

Level Sensor 26Y 4-20mA

(Cat. No. ZFTPS4200)

General Description

Y-series transmitters have an extremely small temperature error. This is achieved by means of digital compensation of an all-analogue signal path. The gain and the zero point of the gain circuit can be influenced by digital/analogue converters. These receive their numerical values from an EEPROM that is addressed depending on the temperature. A mathematical model for TC zero and TC gain with any order can therefore be determined in the calibration process and stored in the transmitter with a resolution of 1.5 K. The accuracy of the end product therefore essentially depends on the amount of testing and the linearity of the measuring cell.

With the Series 26Y, the monocrystalline silicon measuring cell is reliably protected from the measuring medium by a stainless steel diaphragm. The steel diaphragm itself is protected from mechanical influence by a plastic cap, and has outstanding performance features with regard to accuracy and stability due to its large diameter of 17 mm.

Performance Features

- Extremely accurate, excellent long-term stability, no pressure hysteresis
- Integrated overvoltage and polarity reversal protection
- Protection class: IP68
- Compact, robust housing made from stainless steel
- Pressure ranges of 100 mbar to 10 bar (corresponds to water column of 1 m to 100 m)

Analogue Interfaces

Because of the all-analogue signal path, a large bandwidth of 2 kHz can be achieved without a time lag. With a start-up time of just 5 ms, the Y-series is excellent for data logging applications.

- Current output: 4–20 mA (2-wire technology)





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Specifications

Pressure

Pressure Ranges (FS) in bar	(all intermediate ranges possible)						
PR-26 Y	0.1	0.2	0.5	1	2	5	10
PAA-26 Y			0.8-1.8	0.8-2.3	0.8-3	0.8-6	0.8-11
Water column in meter, ca.	1	2	5	10	20	50	100
Overpressure	4	4	4	4	12	40	40

PR: Vented Gauge. Zero at atmospheric pressure. PAA: Absolute. Zero at vacuum.

Total Error Band @ 0-50°C²

Pressure range	Accuracy ¹	Typ.	Max.
> 2-10 bar	±0.25% FS	±0.3% FS	±0.5% FS
> 0.3-2 bar	±0.25% FS	±0.6% FS	±1.0% FS
0.1-0.3 bar ³	±0.50% FS	±2 mbar	±3 mbar

¹ Linearity (best fitted straight line) + Hysteresis + Repeatability

² Linearity + Hysteresis + Repeatability + Temp. Coeff. + Zero + Span Tolerance

³ Pressure range 0.1 bar: Linearity ±1% FS Max; Signal output limited to 4-20 mA / 0-5 V / 0-10 V

