

## SQ 05.2 – SQ 14.2

### Electrical data Part-turn actuators for open-close duty with 3-phase AC motors

#### Short-time duty S2 - 15 min, 220 V/60 Hz

Part-turn actuator			Motor									
Type	Operating time for 90° in seconds	Max. torque [Nm]	Motor type	Nominal power <sup>1)</sup> P <sub>N</sub> [kW]	Speed [rpm]	Nominal current <sup>2)</sup> I <sub>N</sub> [A]	Max. current <sup>3)</sup> I <sub>max</sub> [A]	Starting current I <sub>A</sub> [A]	cos φ	Overcurrent protection device setting [A]	AUMA power class for switch-gear	
											Contact-tor	Thyristor
SQ 05.2	3	150	VD00063-2-0,06	0.06	3,360	1.3	1.3	4.1	0.57	1.3	A1	B1
	4.5					1.3	1.3	4.1	0.57	1.3	A1	B1
	6		VD00063-4-0,04	0.04	1,680	0.9	0.9	2.2	0.50	0.9	A1	B1
	9					0.9	0.9	2.2	0.50	0.9	A1	B1
	12		VD00063-4-0,02	0.02	1,680	0.9	0.9	2.2	0.40	0.9	A1	B1
	17					0.9	0.9	2.2	0.40	0.9	A1	B1
25	SD00063-4-0,01	0.01	1,680	0.7	0.7	1.5	0.38	0.7	A1	B1		
50	SD00063-8-0,01			840	0.9	0.9	1.1	0.61	0.9	A1	B1	
SQ 07.2	3	300	VD00063-2-0,12	0.12	3,360	1.5	2.0	6.5	0.52	2.0	A1	B1
	4.5					1.5	2.0	6.5	0.52	2.0	A1	B1
	6		VD00063-4-0,06	0.06	1,680	1.3	1.5	3.5	0.38	1.5	A1	B1
	9					1.3	1.5	3.5	0.38	1.5	A1	B1
	12		VD00063-4-0,03	0.03	1,680	0.9	0.9	2.2	0.43	0.9	A1	B1
	17					0.9	0.9	2.2	0.43	0.9	A1	B1
25	SD00063-4-0,01	0.01	1,680	0.7	0.7	1.5	0.39	0.7	A1	B1		
50	SD00063-8-0,01			840	0.9	0.9	1.1	0.61	0.9	A1	B1	
SQ 10.2	6	450	VD00063-4-0,10	0.10	1,680	1.7	2.2	4.4	0.48	2.2	A1	B1
	9					1.7	2.0	4.4	0.48	2.0	A1	B1
	12		SD00063-4-0,06	0.06	1,680	1.3	1.5	3.5	0.38	1.5	A1	B1
	17	1.3				1.5	3.5	0.38	1.5	A1	B1	
	25	SD00063-4-0,04				0.04	1,680	1.1	1.1	2.2	0.48	1.1
	35		1.1	1.1	2.2			0.48	1.1	A1	B1	
50	SD00063-4-0,02		0.02	1,680	0.7			0.7	1.5	0.43	0.7	A1
50	SD00063-4-0,02	0.02			1,680	0.7	0.7	1.5	0.43	0.7	A1	B1
SQ 12.2	9	900	VD00063-2-0,19	0.19	3,360	2.2	2.6	7.6	0.53	2.6	A1	B1
	12		VD00063-4-0,10			0.10	1,680	1.7	2.2	4.4	0.48	2.2
	17		VD00063-4-0,10	0.10	1,680			1.7	2.0	4.4	0.48	2.0
	25	SD00063-4-0,06	0.06			1,680	1.3	1.5	3.5	0.38	1.5	A1
	35			1.3	1.5		3.5	0.38	1.5	A1	B1	
	50			SD00063-4-0,04	0.04		1,680	1.1	1.1	2.2	0.48	1.1
75	1.1	1.1	2.2			0.48		1.1	A1	B1		
108	VD00063-4-0,02	0.02	1,680			0.7		0.7	1.5	0.43	0.7	A1
108	VD00063-4-0,02			0.02	1,680	0.7	0.7	1.5	0.43	0.7	A1	B1
SQ 14.2	20	1,800	VD00063-2-0,19			0.19	3,360	2.2	2.6	7.6	0.53	2.6
	30		VD00063-4-0,10	0.10	1,680			1.7	2.0	4.4	0.48	2.0
	40	VD00063-4-0,10	0.10			1,680	1.7	2.0	4.4	0.48	2.0	A1
	60	SD00063-4-0,06		0.06	1,680		1.3	1.5	3.5	0.38	1.5	A1
	85		SD00063-4-0,06			0.06	1,680	1.3	1.5	3.5	0.38	1.5

