

ACTUATOR FEEDBACK UNIT ES31 FOR PNEUMATIC DIAPHRAGM VALVE MV 308/309/310

FEATURES

The actuator feedback unit IDP is designed to equip the pneumatic actuators of MV308, MV309 and MV310 diaphragm automatic valves up to DN50. It determines and indicates the positions CLOSED and OPEN, the device is also equipped with red or green light diode signals. With a compact construction this ABS enclosure is intended to be fixed on the top of the pneumatic actuator. The transparent cover makes also the visual reading of the valve position possible.

LIMITS OF USE

IP67 protection.

supply voltage: 18 - 36 Vdc. (**rep : 3**)

electrical connection: M 12 sensor plugs with 5 pins and A-coded.

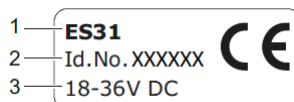
Option : M12 angled socket - 5 poles code A.

TS : -20°C to +60°C.

CONSTRUCTION

Device type (**rep : 1**)

ID number (**Rep : 2**)



ABS casing.

Transparent cover PA.

EPDM gasket.

Stainless steel screws 1.4301.

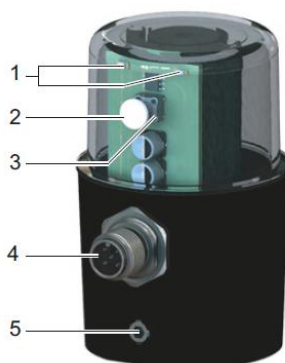
1 - LED display.

2 - Plug.

3 - Push-button to activate the teaching function.

4 - Plug Male.

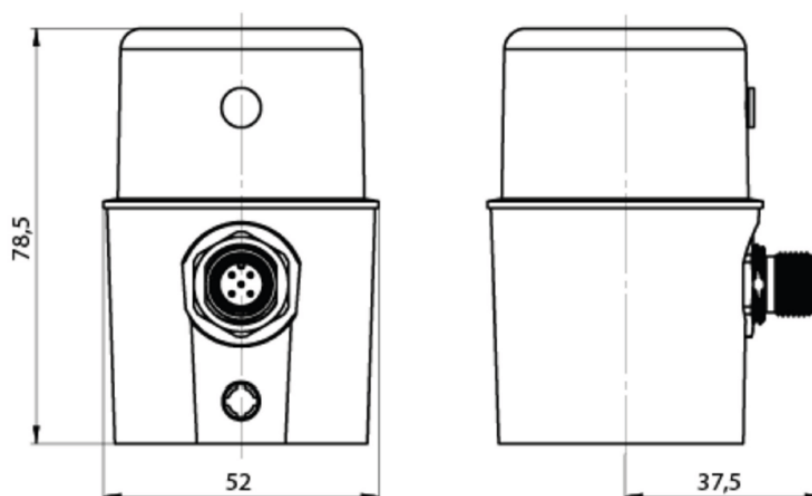
5 - Fixing screw. (0.3 Nm torque)



STÜBBE



DIMENSIONS (mm)

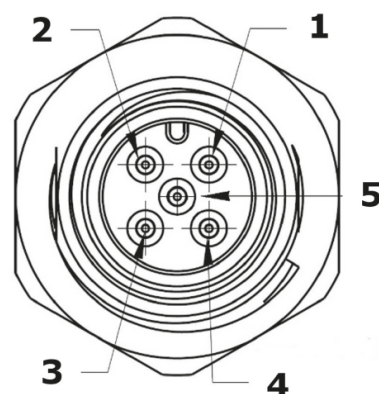
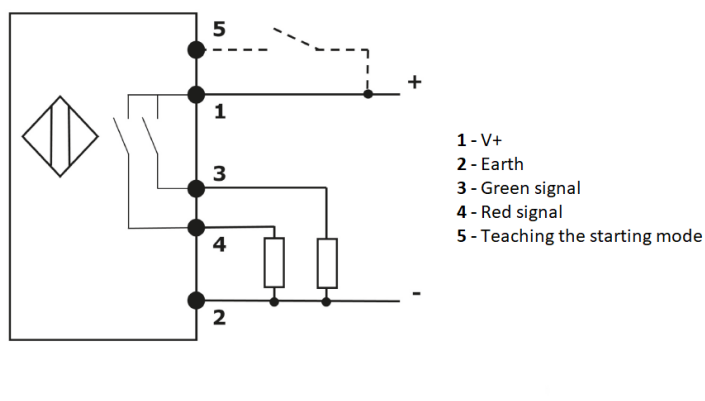


