

SA 25.1 – SA 40.1

Electrical data multi-turn actuators for open-close duty with 3-phase AC motors

Short-time duty S2 - 30 min, 240 V/50 Hz

Multi-turn actuator			Motor									
Type	Output speed [rpm]	Max. torque [Nm]	Motor type	Nominal power ¹⁾ P _N [kW]	Speed [rpm]	Nominal current ²⁾ I _N (A)	Max. current ³⁾ I _{max} [A]	Starting current I _A [A]	cos φ	Overcurr. prot. device setting [A]	AUMA power class for switchgear	
SA 25.1	4	1,400	AD0L 90-8/130	0.75	700	10	13	25	0.48	10	A2	–
	5.6					10	14	25	0.48	10	A2	–
	8		AD0L 90-4/130	2.2	1,400	9.5	13	54	0.80	9.5	A2	B3
	11					9.5	14	54	0.80	9.5	A2	B3
	16		AD0L 90-2/130	3.0	2,800	12	16	86	0.78	12	A2	–
	22					12	22	86	0.78	12	A2	–
	32	1,200	AD0L 132-4/140	5.5	1,400	29	52	174	0.70	29	A3	–
	45					29	63	174	0.70	29	A3	–
	63		AD0L 132-2/180	11	2,800	35	71	276	0.80	35	A4	–
	90					35	82	276	0.80	35	A4	–
	125		AD0L 132-2/180	11	2,800	35	89	276	0.80	35	A4	–
SA 30.1	4	2,800	AD0L 112-8/140	1.5	700	15	19	54	0.50	15	A2	–
	5.6					15	21	54	0.50	15	A2	–
	8		AD0L 112-4/110	4.0	1,400	16	21	87	0.81	16	A2	–
	11					16	22	87	0.81	16	A2	–
	16		AD0L 112-2/140	5.5	2,800	19	40	174	0.73	19	A3	–
	22					19	55	174	0.73	19	A3	–
	32	2,200	AD0L 160-4/160	11	1,400	57	74	269	0.65	57	A4	–
	45					57	87	269	0.65	57	A4	–
	63		AD0L 160-2/215	22	2,800	67	135	538	0.84	67	A5	–
	90					67	154	538	0.84	67	A5	–
	125		AD0L 160-2/215	22	2,800	67	158	538	0.84	67	A5	–
	180					67	166	538	0.84	67	A5	–
SA 35.1	4	5,700	AD0L 132-8/150	3.0	700	24	35	98	0.47	24	A3	–
	5.6					24	41	98	0.47	24	A3	–
	8		AD0L 132-4/140	5.5	1,400	29	57	174	0.70	29	A3	–
	11					29	70	174	0.70	29	A3	–
	16		AD0L 132-2/180	11	2,800	35	76	276	0.80	35	A4	–
	22					35	92	276	0.80	35	A4	–
	32	4,500	AD0L 160-2/214	14	2,800	41	82	348	0.94	41	A4	–
	45					41	98	348	0.94	41	A4	–
	63		AD0L 160-2/215	22	2,800	67	127	538	0.84	67	A5	–
	90					67	158	538	0.84	67	A5	–
SA 40.1	4	11,200	AD0L 160-8/165	5.5	700	36	67	139	0.47	36	A4	–
	5.6					36	70	139	0.47	36	A4	–
	8		AD0L 160-4/160	11	1,400	57	87	317	0.65	57	A4	–
	11					57	103	317	0.65	57	A4	–
	16	9,800	AD0L 160-2/215	22	2,800	67	150	538	0.84	67	A5	–
	22					67	190	538	0.84	67	A5	–
	32		AD0L 160-2/215	22	2,800	67	190	538	0.84	67	A5	–
	45					67	190	538	0.84	67	A5	–

1) – 3) Notes on Electrical data SA .1/SAR .1 multi-turn actuators with 3-phase AC motors

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, thermostats or PTC thermistors are embedded in the motor windings. Actuators without integral actuator controls (AUMA NORM): Thermostats or PTC thermistors have to be considered within the external controls (refer to terminal plan). Note: Failure to connect thermostats or PTC thermistors shall void the warranty for the motor. Rating of the thermostats <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 actuator 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 %																																												
Switchgear sizing	For motor operation, reversing contactors (mechanically, electrically and electronically locked) or thyristors (electronically locked) can be used. Actuators without integral actuator 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><tr><td>A4</td><td>30 kW</td><td>60 hp</td><td>60 hp</td></tr><tr><td>A5</td><td>55 kW</td><td>75 hp</td><td>100 hp</td></tr><tr><td>A6</td><td>75 kW</td><td>100 hp</td><td>125 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 actuator controls: Required switchgear in power classes A1 – A3 or B1 – B3 are already integrated in AM or AC actuator controls. For switchgear of power classes A4 – A6, a control box is additionally required. For actuators with AM integral actuator controls and installed switchgear in AUMA power class A3, an optional thermal overcurrent protection device cannot be directly integrated within the AM. A control box is additionally required. However, AC actuator controls can be used instead of AM actuator controls. When opting for AC actuator controls, the additional control box can be omitted.			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	A4	30 kW	60 hp	60 hp	A5	55 kW	75 hp	100 hp	A6	75 kW	100 hp	125 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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1) Nominal power P_N	Mechanical power output at motor shaft at run torque of multi-turn actuator (corresponds to approx. 50 % of maximum torque). The consumed electrical power can be calculated using the following formula: $P = U \times I \times \cos \varphi \times \sqrt{3}$
2) Nominal current I_N	Current at run torque at approx. 50 % of maximum torque
3) Max. current I_{max}	Current at maximum torque