

## PRESSURE TRANSDUCER



- GAUGE AND ABSOLUTE
- 100 mbar TO 2000 bar
- LINEARITY 0.20 % · IP65



IP65

Stainless Steel  
17-4 PH · 1.4542

Fully Laser Welded



Dynamic Measurement



## NOMINAL PRESSURE (FS)

| Pressure type | Nominal pressure (FS)                | Zero at              | Process coupling | Seat ØF                    |
|---------------|--------------------------------------|----------------------|------------------|----------------------------|
| Gauge (R)     | 100 · 250 · 500 mbar                 | atmospheric pressure | G 1/4" male      | 6 mm                       |
| Gauge (R)     | 1 · 2.5 · 5 · 10 · 20 bar            | atmospheric pressure | G 1/4" male      | 6 mm · 7 mm<br>from 20 bar |
| Absolute (A)  | 1 · 2.5 · 5 · 10 · 20 bar            | absolute vacuum      | G 1/4" male      | 6 mm · 7 mm<br>from 20 bar |
| Absolute (A)  | 50 · 100 · 250 · 350 · 500 · 700 bar | absolute vacuum      | G 1/4" male      | 7 mm                       |
| Absolute (A)  | 1000 · 1500 · 2000 bar               | absolute vacuum      | G 1/2" male      | 7 mm                       |

Seat diameter ØF read from the dimensioned drawings on page 3: 6 mm up to 10 bar, 7 mm from 20 bar upwards. The three highest ranges carry the G 1/2" process coupling, which also makes the transducer 3 mm longer. Gauge versions have their zero at atmospheric pressure, absolute versions at absolute vacuum — the source lists no separate vacuum range. All pressures are full-scale values; intermediate ranges are not offered.



## TECHNICAL DATA

## PRECISION

|                                          |                          |
|------------------------------------------|--------------------------|
| Linearity and hysteresis                 | $\leq \pm 0.20 \%$       |
| Calibration tolerance                    | $\leq \pm 0.1 \%$        |
| Temperature effect on zero (1 °C)        | $\leq \pm 0.015 \%$      |
| Temperature effect on sensitivity (1 °C) | $\leq \pm 0.015 \%$      |
| Zero balance                             | $\pm 10 \%$ , adjustable |
| Zero adjustment                          | Internal, under the nut  |
| Response frequency                       | 0.5 to 5 kHz             |
| Reference temperature                    | +23 °C                   |

## MECHANICAL PROPERTIES

|                           |                                             |
|---------------------------|---------------------------------------------|
| Sensor material           | Stainless steel 17-4 PH, monolithic         |
| Sealing                   | Entirely laser welded, resin encapsulated   |
| Protection class          | IP65 · EN 60529                             |
| Process coupling          | G 1/4" male · BSP male                      |
| Tightening wrench         | 27 mm                                       |
| Tightening torque         | 28 N·m                                      |
| Body diameter             | Ø 25 mm                                     |
| Length                    | 109 mm with DIN 43650<br>· 83 mm with M12x1 |
| Working temperature range | -10...+70 °C                                |
| Storage temperature range | -20...+80 °C                                |

**FIELD OF USE** — Pneumatics and hydraulics, food process control, refrigerating plants (depression) and level measurement; test benches, materials testing machines, laboratories and research.

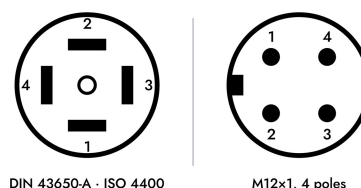
## MECHANICAL LIMITS

|                           |         |                                                                 |
|---------------------------|---------|-----------------------------------------------------------------|
| Service pressure          | 100 %   | May be applied continuously without leaving the specification.  |
| Max. permissible pressure | 150 %   | May be applied without permanent change of the characteristics. |
| Breaking pressure         | > 300 % | Pressure at which mechanical failure may occur.                 |
| Highly dynamic pressure   | 75 %    | Amplitude permitted for rapidly alternating pressure.           |

## ELECTRICAL PROPERTIES

|                                         |                                   |
|-----------------------------------------|-----------------------------------|
| Output signal                           | 4–20 mA (2 or 3 wires)            |
| Output signal, voltage                  | 0–5 V · 0–10 V                    |
| Nominal power supply, 4–20 mA and 0–5 V | 12–24 Vdc                         |
| Nominal power supply, 0–10 V            | 15–24 Vdc                         |
| Max. power supply                       | 28 Vdc                            |
| Max. absorption                         | 30 mA (3 wires) · 20 mA (2 wires) |
| Loading resistance, voltage             | min. 3 kΩ                         |
| Loading resistance, current             | 0 to 470 Ω                        |
| Insulation resistance                   | > 2 GΩ                            |
| Electrical connection                   | Connector DIN 43650-A · ISO 4400  |

