

## Intelligent Transmitter/Switch



Picture showing Pressure Transmitter/Switch Type 8311 with Fitting Type S001 Brass

This Transmitter/Switch is specifically designed to switch a valve, pump, heaters, etc... and to establish an ON/OFF control loop. The switching point can be programmed with the 3 keys on the display or from an external logic controller via a 4-20 mA loop. Additionally, the process value can be transmitted to the PLC (4-20 mA). The connection to the process in the piping is done with standard fittings.

### Process Specification

|                                    |                                                                                   |
|------------------------------------|-----------------------------------------------------------------------------------|
| Pipe diameter                      | any pipe with 1/2" FNPT connection<br>(see order chart fitting) Type SO01 or SO05 |
| Measuring range                    | 0-29, 73, 145, 290, 725 PSI                                                       |
| Switching accuracy                 | ± 1.5% full scale                                                                 |
| Repeatability                      | max. 0.25...1% full scale                                                         |
| Fitting                            | (see order chart fitting) Type SO01 or SO05                                       |
| Housing material                   | PC + 20% glass fiber                                                              |
| Front panel foil                   | Polyester                                                                         |
| Sensor element                     | ceramic cell (Al <sub>2</sub> O <sub>3</sub> )                                    |
| Wetted parts                       | stainless steel                                                                   |
| Min. service life of pressure cell | 100 million cycles                                                                |

### Electrical Specification

|                                                |                                          |
|------------------------------------------------|------------------------------------------|
| Voltage Supply                                 | 12-30 VDC                                |
| Reversed polarity of DC                        | protected                                |
| Transistor output                              | NPN/PNP, open collector 5-30 VDC, 700 mA |
| or optional Relay output                       | 3 A, 230 VAC or 3 A, 30 VDC programmable |
| Input external setpoint                        | 4-20 mA                                  |
| Output process value                           | 4-20 mA                                  |
| Optional AS-Interface                          | Fieldbus                                 |
| Current consumption                            | max. 80 mA (no load)                     |
| Short circuit protection                       | yes                                      |
| Recommended max. cable length for power supply | 328 ft. shielded<br>26 to 22 AWG         |

### Electrical Connections

|                |                            |
|----------------|----------------------------|
| Ease On        | on request cable plug 2511 |
| Cable plug     | DIN 43650A                 |
| Multipin       | 5 pin, Multipin plug M12   |
| ASI connection | on request                 |

### Environment Specifications

|                           |                                         |
|---------------------------|-----------------------------------------|
| Max. fluid temperature    | 212°F                                   |
| Ambient temperature range | -4°F to +140°F                          |
| Type of protection        | NEMA 4 (IP65) with connector plugged-in |

### Standards

|           |            |
|-----------|------------|
| Vibration | EN 68-2-6  |
| Shock     | EN 68-2-27 |

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## Advantages/Benefits

► **ALL IN ONE:**  
Indication, Controller,  
Transmitter, ON/OFF Relay  
and AS-i Control in One Device

► **Programmable Monitoring and ON/OFF Control System for Easy Fluid Control Systems**

► **Complete Communication due to External Setpoint, Easy LINK or AS-Interface**



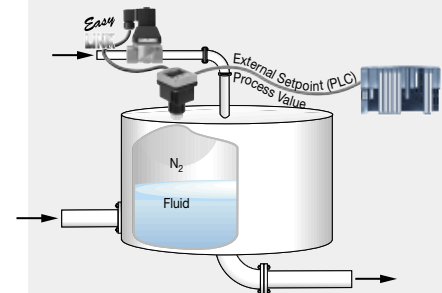
► **CE Approval**



## Applications

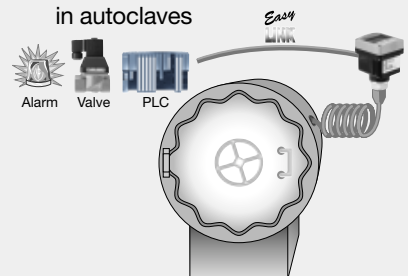
### ON/OFF Control

- Stabilized pressure of N<sub>2</sub> in liquid tanks
- Control of pressure tanks for air
- Control of fluid pressure in tanks



