

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, 220 V – 240 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]	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	4	150	VW00063-2-0,06	0.06	2,800	16	1.7	1.9	6.3	0.69	1.9	A1	B1
	5.6						1.7	1.8	6.3	0.69	1.8	A1	B1
	8		VW00063-4-0,04	0.04	1,400	12	1.1	1.3	2.3	0.96	1.3	A1	B1
	11						1.1	1.3	2.3	0.96	1.3	A1	B1
	16		VW00063-4-0,02	0.02	1,400	8.0	1.0	1.0	2.1	0.76	1.0	A1	B1
	22						1.0	1.0	2.1	0.76	1.0	A1	B1
	32		SW00063-4-0,01	0.01	1,400	8.0	1.0	1.0	2.1	0.74	1.0	A1	B1
63	1.0	1.0					2.1	0.74	1.0	A1	B1		
SQ 07.2	4	300	VW00063-2-0,12	0.12	2,800	25	1.8	2.7	6.4	0.98	2.7	A1	B1
	5.6						1.8	2.5	6.4	0.98	2.5	A1	B1
	8		VW00063-4-0,06	0.06	1,400	20	1.8	2.1	3.6	0.98	2.1	A1	B1
	11						1.8	2.0	3.6	0.98	2.0	A1	B1
	16		VW00063-4-0,03	0.03	1,400	12	1.1	1.2	2.3	0.96	1.2	A1	B1
	22						1.1	1.2	2.3	0.96	1.2	A1	B1
	32		SW00063-4-0,01	0.01	1,400	8.0	1.0	1.0	2.1	0.74	1.0	A1	B1
63	1.0	1.0					2.1	0.74	1.0	A1	B1		
SQ 10.2	8	450	VW00063-4-0,10	0.10	1,400	20	1.9	2.2	3.6	0.99	2.2	A1	B1
	11						1.9	2.3	3.6	0.99	2.3	A1	B1
	16		600	SW00063-4-0,06	0.06	1,400	16	1.6	1.8	3.5	0.88	1.8	A1
	22	1.6						1.7	3.5	0.88	1.7	A1	B1
	32	SW00063-4-0,04		0.04	1,400	12	1.1	1.3	2.3	0.96	1.3	A1	B1
	45						1.1	1.3	2.3	0.96	1.3	A1	B1
	63	SW00063-4-0,02	0.02	1,400	8.0	1.0	1.0	2.1	0.76	1.0	A1	B1	
63	1.0					1.0	2.1	0.76	1.0	A1	B1		
SQ 12.2	11	900	VW00063-2-0,19	0.19	2,800	25	2.0	2.6	6.4	0.99	2.6	A1	B1
	16						1.9	2.2	3.6	0.99	2.2	A1	B1
	22		1.9	2.3	3.6	0.99	2.3	A1	B1				
	32	1,200	SW00063-4-0,06	0.06	1,400	16	1.6	1.8	3.5	0.88	1.8	A1	B1
	45						1.6	1.7	3.5	0.88	1.7	A1	B1
	63		SW00063-4-0,04	0.04	1,400	12	1.1	1.3	2.3	0.96	1.3	A1	B1
	90						1.1	1.3	2.3	0.96	1.3	A1	B1
125	SW00063-4-0,02	0.02	1,400	8.0	1.0	1.0	2.1	0.76	1.0	A1	B1		
125					1.0	1.0	2.1	0.76	1.0	A1	B1		
SQ 14.2	24	1,800	VW00063-2-0,19	0.19	2,800	25	2.0	2.6	6.4	0.99	2.6	A1	B1
	36						1.9	2.2	3.6	0.99	2.2	A1	B1
	48	2,400	VW00063-4-0,10	0.10	1,400	20	1.9	2.3	3.6	0.99	2.3	A1	B1
	72						1.6	1.8	3.5	0.88	1.8	A1	B1
	100		1.6	1.7	3.5	0.88	1.7	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) Operating 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.																						
Motor protection	<p>To protect against overheating, thermostats or PTC thermistors are embedded in the motor windings.</p> <p>Actuators without integral controls (AUMA NORM): Thermostats or PTC thermistors have to be considered within the external controls (refer to terminal plan).</p> <p>Note: Failure to connect thermostats or PTC thermistors shall void the warranty for the motor.</p> <p>Rating of the thermostats</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						
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																				
Mains voltage, mains frequency	<p>Permissible variation of mains voltage: ±10 %</p> <p>Permissible variation of mains frequency: ±5 %</p>																						
Terminal plan	<table border="1"> <thead> <tr> <th>Part-turn actuators</th> <th>Motor (type)</th> <th>Terminal plan</th> </tr> </thead> <tbody> <tr> <td>SQ 05.2 – SQ 14.2</td> <td>VW.../SW...</td> <td>TPA01R1AA-101-000</td> </tr> </tbody> </table> <p>For further information refer to "Technical data Part-turn actuators SQ 05.2 – SQ 14.2 for open-close duty with 1-phase AC motors"</p>	Part-turn actuators	Motor (type)	Terminal plan	SQ 05.2 – SQ 14.2	VW.../SW...	TPA01R1AA-101-000																
Part-turn actuators	Motor (type)	Terminal plan																					
SQ 05.2 – SQ 14.2	VW.../SW...	TPA01R1AA-101-000																					
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.</p> <p>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 rowspan="2">A1</td> <td>400 V AC</td> <td>480 V AC</td> <td>600 V AC</td> </tr> <tr> <td>4.0 kW</td> <td>5.0 hp</td> <td>5.0 hp</td> </tr> <tr> <th>AUMA power class</th> <th>Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a</th> <td colspan="2"></td> </tr> <tr> <td rowspan="2">B1</td> <td>400 V AC</td> <td colspan="2"></td> </tr> <tr> <td>6 A</td> <td colspan="2"></td> </tr> </tbody> </table> <p>Actuators with AM or AC integral controls: Required switchgear in power classes A1 or B1 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		A1	400 V AC	480 V AC	600 V AC	4.0 kW	5.0 hp	5.0 hp	AUMA power class	Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a			B1	400 V AC			6 A		
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																					
A1	400 V AC	480 V AC	600 V AC																				
	4.0 kW	5.0 hp	5.0 hp																				
AUMA power class	Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a																						
B1	400 V AC																						
	6 A																						