










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.

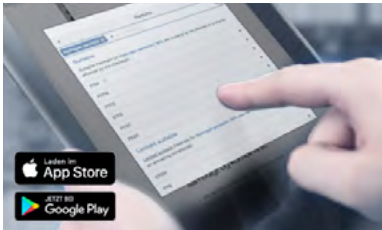
1. General Technical Data

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	20, 35, 60, and 100 Nm Detailed information can be found in chapter "6.3. Ordering chart" on page 8.
Position angle	90° (±5°) (extra angle on request)
Actuating time (90%)	7...119 sec. Detailed information can be found in chapter "6.3. Ordering chart" on page 8.
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 "6.3. Ordering chart" on page 8.
Voltage tolerance	±10 %
Linear actuator with analogue 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) included Cable glands ISO M20
Approvals and certificates	
Certifications / Conformities	CE, CSA/UL
Environment and installation	
Installation position	Do not mount the actuator upside down, max. mounting angle: 90°
Installation site	Up to max. 2000 m altitude
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

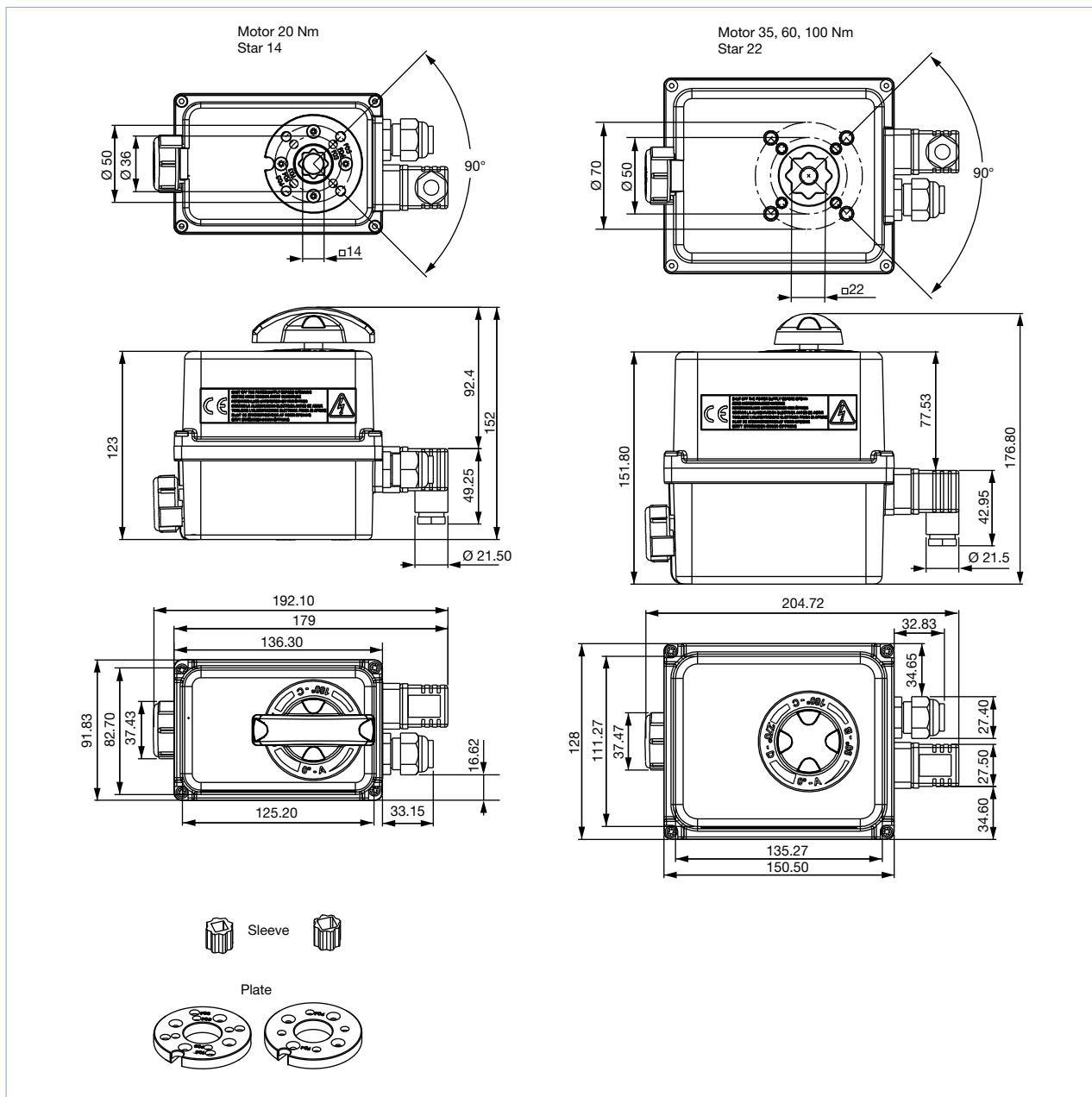
You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start Chemical Resistance Check](#)

