

PIEZORESISTIVE PRESSURE TRANSMITTERS ABSOLUTE-, GAUGE- AND DIFFERENTIAL PRESSURE

SERIES 23 / 25

These piezoresistive transmitters have been designed for precision applications in industrial environments for pressures ranging from 0,2 to 1000 bar, liquids or gas.

- **Series 23** Male pressure port
Accuracy 0,5%FS, optional 0,1 and 0,2%FS
- **Series 25** Flush diaphragm
Accuracy 0,5%FS, optional 0,1 and 0,2%FS



• A Complete Range

Absolute, barometric, gauge (over- and underpressure) and differential for wet/wet applications. 13 nominal pressure ranges. Current or voltage output.

• Flexibility

A modular concept uses the selection of off-the-shelf capsules, allowing a customised production. Numerous options and variants are available, fully adapted to the customer's requirements: Mechanical and electrical interface, ports, signal outputs, materials in media contact, oil filling, oxygen-compatibility, special features, flameproof- and intrinsically safe versions.

• Reliability / Quality

These transmitters use the highly stable KELLER Series 10 capsules, proven in millions of applications throughout the world. Each capsule is subjected to severe tests and calibration procedures. The transmitters are manufactured and tested according to ISO 9001 / EN 29001.

The type of the transmitter is defined according to the reference pressure:

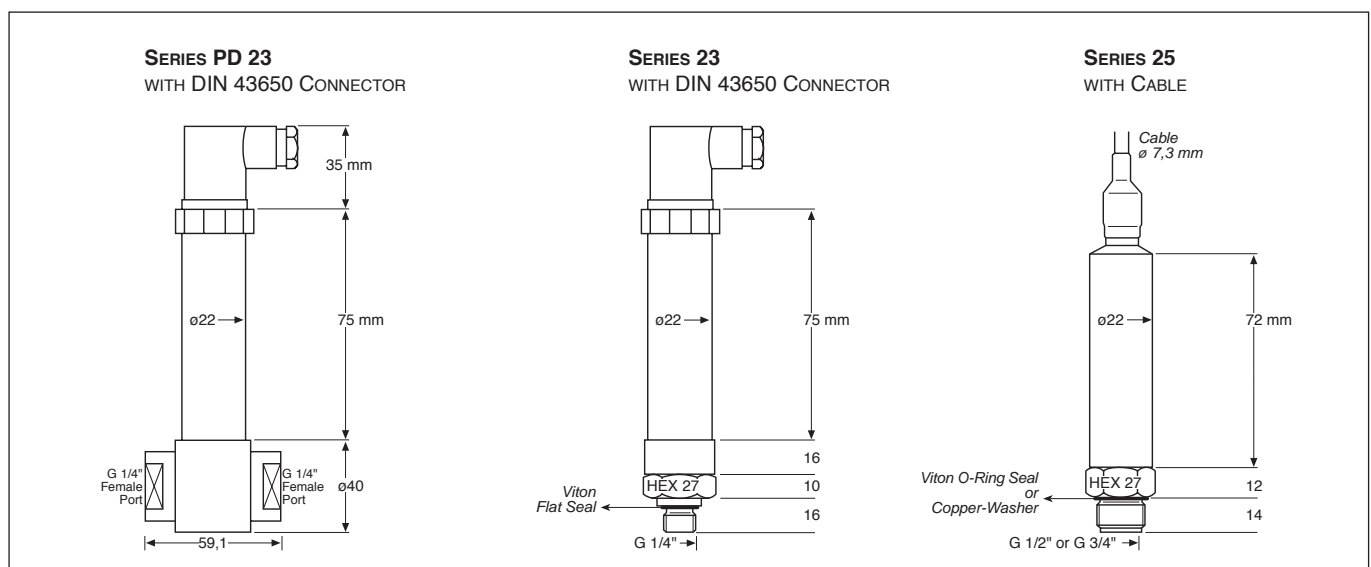
- **PAA-23/25** Absolute Pressure Transmitter (Zero at 0 bar abs.)
- **PA-23/25** Sealed Gauge Pressure Transmitter (Zero at \approx 1 bar abs.)
- **PR-23/25** Vented Gauge Pressure Transmitter (Zero at atmospheric)
- **PD-23** Differential Pressure Transmitter (wet / wet)



