Technical data Multi-turn actuators for open-close duty with 3-phase AC motors

SAEx 25.1 – SAEx 40.1 AUMA NORM

Type	Output drive rpm		Torque range[1] for type of duty			Running torque[2] for type of duty		Valve attachment		Valve stem diameter	Handwheel		approx. kg[5]
	50 Hz	60 Hz	min. Nm	S2-15 min max. Nm	S2-30 min max. Nm	S2-15 min max. Nm	S2-30 min max. Nm	Standard EN ISO 5210	Option DIN 3210	for rising valve stem[3] max. mm	Ø mm	reduction ratio	
SAEx 25.1	4	4.8	630	2,000	1,400	700	350	F25	G4	95	400	45 : 1	155
	5.6	6.7										32 : 1	
	8	9.6										45 : 1	
	11	13										32 : 1	
	16	19				600	300					45 : 1	
	22	26										32 : 1	
	32	38				500	250					45 : 1	165
	45	54										32 : 1	
	63	75										45 : 1	
	90	108										32 : 1	
SAEx 30.1	4	4.8	1,250	4,000	2,800	1,400	700	F30	G5	115	500	45 : 1	195
	5.6	6.7										32 : 1	
	8	9.6										45 : 1	
	11	13										32 : 1	
	16	19				1,200	600					45 : 1	
	22	26										32 : 1	
	32	38				900	450					45 : 1	265
	45	54										32 : 1	
	63	75				700	350					45 : 1	
	90	108										32 : 1	
SAEx 35.1	4	4,8	2,500	8,000	5,700	2,800	1,400	F35	G6	155	400	180 : 1	415
	5,6	6,7										125 : 1	
	8	9,6										180 : 1	
	11	13										125 : 1	
	16	19				2,400	1,200					180 : 1	
	22	26										125 : 1	
	32[4]	38[4]				2,000	1,000					90 : 1	430
	45[4]	54[4]										64 : 1	
SAEx 40.1	4	4.8	5,000	16,000	11,200	5,600	2,800	F40	G7	175	500	180 : 1	515
	5.6	6.7										125 : 1	
	8	9.6										180 : 1	
	11	13										125 : 1	
	16	19				4,800	2,400					180 : 1	
	22	26										125 : 1	
	32[4]	38[4]		14,000	9,800	4,000	2,000					90 : 1	

General information

For operation of multi-turn actuators AUMA NORM, electric actuator controls are required.

Features and functions

Explosion protection	Standard:	II2G EEx ed IIB T4 II2G c IIB T4 II2D Ex tD A21 IP 6X T130 °C
	Options:	II2G EEx ed ib IIB T4 (with RWG) II2G c IIB T4
EC type examination certificate	PTB 03 ATEX 1123	
Type of duty[6]	Standard:	Short-time duty S2 - 15 min
	Option:	Short-time duty S2 - 30 min
Motors	3-phase asynchronous motor, type IM B9 according to IEC 34	
Insulation class	Standard:	F, tropicalized
	Option:	H, tropicalized
Motor protection	Standard:	PTC thermistors (according to DIN 44082)[7]
	Option:	Thermoswitches (NC)[8]
Self-locking	Yes (for SAEx 25.1 and SAEx 30.1 speed 4 - 90 rpm, for SAEx 35.1 and SAEx 40.1 speed 4 - 22 rpm)	
Torque switching	Torque switching for directions OPEN and CLOSE, adjustable in any position	
	Standard:	Single switch (1 NC and 1 NO) for each direction
	Options:	Tandem switches (2 NC und 2 NO) for each direction, switches galvanically isolated

1) Tripping torque adjustable for both directions
2) Permissible average torque over the total travel
3) For output drive types A and B1
4) Not self-locking
5) Weight for multi-turn actuator AUMA NORM with 3-phase AC motor, standard electrical connection, output drive type B1 and handwheel
6) For nominal voltage and 20 °C ambient temperature and at average running torque load. The type of duty must not be exceeded.
7) PTC thermistors additionally require a suitable tripping device within the actuator controls.
8) In compliance with EN 60079-14/VDE 0165, thermal overload relays (e.g. motor protection switch) must be installed for explosion-proof actuators, in addition to the thermoswitches.

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Issue **1.09**

Y003.721/002/en

Limit switching	Counter gear mechanism for end positions CLOSED and OPEN for 1 to 500 turns per stroke (optional 1 to 5,000 turns per stroke) Standard: Single switch (1 NC and 1 NO) for each end position Options: Tandem switches (2 NC and 2 NO) for each end position, switches galvanically isolated Triple switches (3 NC and 3 NO) for each end position, switches galvanically isolated Intermediate position switches (DUO limit switching), adjustable to any position
Position feedback signal, analogue (options)	Potentiometer or 0/4 – 20 mA (RWG, intrinsically safe) For further details refer to separate data sheet
Mechanical position indicator (option)	Continuous indication, adjustable indicator disc with symbols OPEN and CLOSED
Running indication (option)	Blinker transmitter
Heater in switch compartment	Standard: Resistance type heater, 6 W, 220 – 240 V AC/DC Options: 110 – 120 V AC/DC, 48 V AC/DC, 24 V AC/DC
Motor heater (option)	110 – 120 V AC/DC: 50 W 220 – 240 V AC/DC: 50 W 380 – 400 V AC/DC: 22 W
Manual operation	Manual drive for setting and emergency operation, handwheel does not rotate during motor operation. Option: Handwheel lockable
Electrical connection	Standard: Terminals
Threads for cable entries	Standard: Metric threads Options: Pg-threads, NPT-threads, G-threads
Terminal plan	KMS TP200/001 (basic version)
Output drive types	A, B1, B2, B3, B4 according to EN ISO 5210 A, B, D, E according to DIN 3210 C according to DIN 3338 Special output drives: AF, B3D, DD, ED, IB1, IB3
Service conditions	
Mounting position	Any position
Enclosure protection according to EN 60 529[9)]	Standard: IP 67 Option: IP 68
Corrosion protection	Standard: KN Suitable for installation in industrial units, in water or power plants with a low pollutant concentration Options: KS Suitable for installation in occasionally or permanently aggressive atmosphere with a moderate pollutant concentration (e.g. in wastewater treatment plants, chemical industry) KX Suitable for installation in extremely aggressive atmosphere with high humidity and high pollutant concentration KX-G Same as KX, however aluminium-free version (outer parts)
Finish coating	Standard: Two-component iron-mica combination
Colour	Standard: AUMA silver-grey (similar to RAL 7037) Option: Other colours are possible upon request
Ambient temperature[10)]	Standard: –40 °C up to +40 °C/60 °C Options: –50 °C up to +40 °C/60 °C (low temperature)
Lifetime	Operating cycles OPEN - CLOSE - OPEN with 30 turns per stroke: SAEx 25.1 – SAEx 30.1: 10,000 SAEx 35.1 – SAEx 40.1 5,000
Further information	
EU Directive	ATEX Directive: (94/9/EC) Electromagnetic Compatibility (EMC): (2004/108/EC) Low Voltage Directive: (2006/95/EC) Machinery Directive: (98/37/EC)
Reference documents	Product description "Electric multi-turn actuators SA" Information “Electric actuators and valve gearboxes according to ATEX Directive...” Dimensions SAEx 25.1 – SAEx 40.1/SAREx 25.1 – SAREx 30.1 Electrical data SAEx 25.1 – SAEx 40.1

9) For version in enclosure protection IP68, higher corrosion protection KS or KX is strongly recommended.

10) Under certain conditions (special sizing), possible up to +60 °C

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