










Electrical Rotary Actuator - On/Off and control

- Direct mounting on quarter-turn valves (ball and butterfly valves)
- Manual override in standard
- Adjustable limit switches
- Multi-voltage



Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

	Type 2651 2/2 or 3/2 way Ball Valve, 2-Piece	▶
	Type 2654 2/2-way ball valve 3-piece	▶
	Type 2657 Ball Valve, manually-operated	▶
	Type 2671 Butterfly valve	▶
	Type 2674 Plastic butterfly valve	▶
	Type TKU001 2/2 way compact flange ball valve	▶
	Type 8804 2/2 or 3/2 way ball valve with electrical rotary actuator	▶

Type description

The electrical rotary actuator type 3003 is a compact and powerful actuator system, which provides a long service life. Materials and components have been chosen for a maintenance-free operation even in aggressive environments and ensure low thermal loading on the actuator. The modular design offers many additional features to be added to the basic device such as extra limit switches, potentiometers and emergency power. With the control actuator version the input signals as well as the output signals (eg. 4-20 mA, 0-20 mA, 0-10 V) can be programmed. Heating resistor and torque limiter are standard features. The housing is made of flame resistant material classified according to UL 94 V0.

Table of contents

1. General Technical Data	3
2. Materials	4
2.1. Chemical Resistance Chart – Bürkert resistApp.....	4
3. Dimensions	5
4. Device/Process connections	6
4.1. Electrical connections.....	6
Standard actuators for use in open/close & 3-point mode	6
Version with analog signal input	6
5. Product design and assembly	7
5.1. Product assembly	7
6. Ordering information	7
6.1. Bürkert eShop – Easy ordering and quick delivery.....	7
6.2. Bürkert product filter.....	8
6.3. Ordering chart.....	8
On/off version without analog input and output signal.....	8
Control version with analog input and output signal	9
Version with emergency reset.....	9
6.4. Ordering chart accessories.....	10
Reducing sleeves.....	10
Other accessories.....	10
Spare battery for actuators with electronic emergency reset.....	10

1. General Technical Data

Product properties	
Dimensions	Detailed information can be found in chapter "3. Dimensions" on page 5.
Material	
Cover / Body	Nylon / PA 6.6
Axis, Screws	Stainless steel
Gear unit	Stainless steel and PC
ISO Mounting	
	acc. to ISO 5211
Motor 20 Nm	F03/F05 (removable mounting plate - can be changed to F04)
Motor 35, 60, 100 Nm	F05/F07
Drive	
Motor 20 Nm	Female star 14 mm; conversion sleeve 14/11 mm and 14/9 mm enclosed
Motor 35, 60 Nm	Female star 22 mm; conversion sleeve star 22/14 mm enclosed
Motor 100 Nm	Female star 22 mm; conversion sleeve star 22/17 mm enclosed
Manual override	Standard (at 20 Nm with enclosed hand wheel)
Weight	
Motor 20 Nm	1 kg
Motor 35...100 Nm	2.1 kg
Mechanical limit stops	Standard
Optical position indicator	Standard
Performance data	
Torque	25, 35, 60, and 100 Nm Detailed information can be found in chapter "6. Ordering information" on page 7.
Position angle	90° (±5°) (extra angle on request)
Actuating time (90%)	7...119 sec. Detailed information can be found in chapter "6. Ordering information" on page 7.
Options	Varied rotation time 3 position actuator (for 180° actuators - end positions preset to 0°, 90°, 180) Position feedback of the open/close actuator versions optionally via: - Potentiometer 1K, 5K, 10K - Analog signal 4...20 mA Emergency power version Additional limit switches
Electrical data	
Operating voltage	15...30 V AC / 50...60 Hz / 12...48 V DC 100...240 V AC / 50...60 Hz / 100...350 V DC
Limit switches	4 adjustable (2 for the motor and 2 additional for feedback), max. 250 V AC/5 A
Power consumption	15 W...45 W Detailed information can be found in chapter "6. Ordering information" on page 7.
Voltage tolerance	±10 %
Linear actuator with analog input and output signal	
Input	-0...10 V / -4...20 mA / -0...20 mA
Output	-0...10 V / -4...20 mA / -0...20 mA
Motor protection	Electronic torque limiter
Duty cycle	According to IEC34 S4 = 50 %
Heating resistor	Standard
Process/Port connection & communication	
Electrical connection	Cable plug acc. to EN175301-803 (supply voltage) Cable glands ISO M20
Environment and installation	
Installation position	Do not mount the actuator upside down, max. Mounting angle: 90°
Installation site	Up to 2000 m high
Ambient temperature	
For actuator Type 3003 Standard	-10 °C...+55 °C
For actuator Type 3003 with electronic emergency reset	-10 °C...+40 °C
Degree of protection	IP66 with cable plug installed

