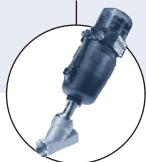


## Pressure transmitter (2 wire) / switch for continuous or On/Off Control



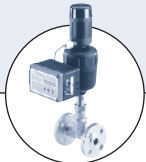
- Indication, monitoring, transmitting and continuous or On/Off control in one device
- Output signal 4...20 mA, 2-wire for continuous control
- Transistor or relay outputs for On/Off control or alarm function

Type 8311 can be combined with...



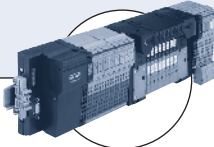
**Type 2702 (8630)**

Control valve with TopControl



**Type 2712 (1067)**

Control valve with SideControl



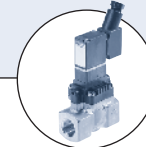
**Type 8644-P AirLINE**

Valve island with electronic I/O



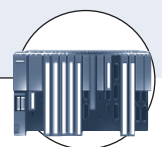
**Type 8624-2**

PI pressure controller



**Type 6213**

Solenoid valve



**PLC**

This intelligent mini transmitter/switch with an extra-large display is specially designed to switch alarms and to establish a monitoring system or an On/Off control loop. The switching points can be programmed with the three-key keypad under the display. In addition, the process value can be transmitted to the PLC (4-20 mA). The connection to the process in the piping is made using standard fittings.

### General data

#### Materials

|                            |                             |
|----------------------------|-----------------------------|
| Housing, cover             | PC, +20% glass fibre        |
| Front panel folio / Screws | Polyester / Stainless steel |
| Cable plug/Multipin        | PA                          |
| Materials wetted parts     | Stainless steel             |
| Seal                       | FKM (EPDM option)           |

#### Sensor element

Ceramic cell ( $\text{Al}_2\text{O}_3$ )

#### Service life of pressure cell

Min. 100 million cycles

#### Electrical connections

Cable plug: EN 175301-803  
Multipin<sup>1)</sup>: M12, 5-pin

#### Voltage supply cable

164 ft., shielded, 0.14 up to 0.5 mm<sup>2</sup> max.

### Complete device data (pipe + electronic module)

#### Pipe diameter

Any pipe with sensor connection 1/2"  
(1 1/2" or 2" Tri-Clamp® available upon request)

#### Measuring range

up to 29, 73, 145, 290 or 725 PSI

#### Medium temperature

-4°F up to 212°F (-20°C up to 100°C)  
(212°F for an ambient temperature of max. 104°F)

#### Typical accuracy

Transmitter 2-wire version  
for 0°C < T < 70°C  
for -20°C < T < 0°C  
for 70°C < T < 100°C

