

# SA 07.2 – SA 16.2



## Electrical data Multi-turn actuators for open-close duty with DC motors

### Short-time duty S2 - 15 min, 48 V DC

Multi-turn actuator			Motor									
Type	Output speed [rpm]	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]	Field current I <sub>F</sub> [A]	Starting resistance R <sub>A</sub> [Ω]	Overcurrent protection device setting [A]	AUMA power class switchgear
												Contactor
SA 07.2	4	30	FN00063-4-0,02	0.02	1,400	1.0	1.8	14	1.2	–	1.8	A2
	5.6					1.0	1.9	14	1.2	–	1.9	A2
	8		FN00063-4-0,04	0.04	1,400	1.7	3.0	14	1.2	–	3.0	A2
	11					1.7	3.3	14	1.2	–	3.3	A2
	16		FN00063-2-0,06	0.06	2,800	2.8	6.0	40	1.2	–	6.0	A2
	22					2.8	6.5	40	1.2	–	6.5	A2
	32		FN00071-4-0,10	0.10	1,400	3.5	8.0	34	1.3	–	7.8	A2
	45					3.5	9.5	34	1.3	–	7.8	A2
	63		FN00071-2-0,20	0.20	2,800	6.0	13	85	1.8	–	13	A4
	90					6.0	15	85	1.8	–	13	A4
125	FN00071-2-0,30	0.30	2,800	8.8	19	85	1.8	–	13	A4		
180				8.8	21	85	1.8	–	13	A4		
SA 07.6	4	60	FN00063-4-0,03	0.03	1,400	1.4	2.5	14	1.2	–	2.5	A2
	5.6					1.4	2.5	14	1.2	–	2.5	A2
	8		FN00063-4-0,07	0.07	1,400	3.0	5.0	14	1.2	–	5.0	A2
	11					3.0	5.5	14	1.2	–	5.4	A2
	16		FN00063-2-0,12	0.12	2,800	4.5	9.5	40	1.2	–	8.8	A2
	22					4.5	11	40	1.2	–	8.8	A2
	32		FN00080-4-0,20	0.20	1,400	6.5	14	75	1.7	–	14	A2
	45					6.5	18	75	1.7	–	15	A2
	63		FN00080-2-0,40	0.40	2,800	13	25	120	1.7	–	24	A4
	90					13	31	120	1.7	–	24	A4
125	FN00080-2-0,50	0.50	2,800	15	40	120	1.7	–	24	A4		
180				15	45	120	1.7	–	24	A4		
SA 10.2	4	120	FN00063-4-0,06	0.06	1,400	2.0	4.0	14	1.2	–	4.0	A2
	5.6					2.0	5.5	14	1.2	–	4.9	A2
	8		FN00071-4-0,12	0.12	1,400	4.0	8.0	34	1.3	–	7.8	A2
	11					4.0	10	34	1.3	–	7.8	A2
	16		FN00071-2-0,25	0.25	2,800	7.5	14	85	1.8	–	13	A4
	22					7.5	19	85	1.8	–	13	A4
	32		FN00090-4-0,40	0.40	1,400	14	28	105	1.3	–	23	A4
	45					14	35	105	1.3	–	23	A4
	63		FN00090-2-0,70	0.70	2,800	28	46	125	1.3	–	46	A4
	90					28	56	125	1.3	–	47	A4
125	FN00090-2-1,00	1.00	2,800	34	70	125	1.3	–	47	A4		
180				34	73	125	1.3	–	47	A4		
SA 14.2	4	250	FN00071-4-0,13	0.13	1,400	4.1	9	34	1.3	–	8.7	A2
	5.6					4.1	10	34	1.3	–	8.7	A2
	8		FN00080-4-0,25	0.25	1,400	8.0	20	75	1.7	–	15	A2
	11					8.0	24	75	1.7	–	15	A2
	16		FN00080-2-0,45	0.45	2,800	15	35	120	1.7	–	24	A4
	22					15	39	120	1.7	–	24	A4
	32		FL00100-4-0,75	0.75	1,400	22	54	100	6.5	–	37	A4
	45					22	62	100	6.5	–	37	A4
	63		FL00100-2-1,40	1.40	2,800	43	101	200	6.5	–	73	A5
	90					43	117	200	6.5	–	73	A5
125	FL00100-2-1,80	1.80	2,800	55	155	200	6.5	–	73	A5		
180				55	154	200	6.5	–	73	A5		
SA 14.6	4	500	FN00080-4-0,22	0.22	1,400	8.0	17	75	1.7	–	15	A2
	5.6					8.0	20	75	1.7	–	15	A2
	8		FN00090-4-0,45	0.45	1,400	13	36	105	2.3	–	23	A4
	11					13	41	105	2.3	–	23	A4
	16		FN00090-2-0,80	0.80	2,800	30	60	125	2.3	–	47	A4
	22					30	69	125	2.3	–	47	A4
	32		FL00112-4-1,60	1.60	1,400	50	97	135	5.0	–	73	A4
45	50	113				135	5.0	–	73	A4		
SA 16.2	4	1,000	FL00100-4-0,40	0.40	1,400	13	34	100	6.0	–	21	A4
	5.6					13	36	100	6.0	–	21	A4
	8		FL00100-4-0,80	0.80	1,400	24	64	100	6.0	–	37	A4
	11					24	70	100	6.0	–	37	A4
	16		FL00100-2-1,50	1.50	2,800	40	115	200	6.5	–	73	A5
	22					40	132	200	6.5	–	73	A5