Handling

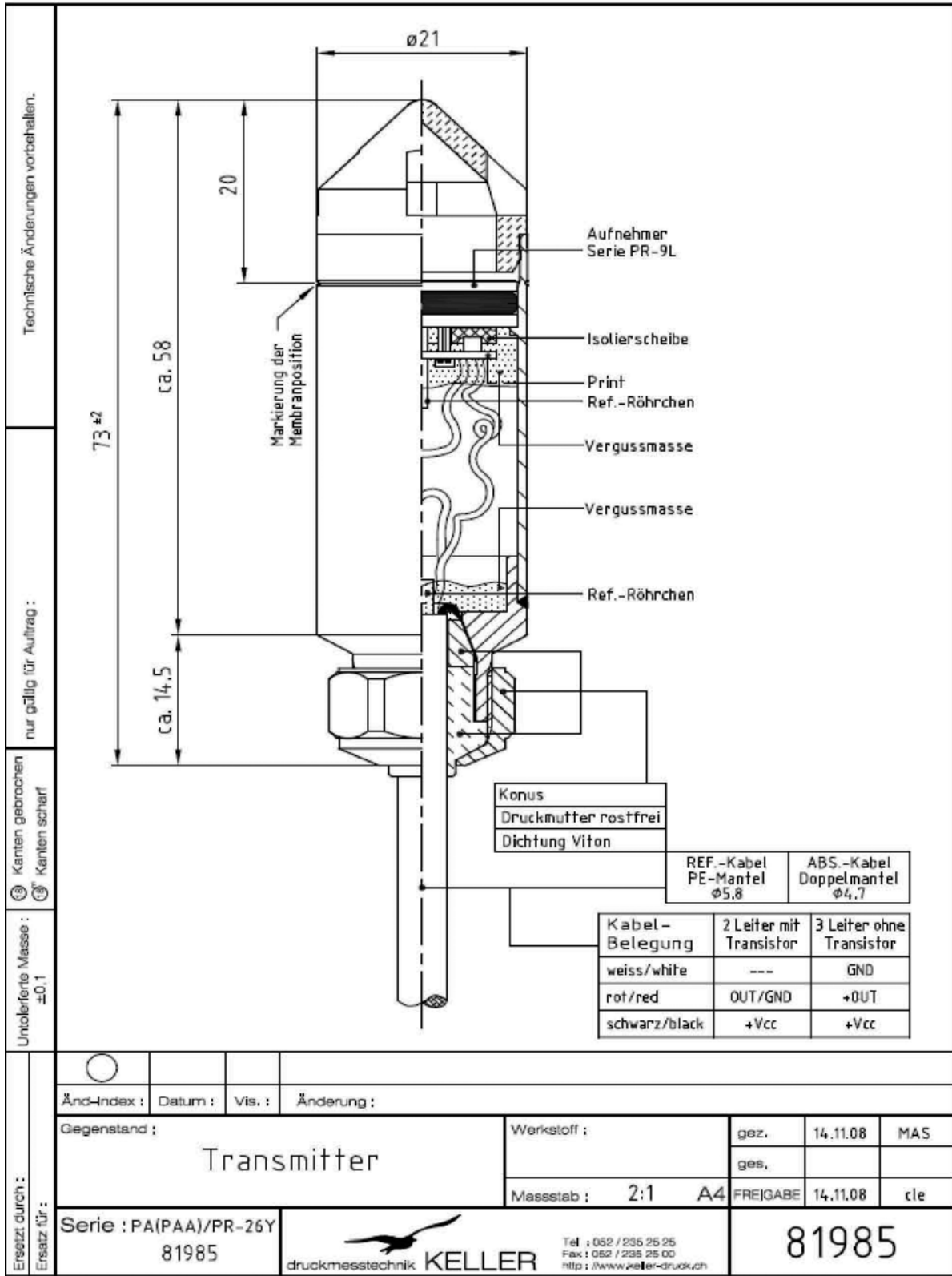
Storage/Operating Temperature	-20-100°C		
Stability	Range > 2 bar Range ≤ 2 bar	0.1% FS typ. 2 mbar typ.	0.2% FS max. 4 mbar max.

Sensor

Type	2-wire	3-wire	3-wire	3-wire
Signal Output	4-20 mA	0-10 V	0-5 V	0.5-4.5 V
Signal Output Limitation	3.2-22.3 mA	-1.2-11.2 V	-0.6-5.6 V	0.1-4.9 V
Supply	8-32 VDC	13-32 VDC	8-32 VDC	8-32 VDC
Load Resistance	< (U-8 V) / 0.025 A	> 5kΩ	> 5kΩ	> 5kΩ
Limit Frequency	2 kHz	2 kHz	2 kHz	2 kHz
Power Consumption		max. 5 mA	max. 5 mA	max. 4 mA

Electrical

Electrical Connection	Water	Reference cable PE sheath ø 5.8	Absolute cable Polyolefin (PE-based) ø 5.8
	Fuel	Reference cable TPE-E ø 6.1	Absolute cable TPE-E ø 4.7
	Cable length	5 m Standard	
Response Time (Supply ON)	(0-99%) < 5 ms		
Isolation	> 10 MΩ@300 V		
EMC	EN 61000-6-2 / EN 61000-6-3 / EN 61326-2-3		
Current Surge Rating	50 A @ 8/20 μs (wire to wire) / 200 A @ 8/20 μs (OUT/GND to housing)		
Dead Volume Change	< 0.1 mm ³		
Material in Media Contact	Stainless Steel AISI 316L (DIN 1.4404/1.4435)		
	Polyethylene seals		
	Protection Cap of POM (polyoxymethylene)		
	Cable sheath		
Protection Class	IP68		



For More Information

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