

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, 200 V/50 Hz

Part-turn actuator			Motor									
Type	Operating time for 90° in seconds	Max. torque [Nm]	Motor type	Nominal power ¹⁾ P _N [kW]	Speed [rpm]	Nominal current ²⁾ I _N [A]	Max. current ³⁾ I _{max} [A]	Starting current I _A [A]	cos φ	Overcurrent protection device setting [A]	AUMA power class for switch-gear	
											Contact- tor	Thyristor
SQ 05.2	4	150	VD00063-2-0,06	0.06	2,800	1.2	1.2	3.8	0.57	1.2	A1	B1
	5.6					1.2	1.2	3.8	0.57	1.2	A1	B1
	8		VD00063-4-0,04	0.04	1,400	0.8	0.8	2.0	0.50	0.8	A1	B1
	11					0.8	0.8	2.0	0.50	0.8	A1	B1
	16		VD00063-4-0,02	0.02	1,400	0.8	0.8	2.0	0.40	0.8	A1	B1
	22					0.8	0.8	2.0	0.40	0.8	A1	B1
	32		SD00063-4-0,01	0.01	1,400	0.6	0.6	1.4	0.38	0.6	A1	B1
63	0.6	0.6				1.4	0.38	0.6	A1	B1		
SQ 07.2	4	300	VD00063-2-0,12	0.12	2,800	1.4	1.8	6.0	0.52	1.8	A1	B1
	5.6					1.4	1.8	6.0	0.52	1.8	A1	B1
	8		VD00063-4-0,06	0.06	1,400	1.2	1.4	3.2	0.38	1.4	A1	B1
	11					1.2	1.4	3.2	0.38	1.4	A1	B1
	16		VD00063-4-0,03	0.03	1,400	0.8	0.8	2.0	0.43	0.8	A1	B1
	22					0.8	0.8	2.0	0.43	0.8	A1	B1
	32		SD00063-4-0,01	0.01	1,400	0.6	0.6	1.4	0.38	0.6	A1	B1
63	0.6	0.6				1.4	0.38	0.6	A1	B1		
SQ 10.2	8	450	VD00063-4-0,10	0.10	1,400	1.6	2.0	4.0	0.48	2.0	A1	B1
	11					1.6	1.8	4.0	0.48	1.8	A1	B1
	16		SD00063-4-0,06	0.06	1,400	1.2	1.4	3.2	0.38	1.4	A1	B1
	22	1.2				1.4	3.2	0.38	1.4	A1	B1	
	32	SD00063-4-0,04	0.04	1,400	1.0	1.0	2.0	0.48	1.0	A1	B1	
	45				1.0	1.0	2.0	0.48	1.0	A1	B1	
	63	SD00063-4-0,02	0.02	1,400	0.6	0.6	1.4	0.43	0.6	A1	B1	
63	0.6				0.6	1.4	0.43	0.6	A1	B1		
SQ 12.2	11	900	VD00063-2-0,19	0.19	2,800	2.0	2.4	7.0	0.53	2.4	A1	B1
	16					1.6	2.0	4.0	0.48	2.0	A1	B1
	22		VD00063-4-0,10	0.10	1,400	1.6	1.8	4.0	0.48	1.8	A1	B1
	32	1.6				1.8	4.0	0.48	1.8	A1	B1	
	45	SD00063-4-0,06	0.06	1,400	1.2	1.4	3.2	0.38	1.4	A1	B1	
	63				1.2	1.4	3.2	0.38	1.4	A1	B1	
	90	SD00063-4-0,04	0.04	1,400	1.0	1.0	2.0	0.48	1.0	A1	B1	
125	1.0				1.0	2.0	0.48	1.0	A1	B1		
SQ 14.2	24	1,800	VD00063-2-0,19	0.19	2,800	2.0	2.4	7.0	0.53	2.4	A1	B1
	36					1.6	1.8	4.0	0.48	1.8	A1	B1
	48	VD00063-4-0,10	0.10	1,400	1.6	1.8	4.0	0.48	1.8	A1	B1	
	72				1.6	1.8	4.0	0.48	1.8	A1	B1	
	100	SD00063-4-0,06	0.06	1,400	1.2	1.4	3.2	0.38	1.4	A1	B1	
100	1.2				1.4	3.2	0.38	1.4	A1	B1		

Notes on table

1) Nominal power P _N	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 _N	Current at running torque
3) Max. current I _{max}	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.
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<p>Thermoswitches/PTC thermistors</p>	<p>To protect against overheating, thermoswitches or PTC thermistors are embedded in the motor windings.</p> <p>Actuators without integral controls (AUMA NORM): Thermoswitches or PTC thermistors have to be considered within the external controls (refer to terminal plan).</p> <p>Note: Failure to connect thermoswitches or PTC thermistors shall void the warranty for the motor.</p> <p>Rating of the thermoswitches</p> <table border="1" data-bbox="454 421 1182 539"> <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> <p>Actuators with AM or AC integral controls: Thermal motor protection is already integrated.</p>	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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<p>Mains voltage, mains frequency</p>	<p>Permissible variation of mains voltage: ±10 % Permissible variation of mains frequency: ±5 %</p>																											
<p>Switchgear sizing</p>	<p>For motor operation, reversing contactors (mechanically, electrically and electronically locked) or thyristors (electronically locked) can be used.</p> <p>Actuators without integral controls (AUMA NORM): 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. Switchgear assignment to AUMA power classes:</p> <table border="1" data-bbox="454 902 1420 1346"> <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="454 1126 959 1346"> <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>Actuators with AM or AC integral controls: 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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