3. Dimensions

Note:

Dimensions in mm



Square / Star	Depth
14	16
17	19
22	24

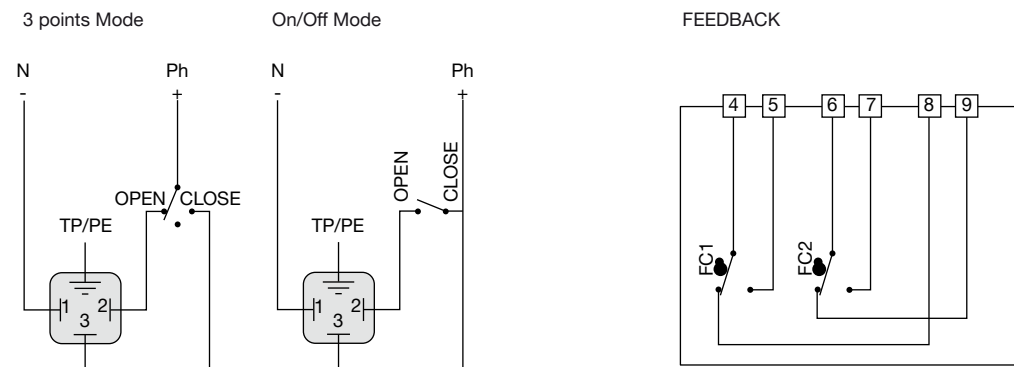
ISO F fixation	Diameter	M threaded	Depth	Screws quantity
F03	36	M5	14.2	4
F04	42	M5	14.2	4
F05	50	M6	14.2/16.4	4
F07	70	M8	16.4	4

DTS 1000020592 EN Version: AO Status: RL (released | freigegeben | valide) printed: 20.05.2021

