**Multi-turn actuators for open-close operation with integrated controls**

**Type BEA©max 060 – BEA©max 120**

**Execution according to circuit diagram: BEA©max 060**

• Operating mode short-time operation S2-60 min, 400V 50/60Hz as standard, thus high safety reserve for multiple operation of the valve/penstock in the event of an accident or emergency

• Output speed at 50 Hz - mains approx. 30 rpm

• Three-phase motor in insulation class F, with full motor protection by three 140°C thermal switches built into the stator winding

• Motor without terminal box, internal connection via plug connector

• Wear-free opto-magnetic position and torque detection

• Temperature-controlled anti-condensation heater in electronics compartment, internally supplied

• Stationary hand wheel during motor operation, mechanically locked in automatic operation, signalling of hand wheel operation via potential-free signalling contact (1 changeover contact)

• Hand wheel lockable when coupled and uncoupled

• Valve/penstock connection F10 according to EN ISO 5210

• Connection drive - control via plug connector (with screw connection)

• Reversing contactor (5.5 kW AC-3 [400 V]) mechanically and electrically locked

• Local controls with maxone operating concept (rotary pushbutton switch), colour 3.5" TFT display with plain text for parameterization, status, position and fault display

• All the information required for operating the valve is shown at a glance on the colour TFT display (such as current position, current torque, permissible torques for closing/opening), end position positions, operating mode, battery charge status, presence of messages) without the user has to switch to other menus.

• Continuous electronic position and torque indication on the display

• Control electronics buffered by Li-Ion battery, current position shown on the display in the event of emergency actuation using the hand wheel (even in the event of a power failure)

• Three inputs CLOSED-STOP-OPEN (24 V DC) isolated via optocoupler

• EMERGENCY position input (24 V DC) isolated via optocoupler, configurable EMERGENCY position

• Input isolated via optocoupler for EMERGENCY STOP (24 V DC), interruption of the input signal leads to cancellation of an active move command, regardless of the selected operating mode (local/remote)

• One potential-free relay contact each (1 NO + 1 NC) for end positions CLOSED and OPEN

(Signal states of the end positions are retained in the event of a power failure)

• One potential-free relay contact each (1 NO + 1 NC) for torque switch-off in the closing and opening directions

• Potential-free flashing contact (1 NO) for running display

• Potential-free signalling contact (1 NO) Monitoring of thermal contact, contact opens when the motor overheats

• potential-free signalling contact (1 NO) Collective fault message drive:

Contact opens in the event of control voltage failure, electronics fault, buffer battery fault, torque error and motor overheating

• for OPEN and CLOSED separately configurable start-up override of the torque monitoring

• Default position set point via 0/4...20 mA signal

• Potentially isolated, electronic position signal 0/4...20 mA

• Potentially isolated, electronic torque signal 0/4…20 mA

• Message list for pending warnings and errors, signalling by means of a message indicator on the display

• Control or local controls can be rotated by +/-90° (factory setting)

• Permissible ambient temperature -40°C to +70 °C, protection class IP68++ up to 8 m Wc (max. 30 days permanently waterproof)

• Stained A4 body. Parts in contact with medium made of A4

Options on request

• Powder-coated housing in colour according to customer requirements

• Padlock for locking the hand wheel when coupled and uncoupled

• Extra mechanical operating lock for rotary knob and/or display panel

• Control via Profibus-DP or Profinet