### Monitoring

- Monitoring of fluid flow pressure in Reverse Osmosis systems (water treatment)
- Monitoring of pressure in autoclaves



**burkert**  
Fluid Control Systems

# "All-In-One" Pressure Transmitter/Switch

## For Easy ON/OFF Control

# Type 8311

### Specifications - Ordering Chart (Other Versions on Request) for Type 8311

| Pressure Range [PSI] | Max. Pressure [PSI] | Bursting Pressure [PSI] | Power Supply | Output Signal     | Input Signal (ext. setpoint) | Process Connection | Item-No.* |
|----------------------|---------------------|-------------------------|--------------|-------------------|------------------------------|--------------------|-----------|
| 0 - 30               | 58                  | 102                     | 12 - 30 VDC  | NPN / PNP         | -                            | 1/2" NPT           | US08565   |
| 0 - 30               | 58                  | 102                     | 12 - 30 VDC  | NPN               | -                            | 1/2" NPT           | US08564   |
| 0 - 30               | 58                  | 102                     | 12 - 30 VDC  | PNP               | -                            | 1/2" NPT           | US08563   |
| 0 - 30               | 58                  | 102                     | 12 - 30 VDC  | PNP               | -                            | 1.5" Tri-Clamp     | US08520   |
| 0 - 30               | 58                  | 102                     | 12 - 30 VDC  | PNP               | -                            | 2" Tri-Clamp       | US08519   |
| 0 - 30               | 58                  | 102                     | 12 - 30 VDC  | Relay             | -                            | 1/2" NPT           | US08562   |
| 0 - 30               | 58                  | 102                     | 12 - 30 VDC  | Relay             | 4 - 20 mA                    | 1/2" NPT           | US08560   |
| 0 - 30               | 58                  | 102                     | ASi powered  | ASi + Relay       | -                            | 1/2" NPT           | US08561   |
| 0 - 30               | 58                  | 102                     | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 1/2" NPT           | US08559   |
| 0 - 30               | 58                  | 102                     | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 1.5" Tri-Clamp     | US08518   |
| 0 - 30               | 58                  | 102                     | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 2" Tri-Clamp       | US08517   |
| 0 - 73               | 145                 | 174                     | 12 - 30 VDC  | NPN / PNP         | -                            | 1/2" NPT           | US08558   |
| 0 - 73               | 145                 | 174                     | 12 - 30 VDC  | NPN               | -                            | 1/2" NPT           | US08557   |
| 0 - 73               | 145                 | 174                     | 12 - 30 VDC  | PNP               | -                            | 1/2" NPT           | US08556   |
| 0 - 73               | 145                 | 174                     | 12 - 30 VDC  | PNP               | -                            | 1.5" Tri-Clamp     | US08516   |
| 0 - 73               | 145                 | 174                     | 12 - 30 VDC  | PNP               | -                            | 2" Tri-Clamp       | US08515   |
| 0 - 73               | 145                 | 174                     | 12 - 30 VDC  | Relay             | -                            | 1/2" NPT           | US08555   |
| 0 - 73               | 145                 | 174                     | 12 - 30 VDC  | Relay             | 4 - 20 mA                    | 1/2" NPT           | US08553   |
| 0 - 73               | 145                 | 174                     | ASi powered  | ASi + Relay       | -                            | 1/2" NPT           | US08554   |
| 0 - 73               | 145                 | 174                     | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 1/2" NPT           | US08552   |
| 0 - 73               | 145                 | 174                     | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 1.5" Tri-Clamp     | US08514   |
| 0 - 73               | 145                 | 174                     | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 2" Tri-Clamp       | US08513   |
| 0 - 145              | 290                 | 363                     | 12 - 30 VDC  | NPN / PNP         | -                            | 1/2" NPT           | US08551   |
| 0 - 145              | 290                 | 363                     | 12 - 30 VDC  | NPN               | -                            | 1/2" NPT           | US08550   |
| 0 - 145              | 290                 | 363                     | 12 - 30 VDC  | PNP               | -                            | 1/2" NPT           | US08549   |
