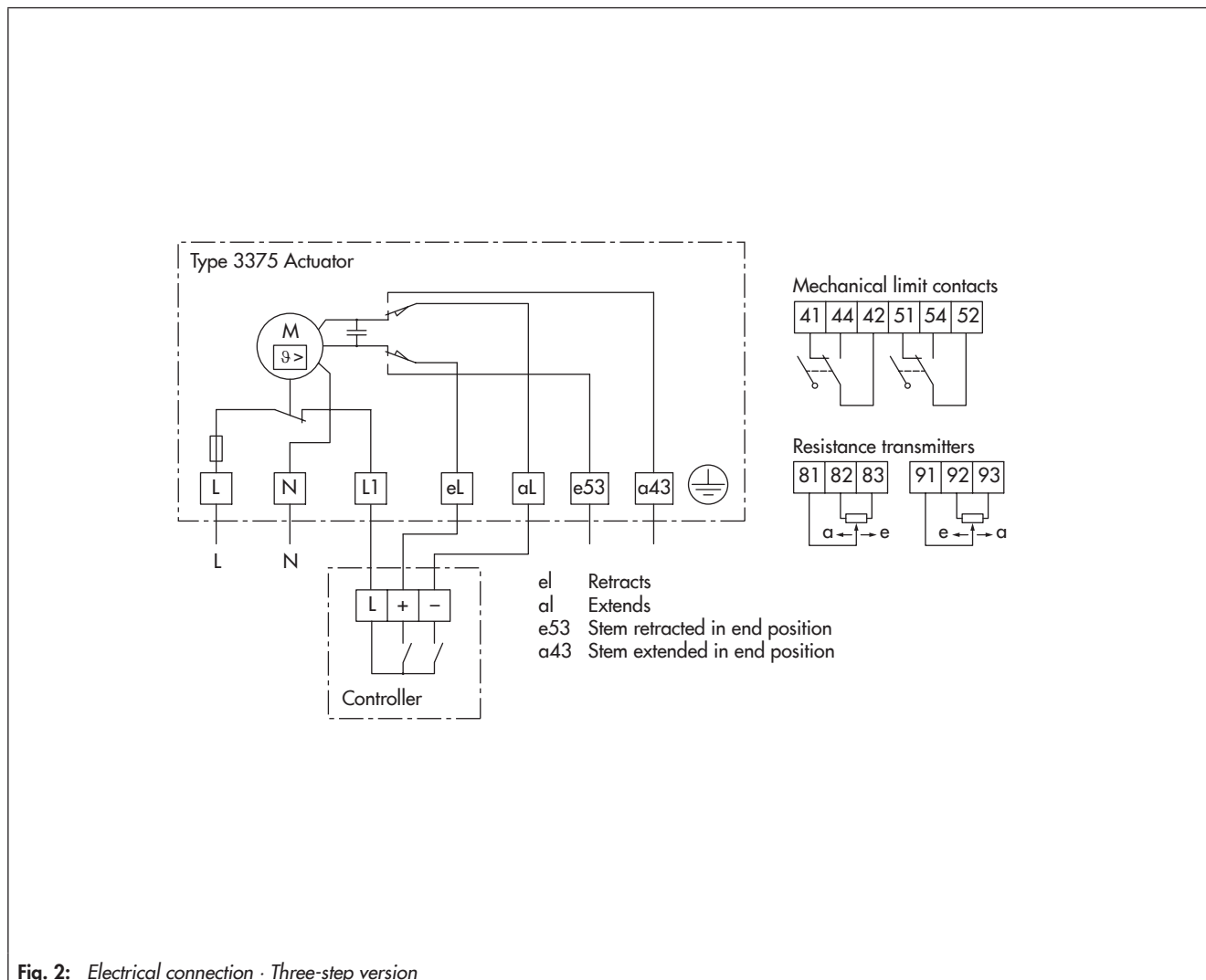
Modbus can be used to configure and connect the actuator to a control station.

