

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	
											Contactors	Thyristor
SA 25.1	4	2,000	AD00 90-8/130	1.1	700	7.0	9.0	17	0.48	7.0	A1	B2
	5.6					7.0	10	17	0.48	7.0	A1	B2
	8		AD00 90-4/130	3.0	1,400	7.0	11	38	0.80	7.0	A2	B2
	11					7.0	12	38	0.80	7.0	A2	B2
	16		AD00 90-2/130	4.0	2,800	10	16	58	0.78	10	A2	B3
	22					10	20	58	0.78	10	A2	B3
	32		AD00 132-4/140	7.5	1,400	22	40	120	0.65	22	A3	–
	45					22	48	120	0.65	22	A3	–
63	AD00 132-2/180	15	2,800	30	60	190	0.90	30	A3	–		
90				30	70	190	0.90	30	A3	–		
SA 30.1	4	4,000	AD00 112-8/140	2.2	700	11	15	36	0.58	11	A2	B3
	5.6					11	16	36	0.58	11	A2	B3
	8		AD00 112-4/110	5.5	1,400	13	20	60	0.77	13	A2	B3
	11					13	23	60	0.77	13	A2	B3
	16		AD00 112-2/140	7.5	2,800	18	28	120	0.78	18	A2	–
	22					18	30	120	0.78	18	A2	–
	32		AD00 160-4/160	15	1,400	44	58	200	0.63	44	A4	–
	45					44	67	200	0.63	44	A4	–
63	AD00 160-2/215	30	2,800	65	80	370	0.88	65	A4	–		
90				65	100	370	0.88	65	A4	–		
SA 35.1	4	8,000	AD00 132-8/150	4.0	700	20	30	70	0.44	20	A2	–
	5.6					20	35	70	0.44	20	A2	–
	8		AD00 132-4/140	7.5	1,400	22	48	120	0.65	22	A3	–
	11					22	55	120	0.65	22	A3	–
	16		AD00 132-2/180	15	2,800	30	60	190	0.90	30	A3	–
	22					30	70	190	0.90	30	A3	–
	32		AD00 160-2/214	20	2,800	40	80	260	0.90	40	A4	–
	45					40	95	260	0.90	40	A4	–
90	AD00 160-2/215	30	2,800	65	140	370	0.88	65	A4	–		
SA 40.1	4	16,000	AD00 160-8/165	7.5	700	30	55	93	0.50	30	A3	–
	5.6					30	58	93	0.50	30	A3	–
	8		AD00 160-4/160	15	1,400	44	70	200	0.63	44	A4	–
	11					44	87	200	0.63	44	A4	–
	16		AD00 160-2/215	30	2,800	65	100	370	0.88	65	A4	–
	22					65	130	370	0.88	65	A4	–
32	AD00 160-2/215	30	2,800	65	160	370	0.88	65	A4	–		
SA 48.1	4	32,000	AD00 180-8/240	15	700	35	80	170	0.70	35	A4	–
	5.6					35	120	170	0.70	35	A4	–
	8		AD00 180-4/240	30	1,400	73	170	380	0.70	73	A5	–
	11					73	185	380	0.70	73	A5	–
	16		AD00 180-2/240	45	2,800	82	200	550	0.91	82	A5	–

Notes on table

- | | |
|-----------------------------------|--|
| 1) Nominal power P _N | Mechanical power output at motor shaft at running 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 running torque |
| 3) 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	<p>To protect against overheating, thermoswitches or PTC thermistors are embedded in the motor windings.</p> <p>Actuators without integral controls (AUMA NORM): Thermoswitches or PTC thermistors have to be considered within the external controls (refer to terminal plan).</p> <p>Note: Failure to connect thermoswitches or PTC thermistors shall void the warranty for the motor.</p> <p>Rating of the thermoswitches</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>																																											
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 rowspan="2">AUMA power class</th> <th rowspan="2">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> <th>480 V AC</th> <th>600 V AC</th> </tr> </thead> <tbody> <tr> <td></td> <td>400 V AC</td> <td></td> <td></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> </tbody> </table> <table border="1"> <thead> <tr> <th rowspan="2">AUMA power class</th> <th rowspan="2">Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a</th> </tr> <tr> <th>400 V AC</th> </tr> </thead> <tbody> <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> </tbody> </table> <p>Actuators with AM or AC integral controls: Required switchgear in power classes A1 – A3 or B1 – B3 are already integrated in AM or AC controls. For switchgear of power classes A4 – A6, a control box is additionally required.</p> <p>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. An additional control box is required. However, AC actuator controls can be used instead of AM controls. When opting for AC controls, the additional control box can be omitted.</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		480 V AC	600 V AC		400 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
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																																								
		480 V AC	600 V AC																																									
	400 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																																											