SAEx 07.2 – SAEx 16.2

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

Short-time duty S2 - 15 min, 380 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	
											Contactor	Thyristor
SAEx 07.2	4	30	VDX0063-4-0,02	0.02	1,400	0.4	0.4	1.1	0.40	0.4	A1	B1
	5.6					0.4	0.4	1.1	0.40	0.4	A1	B1
	8		VDX0063-4-0,04	0.04	1,400	0.4	0.4	1.1	0.50	0.4	A1	B1
	11					0.4	0.5	1.1	0.50	0.5	A1	B1
	16		VDX0063-2-0,06	0.06	2,800	0.6	0.6	2.0	0.42	0.6	A1	B1
	22					0.6	0.7	2.0	0.42	0.7	A1	B1
	32		ADX0063-4-0,10	0.10	1,400	1.0	1.0	2.5	0.42	1.0	A1	B1
	45					1.0	1.1	2.5	0.42	1.1	A1	B1
	63		ADX0063-2-0,20	0.20	2,800	0.8	1.3	4.6	0.60	1.3	A1	B1
	90					0.8	1.4	4.6	0.60	1.4	A1	B1
	125		ADX0063-2-0,30	0.30	2,800	0.9	1.7	4.6	0.70	1.7	A1	B1
	180	25				0.9	1.8	4.6	0.70	1.8	A1	B1
SAEx 07.6	4	60	VDX0063-4-0,03	0.03	1,400	0.4	0.5	1.1	0.43	0.5	A1	B1
	5.6					0.4	0.5	1.1	0.43	0.5	A1	B1
	8		VDX0063-4-0,06	0.06	1,400	0.6	0.7	1.7	0.38	0.7	A1	B1
	11					0.6	0.7	1.7	0.38	0.7	A1	B1
	16		VDX0063-2-0,12	0.12	2,800	0.7	0.9	3.2	0.52	0.9	A1	B1
	22					0.7	1.1	3.2	0.52	1.1	A1	B1
	32		ADX0063-4-0,20	0.20	1,400	1.7	2.0	4.8	0.42	2.0	A1	B1
	45					1.7	2.1	4.8	0.42	2.1	A1	B1
	63		ADX0063-2-0,40	0.40	2,800	1.9	2.4	9.5	0.53	2.4	A1	B1
	90					1.9	2.6	9.5	0.53	2.6	A1	B1
	125		ADX0063-2-0,50	0.50	2,800	2.0	3.2	9.5	0.62	3.2	A1	B1
	180	50				2.0	3.4	9.5	0.62	3.4	A1	B1
SAEx 10.2	4	120	VDX0071-4-0,06	0.06	1,400	0.5	0.6	2.1	0.40	0.6	A1	B1
	5.6					0.5	0.6	2.1	0.40	0.6	A1	B1
	8		VDX0071-4-0,12	0.12	1,400	1.1	1.2	3.2	0.40	1.2	A1	B1
	11					1.1	1.3	3.2	0.40	1.3	A1	B1
	16		VDX0071-2-0,25	0.25	2,800	1.4	1.6	4.7	0.52	1.6	A1	B1
	22					1.4	1.9	4.7	0.52	1.9	A1	B1
	32		ADX0071-4-0,40	0.40	1,400	2.6	2.7	8.9	0.42	2.7	A1	B1
	45					2.6	3.2	8.9	0.42	3.2	A1	B1
	63		ADX0071-2-0,70	0.70	2,800	3.2	4.2	17	0.54	4.2	A1	B1
	90					3.2	4.7	17	0.54	4.7	A1	B1
	125		ADX0071-2-1,00	1.00	2,800	3.7	5.7	17	0.64	5.7	A1	B1
	180	100				3.7	6.3	17	0.64	6.3	A1	B1
SAEx 14.2	4	250	VDX0090-4-0,12	0.12	1,400	0.5	0.8	2.9	0.60	0.8	A1	B1
	5.6					0.5	1.1	2.9	0.60	1.1	A1	B1
	8		VDX0090-4-0,25	0.25	1,400	1.1	1.7	5.5	0.60	1.7	A1	B1
	11					1.1	1.8	5.5	0.60	1.8	A1	B1
	16		VDX0090-2-0,45	0.45	2,800	1.6	3.2	9.5	0.64	3.2	A1	B1
	22					1.6	3.7	9.5	0.64	3.7	A1	B1
	32		ADX0090-4-0,75	0.75	1,400	2.7	4.5	17	0.62	4.5	A1	B1
	45					2.7	5.3	17	0.62	5.3	A1	B1
	63		ADX0090-2-1,40	1.40	2,800	4.9	8.0	40	0.60	8.0	A2	B2
	90					4.9	9.5	40	0.60	9.5	A2	B2
	125		ADX0090-2-1,80	1.80	2,800	5.6	13	40	0.65	12	A2	B2
	180	200				5.6	13	40	0.65	12	A2	B2
SAEx 14.6	4	500	VDX0090-4-0,20	0.20	1,400	0.9	1.6	5.5	0.54	1.6	A1	B1
	5.6					0.9	1.8	5.5	0.54	1.8	A1	B1
	8		VDX0090-4-0,40	0.40	1,400	1.9	3.2	9.8	0.56	3.2	A1	B1
	11					1.9	3.7	9.8	0.56	3.7	A1	B1
	16		VDX0090-2-0,80	0.80	2,800	3.8	5.3	19	0.51	5.3	A1	B2
	22					3.8	5.8	19	0.51	5.8	A1	B2
	32		ADX0090-4-1,60	1.60	1,400	5.6	7.9	40	0.57	7.9	A2	B2
	45					5.6	9.5	40	0.57	9.5	A2	B2
	63		ADX0090-2-3,00	3.00	2,800	9.5	15	72	0.60	15	A2	B3
	90					9.5	17	72	0.60	17	A2	B3
	125		ADX0090-2-3,30	3.30	2,800	10	22	72	0.65	22	A2	B3
	180	400				10	23	72	0.65	23	A2	B3
SAEx 16.2	4	1 000	VDX0112-4-0,40	0.40	1,400	1.5	2.8	11	0.65	2.8	A1	B1
	5.6					1.5	3.1	11	0.65	3.1	A1	B1
	8		VDX0112-4-0,80	0.80	1,400	3.2	5.5	23	0.57	5.5	A1	B2
	11					3.2	5.8	23	0.57	5.8	A1	B2
	16		VDX0112-2-1,50	1.50	2,800	5.9	9.5	42	0.60	9.5	A2	B2
	22					5.9	11	42	0.60	11	A2	B2
	32		ADX0112-4-3,00	3.00	1,400	8.9	16	63	0.71	16	A2	B3
	45					8.9	18	63	0.71	18	A2	B3
	63		ADX0112-2-5,00	5.00	2,800	13	26	120	0.80	26	A2	–
	90					13	32	120	0.80	26	A2	–
	125	800	ADX0112-2-6,00	6.00	2,800	15	37	120	0.83	26	A2	–
	180					15	47	120	0.83	26	A2	–