## ELECTRICAL CONNECTION

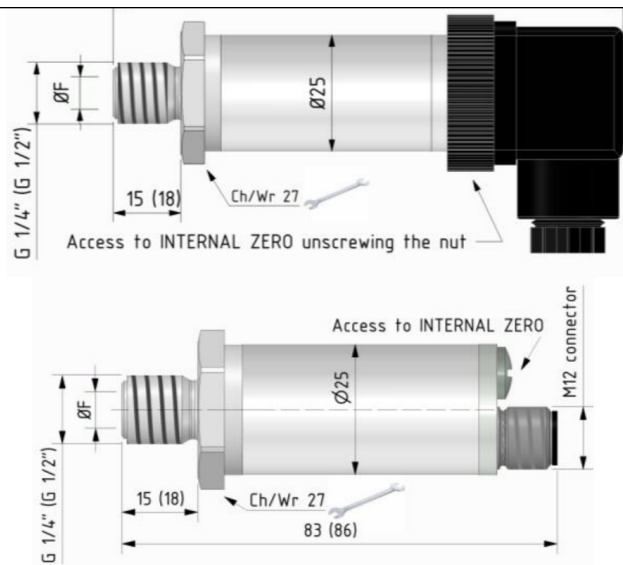


| 3 WIRES              | DIN · M12 | Moulded cable   |
|----------------------|-----------|-----------------|
| Supply +             | 1 · 1     | RED             |
| Supply – · reference | 2 · 3     | BLACK           |
| Output               | 3 · 4     | WHITE           |
| Earth · shield       | 4 · 2     | On the lock nut |
| 2 WIRES              | DIN · M12 | Moulded cable   |
| Supply +             | 1 · 1     | RED             |
| To instrument        | 2 · 3     | BLACK           |
| Earth · shield       | 4 · 2     | On the lock nut |
| Not connected        | 3 · 4     | —               |

All four values refer to the nominal pressure of the version ordered, not to the highest range of the series.



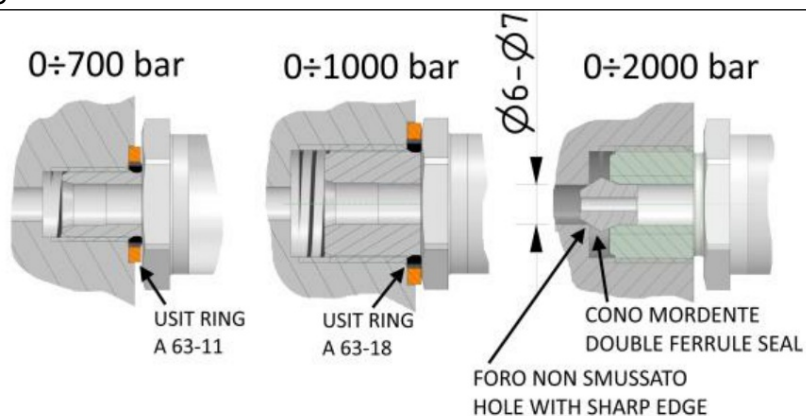
## DIMENSIONS (mm)



Nominal Pressure  $\leq 10$  bar  $\varnothing F = 6$  mm

Nominal Pressure  $\geq 20$  bar  $\varnothing F = 7$  mm

Dimensions in mm. Values in brackets apply to the G 1/2" process coupling of the 1000, 1500 and 2000 bar ranges.



Typical installation. Up to 700 bar with a USIT ring A 63-11, up to 1000 bar with a USIT ring A 63-18, up to 2000 bar with a double ferrule seal in a hole with a sharp edge,  $\varnothing 6$  to  $\varnothing 7$ .



## COMPLIANCE AND CERTIFICATION

|                            |                                                                                                                                                                          |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protection rating          | IP65 according to EN 60529 · entirely laser welded and resin encapsulated                                                                                                |
| Compliance                 | CE, RoHS, REACH                                                                                                                                                          |
| Applied standards          | EN 61326-1 (2013) · EN 61010-1 (2013)                                                                                                                                    |
| Directives and regulations | 2014/30/EU · 2014/35/EU · 2011/65/EU (RoHS) · 2012/19/EU (WEEE) · 1907/2006 (REACH)                                                                                      |
| Quality system             | Certified according to EN ISO 9001 · Dasa-Rägister IQ-1100-01                                                                                                            |
| Declaration of conformity  | Issued by the manufacturer on 01/04/2016, covering all options listed in the sales catalogue                                                                             |
| Food contact               | Declaration of conformity for materials in contact with food to (CE) 1935/2004 and (CE) 2023/2006 (GMP) — for versions from 20 bar upwards, material 17-4 PH (WN 1.4542) |
| On request                 | Calibration report                                                                                                                                                       |
| On request                 | Accredited calibration certificate to ISO/IEC 17025                                                                                                                      |

## OPTIONS AND ACCESSORIES

| Item                      | Availability           | Data                                                                                                          |
|---------------------------|------------------------|---------------------------------------------------------------------------------------------------------------|
| M12×1 connector           | Option                 | Female 4-pole straight M12×1 connector with moulded shielded PVC cable, 3 m; shortens the transducer to 83 mm |
| Food contact (MOCA)       | Option                 | Declaration to (CE) 1935/2004 for versions from 20 bar upwards                                                |
| G 1/2" process coupling   | Standard from 1000 bar | Supplied with the 1000, 1500 and 2000 bar ranges; 18 mm thread length instead of 15 mm                        |
| 3D model                  | On request             | STEP file, shared with the TP3 and TP14 housings                                                              |
| Calibration report        | On request             | Factory calibration                                                                                           |
| ISO/IEC 17025 certificate | On request             | Accredited calibration                                                                                        |