#### Notes on table

1) Nominal power P <sub>N</sub>	Mechanical power output at motor shaft at running torque of part-turn actuator (corresponds to approx. 35 % of maximum torque). The consumed electrical power can be calculated using the following formula: $P = U \times I \times \cos \varphi \times \sqrt{3}$
2) Nominal current I <sub>N</sub>	Current at running torque
3) Max. current I <sub>max</sub>	Current at maximum torque

#### Notes on installation and sizing

Motor data	Motor data is approximate. Due to usual manufacturing tolerances, there may be deviations from the values given.																
Thermoswitches/PTC thermistors	To protect against overheating, thermoswitches or PTC thermistors are embedded in the motor windings.  <b>Actuators without integral controls (AUMA NORM):</b> Thermoswitches or PTC thermistors have to be considered within the external controls (refer to terminal plan). <b>Note: Failure to connect thermoswitches or PTC thermistors shall void the warranty for the motor.</b> <b>Rating of the thermoswitches</b> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th colspan="2">AC current</th> <th colspan="2">DC current</th> </tr> </thead> <tbody> <tr> <td colspan="2">250 V, 50 – 60 Hz</td> <td>60 V</td> <td>1.0 A</td> </tr> <tr> <td>cos φ = 1</td> <td>2.5 A</td> <td>42 V</td> <td>1.2 A</td> </tr> <tr> <td>cos φ = 0.6</td> <td>1.6 A</td> <td>24 V</td> <td>1.5 A</td> </tr> </tbody> </table> <b>Actuators with AM or AC integral controls:</b> Thermal motor protection is already integrated.	AC current		DC current		250 V, 50 – 60 Hz		60 V	1.0 A	cos φ = 1	2.5 A	42 V	1.2 A	cos φ = 0.6	1.6 A	24 V	1.5 A
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We reserve the right to alter data according to improvements made. Previous documents become invalid with the issue of this document.

Mains voltage, mains frequency	Permissible variation of mains voltage: ±10 % Permissible variation of mains frequency: ±5 %																											
Switchgear sizing	<p>For motor operation, reversing contactors (mechanically, electrically and electronically locked) or thyristors (electronically locked) can be used.</p> <p><b>Actuators without integral controls (AUMA NORM):</b></p> <p>Switchgear are supplied by the customer. We recommend specification of switchgear suitable for their rated operating power/motor power in compliance with the assigned AUMA power class.</p> <p>Switchgear assignment to AUMA power classes:</p> <table border="1" data-bbox="456 483 1418 701"> <thead> <tr> <th rowspan="2">AUMA power class</th> <th rowspan="2">Reversing contactor Rated operating power acc. to EN 60947-4-1 Utilization category AC-3</th> <th colspan="2">Reversing contactor Motor power according to UL/CSA at</th> </tr> <tr> <th>480 V AC</th> <th>600 V AC</th> </tr> </thead> <tbody> <tr> <td>A1</td> <td>4.0 kW</td> <td>5.0 hp</td> <td>5.0 hp</td> </tr> <tr> <td>A2</td> <td>7.5 kW</td> <td>10 hp</td> <td>10 hp</td> </tr> <tr> <td>A3</td> <td>15 kW</td> <td>20 hp</td> <td>25 hp</td> </tr> </tbody> </table> <table border="1" data-bbox="456 712 959 929"> <thead> <tr> <th rowspan="2">AUMA power class</th> <th rowspan="2">Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a</th> </tr> <tr> <th>400 V AC</th> </tr> </thead> <tbody> <tr> <td>B1</td> <td>6 A</td> </tr> <tr> <td>B2</td> <td>8.5 A</td> </tr> <tr> <td>B3</td> <td>16 A</td> </tr> </tbody> </table> <p><b>Actuators with AM or AC integral controls:</b></p> <p>Required switchgear in power classes A1 – A3 or B1 – B3 are directly integrated in AM or AC controls.</p>	AUMA power class	Reversing contactor Rated operating power acc. to EN 60947-4-1 Utilization category AC-3	Reversing contactor Motor power according to UL/CSA at		480 V AC	600 V AC	A1	4.0 kW	5.0 hp	5.0 hp	A2	7.5 kW	10 hp	10 hp	A3	15 kW	20 hp	25 hp	AUMA power class	Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a	400 V AC	B1	6 A	B2	8.5 A	B3	16 A
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