Actuator controls AUMA MATIC AMExB 01.1 for controlling multi-turn actuators of the SAExC/SARExC. For versions with fieldbus interfaces see separate documents.

**Features and functions**

**Explosion protection** for use in ZONE 1
- Standard: II2G EEx de IIB T4
- Option: II2G EEx d IIB T4

**Combustible dust hazard protection** (option) for use in ZONE 21
- II2D Ex tD A21 IP6X T130°C or 190°C

**EC-type-examination certificate** In combination with SAExC: PTB 03 ATEX 1122

**Voltage supply**

<table>
<thead>
<tr>
<th>3-ph AC</th>
<th>Voltages/frequencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volt</td>
<td>220</td>
</tr>
<tr>
<td>Hz</td>
<td>50</td>
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</table>

Special voltages:

<table>
<thead>
<tr>
<th>3-ph AC</th>
<th>Voltages/frequencies</th>
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</thead>
<tbody>
<tr>
<td>Volt</td>
<td>525</td>
</tr>
<tr>
<td>Hz</td>
<td>50</td>
</tr>
</tbody>
</table>

Permissible variation of the nominal voltage: ± 10 %
Permissible variation of the 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

**Switchgear**

- Standard: Reversing contactors (mechanically and electrically interlocked) for motor power up to 1.5 kW, nominal motor current up to 9 A (OPEN - CLOSE duty) or 5.2 A (modulating duty)
- Option: Reversing contactors (mechanically and electrically interlocked) for motor power up to 7.5 kW, nominal motor current up to 20 A (OPEN - CLOSE duty) or 18 A (modulating duty)

**Control**

- Standard: Control inputs 24 V DC, OPEN - STOP - CLOSE (via opto-isolator, with one common), current consumption: approx. 10 mA per input
- Option: Control inputs 115 V AC, OPEN - STOP - CLOSE (via opto-isolator, with one common), current consumption: approx. 15 mA per input

**Output signals**

- Standard: 5 output relays with gold-plated contacts:
  - 4 NO contacts with one common, max. 250 V AC, 0.5 A (resistive load)
  - Standard configuration:
    - End position CLOSED, end position OPEN
    - Selectors 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: Signals in combination with positioner (refer to page 2):
  - End position OPEN, end position CLOSED (requires tandem switch within actuator)
  - Selector switch REMOTE, selector switch LOCAL via selector switch 2nd level
  - 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 the control inputs, galvanically isolated from internal voltage supply
- Option: Auxiliary voltage 115 V AC, max. 30 mA for supply of the control inputs (2), galvanically isolated from internal voltage supply

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1) The reversing contactors are designed for a lifetime of 2 million starts.
2) Not possible in combination with PTC tripping device

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<table>
<thead>
<tr>
<th>AMExB 01.1</th>
<th>Technical data Actuator controls AUMA MATIC</th>
</tr>
</thead>
</table>
| Local controls | **Standard:** Selector switch LOCAL - OFF - REMOTE (lockable in all three positions)  
Reset motor protection  
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:** Switch-off mode adjustable  
Limit or torque seating for end position OPEN and end position CLOSED  
Overload protection against excessive torques over 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 transmitter signal of actuator can be switched on or off (option)  
**Options:**  
Nominal position value via analogue input E1 = 0/4 – 20 mA  
Galvanic isolation for position nominal value (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 |
| Motor protection evaluation | **Standard:** Monitoring of the motor temperature with PTC tripping device in combination with PTC thermistors in the actuator motor  
**Options:** Thermal overload relay in combination with thermoswitches in the actuator motor |
| Electrical connection | **Standard:** Plug/socket connector with screw-type terminals (KP/KPH)  
Threads for cable glands:  
M-threads: 1 x M20 x 1.5; 2 x M25 x 1.5  
Pg-threads: 1 x Pg13.5; 2 x Pg21  
NPT-threads: 2 x ¾" NPT; 1 x 1½" NPT  
G-threads: 2 x G¾"; 1 x G1"; 1 x G1¼"  
**Options:**  
Plug/socket connector with spring cage terminal (KES)  
Increased safety EEx e:  
M-threads: 1 x M20 x 1.5; 1 x M25 x 1.5; 1 x M32 x 1.5  
Pg-threads: 1 x Pg13.5; 2 x Pg21; 1 x Pg29  
NPT-threads: 2 x ¾" NPT; 1 x 1½" NPT  
G-threads: 2 x G¾"; 1 x G1¼"  
Plug/socket connector with spring cage terminal (KES) flameproof enclosure EEx d:  
M-threads: 2 x M25 x 1.5; 1 x M32 x 1.5  
PNT-threads: 4 x 1" NPT  
Special threads, other than standard mentioned above, possible  
Parking frame for wall mounting of the disconnected plug  
Protection cover for plug compartment (when plug is removed) |
| Wiring diagram (basic version) | MSP H310KC3--FF8EC KMS TP210/001 |
| Further options for version with RWG in the actuator | **Position feedback (options)**  
Analogue output E2 = 0/4 – 20 mA (load max. 500 Ω) |
| Service conditions | **Enclosure protection according to EN 60 529**  
**Standard:** IP 67 (when mounted)  
Terminal compartment additionally sealed against interior (double sealed)  
**Options:** IP 684) |
| | **Corrosion protection**  
**Standard:** KN  
Suitable for installation in industrial units, in water or power plants with a low pollutant concentration  
**Options:** KS  
Suitable for installations in occasionally or permanently aggressive atmosphere with a moderate pollutant concentration (e.g. 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  
**Option:** Special primer/special finish coat (customer's choice) |

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3) Requires position transmitter in actuator  
4) For version in enclosure protection IP 68, higher corrosion protection KS or KX is strongly recommended.  
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### Technical data Actuator controls AUMA MATIC

<table>
<thead>
<tr>
<th>Colour</th>
<th>Standard: AUMA silver-grey (similar to RAL 7037)</th>
<th>Other colours than standard colour are possible on request</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature</td>
<td>Standard: – 20 °C to + 40 °C</td>
<td></td>
</tr>
<tr>
<td>Vibration resistance(^5) according to IEC 60 068-2-6</td>
<td>1 g, from 10 Hz to 200 Hz</td>
<td></td>
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<tr>
<td>Weight</td>
<td>Approx. 12 kg (including Ex-plug/socket connector with terminal board)</td>
<td></td>
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</tbody>
</table>

**Further information**

**EU Directives**
- ATEX Directive: (94/9/EC)
- Electromagnetic Compatibility (EMC): (89/336/EEC)
- Machinery Directive: (98/37/EC)

**Reference documents**
- Product description, “Actuator controls AUMA MATIC”
- Dimension sheets “Multi-turn actuators/part-turn actuators with integral controls AUMA MATIC”

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\(^5\) Resistant to vibrations during start-up or for failures of the plant. However, a fatigue strength may not be derived from this.

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