

## SQR 05.2 – SQR 14.2

### Electrical data Part-turn actuators for modulating duty with 3-phase AC motors

#### Intermittent duty S4 - 25 %, 400 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]	Nominal current <sup>2)</sup> I <sub>N</sub> [A]	Max. current <sup>3)</sup> I <sub>max</sub> [A]	Starting current I <sub>A</sub> [A]	cos φ	Overcurrent protection device setting [A]	AUMA power class switchgears	
											Contact	Thyristor
SQR 05.2	8	150	VD0R063-4-0.04	0.04	1,400	0.4	0.4	1.0	0.50	0.4	A1	B1
	11					0.4	0.4	1.0	0.50	0.4	A1	B1
	16		VD0R063-4-0.02	0.02	1,400	0.4	0.4	1.0	0.40	0.4	A1	B1
	22					0.4	0.4	1.0	0.40	0.4	A1	B1
32	SD0R063-4-0.01	0.01	1,400	0.3	0.3	0.7	0.39	0.3	A1	B1		
SQR 07.2	8	300	VD0R063-4-0.06	0.06	1,400	0.6	0.7	1.6	0.38	0.7	A1	B1
	11					0.6	0.7	1.6	0.38	0.7	A1	B1
	16		VD0R063-4-0.03	0.03	1,400	0.4	0.4	1.0	0.43	0.4	A1	B1
	22					0.4	0.4	1.0	0.43	0.4	A1	B1
32	SD0R063-4-0.01	0.01	1,400	0.3	0.3	0.7	0.39	0.3	A1	B1		
SQR 10.2	11	600	VD0R063-4-0.10	0.10	1,400	0.8	0.9	2.0	0.48	0.9	A1	B1
	16		SD0R063-4-0.06	0.06	1,400	0.6	0.7	1.6	0.38	0.7	A1	B1
	22					0.6	0.7	1.6	0.38	0.7	A1	B1
	32		SD0R063-4-0.04	0.04	1,400	0.5	0.5	1.0	0.48	0.5	A1	B1
	45					0.5	0.5	1.0	0.48	0.5	A1	B1
63	0.3	0.3				0.7	0.43	0.3	A1	B1		
SQR 12.2	16	900	VD0R063-4-0.10	0.10	1,400	0.8	1.0	2.0	0.48	1.0	A1	B1
	22					0.8	0.9	2.0	0.48	0.9	A1	B1
	32	1,200	SD0R063-4-0.06	0.06	1,400	0.6	0.7	1.6	0.38	0.7	A1	B1
	45					0.6	0.7	1.6	0.38	0.7	A1	B1
63	SD0R063-4-0.04	0.04	1,400	0.5	0.5	1.0	0.48	0.5	A1	B1		
SQR 14.2	36	1,800	VD0R063-4-0.10	0.10	1,400	0.8	0.9	2.0	0.48	0.9	A1	B1
	48					0.8	0.9	2.0	0.48	0.9	A1	B1
	72	2,400	SD0R063-4-0.06	0.06	1,400	0.6	0.7	1.6	0.38	0.7	A1	B1
	100					0.6	0.7	1.6	0.38	0.7	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). Consumed electrical power can be calculated using the following formula: $P = U \times I \times \cos \varphi \times \sqrt{3}$
2) Nominal current I <sub>N</sub>	Current at running torque
3) 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	To protect against overheating, thermoswitches or PTC thermistors are embedded in the motor windings. <b>Actuators without integral controls (AUMA NORM):</b> Thermoswitches or PTC thermistors have to be considered within external controls (refer to terminal plan). <b>Note: Failure to connect thermoswitches or PTC thermistors shall void our warranty for the motor.</b> <b>Rating of thermoswitches</b> <table border="1" style="margin-left: 20px;"> <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> <b>Actuators with AM or AC integral controls:</b> 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
AC current		DC current															
250 V, 50 – 60 Hz		60 V	1.0 A														
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Mains voltage, mains frequency	Permissible variation of the mains voltage: ±10 % Permissible variation of the mains frequency: ±5 %																

## 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):**

Switchgears are supplied by the customer. We recommend specification of switchgears suitable for their rated operating power/motor power in compliance with the assigned AUMA power class.

Switchgear assignment to AUMA power classes:

AUMA power class	Reversing contactor Rated power according to IEC 60947-4-1 AC-3	Reversing contactor motor power according to UL/CSA at	
		480 V AC	600 V AC
	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
A4	30 kW	60 hp	60 hp
A5	55 kW	75 hp	100 hp

AUMA power class	Thyristor Rated current according to EN 60947-4-2 AC-53a
B1	6 A
B2	8.5 A
B3	16 A

**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. Switch gear in power classes A4/A5 additionally require the control box.