

Technical Data Actuator controls

General information

AM 01.1/AM 02.1 actuator controls for controlling multi-turn actuators of the SA/SAR .2 type range and part-turn actuators of the SG/SGR type range.

Features and functions

Power supply	Standard voltages:	
	3-phase AC current voltages/frequencies	1-phase AC current voltages/frequencies
	Volt	380 400 415 440 460 480 500
	Hz	50 50 50 60 60 60 50
	Volt	110, 115, 120
Hz	60 50	
Special voltages:		
3-phase AC current voltages/frequencies	1-phase AC current voltages/frequencies	
Volt	525 575 660 690	
Hz	50 50 50 50	
Permissible variation of mains voltage: ±10 %		
Permissible variation of mains frequency: ±5 %		
Current consumption of controls depending on mains voltage:		
100 to 120 V AC = max. 575 mA		
208 to 240 V AC = max. 275 mA		
380 to 690 V AC = max. 160 mA		
External supply of the electronics (option)	24 V DC + 20 %/- 15 %, Current consumption: Basic version approx. 200 mA, with options up to 500 mA	
Overvoltage category	Category III according to IEC 60364-4-443	
Rated power	Controls are designed for rated motor power, refer to Electrical Data Multi-turn actuators/Part-turn actuators	
Switchgear	Standard:	Reversing contactors (mechanically and electrically interlocked) for AUMA power classes A1/A2
	Options:	Reversing contactors (mechanically and electrically interlocked) for AUMA power classes A1/A2 with additional contacts, 1 NC + 1 NO each
		Reversing contactors (mechanically and electrically interlocked) for AUMA power class A3
		Thyristor unit for mains voltage up to 500 V AC (recommended for modulating actuators) for AUMA power classes B1, B2 and B3
Reversing contactors are designed for a lifetime of 2 million starts. For applications requiring a high number of starts, we recommend the use of thyristor units.		
For AUMA power class assignment, refer to Electrical data Multi-turn actuators or Part-turn actuators.		
Control	Standard:	Control inputs 24 V DC, OPEN - STOP - CLOSE (via opto-isolator, one common), current consumption: approx. 10 mA per input Respect min. pulse duration for modulating actuators
	Option:	Control inputs 115 V AC, OPEN - STOP - CLOSE (via opto-isolator, one common), current consumption: approx. 15 mA per input
Status signals	Standard:	5 output contacts with gold-plated contacts: <ul style="list-style-type: none"> 4 NO contacts with one common, max. 250 V AC, 0.5 A (resistive load), default configuration: End position CLOSED, end position OPEN, selector switch REMOTE, selector switch LOCAL 1 potential-free change-over contact, max. 250 V AC, 0.5 A (resistive load) for collective fault signal: Torque fault, phase failure, motor protection tripped
	Option:	Indications in combination with positioner (refer to page 2): <ul style="list-style-type: none"> End position OPEN, end position CLOSED (requires tandem switches within actuator), selector switch REMOTE, selector switch REMOTE, selector switch LOCAL via 2nd level selector switch 1 potential-free change-over contact, max. 250 V AC, 0.5 A (resistive load) for collective fault signal: Torque fault, phase failure, motor protection tripped
Voltage output	Standard:	Auxiliary voltage 24 V DC, max. 50 mA for supply of control inputs, galvanically isolated from internal voltage supply
	Option:	Auxiliary voltage 115 V AC, max. 30 mA for supply of control inputs, galvanically isolated from internal voltage supply