| 0 - 145              | 290                 | 363                     | 12 - 30 VDC  | PNP               | -                            | 1.5" Tri-Clamp     | US08424   |
| 0 - 145              | 290                 | 363                     | 12 - 30 VDC  | PNP               | -                            | 2" Tri-Clamp       | US08423   |
| 0 - 145              | 290                 | 363                     | 12 - 30 VDC  | Relay             | -                            | 1/2" NPT           | US08548   |
| 0 - 145              | 290                 | 363                     | 12 - 30 VDC  | Relay             | 4 - 20 mA                    | 1/2" NPT           | US08546   |
| 0 - 145              | 290                 | 363                     | ASi powered  | ASi + Relay       | -                            | 1/2" NPT           | US08547   |
| 0 - 145              | 290                 | 363                     | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 1/2" NPT           | US08545   |
| 0 - 145              | 290                 | 363                     | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 1.5" Tri-Clamp     | US08530   |
| 0 - 145              | 290                 | 363                     | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 2" Tri-Clamp       | US08529   |
| 0 - 290              | 580                 | 725                     | 12 - 30 VDC  | NPN / PNP         | -                            | 1/2" NPT           | US08544   |
| 0 - 290              | 580                 | 725                     | 12 - 30 VDC  | NPN               | -                            | 1/2" NPT           | US08543   |
| 0 - 290              | 580                 | 725                     | 12 - 30 VDC  | PNP               | -                            | 1/2" NPT           | US08542   |
| 0 - 290              | 580                 | 725                     | 12 - 30 VDC  | PNP               | -                            | 1.5" Tri-Clamp     | US08528   |
| 0 - 290              | 580                 | 725                     | 12 - 30 VDC  | PNP               | -                            | 2" Tri-Clamp       | US08523   |
| 0 - 290              | 580                 | 725                     | 12 - 30 VDC  | Relay             | -                            | 1/2" NPT           | US08541   |
| 0 - 290              | 580                 | 725                     | 12 - 30 VDC  | Relay             | 4 - 20 mA                    | 1/2" NPT           | US08539   |
| 0 - 290              | 580                 | 725                     | ASi powered  | ASi + Relay       | -                            | 1/2" NPT           | US08540   |
| 0 - 290              | 580                 | 725                     | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 1/2" NPT           | US08538   |
| 0 - 290              | 580                 | 725                     | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 1.5" Tri-Clamp     | US08522   |
| 0 - 290              | 580                 | 725                     | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 2" Tri-Clamp       | US08521   |
| 0 - 725              | 1450                | 1740                    | 12 - 30 VDC  | NPN / PNP         | -                            | 1/2" NPT           | US08537   |
| 0 - 725              | 1450                | 1740                    | 12 - 30 VDC  | NPN               | -                            | 1/2" NPT           | US08536   |
| 0 - 725              | 1450                | 1740                    | 12 - 30 VDC  | PNP               | -                            | 1/2" NPT           | US08535   |
| 0 - 725              | 1450                | 1740                    | 12 - 30 VDC  | PNP               | -                            | 1.5" Tri-Clamp     | US08524   |
| 0 - 725              | 1450                | 1740                    | 12 - 30 VDC  | PNP               | -                            | 2" Tri-Clamp       | US08523   |
| 0 - 725              | 1450                | 1740                    | 12 - 30 VDC  | Relay             | -                            | 1/2" NPT           | US08534   |
| 0 - 725              | 1450                | 1740                    | 12 - 30 VDC  | Relay             | 4 - 20 mA                    | 1/2" NPT           | US08532   |
| 0 - 725              | 1450                | 1740                    | ASi powered  | ASi + Relay       | -                            | 1/2" NPT           | US08533   |
| 0 - 725              | 1450                | 1740                    | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 1/2" NPT           | US08531   |
| 0 - 725              | 1450                | 1740                    | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 1.5" Tri-Clamp     | US08522   |
| 0 - 725              | 1450                | 1740                    | 12 - 30 VDC  | 4 - 20 mA + Relay | 4 - 20 mA                    | 2" Tri-Clamp       | US08521   |

