SQEx 05.2 – SQEx 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									AUMA power class switchgear	
Type	Operating time for 90° in seconds	Max. torque [Nm]	Motor type	Nominal power[1] P_N [kW]	Speed [rpm]	Permanent split capacitor[2] [µF]	Nominal current[3] I_N (A)	Max. current[4] I_{max} [A]	Starting current I_A [A]	cos φ	Overcurrent protection device setting [A]	Contactor	Thyristor
SQEx 05.2	3	110	VWX0063-2-0,06	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		VWX0063-4-0,04	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		VWX0063-4-0,02	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		SWX0063-4-0,01	0.01	1,680	35	1.3	1.5	4.3	0.91	1.5	A1	B1
	50		SWX0063-8-0,01		840	25	1.6	1.7	1.9	0.99	1.7	A1	B1
SQEx 07.2	3	220	VWX0063-2-0,12	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		VWX0063-4-0,06	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		VWX0063-4-0,03	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		SWX0063-4-0,01	0.01	1,680	35	1.3	1.7	4.3	0.91	1.7	A1	B1
	50		SWX0063-8-0,01		840	25	1.6	1.7	1.9	0.99	1.7	A1	B1
SQEx 10.2	6	340	VWX0063-4-0,10	0.10	1,680	80	4.3	5.6	8.0	0.98	5.6	A1	B1
	9	450					4.3	5.7	8.0	0.98	5.7	A1	B1
	12		SWX0063-4-0,06	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		SWX0063-4-0,04	0.04	1,680	50	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		SWX0063-4-0,02	0.02	1,680	35	1.4	1.6	4.3	0.94	1.6	A1	B1
SQEx 12.2	9	670	VWX0063-2-0,19	0.19	3,360	110	5.8	6.5	13.5	0.86	6.5	A1	B1
	12		VWX0063-4-0,10	0.10	1,680	80	4.3	5.6	8.0	0.98	5.6	A1	B1
	17	900					4.3	5.7	8.0	0.98	5.7	A1	B1
	25		SWX0063-4-0,06	0.06	1,680	60	2.7	3.3	6.6	0.98	3.3	A1	B1
	35						2.7	3.0	6.6	0.98	3.0	A1	B1
	50		SWX0063-4-0,04	0.04	1,680	50	2.6	3.0	4.7	0.96	3.0	A1	B1
	70						2.6	2.9	4.7	0.96	2.9	A1	B1
	108		SWX0063-4-0,02	0.02	1,680	35	1.4	1.6	4.3	0.94	1.6	A1	B1
SQEx 14.2	20	1,350	VWX0063-2-0,19	0.19	3,360	110	5.8	6.5	13.5	0.86	6.5	A1	B1
	30		VWX0063-4-0,10	0.10	1,680	80	4.3	5.6	8.0	0.98	5.6	A1	B1
	40	1,800					4.3	5.7	8.0	0.98	5.7	A1	B1
	60		SWX0063-4-0,06	0.06	1,680	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) Permanent split/starting capacitor	For VW/SW motors, permanent split 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	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.** **According to EN 60079-14, a thermal overcurrent protection device (e.g. motor protection switch) must be installed for explosion-proof actuators in addition to the thermoswitches. PTC thermistors additionally require a suitable tripping device in the controls.** **Rating of the thermoswitches**

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

Actuators with AMExC or ACExC integral controls:

Thermal motor protection is already integrated.

Mains voltage, mains frequency	Permissible variation of mains voltage: ±10 % Permissible variation of mains frequency: ±5 %

Terminal plan	Part-turn actuators	Motor (type)	Terminal plan
	SQEx 05.2 – SQEx 14.2	VWX.../SWX...	TPA01R1AA-101-000 TPA01R2AA-101-000

For further information refer to "Technical data Part-turn actuators SQEx 05.2 – SQEx 14.2 for open-close duty with 1-phase AC motors"

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:

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

AUMA power class	Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a
	400 V AC
B1	6 A

Actuators with AMExC or ACExC integral controls:

Required switchgear in power classes A1 or B1 are already integrated in AMExC or ACExC controls.