## 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



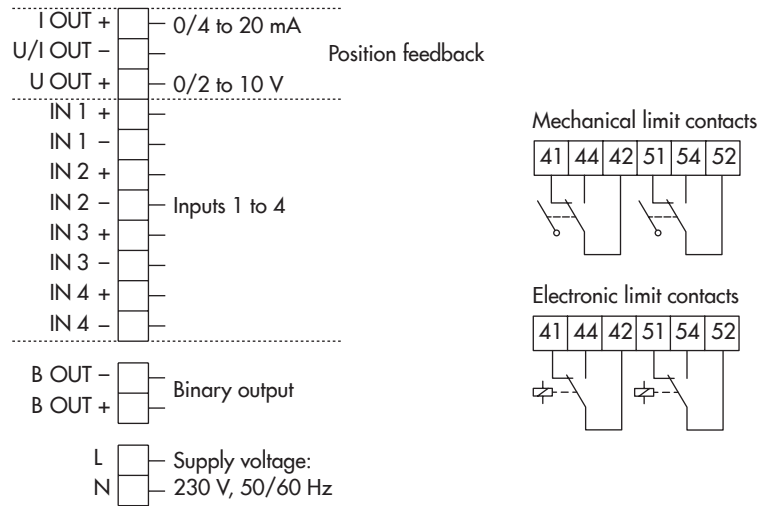
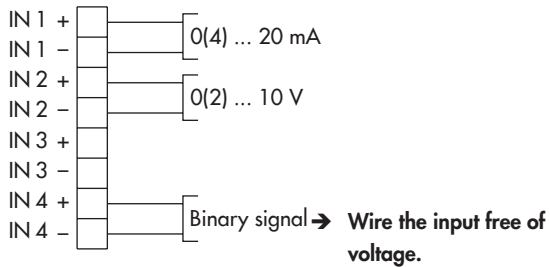
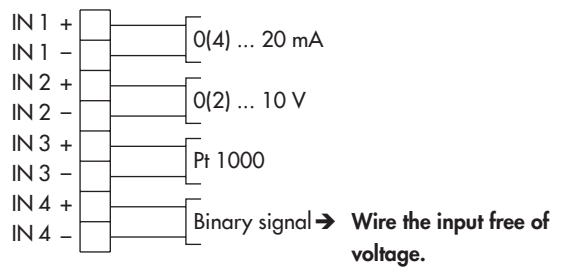


Fig. 3: Electrical connection · Version with digital positioner

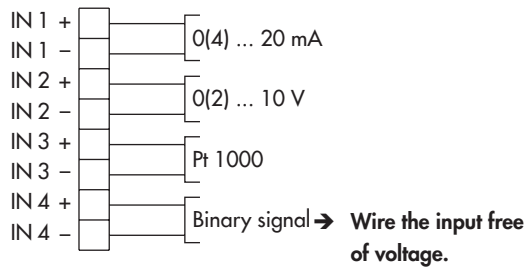
**Application: Positioner (POSI)**



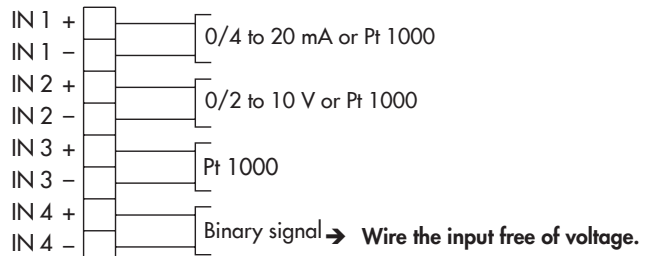
**Application: PID controller (PID)**



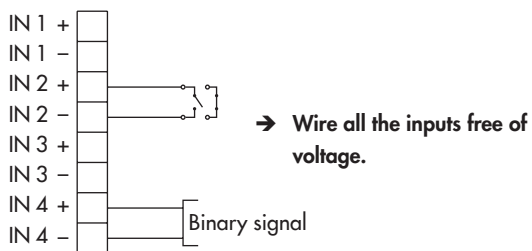
**Application: Temperature closed-loop control upon input signal failure (POSF)**



