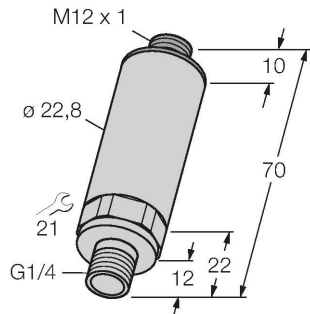


# PT100R-14-LI3-H1131

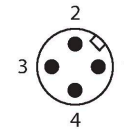
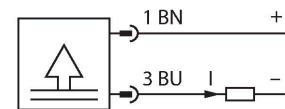
## Pressure Transmitter – With Current Output (2-Wire)



### Features

- Compact and robust design
- Pressure connection with integrated peak pressure aperture
- Accuracy hardly affected by temperature within entire range -40...+125°C
- Excellent EMC properties
- Patented medium stop system, leakage protection in case of a burst
- Pressure range 0...100 bar

### Wiring diagram



### Functional principle

The pressure transmitters of the PT...-1 series operate with piezo-resistive ceramic measuring cells. The ceramic diaphragm is unbalanced in proportion to the pressure applied. Depending on the sensor type used, the processed signal is provided as an analog output signal 4...20mA (2-wire) or 0...10V (3-wire).

### Technical data

|                                           |                                           |
|-------------------------------------------|-------------------------------------------|
| Type                                      | PT100R-14-LI3-H1131                       |
| ID                                        | 6831411                                   |
| Medium temperature                        | -40...+125 °C                             |
| Pressure type                             | Relative pressure                         |
| Pressure range                            | 0...100 bar                               |
|                                           | 0...1450.38 psi                           |
|                                           | 0...10 MPa                                |
| Admissible overpressure                   | ≤ 250 bar                                 |
| Burst pressure                            | ≥ 250 bar                                 |
| Response time                             | < 2 ms, typ. 1 ms                         |
| Long-term stability                       | ± 1 % FS, In accordance with DIN EN 60770 |
| <b>Power supply</b>                       |                                           |
| Operating voltage $U_s$                   | 8...33 VDC                                |
| Current consumption                       | ≤ 20 mA                                   |
| Protective measure                        | SELV according to EN 50178                |
| Short-circuit/reverse polarity protection | yes / yes                                 |
| Insulation class                          | III                                       |
| <b>Outputs</b>                            |                                           |
| Output 1                                  | Analog output                             |
| Output function                           | Analog output current                     |
| <b>Analog output</b>                      |                                           |
| Current output                            | 4...20 mA                                 |
| Load                                      | ≤ 1 kΩ                                    |

## Technical data

|                                 |                |
|---------------------------------|----------------|
| Resolution                      | <± 0.1 % FS    |
| Accuracy LHR                    | ± 0.3 % FS BSL |
| Calibration accuracy 0-point    | 0.3 % FS       |
| Calibration accuracy full scale | 0.3 % FS       |

### Mechanical data

|                                                |                                            |
|------------------------------------------------|--------------------------------------------|
| Housing material                               | Stainless-steel/Plastic, 1.4305 (AISI 303) |
| Process connection                             | G 1/4" male thread                         |
| Pressure connection material                   | Stainless steel 1.4305 (AISI 303)          |
| Material pressure transducer                   | Ceramic Al <sub>2</sub> O <sub>3</sub>     |
| Sealing material                               | FPM                                        |
| Wrench size pressure connection / coupling nut | SW 21                                      |
| Max. tightening torque of housing nut          | 20 Nm                                      |
| Electrical connection                          | Connector, M12 × 1                         |
| Protection class                               | IP67                                       |

### Environmental conditions

|                      |                                                                               |
|----------------------|-------------------------------------------------------------------------------|
| Ambient temperature  | -40...+85 °C                                                                  |
| Storage temperature  | -40...+85 °C                                                                  |
| Shock resistance     | 100 g (11 ms) acc. to IEC 68-2-27                                             |
| Vibration resistance | 20 x g (9...2000 Hz, 2...9 Hz with an amplitude +/-15 mm), acc. to IEC 68-2-6 |

### Tests/approvals

#### Reference conditions acc. to IEC 61298-1

|                      |                     |
|----------------------|---------------------|
| Temperature          | 15...+25 °C         |
| Atmospheric pressure | 860...1060 hPa abs. |
| Humidity             | 45...75 % rel.      |
| Auxiliary power      | 24 VDC              |