≤ ±1% of F.S.\*  
≤ ±1% ± 0.03% of F.S.\* / °C  
≤ ±1% ± 0.03% of F.S.\* / °C

#### Switch version

≤ ±1.5% of F.S.\*

#### Typical repeatability

Transmitter 2-wire version  
Switch version

≤ ±0.06%  
≤ ±0.25%

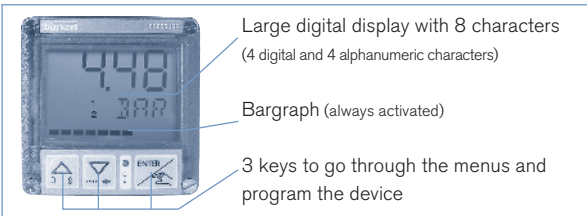
\* F.S. = Full scale

1) Has to be ordered separately

| Electrical data                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Power supply</b>                                                                                                                                                                   | 12-30 V DC , filtered and regulated                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Overvoltage protection</b>                                                                                                                                                         | Yes, for power supply and for transistor outputs                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Current consumption</b><br>Transmitter 2-wire version<br>Switch version                                                                                                            | < 30 mA (+700 mA max. per transistor output used)<br>< 750 mA (with load - PNP output configuration)<br>< 80 mA (with load - Relay version)                                                                                                                                                                                                                                                                                                  |
| <b>Output</b><br>Transmitter 2-wire version<br>Transistor (programmable)<br><br>Process value<br><br>Switch version<br>Transistor (programmable)<br><br>Optional relay (programmable) | open collector, 2 NPN or 2 PNP, 700 mA max.,<br>NPN: [(V+) minus 0.5 VDC] - 0 VDC<br>PNP: 0.5 VDC - (V+)<br>protected against short circuit<br>4-20 mA, Loop resistance: 800 Ω at 30 V DC,<br>550 Ω at 24 V DC, 300 Ω at 18 V DC<br>(For more details, see instruction manual)<br><br>open collector, NPN / PNP, 700 mA max.,<br>NPN: 0.2 - 30 VDC ; PNP: (V+)<br>protected against short circuit<br>3 A / 250 V AC or 3 A / 30 V DC (relay) |
| <b>Reversed polarity of DC</b>                                                                                                                                                        | Protected (for power supply and all outputs)                                                                                                                                                                                                                                                                                                                                                                                                 |
| Environment                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Ambient temperature</b>                                                                                                                                                            | -4°F up to 140°F (-20 up to 60°C)<br>(104°F max. if the medium temperature near 212°F)                                                                                                                                                                                                                                                                                                                                                       |
| <b>Storage temperature</b>                                                                                                                                                            | -20 up to 80°C                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Relative humidity</b>                                                                                                                                                              | ≤ 80%, non condensated                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Standards and approvals                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Protection class</b>                                                                                                                                                               | IP65 with connector plug-in                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Standard</b><br>EMC<br>Security<br>Vibration<br>Shock                                                                                                                              | EN 50081-1, 50082-2, 61000-6-2<br>EN 61010-1<br>EN 60068-2-6<br>EN 60068-2-27                                                                                                                                                                                                                                                                                                                                                                |

## Main features

### Display



### Software main features

#### Switch and transmitter

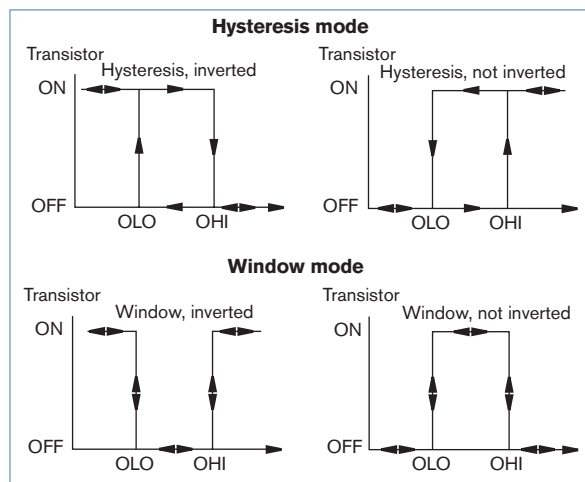
- International measuring units
- 10-segment bargraph
- Teach-In for an improved accuracy
- Simulation mode to test the programming of the switching points, in dry conditions

#### Transmitter

- Simulation mode to test the programming of 4-20 mA output, in dry conditions
- Display and storage of min/max value
- Protection by code against unauthorized access
- Reset function to default parameters
- Alarm output programmable as internal default alarm

