

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
SAR 25.1	4	2,000	AD0R 90-8/130	1.1	700	12		16	29	0.48	12	A2	B3
	12					17	29	0.48	12	A2	B3		
	5.6		AD0R 90-4/130	3.0	1,400	12		19	66	0.80	12	A3	–
	12					21	66	0.80	12	A3	–		
SAR 30.1	4	4,000	AD0R 112-8/140	2.2	700	19		26	62	0.48	19	A3	–
	19					28	62	0.48	19	A3	–		
	5.6		AD0R 112-4/110	5.5	1,400	22		35	104	0.80	22	A3	–
	22					40	104	0.80	22	A3	–		

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 modulating 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	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 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> 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
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	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 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	
		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
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

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.

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.