Series 23



Series 25



Subject to alterations

4/99



SPECIFICATIONS

| | PRESSURE RANGES (FS) IN BAR | | | | | | | | | |
|---------------------------|-----------------------------|------|------|-----|-----|---|---|----|----|----|
| | -1 | -0,5 | -0,2 | 0,2 | 0,5 | 1 | 2 | 5 | 10 | 20 |
| PR -23/25 | | | | | | | | | | |
| PD-23 | | | | 0,2 | 0,5 | 1 | 2 | 5 | 10 | 20 |
| PAA-23/25 | | | | 0,2 | 0,5 | 1 | 2 | 5 | 10 | 20 |
| PA-23/25 | | | | | | 1 | 2 | 5 | 10 | 20 |
| Overpressure | -1 | -1 | -1 | 2,5 | 2,5 | 3 | 4 | 10 | 20 | 40 |
| Overpressure Ref.-Side PD | | | | 1 | 1 | 2 | 3 | 7 | 15 | 25 |
| PD, static line pressure | 200 bar max. | | | | | | | | | |

| | | | |
|--|----------------------------|-----------|------------------------------------|
| Linearity ⁽¹⁾ +Hysteresis+Repeatability | ±0,2%FS typ., ±0,5%FS max. | | (1) best straight line, based zero |
| Storage-/Operating Temperature | -40...100°C | | |
| Compensated Temperature Range | -10...80°C | | |
| Temperature Coefficients... | OF ZERO, IN %FS/°C | | OF SENSITIVITY, IN %/°C |
| · Range > 1 bar | 0,005 typ. | 0,01 max. | 0,02 max. |
| · Range 1 bar | 0,010 typ. | 0,02 max. | 0,02 max. |
| · Range 0,5 bar | 0,015 typ. | 0,03 max. | 0,02 max. |
| · Range 0,2 bar | 0,025 typ. | 0,05 max. | 0,02 max. |
| Stability | 0,1%FS typ. 0,2%FS max. | | |
| · Range > 2 bar | 1 mbar typ. 2 mbar max. | | |
| · Range ≤ 2 bar | | | |

| | | | |
|-----------------------------------|---------------------------|---------------------------|--------------------------|
| Signal Output / Type | 4...20 mA / 2-WIRE | 0...20 mA / 3-WIRE | 0...10 V / 3-WIRE |
| Supply | 10...30 VDC | 10...28 VDC | 13...28 VDC |
| Load Resistance (R _Ω) | (U-10V)/0,02A | (U-5V)/0,02A | > 5 k |

| | |
|---------------------------|---|
| Electrical Connection | - Plug DIN 43650, protection IP 65 - Cable (with reference tube for gauge); protection IP 65 |
| Volumetric Change | < 0,1 mm ³ |
| Pressure Connection | See drawings front page |
| Material in Media Contact | Stainless steel 316L (DIN 1.4435), viton |
| Protection | IP65 |
| Weight | PR/PA/PAA: ≈ 180 g. PD: ≈ 440 g |
| Insulation | > 100 MΩ@50 V |
| Endurance | > 10 million cycles 0...100%FS at 25°C |
| Frequency Response | 1 kHz (5 kHz option) |

OPTIONS

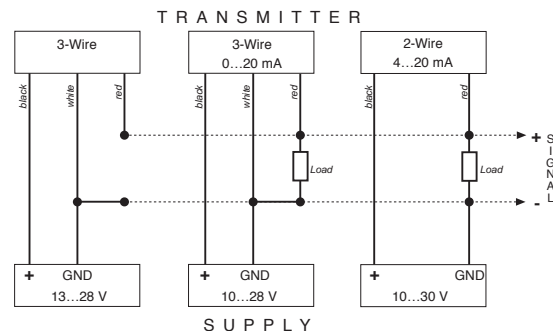
| | |
|-------------------------------------|--|
| Pressure Connection, Electrical Out | On request; many possibilities |
| Pressure Ranges | All pressure ranges between 0,2 and 1000 bar, diff. units |
| Linearity. Specifications | ±0,1 and ±0,2%FS or any customer requirement |
| Materials in Contact with Media | Hastelloy C, monel, platinum, nickel, tantalum, gold-plated |
| Oil Filling | Fluorized oil (O ₂ -compatible), olive-oil, low temperature oil |
| Hazardous Applications | Flameproof- and intrinsically safe version |
| Protection | IP67 |
| Higher Static Line Pressure | up to 600 bar (PD only) |



Series PD-23

ELECTRICAL CONNECTIONS

| Two Wire Transmitter | Three Wire Transmitter | DIN 43650 Connector | Amphenol C91A | Cable |
|----------------------|------------------------|---------------------|---------------|-------|
| - | 0 V / GND | 1 | 1 | white |
| +Signal | Signal | 2 | 2 | red |
| +Supply | +Supply | 3 | 3 | black |



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