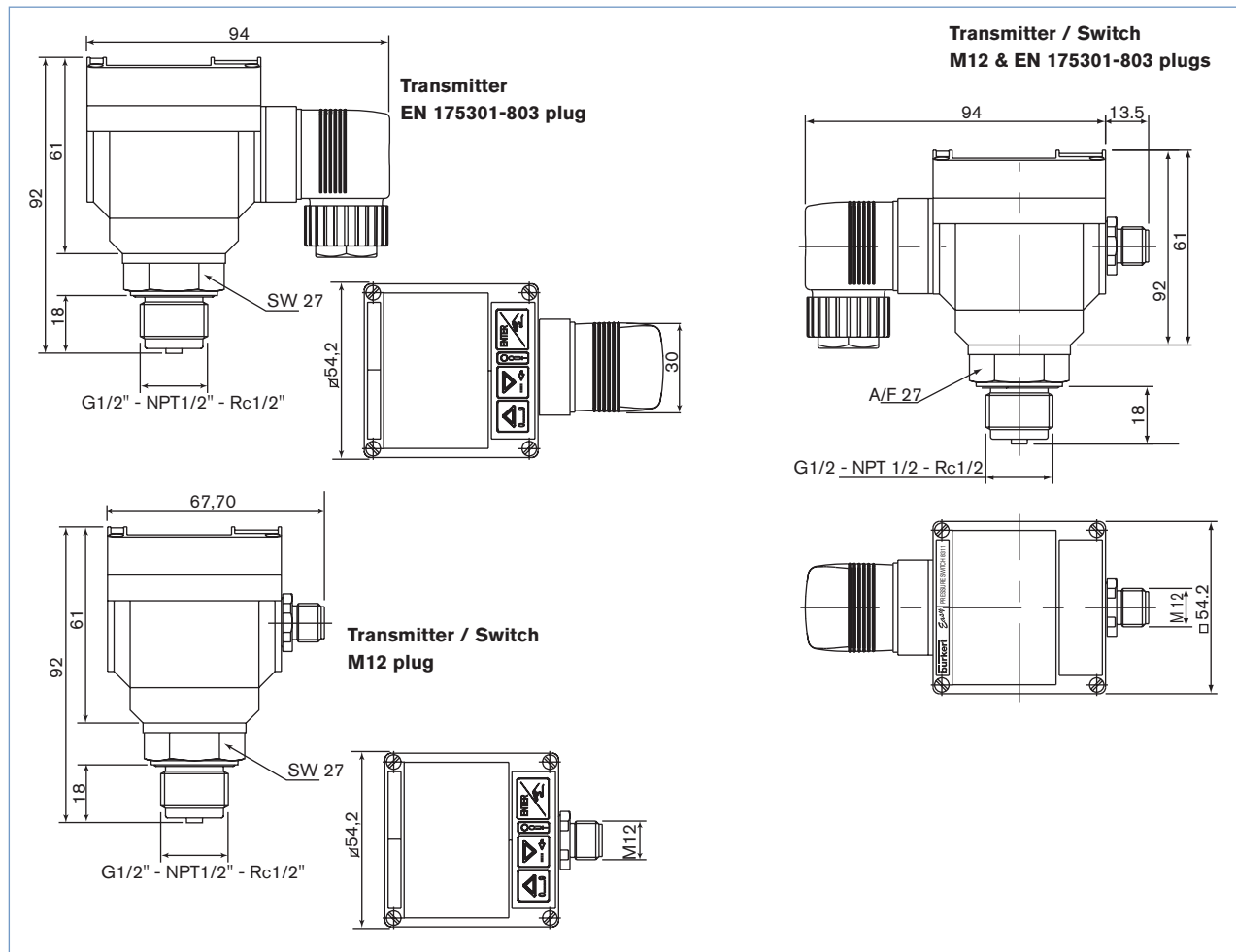
### Working mode of alarm outputs

- 2 switching modes for the output, either hysteresis or window, inverted or not



- Programmable delay before switching
- Output available as transistor NPN or PNP, relay (up to 3A)
- Outputs can be programmed as internal default alarm.

## Dimensions



## Ordering chart for Type 8311 (other versions on request)

### Transmitter version

| Nominal pressure range [PSI] | Pressure max. [PSI] | Burst pressure [PSI] | Power supply | Output signal                          | Electrical connection** | Item no. sensor connection G 1/2" | Item no. sensor connection NPT 1/2"*** | Item no. sensor connection Rc 1/2" |
|------------------------------|---------------------|----------------------|--------------|----------------------------------------|-------------------------|-----------------------------------|----------------------------------------|------------------------------------|
| 0 - 14.5                     | 29                  | 58                   | 12 - 30 VDC  | 4-20 mA + 2 NPN or 2 PNP <sup>1)</sup> | M12 plug 5 pins         | 557 934                           | 557 935                                | on request                         |
|                              |                     |                      |              | 4-20 mA                                | Cable plug Type 2508*   | 550 350                           | 557 937                                | on request                         |
| 0 - 29                       | 58                  | 102                  | 12 - 30 VDC  | 4-20 mA + 2 NPN or 2 PNP <sup>1)</sup> | M12 plug 5 pins         | 444 507                           | 444 762                                | 551 739                            |
|                              |                     |                      |              | 4-20 mA                                | Cable plug Type 2508*   | 444 635                           | 444 640                                | 444 768                            |
| 0 - 73                       | 145                 | 174                  | 12 - 30 VDC  | 4-20 mA + 2 NPN or 2 PNP <sup>1)</sup> | M12 plug 5 pins         | 444 506                           | 444 763                                | 551 740                            |
|                              |                     |                      |              | 4-20 mA                                | Cable plug Type 2508*   | 444 636                           | 444 641                                | 444 769                            |
| 0 - 145                      | 290                 | 363                  | 12 - 30 VDC  | 4-20 mA + 2 NPN or 2 PNP <sup>1)</sup> | M12 plug 5 pins         | 444 503                           | 444 764                                | 551 741                            |
|                              |                     |                      |              | 4-20 mA                                | Cable plug Type 2508*   | 550 338                           | 444 642                                | 444 770                            |
| 0 - 290                      | 580                 | 725                  | 12 - 30 VDC  | 4-20 mA + 2 NPN or 2 PNP <sup>1)</sup> | M12 plug 5 pins         | 444 504                           | 444 765                                | 551 742                            |
|                              |                     |                      |              | 4-20 mA                                | Cable plug Type 2508*   | 550 339                           | 444 760                                | 551 737                            |
| 0 - 725                      | 1450                | 1740                 | 12 - 30 VDC  | 4-20 mA + 2 NPN or 2 PNP <sup>1)</sup> | M12 plug 5 pins         | 444 505                           | 444 767                                | 551 743                            |
|                              |                     |                      |              | 4-20 mA                                | Cable plug Type 2508*   | 444 637                           | 444 761                                | 551 738                            |

