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Electric Actuator EA500 and EA500R



Application

The electric Actuator EA500(R) is the most powerful drive in the **TICOVAL**-range and is used for **TICOVAL-Ball Valves from 2 1/2" / DN 65 to 4" / DN 100** and **TICOFly-Butterfly Valves from DN 80 to DN 125**. The drive is already fully equipped as standard and is therefore well suited for all intended applications:

- **power supply 230V AC or 24V AC**
- **with or without built-in relay** (see below „function“)
- **switching time 60 sec. for 90°**
- **2 auxiliary switches as standard**
- **protection class IP65** with built-in heating resistor to prevent condensation

Quality features

- extremely solid, housing bottom part made of die-cast aluminium
- easy mounting to Valve with four M6 socket head screws (included)
- suitable for ambient temperature -10°C to +50°C (avoid condensation inside Actuator)
- can be mounted on Valve in every 90°-position
- sufficient power reserves available to overcome a breakaway torque of the Valve after long standstills
- provides waterhammer free operation of Valve
- maintenance-free
- two cable glands of Polycarbonat, self extinguishing
- running angle 90° (standard) and angular position of auxiliary switch preset at factory, other running angle (e.g. 180°) and auxiliary switch positions freely adjustable
- protection class IP65 with integrated 5W heating resistor as standard
- rotating direction is selectable by internal switch (Valve = under power open or closed)
- F05 mounting flange according to ISO 5211 - DIN 3337 allows the use on Valves of other brands

Function

Standard execution is **EA500R with integrated relay for 2-point control (on/off)**. It is controlled by a single-pole contact (e.g. thermostat, switch). Depending upon the position of the contact the Valve moves forth or back to the end position, the relay effects the switchover of direction. **Intermediate positions are not possible**. Rotating direction is selectable by internal switch.

The version **EA500 without relay for 3-point control** is controlled by separate wires for the direction clockwise and counterclockwise. Without power, the Actuator remains in the current position, **intermediate positions are possible**.

Actuator EA502 for proportional signal control: see separate data sheet EA502

Product range electric Actuator EA500(R)

type	torque	power supply	equipment	time for 90°	order code
EA500R	60 nm	230V AC / 50Hz	with relay	60 sec.	750.1000.538
EA500		230V AC / 50Hz	without relay		750.3000.538
EA500R	60 nm	24V AC / 50Hz	with relay	60 sec.	750.2000.538
EA500		24V AC / 50Hz	without relay		750.4000.538

(other switching times on request)

Accessories for Actuator EA500(R)

Description	Order code
Isolating disk for F05 flange for mounting between Valve and Actuator (recommended in cooling systems for isolation of temperature bridge to Actuator)	750.9999.KID
Handler for manual disengagement and manual actuation of the valve	750.9999.600

Technical data	
Power supply	230V AC / 50Hz or 24V AC / 50Hz
Switching time 90°	60 sec. (other on request)
Torque	60 nm
Auxiliary switches, adjustable (potential-free, NC or NO)	2 as standard EN 61058-1
Max. load	16/4 A, 250 VAC
Max. switching capacity	400 VA
Running angle	90° (standard) or selectable to needs
Power consumption	11,5 VA
Protection class	IP65 (with 5W heating resistor)
Ambient temperature	-10°C to +50°C, avoid condensation
Weight	2350 g
Mounting flange	ISO 5211 - DIN 3337
Maintenance	maintenance-free
CE-conformity	CEE 89/336-73/23-93/68

Materials	
Housing bottom	die-cast aluminium, varnished
Housing cover	Polycarbonat, self-extinguishing acc. UL 94 VO
Cable gland	Polyamid, selfexting.
Gears	steel, thermally treated
Joint to Valve	galvanized steel

Assembly / Safety notes

Mounting of Actuator to Valve with 4 M6 socket head screws (included), possible in every 90° position.

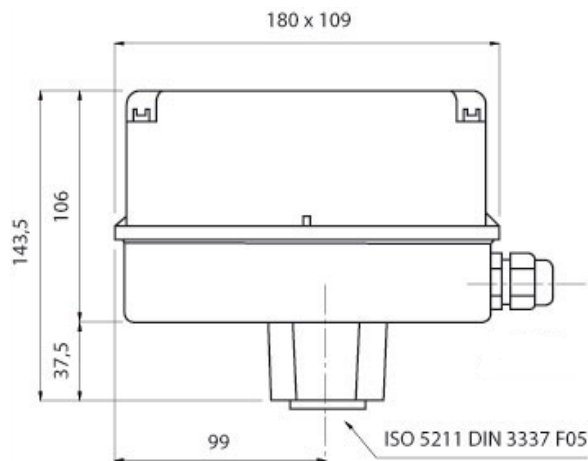
Installation positions: upright standing to horizontal (based on stem of Valve).

For ensuring the proper functioning, make sure that both Actuator and Valve are correctly set when assembling (direction of rotation / position of ball / direction of flow) according to the installation instructions.

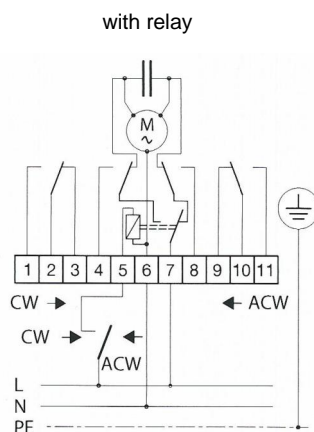
In case of power loss, gears can be disengaged by push button on Actuator (remove cover) for manual operation (use fork wrench).

The installation must be carried out by authorized personnel, according to current laws and regulations.

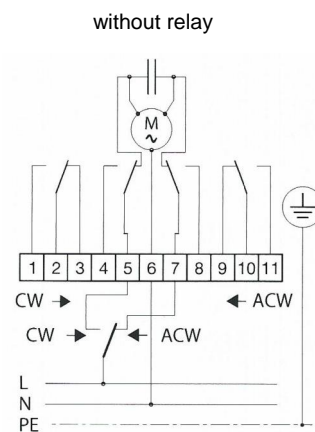
Dimensions



Wiring diagram



power supply of heating resistor by clamps 6 + 7



power supply of heating resistor by clamp 6 + additional clamp by arrangement

auxiliary switch 1 = clamps 1 - 3
auxiliary switch 2 = clamps 9 - 11

CW = rotation clockwise
ACW = rotation anticlockwise

Combinations Actuators / Valves

use for TICOVAL-Ball Valves with dimensions:

Actuator	DN15 - 1/2"	DN20 - 3/4"	DN25 - 1"	DN32 - 1 1/4"	DN40 - 1 1/2"	DN50 - 2"	DN65 - 2 1/2"	DN80 - 3"	DN100 - 4"
EA500(R)							✓	✓	✓

For smaller dimensions of TICOVAL-Ball Valves use Actuators EA80(R) resp. EA100(R) / EA103 (see separate sheets). Actuator EA500(R) is also used for TICOFLY-Butterfly Valves (see brochure TICOFLY-Butterfly Valves).