

# ELECTRO-PNEUMATIC POSITIONER EP3



The electro-pneumatic positioner EP3 is used to control single-acting and double-acting pneumatic actuators and is compatible with all EBRO valves for on/off and control applications.

## FEATURES

|                          |   |
|--------------------------|---|
| Power supply:            | 24 VDC $\pm$ 20 %   |
| Communication interface: | IO-Link, Bluetooth, SIO, analog   |
| SIO input signals:       | 3x 24V (open/close, intermediate position, external process sensor)                                 |
| SIO output signals:      | 3x 24V (open/closed, intermediate position, external process sensor)                                |
| Analogue input:          | 2x 4-20 mA, 1x 0-10 V   |
| Analogue output:         | 1x 4-20 mA / 0-10 V   |
| Position detection:      | 90° contactless / wear-free   |
| Connection:              | terminal connection or M12 A-coded plug connector   |
| Sensors:                 | Position analogue, acceleration, temperature  |
| Safety position:         | Single acting: closing, or opening<br>Double acting: holding, closing, or opening                   |
| HMI:                     | RGB LED for status indication<br>tactile operating elements in the device configuration via IO-Link |
| Temperature range:       | Standard -20 °C to +60 °C   |
| Explosion protection:    | On request: ATEX 3GD and ATEX 2GD   |

## APPLICATIONS

- Positioning of butterfly valves and knife gate valves
- Intermediate positions for open/close applications
- Eco mode for saving compressed air in On/Off applications

## GENERAL NOTES

- Conventional control via standard signals or IO-Link
- Individual parameterization via IO-Link
- Five process inputs (2x analog 4-20 mA/0-10V and/or 3x binary inputs) for connecting external sensors can be connected queried via IO-Link
- Diagnostics with additional sensors
- Freely programmable status LEDs
- Bluetooth interface as an interface to IoT applications



# ELECTRO-PNEUMATIC POSITIONER EP3

## TECHNICAL DATA

|                       |   |
|-----------------------|---|
| Body                  | Aluminum ( Powder-coated )                                  |
| Control               | Tactile control elements/ IO-Link                           |
| Protection class      | IP 65, optional IP67  |
| Temperature range     | -20°C bis +60°C   |
| Mechanical connection | VDI/VDE 3845, direct build-on                               |
| Corrosion protection  | CS3 or optional CS5M  |
| Connection type       | terminal connection, or optional M12 A-coded plug connector |

## ELECTRICAL DATA

|                                       |  |
|---------------------------------------|--|
| Power supply                          | 24 VDC $\pm$ 20%   |
| Power consumption                     | < 4,8 W (conventional, Class A IO-Link)<br>> 4,8 W (conventional, Class B IO-Link) |
| Sensor type Position detection        | Angle sensor, Hall-Technology  |
| Analogue input/setpoint specification | 4-20 mA / 0-10 V   |
| Additional analogue inputs            | 4-20 mA / 0-10 V   |
| Analogue output                       | 4-20 mA / 0-10 V   |
| Digital input signals                 | 3x 24V (open/closed, intermediate position, external process sensor)               |
| Digital output signals                | 3x 24V (feedback: open, closed, fault/intermediate position)                       |
| Polarity reversal protection          | Yes (Power supply)   |

## PNEUMATIC DATA

|                        |                         |
|------------------------|-------------------------|
| Control medium         | Neutral gases, air      |
| Air quality            | ISO 8573-1:2010: 7-4-4  |
| Supply pressure        | 3-8 bar                 |
| Control air connection | G1/4"                   |
| Air flow rate          | 1250 NI/min, adjustable |

## CERTIFICATIONS / CONFORMITY

|                            |                                       |
|----------------------------|---------------------------------------|
| IO-Link Transmission type  | COM3 (230,4 kBaud)                    |
| IO-Link Revision           | 1.1.3                                 |
| IO-Link Process cycle time | min. 10 ms                            |
| IO-Link Class              | Class A / Class B (depending on type) |
| Conformity                 | CE, IO-Link                           |
| Explosion protection       | Optional: ATEX 3GD and ATEX 2GD       |

# ELECTRO-PNEUMATIC POSITIONER EP3

## PRODUKTSCHLÜSSEL

| ELECTRO-PNEUMATIC POSITIONER           | EP3 | - | X | - | X | X | - | X | - | X | X | X | 2 | - | XX | XX | - | XX | - | X  |
|--|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|---|----|---|----|
| <b>OPERATION MODE</b>                  |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| Positioner                             | P   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| 3 Position Control mode                | 3   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| Open/Close Eco Mode                    | D   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| Positioner linear                      | PL  |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| Open/Close Eco Mode linear             | DL  |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| <b>ACTUATOR TYPE</b>                   |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| double acting                          |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | D  |
| single acting                          |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | S  |
| <b>Safety position</b>                 |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| holding (double acting only)           |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | H  |
| unpowered closing                      |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | C  |
| unpowered opening                      |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | O  |
| <b>INPUT SIGNAL</b>                    |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| 4-20 mA                                |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | A  |
| 0-10V                                  |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | A  |
| IO-Link                                |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | I  |
| 24V                                    |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | D  |
| <b>CONNECTION 1-3 MATERIAL</b>         |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| plastic                                |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | K  |
| metal                                  |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | M  |
| <b>CONNECTION 1</b>                    |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| Plug M12                               |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | S  |
| M20x1,5 6-12 mm                        |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | 2  |
| <b>CONNECTION 2</b>                    |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| Blind plug                             |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | 0  |
| M20x1,5 6-12 mm                        |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | 2  |
| diaphragm cap                          |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | B  |
| <b>MATERIAL EXHAUST AIR CONNECTION</b> |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| open (G1/4")                           |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | 00 |
| Sintered bronze                        |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | S1 |
| plastic                                |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | K1 |
| <b>AIR SUPPLY VERSION</b>              |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| open (G1/4")                           |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | 00 |
| L-push-in fitting, G1/4" to 6 mm       |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | E1 |
| L-push-in fitting, G1/4" to 8 mm       |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | E2 |
| L-push-in fitting, G1/4" to 10 mm      |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | E3 |
| <b>ACTUATOR SIZE</b>                   |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| EB5-12                                 |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | D  |
| EB14-18                                |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | A  |
| EB20-26                                |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | AA |
| SC                                     |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| <b>EX-PROTECTION</b>                   |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   |    |
| without                                |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | 0  |
| ATEX 3GD                               |     |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |   |    |   | E  |

# ELECTRO-PNEUMATIC POSITIONER EP3

## WIRING DIAGRAM

