

Technical data Part-turn actuators with integral actuator controls for open-close and modulating duty	SGC 04.1 – SGC 10.1 SGCR 04.1 – SGCR 10.1
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Type	Operating time for 90° in seconds ¹⁾ (adjustable in 9 steps) 50 Hz/60 Hz	Torque range max. Nm	Running torque/ modulating torque ²⁾ max. Nm	Valve attachment Standard EN ISO 5211	Valve shaft			Handwheel		Wgt approx. kg ³⁾
					Cylindrical max. mm	Square max. mm	Two-flat max. mm	Ø mm	Turns for 90°	
SGC/SGCR 04.1	4 – 63	25 – 63	32	F05/F07	20	17	17	100	13.5	7.0
SGC/SGCR 05.1	4 – 63	50 – 125	63	F05/F07	20	17	17	100	13.5	7.0
SGC/SGCR 07.1	4 – 63	100 – 250	125	F07	25.4	22	22	125	13.5	10
SGC/SGCR 10.1	5.6 – 90	200 – 500	250	F10	38	30	27	160	13.5	15

Features and functions of actuator

Type of duty ⁴⁾	Open-close duty SGC: Short-time duty S2 - 15 min Modulating duty SGCR: Intermittent duty S4 - 40 % with maximum number of starts of 1,800 cycles per hour (option)
Motor	Variable speed, brushless motor
Insulation class	F, tropicalized
Motor protection	PTC thermistors (according to DIN 44081)
Self-locking	Yes
Swing angle	Standard: 82° – 98° adjustable between min. and max. values Option: Other swing angles on request
Limit switching	Via position transmitter potentiometer status signals for directions OPEN and CLOSE
Torque switching	Via electronic current measurement status signals for directions OPEN and CLOSE, adjustable in 8 steps
Mechanical position indicator	Continuous indication, adjustable indicator disc with symbols OPEN and CLOSED
Manual operation	Manual drive for setting and emergency operation, handwheel does not rotate during electric operation
Coupling	Standard: Coupling without bore Options: Machined coupling with bore and keyway, square bore or bore with two-flats according to EN ISO 5211
Valve attachment	Dimensions according to EN ISO 5211

Features and functions of actuator controls

Mains voltage, mains frequency	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="3">1-phase AC voltages/frequencies</th> </tr> <tr> <td>Volt</td> <td>115</td> <td>230</td> </tr> <tr> <td>Hz</td> <td>50/60</td> <td>50/60</td> </tr> </table> <p>Permissible variation of the mains voltage: ±10 % Permissible variation of the mains frequency: ±5 % For current consumption, refer to Electrical data Part-turn actuators SGC/SGCR</p>	1-phase AC voltages/frequencies			Volt	115	230	Hz	50/60	50/60
1-phase AC voltages/frequencies										
Volt	115	230								
Hz	50/60	50/60								
External supply of the electronics (option)	24 V DC +20 %/-15 %, Current consumption: With options up to 200 mA									
Overvoltage category	Category III according to IEC 60364-4-443									
Switchgear	Power electronics with integral motor controller									
Control	Control inputs 24 V DC, OPEN, CLOSE (via opto-isolator, one common), current consumption: approx. 15 mA per input Observe minimum pulse duration for modulating actuators									
Status signals	4 programmable semiconductor output contacts: 2 NO contacts with one common, max. 24 V DC, 1 A (resistive load) Default configuration: End position CLOSED, end position OPEN 2 NO contacts without one common, max. 24 V DC, 1 A (resistive load) Default configuration: Collective fault (torque fault, motor protection tripped), push button REMOTE									
Position feedback signal	Galvanically isolated analogue output E2 = 0/4 – 20 mA (load max. 500 Ω)									
Local controls	Push buttons OPEN, STOP (LOCAL - REMOTE), CLOSE 2 indication lights: End position CLOSED (yellow), fault/malfunction (red), end position OPEN (green), operation mode LOCAL (blue)									

- 1) For longer operating times (SGC/SGCR 04.1 – 07.1 from 32 s and SGC/SGCR 10.1 from 45 s), the rotary movement will be in stepping mode.
- 2) Permissible average torque for the whole travel or in modulating duty
- 3) Part-turn actuator weight with controls, standard electrical connection, with unbored coupling and handwheel
- 4) For nominal voltage and 40 °C ambient temperature and at average running or modulating torque load. The type of duty must not be exceeded.

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Functions	<p>Standard: Switch-off mode adjustable: Limit or torque seating for end position OPEN and end position CLOSED Torque monitoring over the whole travel Torque by-pass</p> <p>Options: Positioner: Position setpoint via analogue input E1 = 0/4 – 20 mA Programmable behaviour on loss of signal Automatic adaptation of the dead band (adaptive behaviour can be selected) Selection between open-close duty and modulating duty via digital MODE input</p> <p>EMERGENCY behaviour programmable: Digital input low active Reaction can be selected: Stop, run to end position CLOSED, run to end position OPEN</p>
Electrical connection	Standard: Plug/socket connector with crimp connection
Wiring diagrams (basic version)	<p>SGC: TPC B-0F6-2A7-0530 TPA 50R200-0A0-000</p> <p>SGCR: TPC B-1H6-2A7-0530 TPA 50R200-0A0-000</p>

Service conditions

Mounting position	Any position
Enclosure protection according to EN 60529	<p>IP 68 According to AUMA definition, enclosure protection IP 68 meets the following requirements: Head of water max. 8 m Duration of continuous immersion in water: max. 96 hours Up to 10 operations during flooding Modulating duty is not possible during continuous immersion</p>
Corrosion protection	<p>Standard: KS Suitable for installation in occasionally or permanently aggressive atmosphere with a moderate pollutant concentration (e.g. in wastewater treatment plants, chemical industry)</p> <p>Option: KX Suitable for installation in extremely aggressive atmospheres with high humidity and high pollutant concentration</p>
Finish coating	Standard: Two-component iron-mica combination
Colour	<p>Standard: AUMA silver-grey (similar to RAL 7037)</p> <p>Option: Other colours are possible on request.</p>
Ambient temperature	-25 °C to +70 °C
Vibration resistance according to EN 60068-2-6	<p>2 g, from 10 Hz to 200 Hz Resistant to vibration during start-up or for failures of the plant. However, a fatigue strength may not be derived from this.</p>
Lifetime	<p>Open-close duty: 20,000 operating cycles OPEN - CLOSE - OPEN An operation cycle is based on an operation from CLOSED to OPEN and back to CLOSED, with a respective swing movement of 90°.</p> <p>Modulating duty⁵⁾: 5 million modulating steps</p>

Further information

EU Directives	<p>Electromagnetic Compatibility (EMC): (2004/108/EC)</p> <p>Low Voltage Directive: (2006/95/EC)</p> <p>Machinery Directive: (2006/42/EC)</p>
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5) The lifetime depends on the load and the number of starts. A high starting frequency will rarely improve the modulating accuracy. To reach the longest possible maintenance and fault-free operating time, the number of starts per hour chosen should be as low as possible for the process.

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