2. Materials

2.1. Chemical Resistance Chart – Bürkert resistApp



Bürkert resistApp – Chemical Resistance Chart

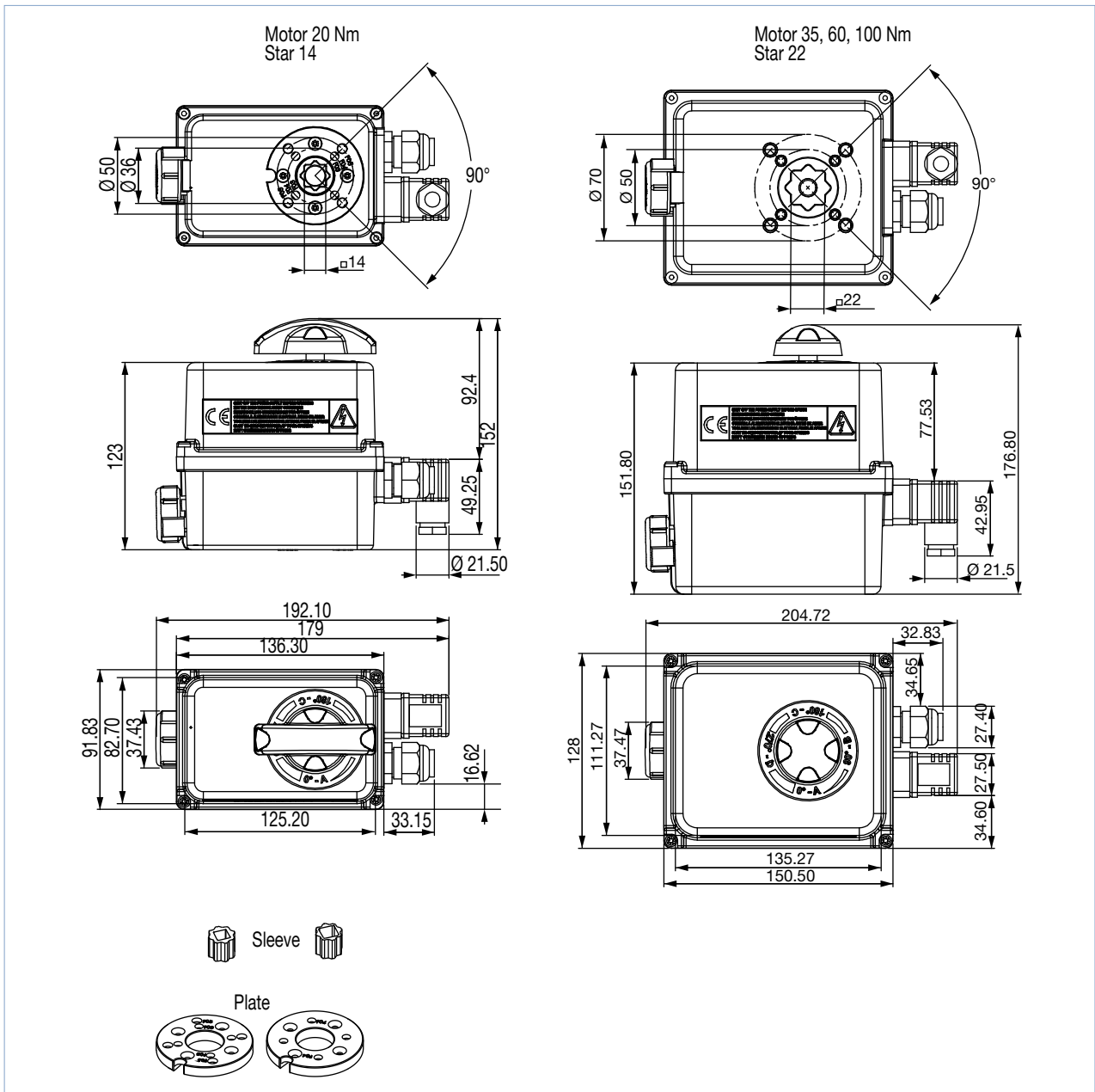
You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start Chemical Resistance Check](#)

3. Dimensions

Note:

Dimensions in mm



Square / Star	Depth
14	16
17	19
22	24

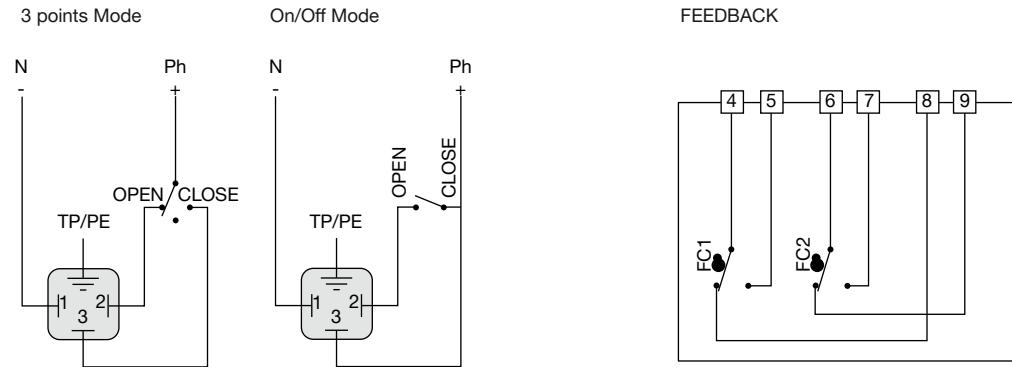
ISO F fixation	Diameter	M threaded	Depth	Screws quantity
F03	36	M5	14.2	4
F04	42	M5	14.2	4
F05	50	M6	14.2/16.4	4
F07	70	M8	16.4	4

DTS 1000020592 EN Version: AJ Status: RL (released | freigegeben | validé) printed: 11.12.2020