1) – 3) Refer to notes on page 2.

We reserve the right to alter data according to improvements made. Previous documents become invalid with the issue of this document.

Notes on table on page 1	
1) Nominal power $P_N$	Mechanical power output at motor shaft at running torque of multi-turn actuator (corresponds to approx. 35 % of maximum torque).
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.																		
Motor type	Up to size 90, DC motors are designed as shunt motors, from size 100 as compound motor.																		
Motor protection	<p>DC motors are generally designed without motor protection since the motor heats up within the rotor and not within the field windings.</p> <p><b>Actuators without integral controls (AUMA NORM):</b> Motor protection within the external controls must be implemented via an overcurrent protection device. Setting of the overcurrent protection device is based on the value listed in the table.</p> <p><b>Actuators with AC integral controls:</b> Motor protection is ensured by the overcurrent protection device integrated within actuator controls.</p>																		
Mains voltage	Permissible variation of mains voltage: $\pm 10\%$																		
Cable entry	For notes on the threads of the cable entries as well as other information, refer to "Technical data Multi-turn actuators for open-close duty with DC motors".																		
Switchgear sizing	<p>For motor operation, reversing contactors (mechanically, electrically and electronically locked) can be used.</p> <p><b>Actuators without integral controls (AUMA NORM):</b> Switchgear are supplied by the customer. We recommend specification of switchgear suitable for their rated operating currents in compliance with the assigned AUMA power class.</p> <p><b>Switchgear assignment to AUMA power classes:</b> DC shunt motor, motor type FN:</p> <table border="1"> <thead> <tr> <th>AUMA power class</th> <th>Reversing contactor Rated operating current acc. to EN 60947-4 Utilization category DC-3</th> </tr> </thead> <tbody> <tr> <td>A2</td> <td>30 A</td> </tr> <tr> <td>A4</td> <td>110 A</td> </tr> <tr> <td>A5</td> <td>160 A</td> </tr> </tbody> </table> <p>DC compound motor, motor type FL:</p> <table border="1"> <thead> <tr> <th>AUMA power class</th> <th>Reversing contactor Rated operating current acc. to EN 60947-4 Utilization category DC-5</th> </tr> </thead> <tbody> <tr> <td>A2</td> <td>30 A</td> </tr> <tr> <td>A4</td> <td>110 A</td> </tr> <tr> <td>A5</td> <td>160 A</td> </tr> <tr> <td>A6</td> <td>250 A</td> </tr> </tbody> </table> <p><b>Actuators with AC integral controls:</b> For actuators without starting resistance, the required switchgear in power class A2 are directly integrated into AC actuator controls. For switchgear of power classes A4 to A6 or for actuators with starting resistance, a control box is additionally required.</p>	AUMA power class	Reversing contactor Rated operating current acc. to EN 60947-4 Utilization category DC-3	A2	30 A	A4	110 A	A5	160 A	AUMA power class	Reversing contactor Rated operating current acc. to EN 60947-4 Utilization category DC-5	A2	30 A	A4	110 A	A5	160 A	A6	250 A
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