ACTUATOR FEEDBACK UNIT ES31

FOR PNEUMATIC DIAPHRAGM VALVE MV 308/309/310

TECHNICAL AND ELECTRICAL CHARACTERISTICS

- programmable, compact feedback unit.
- clearly visible LED color lights red and green.
- contact free, magnetic measuring principle.
- sensor output PNP for valve OPEN and CLOSED.
- output current signal open max. 200 mA. (short circuit protected)
- output current signal closed max. 200 mA (short circuit protected)
- idle current <20 mA.
- Tightening torques 0,3 Nm fixing screw.



TROUBLESHOOTING

Error	Possible cause	Corrective action
The IDP cannot be installed	The IDP is installed onto the wrong valve	The IDP is intended to be installed exclusively onto diaphragm valves of the MVB, MV 308, MV 309 or MV 310
	The locating bushing is not installed	When installing onto the MV 310, the locating bushing must be screwed onto the drive. (See page 4))
no signal	The IDP has not been taught	Teaching the IDP (See page 4, 5)
	The diaphragm valve is faulty	Check the diaphragm valve for defects

Information given as an indication only, and subject to possible modifications

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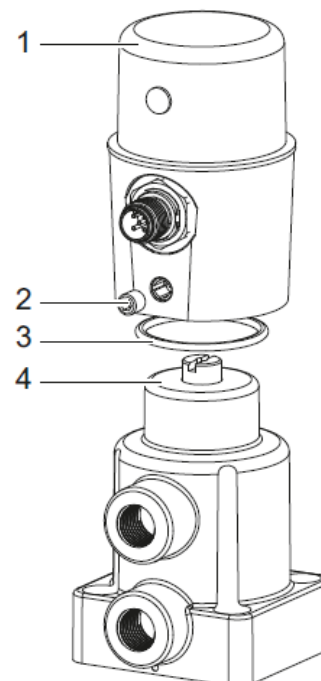
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INSTALLATION AND CONNECTION

- Ensure that the position indicator is suitable for pneumatic diaphragm valves up to DN50 diameter.
- Ensure for the model mounting on MV310 diaphragm valve with additional locating bush.

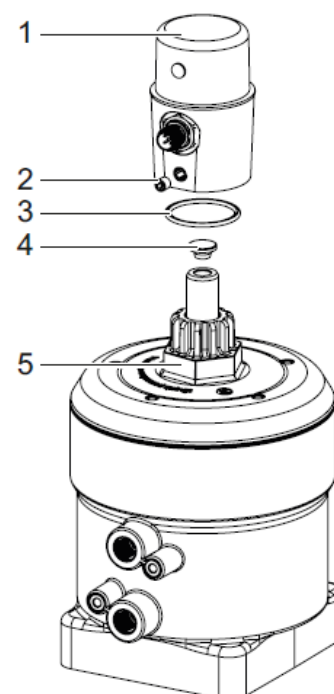
1 - Mounting the IDP on MV 308 and MV 309 (Up to DN32)

1	Mount the O-ring (3) on the drive (4).
2	Undo the fixing screw (2) on the actuator feedback unit (1).
3	Mount the IDP (1) onto the drive (4).
4	Tighten the fixing screw (2) on the actuator feedback unit (1) and respect the torque.



2 - Mounting the IDP on MV 308 and MV 309 (from DN40 to DN50)

1	Mount the O-ring (3) on the drive (5).
2	Remove the plug (4).
3	Undo the fixing screw (2) on the actuator feedback unit (1).
4	Mount the actuator feedback unit (1) onto the drive (5).
5	Tighten the fixing screw (2) on the actuator feedback unit (1) and respect the torque.