4. Device/Process connections

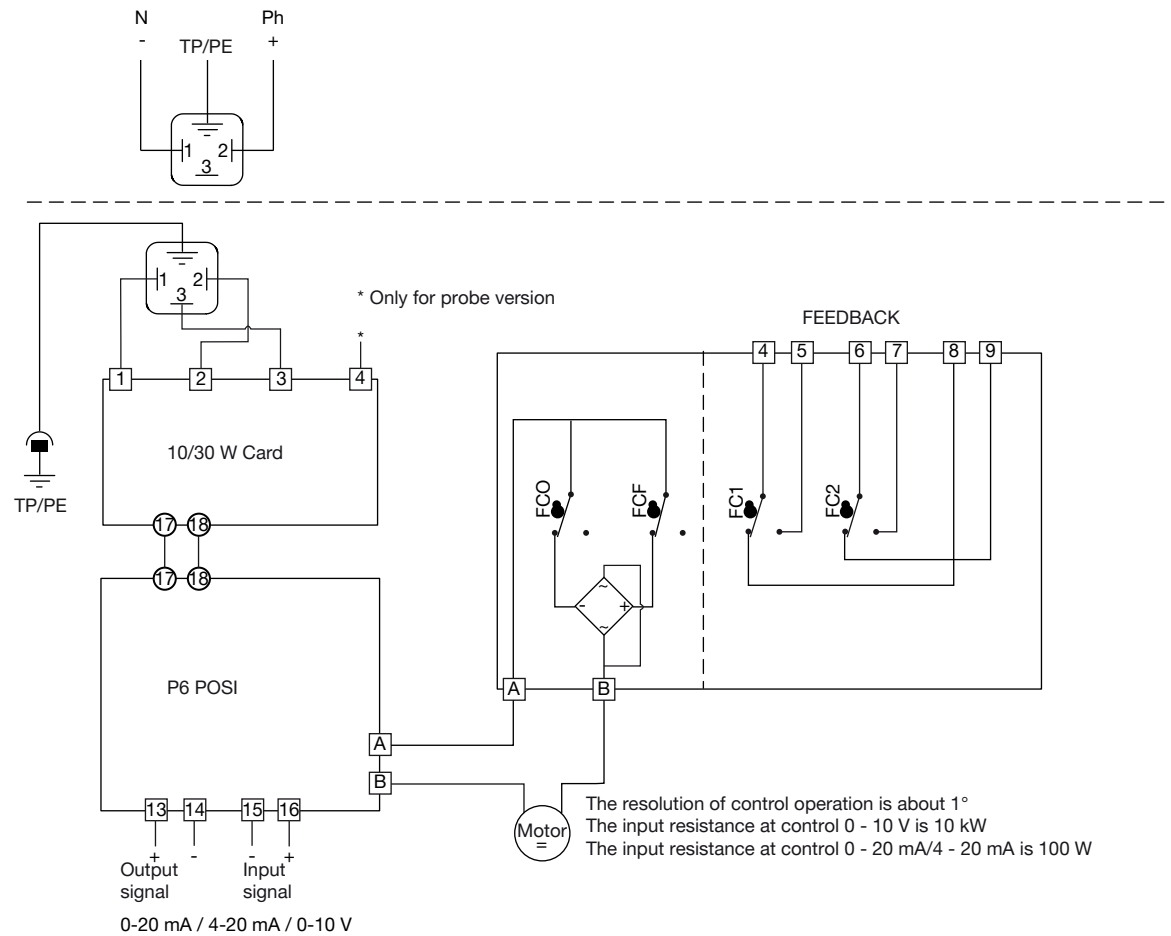
4.1. Electrical connections

Standard actuators for use in open/close & 3-point mode



Symbol	Designation
FCO	Open limit switch
FCF	Close limit switch
FC1	Auxiliary 1 limit switch
FC2	Auxiliary 2 limit switch

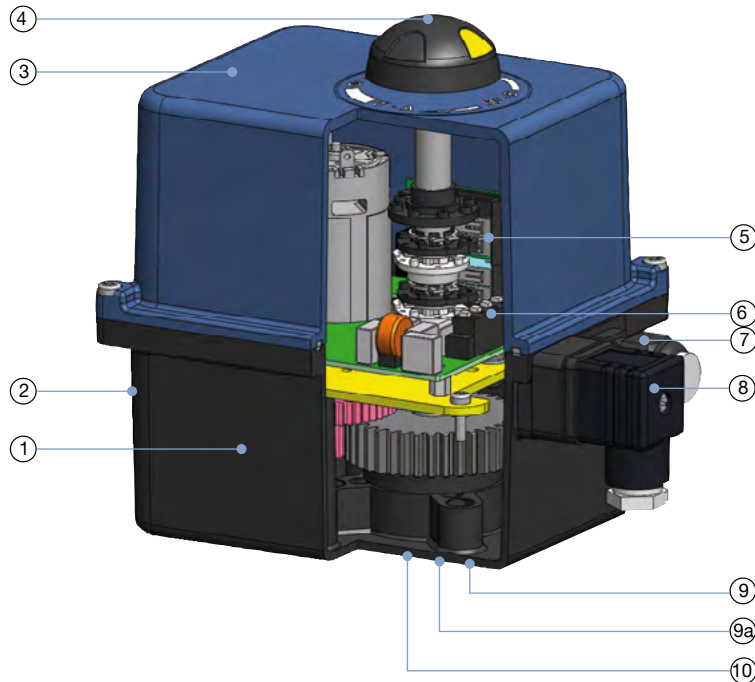
Version with analog signal input



DTS 1000020592 EN Version: AJ Status: RL (released | freigegeben | valide) printed: 11.12.2020

5. Product design and assembly

5.1. Product assembly



Nr.	Element
1	Body
2	Manual override
3	Cover
4	Visual position indicator
5	Limit switches
6	Terminal block
7	Cable gland
8	Cable plug
9	Connection flange
9.a	Removable flange plate (20 Nm only; other interface according ISO 5211)
10	Conversion sleeve

6. Ordering information

6.1. Bürkert eShop – Easy ordering and quick delivery




Bürkert eShop – Easy ordering and fast delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

[Order online now](#)

6.2. Bürkert product filter



Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

[Try out our product filter](#)

6.3. Ordering chart

On/off version without analog input and output signal

Note:

- For the actuator choice, we recommend a safety torque equal to 1.5 times of the valve maximal torque.
- Other rotation time and rotation angle are available on request.

Drive stars	Conversion sleeve star	Conne- tion flange	Torque	90° rota- tion time	Power consump- tion	Voltage / frequency	Article no.
[mm]	[mm]		[Nm]	[s]	[W]	[V / Hz]	
14	14/11 and 14/9	F03-F05 (replace- able F04 flange plate included)	20 Nm	12	15 W	15...30 V AC, 50/60 Hz / 12...48 V DC ^{1.)}	225192
						100...240 V AC, 50/60 Hz / 100...350 V DC	225193
22	22/14	F05-F07	35 Nm	7	45 W	15...30 V AC, 50/60 Hz / 12...48 V DC ^{1.)}	225194
						100...240 V AC, 50/60 Hz / 100...350 V DC	225195
			60 Nm	12	45 W	15...30 V AC, 50/60 Hz / 12...48 V DC ^{1.)}	225196
						100...240 V AC, 50/60 Hz / 100...350 V DC	225197
	22/17	F05-F07	100 Nm	23	45 W	15...30 V AC, 50/60 Hz / 12...48 V DC ^{1.)}	225198
						100...240 V AC, 50/60 Hz / 100...350 V DC	225225

1.) The operating voltage must not fall below 11.5 V

Control version with analog input and output signal

Note:

- For the actuator choice, we recommend a safety torque equal to 2 times of the valve maximal torque.
- Different rotation times and rotation angles are available on request.