\* Plugs included with part number

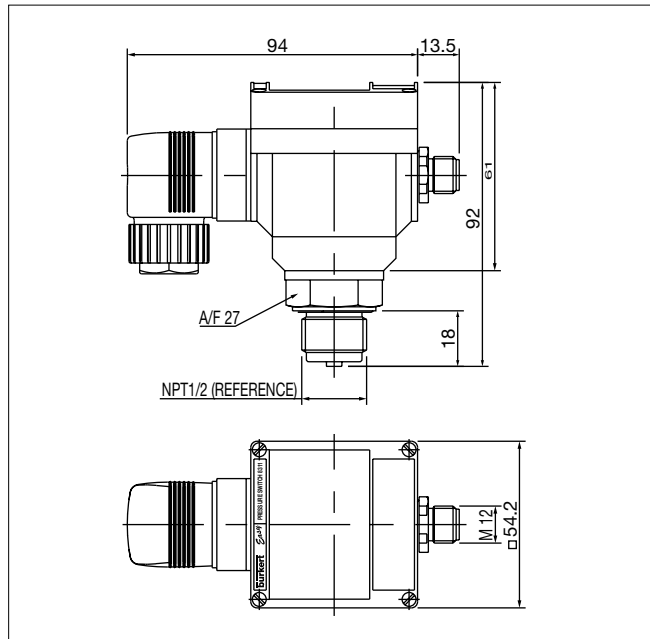
### Accessories and Fittings for Type 8311

|                                                                              |                         |
|------------------------------------------------------------------------------|-------------------------|
| M12 female cable connector with plastic threaded locking ring                | 917 116 D               |
| 5 pin M12 female connector molded on cable (2 m., shielded)                  | 438 680 F               |
| 8 pin M12 female connector molded on cable (2 m.)                            | 444 800 E               |
| 2 pin M12 female coupler module for ribbon cable (AS-Interface version only) | 440 653 M               |
| S005 INLINE fitting with adapter plate (brass or stainless steel)            | see datasheet Type S005 |
| S001 fitting (brass or stainless steel)                                      | see datasheet Type S001 |

# “All-In-One” Pressure Transmitter/Switch For Easy ON/OFF Control

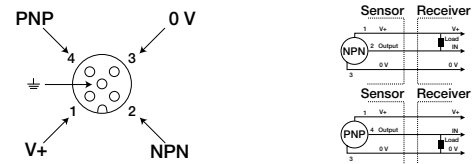
**Type 8311**

## Dimensions [mm]

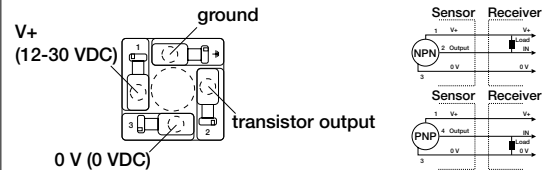


## Electrical Connections

### Transistor version NPN/PNP

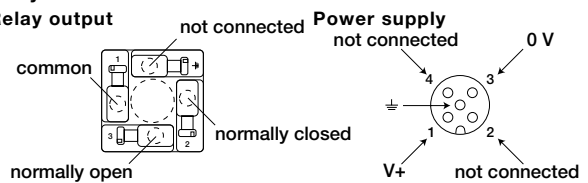


### Transistor version NPN or PNP with cable plug 2508



### Relay version

#### Relay output



### Relay version with external set point and process valve

