

## SQ 05.2 – SQ 14.2

### Electrical data Part-turn actuators for open-close duty with 1-phase AC motors

#### Short-time duty S2 - 10 min, 100 V – 105 V/50 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]	Operating capacitor <sup>2)</sup> [μF]	Nominal current <sup>3)</sup> I <sub>N</sub> [A]	Max. current <sup>4)</sup> I <sub>max</sub> [A]	Starting current I <sub>A</sub> [A]	cos φ	Over-current protection device setting [A]	AUMA power class switchgear	
												Contact- tor	Thyristor
SQ 05.2	4	110	VW00063-2-0,06	0.06	2,800	70	2.0	3.2	10	0.95	3.2	A1	B1
	5.6						2.0	3.0	10	0.95	3.0	A1	B1
	8		VW00063-4-0,04	0.04	1,400	50	2.1	2.4	4.1	0.98	2.4	A1	B1
	11						2.1	2.4	4.1	0.98	2.4	A1	B1
	16		VW00063-4-0,02	0.02	1,400	35	1.4	1.6	3.7	0.81	1.6	A1	B1
	22						1.4	1.6	3.7	0.81	1.6	A1	B1
	32		SW00063-4-0,01	0.01	1,400	35	1.4	1.5	3.7	0.79	1.5	A1	B1
63	1.4	1.4					1.5	0.99	1.4	A1	B1		
SQ 07.2	4	220	VW00063-2-0,12	0.12	2,800	100	3.6	5.3	11	0.97	5.3	A1	B1
	5.6						3.6	5.0	11	0.97	5.0	A1	B1
	8		VW00063-4-0,06	0.06	1,400	70	2.6	3.2	6.2	0.97	3.2	A1	B1
	11						2.6	3.0	6.2	0.97	3.0	A1	B1
	16		VW00063-4-0,03	0.03	1,400	50	2.0	2.4	4.1	0.97	2.4	A1	B1
	22						2.0	2.4	4.1	0.97	2.4	A1	B1
	32		SW00063-4-0,01	0.01	1,400	35	1.4	1.6	3.7	0.79	1.6	A1	B1
63	1.4	1.4					1.5	0.99	1.4	A1	B1		
SQ 10.2	8	340	VW00063-4-0,10	0.10	1,400	80	3.8	4.5	6.7	0.98	4.5	A1	B1
	11						3.8	4.6	6.7	0.98	4.6	A1	B1
	16	SW00063-4-0,06	0.06	1,400	60	2.5	3.0	5.9	0.98	3.0	A1	B1	
	22					2.5	2.8	5.9	0.98	2.8	A1	B1	
	32	SW00063-4-0,04	0.04	1,400	50	2.1	2.4	4.1	0.98	2.4	A1	B1	
	45					2.1	2.4	4.1	0.98	2.4	A1	B1	
63	SW00063-4-0,02	0.02	1,400	35	1.4	1.6	3.7	0.81	1.6	A1	B1		
SQ 12.2	11	670	VW00063-2-0,19	0.19	2,800	110	4.2	6.0	11	0.97	6.0	A1	B1
	16						3.8	4.5	6.7	0.98	4.5	A1	B1
	22	VW00063-4-0,10	0.10	1,400	80	3.8	4.6	6.7	0.98	4.6	A1	B1	
	32					2.5	3.0	5.9	0.98	3.0	A1	B1	
	45	SW00063-4-0,06	0.06	1,400	60	2.5	2.8	5.9	0.98	2.8	A1	B1	
	63					2.1	2.4	4.1	0.98	2.4	A1	B1	
	90	SW00063-4-0,04	0.04	1,400	50	2.1	2.4	4.1	0.98	2.4	A1	B1	
125	2.1					2.4	4.1	0.98	2.4	A1	B1		
125	SW00063-4-0,02	0.02	1,400	35	1.4	1.6	3.7	0.81	1.6	A1	B1		
SQ 14.2	24	1,350	VW00063-2-0,19	0.19	2,800	110	4.2	6.0	11	0.97	6.0	A1	B1
	36						3.8	4.5	6.7	0.98	4.5	A1	B1
	48	VW00063-4-0,10	0.10	1,400	80	3.8	4.6	6.7	0.98	4.6	A1	B1	
	72					2.5	3.0	5.9	0.98	3.0	A1	B1	
	100	SW00063-4-0,06	0.06	1,400	60	2.5	2.8	5.9	0.98	2.8	A1	B1	

#### 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: $P = U \times I \times \cos \varphi$
2) Service/starting capacitor	For VW/SW motors, operating capacitors are integrated within the motor.
3) Nominal current I <sub>N</sub>	Current at running torque
4) 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	<p>To protect against overheating, thermoswitches or PTC thermistors are embedded in the motor windings.</p> <p><b>Actuators without integral controls (AUMA NORM):</b> Thermoswitches or PTC thermistors have to be considered within the external controls (refer to terminal plan).</p> <p><b>Note: Failure to connect thermoswitches or PTC thermistors shall void the warranty for the motor.</b></p> <p><b>Rating of the thermoswitches</b></p> <table border="1"> <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><b>Actuators with AM or AC integral controls:</b> 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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Mains voltage, mains frequency	<p>Permissible variation of mains voltage: ±10 %</p> <p>Permissible variation of mains frequency: ±5 %</p>																														
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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> 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"> <thead> <tr> <th>AUMA power class</th> <th>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> </thead> <tbody> <tr> <td></td> <td>400 V AC</td> <td>480 V AC</td> <td>600 V AC</td> </tr> <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"> <thead> <tr> <th>AUMA power class</th> <th>Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a</th> </tr> </thead> <tbody> <tr> <td></td> <td>400 V AC</td> </tr> <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> 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			400 V AC	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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