**Application: PID controller (PID) in Modbus mode**



**Application: Two-step mode (2STP)**



**Application: Three-step mode (3STP)**

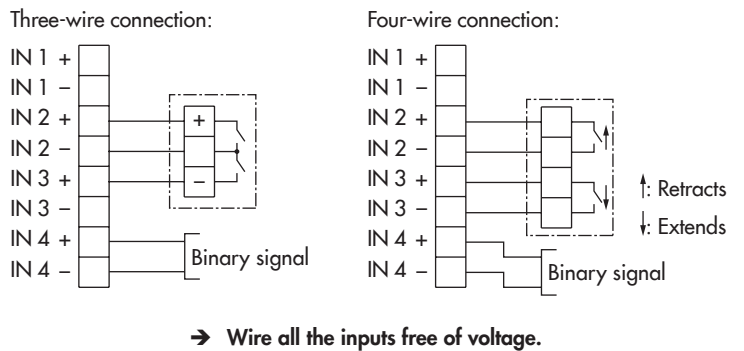




Fig. 4: Terminal assignment depending on the application selected

**Table 1: Technical data · Three-step version**

Type 3375		-10	-11	-20	-21	-22	-30	-31	
Fail-safe action		Without		Actuator stem extends			Actuator stem retracts		
Connection (form-fit)		M30x1.5	M60x1.5	M30x1.5	M60x1.5	M30x1.5	M30x1.5	M60x1.5	
Rated travel		mm	30	60	30	60	30	60	
Stroking speed in mm/s		50 Hz	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	
Transit time in s for rated travel		50 Hz	50	100	50	100	50	100	
		60 Hz	42	84	42	84	42	84	
Transit time in s for fail-safe action		Approx.	-	-	35	80	40	90	
Thrust (stem extends)		kN	12.5	12.5	7.5	5	4	4	
Thrust (stem retracts)		kN	12.5	12.5	1	1	4	2.5	
Supply voltage		230 V, 50 to 60 Hz							
Duty type		S3 - 50 % ED (1200 c/h) according to IEC 60034-1							
Power consumption		VA	180	180	185	185	185	185	
Manual override		Handwheel							
Permissible temperatures <sup>1)</sup>		Ambient	5 to 60 °C						
		Storage	-20 to +70 °C						
Conformity									
Degree of protection		IP 54 according to EN 60529 · IP 65 with cable gland · Suspended mounting not permitted							
Overvoltage category		II according to EN 60664							
Design and testing		According to EN 61010-1							
Class of protection		I according to EN 61140							
EMC		According to EN 61000-6-2, EN 61000-6-3 and EN 61326-1							
<b>Materials</b>									
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							
<b>Weight</b>									
		kg (approx.)	11.7	14.5	19.5	22.5	18	18	21
<b>Additional electrical equipment</b>									
Limit contacts		Two contacts, max. 250 V AC, 1 A							
Resistance transmitters		0 to 1000 Ω, max. 1 mA, usable range up to approx. 900 Ω							