<sup>1)</sup> PNP standard, can be change in NPN with jumpers on electronic board

\* Acc. EN175301-803 Europe / Asia (G / Rc) : with cable gland  
USA / CDN (NPT) : with reduction NPT1/2

\*\* Electrical plugs must be ordered separately (see page 4)

## Ordering chart for Type 8311 (other versions on request)

### Switch version

| Nominal pressure range [PSI] | Pressure max. [PSI] | Burst pressure [PSI] | Power supply | Output signal | Electrical connection               | Item no. sensor connection G 1/2" | Item no. sensor connection NPT 1/2" | Item no. sensor connection Rc 1/2" |
|------------------------------|---------------------|----------------------|--------------|---------------|-------------------------------------|-----------------------------------|-------------------------------------|------------------------------------|
| 0 - 29                       | 58                  | 102                  | 12 - 30 VDC  | NPN / PNP     | M12 plug 5 pins                     | 439 908                           | US08565                             | 439 912                            |
|                              |                     |                      |              | Relay         | M12- 5 pins + Cable plug Type 2508* | 439 911                           | US08562                             | 439 915                            |
| 0 - 73                       | 145                 | 174                  | 12 - 30 VDC  | NPN / PNP     | M12 plug 5 pins                     | 439 920                           | US08558                             | 439 924                            |
|                              |                     |                      |              | Relay         | M12- 5 pins + Cable plug Type 2508* | 439 923                           | US08555                             | 439 927                            |
| 0 - 145                      | 290                 | 363                  | 12 - 30 VDC  | NPN / PNP     | M12 plug 5 pins                     | 439 932                           | US08551                             | 439 936                            |
|                              |                     |                      |              | Relay         | M12- 5 pins + Cable plug Type 2508* | 439 935                           | US08548                             | 439 939                            |
| 0 - 290                      | 580                 | 725                  | 12 - 30 VDC  | NPN / PNP     | M12 plug 5 pins                     | 439 944                           | US08544                             | 439 948                            |
|                              |                     |                      |              | Relay         | M12- 5 pins + Cable plug Type 2508* | 439 947                           | US08541                             | 439 951                            |
| 0 - 725                      | 1450                | 1740                 | 12 - 30 VDC  | NPN / PNP     | M12 plug 5 pins                     | 439 956                           | US08537                             | 439 960                            |
|                              |                     |                      |              | Relay         | M12- 5 pins + Cable plug Type 2508* | 439 959                           | US08534                             | 439 963                            |

\* Acc. EN175301-803 Europe / Asia (G / Rc) : with cable gland  
USA / CDN (NPT) : with NPT1/2 reduction

\*\* Includes electrical plugs

## Ordering chart for accessories (to be ordered separately)

| Description                                                                     | Item no. |
|---------------------------------------------------------------------------------|----------|
| 5 pin M12 female cable connector with plastic threaded locking ring             | 917 116  |
| 5 pin M12 female connector moulded on cable (2 m, shielded)                     | 438 680  |
| Cable plug EN 175301-803 with cable gland (Type 2508)                           | 438 811  |
| Cable plug EN 175301-803 with NPT1/2" reduction without cable gland (Type 2509) | 162 673  |

## Interconnection possibilities with other Bürkert products