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

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Local controls	Standard:	Selector switch LOCAL - OFF - REMOTE (lockable in all three positions) Push buttons OPEN, STOP, CLOSE 3 indication lights: End position CLOSED (yellow), collective fault signal (red), end position OPEN (green)
	Option:	Protection cover, lockable
Functions	Standard:	Selectable type of seating, limit or torque seating for end position OPEN and end position CLOSED Overload protection against excessive torques across the whole travel Excessive torque (torque fault) can be excluded from collective fault signal. Phase failure monitoring with automatic phase correction Push-to-run operation or self-retaining in REMOTE Push-to-run operation or self-retaining in LOCAL Blinker signal from actuator (option) for running indication via indication lights of local controls can be activated/deactivated.
	Options:	Positioner (requires position transmitter in actuator) <ul style="list-style-type: none"> Position setpoint via analogue input 0/4 – 20 mA Galvanic isolation for position setpoint (0/4 – 20 mA) and position feedback (0/4 – 20 mA) Adjustable behaviour on loss of signal Adjustable sensitivity (dead band) and pause time Positioner for Split Range operation (requires position transmitter in actuator)
	Standard:	Monitoring the motor temperature in combination with thermostats in the actuator motor
	Options:	Additional thermal overload relay in controls combined with thermostats within the actuator PTC tripping device in combination with PTC thermistors in the actuator motor
	Standard:	AUMA plug/socket connector with screw-type connection
	Options:	Terminals or crimp connection Gold-plated control plug (sockets and plugs)
	Standard:	Metric threads
Options:	Pg-threads, NPT-threads, G-threads	
Wiring diagram (basic version)	MSP1110KC3--F18E1 TPA00R1AA-101-000	

Further options for version with RWG in actuator

Position feedback signal (option)	Analogue output E2 = 0/4 – 20 mA (load max. 500 Ω)
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Service conditions

Use	Indoor and outdoor use permissible	
Mounting position	Any position	
Installation altitude	Standard:	≤ 2,000 m above sea level
	Option:	> 2,000 m above sea level, please contact AUMA
Ambient temperature	Standard:	–40 °C to +70 °C
	Options:	–60 °C to +80 °C, extreme low temperature version incl. heating system Low temperature versions incl. heating system for connection to external power supply 230 V AC or 115 V AC.
Enclosure protection according to EN 60529	Standard:	IP 68 with AUMA 3-phase AC motor/1-phase AC motor Differing enclosure protection for special motors: refer to name plate
	Option:	Terminal compartment additionally sealed against interior (double sealed) According to AUMA definition, enclosure protection IP 68 meets the following requirements: <ul style="list-style-type: none"> Depth of water: maximum 8 m head of water Duration of continuous immersion in water: Max. 96 hours Up to 10 operations during continuous immersion Modulating duty is not possible during continuous immersion.
Pollution degree	Pollution degree 4 (when closed)	

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Vibration resistance according to IEC 60068-2-6	1 g, from 10 Hz to 200 Hz Resistant to vibration during start-up or for failures of the plant. However, a fatigue strength may not be derived from this. Not valid in combination with gearboxes.		
Corrosion protection	Standard:	KS	Suitable for installation in industrial units, in water or power plants with a low pollutant concentration as well as for installation in occasionally or permanently aggressive atmosphere with a moderate pollutant concentration (e.g. wastewater treatments plants, chemical industry)
	Options:	KX	Suitable for installation in extremely aggressive atmospheres with high humidity and high pollutant concentration
Finish coating	Powder paint Two-component iron-mica combination		
Colour	Standard:	AUMA silver-grey (similar to RAL 7037)	
	Option:	Other colours are possible on request.	

Accessories

Wall bracket	AM mounted separately from the actuator, including plug/socket connector. Connecting cable on request. Recommended for high ambient temperatures, difficult access, or in case of heavy vibration during service. Cable length between actuator and AM max. 100 m. Not suitable for version with potentiometer in the actuator. Instead of the potentiometer, the actuator has to be provided with RWG.
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Further information

Weight	Approx. 7 kg (with AUMA plug/socket connector)
EU Directives	Electromagnetic Compatibility (EMC): (2004/108/EC) Low Voltage Directive: (2006/95/EC) Machinery Directive: (2006/42/EC)
Reference documents	Product description Electric multi-turn actuators with integral controls SA 07.2 – SA 16.2/SA 25.1 – SA 48.1 with AM 01.1/2.1 and AC 01.2 Product description Electric part-turn actuators with integral controls SG 05.1 – SG12.1 with AM 01.1 – AM 02.1 and AC 01.2 Dimensions Multi-turn actuators with integral controls AUMA MATIC Dimensions Multi-turn actuators with integral controls AUMA MATIC