### Temperature behaviour

|                                                    |                                           |
|----------------------------------------------------|-------------------------------------------|
| Temperature coefficient range TK <sub>s</sub>      | ± 0.15 % of full scale/10 K               |
| Temperature coefficient zero point TK <sub>0</sub> | ± 0.15 % of full scale/10 K               |
| MTTF                                               | 114 years acc. to SN 29500 (Ed. 99) 40 °C |

## Technical data

|                |                     |
|----------------|---------------------|
| Type           | PT100R-14-LI3-H1131 |
| ID             | 6831411             |
| Pressure type  | Relative pressure   |
| Pressure range | 0...100 bar         |
|                | 0...1450.38 psi     |

## Technical data

|                                           |                                                                               |
|-------------------------------------------|-------------------------------------------------------------------------------|
|                                           | 0...10 MPa                                                                    |
| Admissible overpressure                   | ≤ 250 bar                                                                     |
| Burst pressure                            | ≥ 250 bar                                                                     |
| Response time                             | < 2 ms, typ. 1 ms                                                             |
| Long-term stability                       | 1 % FS, In accordance with DIN EN 60770                                       |
| <b>Power supply</b>                       |                                                                               |
| Operating voltage $U_B$                   | 8...33 VDC                                                                    |
| Current consumption                       | ≤ 20 mA                                                                       |
| Protective measure                        | SELV according to EN 50178                                                    |
| Short-circuit/reverse polarity protection | yes / yes                                                                     |
| Protection class                          | IP67                                                                          |
| Insulation class                          | III                                                                           |
| Insulation voltage                        | 500 VDC                                                                       |
| <b>Outputs</b>                            |                                                                               |
| Output 1                                  | Analog output                                                                 |
| Output function                           | Analog output current                                                         |
| <b>Analog output</b>                      |                                                                               |
| Current output                            | 4...20 mA                                                                     |
| Load                                      | ≤ 1 kΩ                                                                        |
| Resolution                                | <± 0.1 % FS                                                                   |
| Accuracy LHR                              | ± 0.3 % FS BSL                                                                |
| Calibration accuracy 0-point              | 0.3 % FS                                                                      |
| Calibration accuracy full scale           | 0.3 % FS                                                                      |
| <b>Temperature behaviour</b>              |                                                                               |
| Medium temperature                        | -40...+125 °C                                                                 |
| Temperature coefficient zero point $TK_0$ | ± 0.15 % of full scale/10 K                                                   |
| Temperature coefficient range $TK_s$      | ± 0.15 % of full scale/10 K                                                   |
| <b>Environmental conditions</b>           |                                                                               |
| Ambient temperature                       | -40...+85 °C                                                                  |
| Storage temperature                       | -40...+85 °C                                                                  |
| Vibration resistance                      | 20 x g (9...2000 Hz, 2...9 Hz with an amplitude +/-15 mm), acc. to IEC 68-2-6 |
| Shock resistance                          | 100 g (11 ms) acc. to IEC 68-2-27                                             |
| <b>Mechanical data</b>                    |                                                                               |
| Housing material                          | Stainless-steel/Plastic, 1.4305 (AISI 303)                                    |
| Pressure connection material              | Stainless steel 1.4305 (AISI 303)                                             |
| Material pressure transducer              | Ceramic $Al_2O_3$                                                             |
| Sealing material                          | FPM                                                                           |

## Technical data

|                                                |                                           |
|------------------------------------------------|-------------------------------------------|
| Process connection                             | G 1/4" male thread                        |
| Wrench size pressure connection / coupling nut | SW 21                                     |
| Electrical connection                          | Connector, M12 × 1                        |
| Max. tightening torque of housing nut          | 20 Nm                                     |
| Reference conditions acc. to IEC 61298-1       |                                           |
| Temperature                                    | 15...+25 °C                               |
| Atmospheric pressure                           | 860...1060 hPa abs.                       |
| Humidity                                       | 45...75 % rel.                            |
| Auxiliary power                                | 24 VDC                                    |
| Tests/approvals                                |                                           |
| MTTF                                           | 114 years acc. to SN 29500 (Ed. 99) 40 °C |