4. Device/Process connections

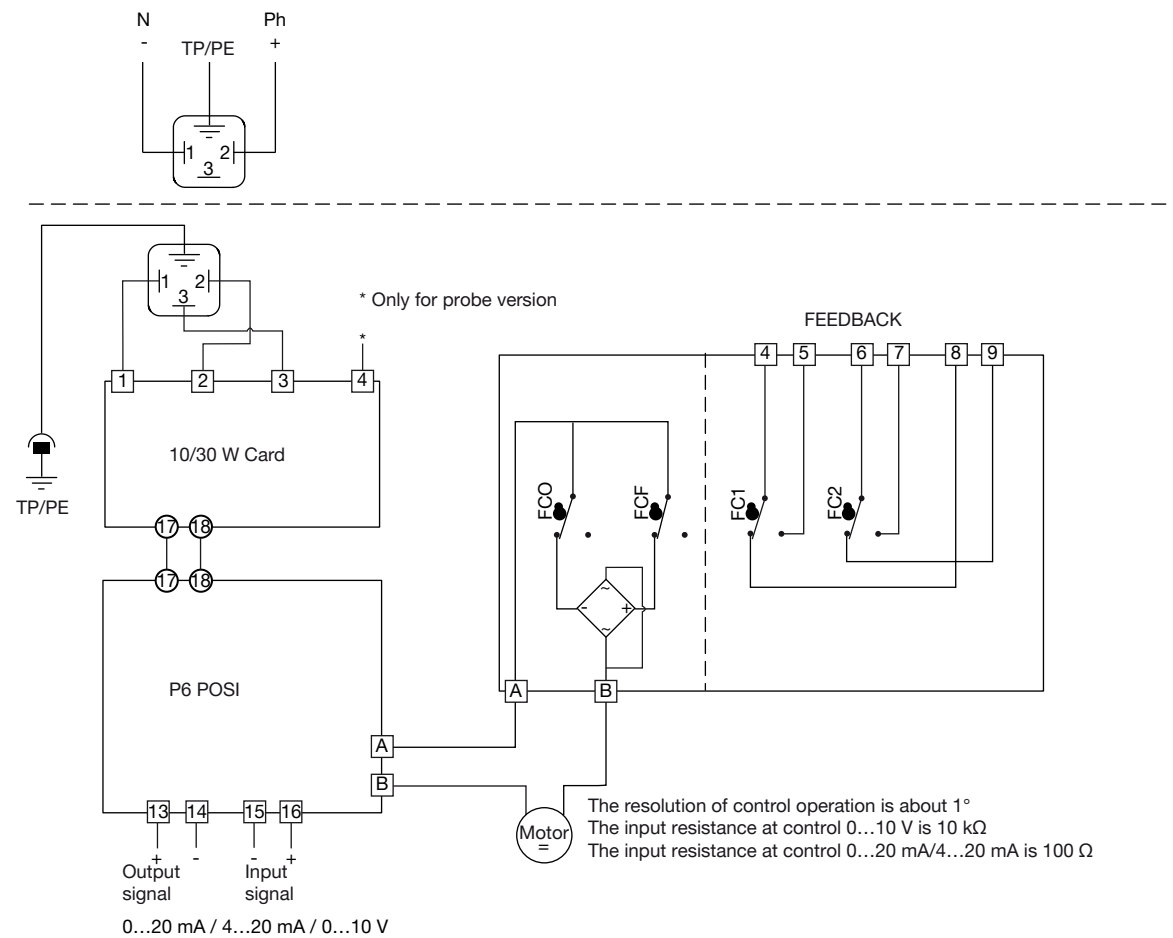
4.1. Electrical connections

Standard actuators for use in on/off & 3-point mode



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

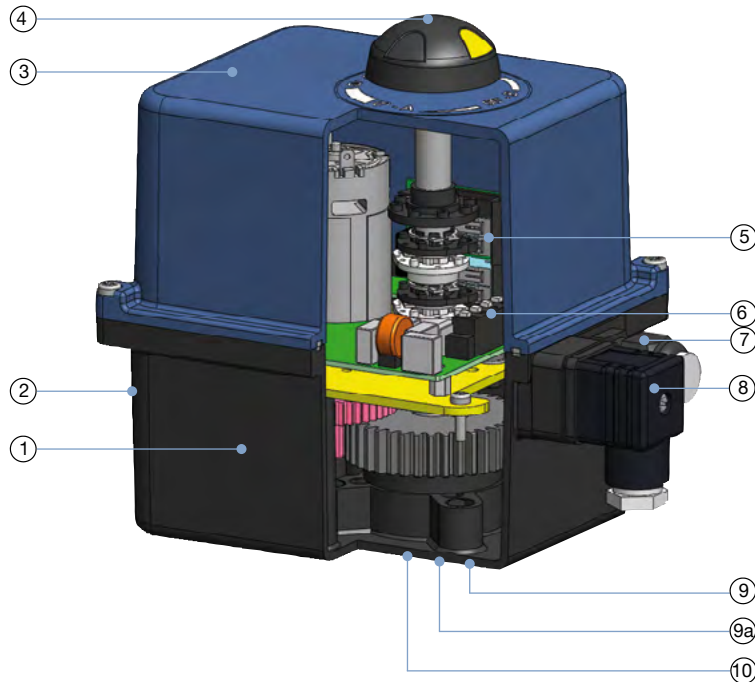
Actuators with analogue input signal and output signal



DTS 1000020592 EN Version: AO Status: RL (released | freigegeben | valide) printed: 20.05.2021

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 to 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

Drive stars	Conversion sleeve star	Connection flange	Torque ^{1.)}	90° rotation time ^{2.)}	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	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	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	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	225198
				23	45 W	100...240 V AC, 50/60 Hz / 100...350 V DC	225225

1.) For the actuator choice, we recommend a safety torque equal to 1.5 times of the valve maximal torque.

2.) Other rotation times and rotation angles are available on request.

Control version with analogue input and output signal

Drive stars	Conversion sleeve star	Connection flange	Torque ^{1.)}	90° rotation time ^{2.)}	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	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	225201	
						100...240 V AC, 50/60 Hz / 100...350 V DC	225202	
	60 Nm	79	45 W	15...30 V AC, 50/60 Hz / 12...48 V DC	225203			
				100...240 V AC, 50/60 Hz / 100...350 V DC	225204			
		22/17	F05-F07	100 Nm	119	45 W	15...30 V AC, 50/60 Hz / 12...48 V DC	225205
							100...240 V AC, 50/60 Hz / 100...350 V DC	225206

1.) For the actuator choice, we recommend a safety torque equal to 1.5 times of the valve maximal torque.

2.) Other rotation times and rotation angles are available on request.

On/off version with emergency reset via integrated battery (Fail-to-Close^{1.)})

Drive stars	Conversion sleeve star	Connection flange	Torque ^{2.)}	90° rotation time ^{3.)}	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	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	225209
						100...240 V AC, 50/60 Hz / 100...350 V DC	225210
			60 Nm	12	45 W	15...30 V AC, 50/60 Hz / 12...48 V DC	225211
					100...240 V AC, 50/60 Hz / 100...350 V DC	225212	
	22/17	F05-F07	100 Nm	23	45 W	15...30 V AC, 50/60 Hz / 12...48 V DC	225213
				23	45 W	100...240 V AC, 50/60 Hz / 100...350 V DC	225214

1.) Fail-to-Open is available on request.

2.) For the actuator choice, we recommend a safety torque equal to 1.5 times of the valve maximal torque.

3.) Other rotation times and rotation angles are available on request.

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