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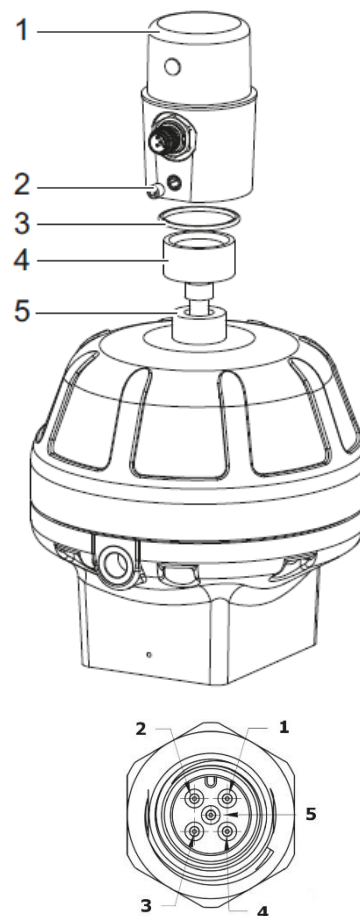
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3 - Mounting the IDP on MV 310

1	Mount the locating bush (4) onto the drive (5).
2	Mount the O-ring (3) on the locating bushing (4).
3	Undo the fixing screw (2) on the actuator feedback unit (1).
4	Mount the actuator feedback unit (1) onto the locating bushing (4).
5	Tighten the fixing screw (2) on the actuator feedback unit (1) and respect the torque.



4 - Electrical connection of IDP

- Compliance with the voltage and current data is mandatory.
- Prepare the sensor plug and cable according to the pin assignment.
- Insert the connector into the connector socket.
- Tighten the fixing screw on the connector.

5 - Teaching the IDP

The IDP is taught once to detect the valve positions. First, the IDP learns the red LED of the respective valve position. The taught setting is permanently stored in the IDP's memory. Teaching can be done either manually or automatically.

The following variants serve as an example of how to teach the IDP :

- Valve position **CLOSED** – **red** LED
- Valve position **OPEN** – **green** LED

5.1 - Teaching the IDP manually

The button is used in order to teach the actuator feedback unit.

- 1 - Move the diaphragm valve to its CLOSED position.
- 2 - Connect the power supply to the IDP.
- 3 - Remove the plug from the IDP. The button can be activated.
- 4 - In order to start the teaching function, press the button at least 2 seconds.
 - Both LEDs light up briefly.
 - The red LED flashes until the valve position **CLOSED** is detected.
 - The red LED is lit permanently when the valve position **CLOSED** has been taught.

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- 5 - Move the diaphragm valve to its **OPEN** position.
 - The **green** LED flashes until the valve position **OPEN** is detected.
 - The **green** LED is lit permanently when the valve position **OPEN** has been taught.
 - The manual teaching process is completed.
- 6 - Install the plug.
- 7 - Disconnect the power supply from the IDP.

5.2 - Teaching the IDP automatically

The system controller is used to teach the actuator feedback unit.

- 1 - Move the diaphragm valve to its **CLOSED** position.
- 2 - Connect the power supply to the IDP.
- 3 - In order to start the teaching function, the supply voltage must be switched to PIN 5.
 - Both LEDs light up briefly.
 - The **red** LED flashes until the valve position **CLOSED** is detected.
 - The **red** LED is lit permanently when the valve position **CLOSED** has been taught.
- 4 - Move the diaphragm valve to its **OPEN** position.
 - The **green** LED flashes until the valve position **OPEN** is detected.
 - The **green** LED is lit permanently when the valve position **OPEN** has been taught.
 - The automatic teaching process is completed.
- 5 - Disconnect the power from PIN 5.
- 6 - Disconnect the power supply from the unit.

6 - Maintenance

Interval	Action
As necessary	Clean device with a damp cloth.
twice a year	Visual and function check : Normal operating conditions unchanged

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