

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/60Hz

Part-turn actuator			Motor										
Type	Operating time for 90° in seconds	Max. torque [Nm]	Motor type	Nominal power ¹⁾ P _N [kW]	Speed [rpm]	Operating capacitor ²⁾ [μF]	Nominal current ³⁾ I _N [A]	Max. current ⁴⁾ I _{max} [A]	Starting current I _A [A]	cos φ	Over-current protection device setting [A]	AUMA power class switchgear	
												Contact- tor	Thyristor
SQ 05.2	3	110	VW00063-2-0,06	0.06	3,360	70	2.5	3.6	12.5	0.94	3.6	A1	B1
	4.5						2.5	3.4	12.5	0.94	3.4	A1	B1
	6		VW00063-4-0,04	0.04	1,680	50	2.6	3.0	4.7	0.96	3.0	A1	B1
	9						2.6	2.9	4.7	0.96	2.9	A1	B1
	12		VW00063-4-0,02	0.02	1,680	35	1.4	1.6	4.3	0.94	1.6	A1	B1
	17						1.4	1.6	4.3	0.94	1.6	A1	B1
	25		SW00063-4-0,01	0.01	1,680	35	1.3	1.5	4.3	0.91	1.5	A1	B1
50	1.6	1.7					1.9	0.99	1.7	A1	B1		
SQ 07.2	3	220	VW00063-2-0,12	0.12	3,360	100	4.6	6.3	13.0	0.83	6.3	A1	B1
	4.5						4.6	6.0	13.0	0.83	6.0	A1	B1
	6		VW00063-4-0,06	0.06	1,680	70	3.5	4.6	7.8	0.98	4.6	A1	B1
	9						3.5	4.4	7.8	0.98	4.4	A1	B1
	12		VW00063-4-0,03	0.03	1,680	50	2.5	2.9	4.7	0.96	2.9	A1	B1
	17						2.5	2.8	4.7	0.96	2.8	A1	B1
	25		SW00063-4-0,01	0.01	1,680	35	1.3	1.7	4.3	0.91	1.7	A1	B1
50	1.6	1.7					1.9	0.99	1.7	A1	B1		
SQ 10.2	6	340	VW00063-4-0,10	0.10	1,680	80	4.3	5.6	8.0	0.98	5.6	A1	B1
	9						4.3	5.7	8.0	0.98	5.7	A1	B1
	12	450	SW00063-4-0,06	0.06	1,680	60	2.7	3.3	6.6	0.98	3.3	A1	B1
	17						2.7	3.0	6.6	0.98	3.0	A1	B1
	25						2.6	3.0	4.7	0.96	3.0	A1	B1
	35						2.6	2.9	4.7	0.96	2.9	A1	B1
50	SW00063-4-0,02	0.02	1,680	35	1.4	1.6	4.3	0.94	1.6	A1	B1		
SQ 12.2	9	670	VW00063-2-0,19	0.19	3,360	110	5.8	6.5	13.5	0.86	6.5	A1	B1
	12						4.3	5.6	8.0	0.98	5.6	A1	B1
	17	VW00063-4-0,10	0.10	1,680	80	4.3	5.7	8.0	0.98	5.7	A1	B1	
	25					2.7	3.3	6.6	0.98	3.3	A1	B1	
	35	SW00063-4-0,06	0.06	1,680	60	2.7	3.0	6.6	0.98	3.0	A1	B1	
	50					2.6	3.0	4.7	0.96	3.0	A1	B1	
	75	SW00063-4-0,04	0.04	1,680	50	2.6	2.9	4.7	0.96	2.9	A1	B1	
108	1.4					1.6	4.3	0.94	1.6	A1	B1		
SQ 14.2	20	1,350	VW00063-2-0,19	0.19	3,360	110	5.8	6.5	13.5	0.86	6.5	A1	B1
	30						4.3	5.6	8.0	0.98	5.6	A1	B1
	40	1,800	VW00063-4-0,10	0.10	1,680	80	4.3	5.7	8.0	0.98	5.7	A1	B1
	60						2.7	3.3	6.6	0.98	3.3	A1	B1
	85						2.7	3.0	6.6	0.98	3.0	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: $P = U \times I \times \cos \varphi$
2) Service/starting capacitor	For VW/SW motors, operating capacitors are integrated within the motor.
3) Nominal current I _N	Current at running torque
4) 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.																														
Thermoswitches/PTC thermistors	<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"> <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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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>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"> <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>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			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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