Drive stars	Conversion sleeve star	Connection flange	Torque	90° rotation time	Power consumption	Voltage / frequency	Article no.
[mm]	[mm]		[Nm]	[s]	[W]	[V / Hz]	
14	14/11 and 14/9	F03-F05 (replaceable F04 flange plate included)	20 Nm	25	15 W	15...30 V AC, 50/60 Hz / 12...48 V DC ^{1.)}	225199
						100...240 V AC, 50/60 Hz / 100...350 V DC	225200
22	22/14	F05-F07	35 Nm	40	45 W	15...30 V AC, 50/60 Hz / 12...48 V DC ^{1.)}	225201
						100...240 V AC, 50/60 Hz / 100...350 V DC	225202
	22/17	F05-F07	100 Nm	119	45 W	15...30 V AC, 50/60 Hz / 12...48 V DC ^{1.)}	225203
						100...240 V AC, 50/60 Hz / 100...350 V DC	225204
					15...30 V AC, 50/60 Hz / 12...48 V DC ^{1.)}	225205	
						100...240 V AC, 50/60 Hz / 100...350 V DC ^{1.)}	225206

1.) The operating voltage must not fall below 11.5 V

Version with emergency reset

Note:

- For the actuator choice, we recommend a safety torque equal to 1.5 times of the valve maximal torque.
- Other rotation time and rotation angle are available on request.

Drive stars	Conversion sleeve star	Connection flange	Torque	90° rotation time	Power consumption	Voltage / frequency	Article no.
[mm]	[mm]		[Nm]	[s]	[W]	[V / Hz]	
14	14/11 and 14/9	F03-F05 (replaceable F04 flange plate included)	20 Nm	12	15 W	15...30 V AC, 50/60 Hz / 12...48 V DC ^{1.)}	225207
						100...240 V AC, 50/60 Hz / 100...350 V DC	225208
22	22/14	F05-F07	35 Nm	7	45 W	15...30 V AC, 50/60 Hz / 12...48 V DC ^{1.)}	225209
						100...240 V AC, 50/60 Hz / 100...350 V DC	225210
	22/17	F05-F07	100 Nm	23	45 W	15...30 V AC, 50/60 Hz / 12...48 V DC ^{1.)}	225211
						100...240 V AC, 50/60 Hz / 100...350 V DC	225212
						15...30 V AC, 50/60 Hz / 12...48 V DC ^{1.)}	225213
						100...240 V AC, 50/60 Hz / 100...350 V DC	225214

1.) The operating voltage must not fall below 11.5 V













Further versions on request



Voltage
Other supply voltages

6.4. Ordering chart accessories

Reducing sleeves

Description	Article no.
Conversion Sleeve star/square 14/9 mm	665288 
Conversion Sleeve star/square 14/11 mm	665289 
Conversion Sleeve square/square 17/14 mm	665290 
Conversion Sleeve star/square 17/14 mm	773348 
Conversion Sleeve star/square 17/11 mm	773343 
Conversion Sleeve square/square 22/19 mm	773836 
Conversion Sleeve star/square 22/17 mm	684858 
Conversion Sleeve star/star 22/14 mm	666684 
Conversion Sleeve star/square 22/11 mm	773344 
Conversion Sleeve star/square 27/22 mm	774594 
Conversion Sleeve square/square 27/19 mm	774279 
Conversion Sleeve square/square 27/17 mm	774193 




Other accessories

Description	Article no.
Flange plate F04 for actuator 20 Nm	665293 
Key for adjusting the limit switches	679946 

Spare battery for actuators with electronic emergency reset

Note:

- The battery must be replaced after max. 500 charging cycles or after 2 years at the latest. Depending on which condition is reached earlier.
- Additional Info for Type 3004: The person who changes the battery must be trained and qualified to do modifications on ATEX products.
- Actuators that do not have an electronic emergency reset when delivered cannot be upgraded with this device at a later date.

Description	Article no.
Spare battery for actuators with electronic emergency reset of series 3003 with Code BB31/BB33	770051 
Spare battery for actuators with electronic emergency reset of the series 3005 and 3004 (25Nm ... 300Nm) with Code BB31/BB33	772992 
Spare battery for actuators with electronic emergency reset of the series 3005 and 3004 (25 Nm...300 Nm) with code BB40	774761 

Bürkert – Close to You

For up-to-date addresses
please visit us at
www.burkert.com

DTS 1000020592 EN Version: AJ Status: RL (released | freigegeben | validé) printed: 11.12.2020

