

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
SQ 07.2	63	300	SW00063-8-0,01	0.01	700	6.3	0.9	0.9	1.0	0.99	0.9	A1	B1
	4		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
SQ 10.2	32	450	SW00063-4-0,01	0.01	1,400	8.0	1.0	1.0	2.1	0.74	1.0	A1	B1
	63		SW00063-8-0,01	0.01	700	6.3	0.9	0.9	1.0	0.99	0.9	A1	B1
	8		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		SW00063-4-0,06	0.06	1,400	16	1.6	1.8	3.5	0.88	1.8	A1	B1
	22						1.6	1.7	3.5	0.88	1.7	A1	B1
	32	600	SW00063-4-0,04	0.04	1,400	12	1.1	1.3	2.3	0.96	1.3	A1	B1
SQ 12.2	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
	11	900	VW00063-2-0,19	0.19	2,800	25	2.0	2.6	6.4	0.99	2.6	A1	B1
	16		VW00063-4-0,10	0.10	1,400	20	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		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
SQ 14.2	63	1,200	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
	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		VW00063-4-0,10	0.10	1,400	20	1.9	2.2	3.6	0.99	2.2	A1	B1
	48						1.9	2.3	3.6	0.99	2.3	A1	B1
	72		SW00063-4-0,06	0.06	1,400	16	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.																																
Thermoswitches/PTC thermistors	To protect against overheating, thermoswitches or PTC thermistors are embedded in the motor windings. Actuators without integral controls (AUMA NORM): Thermoswitches or PTC thermistors have to be considered within the external controls (refer to terminal plan). Note: Failure to connect thermoswitches or PTC thermistors shall void the warranty for the motor. Rating of the thermoswitches <table><tr><th colspan="2">AC current</th><th colspan="2">DC current</th></tr><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></table> Actuators with AM or AC integral controls: 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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Mains voltage, mains frequency	Permissible variation of mains voltage: ±10 % Permissible variation of mains frequency: ±5 %																																
Terminal plan	<table><tr><th>Part-turn actuators</th><th>Motor (type)</th><th>Terminal plan</th></tr><tr><td>SQ 05.2 – SQ 14.2</td><td>VW.../SW...</td><td>TPA01R1AA-101-000</td></tr></table> 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"			Part-turn actuators	Motor (type)	Terminal plan	SQ 05.2 – SQ 14.2	VW.../SW...	TPA01R1AA-101-000																								
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Switchgear sizing	For motor operation, reversing contactors (mechanically, electrically and electronically locked) or thyristors (electronically locked) can be used. 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: <table><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><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></table> <table><tr><th>AUMA power class</th><th>Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a</th></tr><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></table> 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.			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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	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																														
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