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

**Table 2: Technical data · Version with digital positioner**

Type 3375		-10	-11	-20	-21	-22	-30	-31	
Fail-safe action		Without		Actuator stem extends			Actuator stem retracts		
Connection (form-fit)		M30x1.5	M60x1.5	M30x1.5	M60x1.5	M30x1.5	M30x1.5	M60x1.5	
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									
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	
Power consumption	VA	180	180	185	185	185	185	185	
Supply voltage		230 V, 50 to 60 Hz							
Duty type		S3 - 50 % ED (1200 c/h) according to IEC 60034-1							
Manual override		Electric or mechanical override using handwheel		Electric only, mechanical not possible					
Permissible temperatures <sup>1)</sup>	Ambient	5 to 60 °C							
	Storage	-20 to +70 °C							
Compliance									
<b>Materials</b>									
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							
<b>Weight</b>									
		kg (approx.)	11.7	14.5	19.5	22.5	18	18	21
<b>Digital positioner</b>									
Input signal	Current input	0/4 to 20 mA, adjustable · R <sub>i</sub> = 50 Ω							
	Voltage input	0/2 to 10 V, adjustable · R <sub>i</sub> = 20 kΩ							
	Pt 1000 input	Measuring range: -50 to 150 °C, 300 μA							
	Binary input	By jumpering the terminals, 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							
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 the input signal is missing.							

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
Security		
Motor switch-off		By torque-dependent limit contacts
Degree of protection acc. to EN 60529		IP 65, suspended mounting not permitted according to EN 60664
Overvoltage category		II according to EN 60664
Design and testing		According to EN 61010-1
Class of protection		I according to EN 61140
EMC		According to EN 61000-6-2, EN 61000-6-3 and EN 61326-1
Degree of contamination		2 according to EN 61010-1
Noise immunity		According to EN 61000-6-2
Noise emission		According to EN 61000-6-3
Environmental conditions		
Mechanical environmental conditions		Class 1M2 according to EN 60721-3-1:1998
		Class 2M1 according to EN 60721-3-2:1998
		Class 3M4 according to EN 60721-3-3:1998
		Class 4M4 according to EN 60721-3-4:1998
Ambient conditions		
Humidity		5 to 95 % relative humidity, no dew formation
Additional electrical 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		Module for Modbus RTU communication

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

## Dimensions

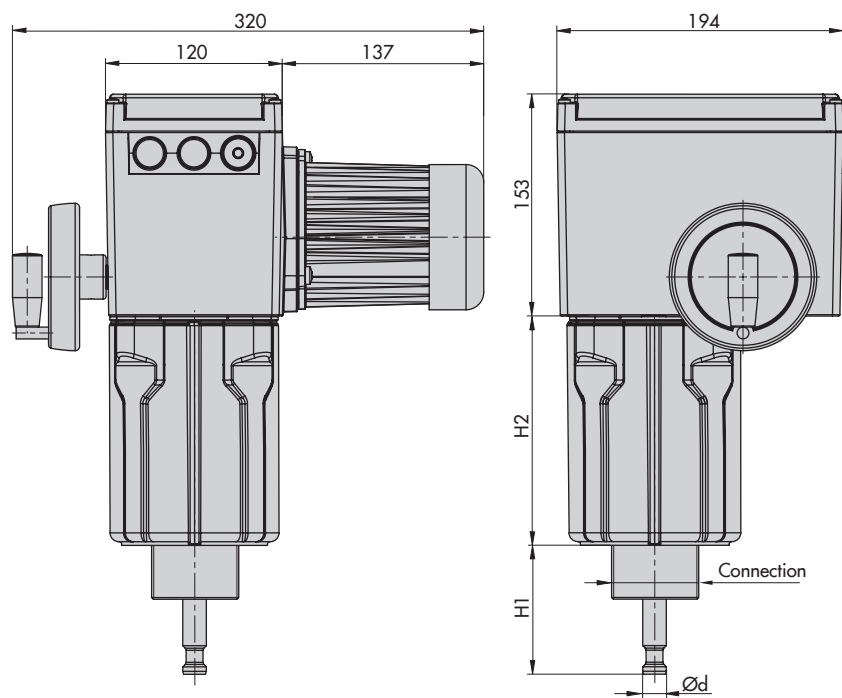


Fig. 5: Dimensions in mm

Table 3: 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:	1400-9998
- Memory pen-64	
- Connecting cable	
- Modular adapter	
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)	► <a href="http://www.samsongroup.com">www.samsongroup.com</a>

## 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

## Associated mounting and operating instructions

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