1) – 3) Refer to Notes on Electrical data SAEx .2/SAREx .2 multi-turn actuators with 3-phase AC motors

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SAEx 07.2 – SAEx 16.2

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

Short-time duty S2 - 15 min, 380 V/50 Hz

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 actuator 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 actuator 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

Multi-turn actuators	Terminal plan
SAEx 07.2 – SAEx 16.2	TPA00R2AA-101-000 (basic version in combination with PTC thermistors)
SAEx 07.2 – SAEx 16.2	TPA00R1AA-101-000 (basic version in combination with thermoswitches)
SAEx 07.2-UW – SAEx 16.2-UW	TPA00R200-0I1-000 (basic version in combination with PTC thermistors)
SAEx 07.2-UW – SAEx 16.2-UW	TPA00R100-0I1-000 (basic version in combination with PTC thermistors)
SAREx 07.2 – SAREx 16.2	TPA00R2AA-001-000 (basic version)
SAREx 07.2-UW – SAREx 16.2-UW	TPA00R200-0I1-000 (basic version)

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:

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

Actuators with AMExC or ACExC integral controls:

Required switchgear in power classes A1 to A3 or B1 to B2 are already integrated in AMExC controls. For actuators with ACExC integral actuator controls, required switchgear in power classes A1 to A3 or B1 to B3 are already integrated.

For switchgear of power classes A4 to A6, a control box is additionally required.

For actuators with AMExC or ACExC integral actuator controls and installed switchgear in AUMA power class A3, an optional thermal overcurrent protection device cannot be directly integrated within the actuator controls. A control box is additionally required.

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Notes on Electrical data SAEx .2/SAREx .2 multi-turn actuators with 3-phase AC motors	
1) Nominal power P_N	Mechanical power output at motor shaft at run torque of multi-turn actuator (corresponds to approx. 35 % of maximum torque). The consumed electrical power can be calculated using the following formula: $P = U \times I \times \cos \varphi \times \sqrt{3}$
2) Nominal current I_N	Current at run torque with approx. 35 % of the maximum torque
3) Max. current I_{max}	Current at maximum torque

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