

Series 26Y

High-accuracy piezoresistive level probe

Features

- Compensated over the entire temperature range
- Excellent long-term stability
- For many years of maintenance-free operation
- Intrinsically safe version 26Y-Ei available for use in explosive environments

Technology

- Insulated and encapsulated piezoresistive pressure sensor
- Direct analog signal path with high bandwidth
- Robust stainless-steel housing

Typical applications

- Hydrostatic pressure measurement
- Level measurement: groundwater, surface water
- Fill level measurement: water tanks, fuel tanks

Accuracy

± 0,25 %FS

Total error band

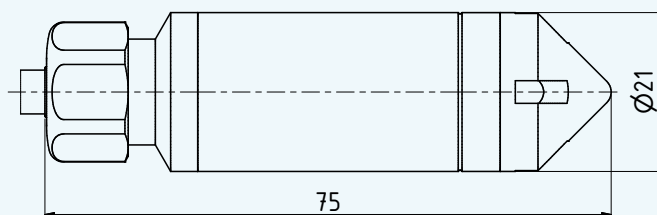
± 0,5 %FS @ 0...50 °C

Pressure ranges

0...0,1 to 0...10 bar



Series 26Y



Series 26Y – Specifications

Standard pressure ranges

Water column approx.	Relative pressure PR	Absolute pressure PAA	Proof pressure
0...1	0...0,1		3
0...1,6	0...0,16		
0...2,5	0...0,25		
0...4	0...0,4		
0...6	0...0,6		
0...10	0...1	0.8...2	9
0...16	0...1,6	0.8...2,6	
0...25	0...2,5	0.8...3,5	
0...40	0...4	0.8...5	12
0...60	0...6	0.8...7	18
0...100	0...10	0.8...11	30
mH ₂ O	bar rel.	bar abs.	bar
Analog interface also scaleable to other units	Reference pressure at atmospheric pressure	Reference pressure at 0 bar abs. (vacuum)	With reference to reference pressure
Note	PAA 0,8...2 bar: Special measuring ranges are required for installations above 2000 m a.s.l..		

Performance

Accuracy @ RT (20...25 °C)	$\leq \pm 0,25$ %FS	> 0,3...10 bar	Non-linearity (best fit straight line, BFSL), pressure hysteresis, non-repeatability
	$\leq \pm 0,5$ %FS	> 0,15...0,3 bar	
	$\leq \pm 1,0$ %FS	0,1...0,15 bar	
Total error band @ 0...50 °C	$\pm 0,5$ %FS	> 2...10 bar	Maximum deviation within the specified pressure and temperature range.
	$\pm 1,0$ %FS	> 0,3...2 bar	
	± 3 mbar	0,1...0,3 bar	
Compensated temperature range	0...50 °C	Other temperature ranges between -20...85 °C are possible on request.	
Long term stability	$\leq \pm 0,2$ %FS	> 2 bar	Per year under reference conditions.
	± 4 mbar	≤ 2 bar	
Position dependency	$\leq \pm 1,5$ mbar	Calibrated in vertical installation position with pressure connection facing downwards.	

Series 26Y – Specifications

Electrical data

Connectivity	2-wire
Analog interface	4...20 mA
Signal output limitation	3,2...22,3 mA
Voltage supply	8...32 VDC
Voltage supply 26Y with lightning protection	10...32 VDC
Voltage supply 26Y-Ei	10...30 VDC
Note	Pressure range $\leq 0,15$ bar signal output limitation higher than listed max. 31,5 mA.

Start-up time (power supply ON)	< 5 ms (0...99 %)
Overvoltage protection and reverse polarity protection	± 32 VDC
GND case isolation	> 10 M Ω @ 200 VDC

Analog interface

Load resistance	< (U - 8 V) / 25 mA	2-wire
Load resistance 26Y-Ei	< (U - 10 V) / 25 mA	2-wire
Limiting frequency	1 kHz	

Electrical connection

Cable for water applications	PR: polyethylene (PE) \varnothing 5,8 mm	Integrated capillary
	PAA: polyolefin (PE-based) \varnothing 5,8 mm	
Cable for fuel applications	PR: TPE-E \varnothing 6,1 mm	Integrated capillary
	PAA: TPE-E \varnothing 4,7 mm	
Standard cable lengths	5 m, 10 m, 15 m, 25 m, 40 m	Others on request

Electromagnetic compatibility

CE conformity as per 2014/30/EU (EMC)	EN IEC 61326-1 / EN IEC 61326-2-3 / EN IEC 61000-6-1 / EN IEC 61000-6-2 / EN IEC 61000-6-3 / EN IEC 61000-6-4	
Shock voltage protection according to EN 61000-4-5	Standard	Line-Line: 50 A @ 8/20 μ s
		Line-CASE: 200 A @ 8/20 μ s
Lightning protection (extended surge protection) according to EN 61000-4-5	Optional	Line-Line: 10 kA @ 8/20 μ s
		Line-CASE: 10 kA @ 8/20 μ s

Series 26Y – Specifications

Mechanical data

Materials in contact with media

Housing and optional pressure connection	Stainless steel AISI 316L	Others on request
Pressure transducer separating diaphragm	Stainless steel AISI 316L	
Pressure transducer seal (internal)	FKM	
Cable gland seal (internal)	FKM	
End cap	POM	
Cable sheath	PR: polyethylene (PE)	Medium: water
	PAA: polyolefin (PE-based)	
	PR/PAA: TPE-E	Medium: fuels

Other materials

Pressure transducer oil filling	Silicone oil
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Further details

Pressure connection	None (end cap), optional G1/4	See Dimensions and options
Diameter × length	ø 21 mm × approx. 73 mm	
Weight (excluding cable)	approx. 60 g	

Environmental conditions

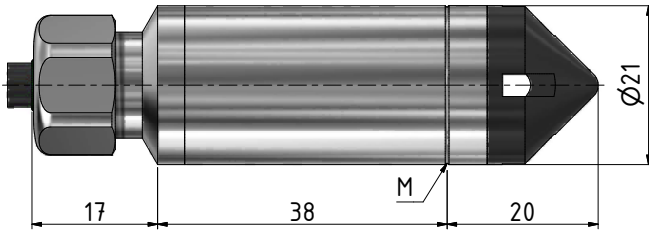
Medium temperature range	-20...85 °C		Icing not permitted
Ambient temperature range	-20...85 °C		
Ambient temperature range 26Y-Ei	see operating instructions		
Storage temperature range	-20...85 °C		
Protection	IP68	Cable gland	For relative pressure, use a cable with integrated capillary.
Vibration resistance	10 g, 10...2000 Hz, ± 10 mm	IEC 60068-2-6	
Shock resistance	50 g, 11 ms	IEC 60068-2-27	

Explosion protection 26Y-Ei

Intrinsically safe version in accordance with 2014/34/EU (ATEX) UKSI 2016/1107 (UKEX) and IECEx	26Y-Ei	Ex II 1G Ex ia IIC T6-T4 Ga Ex II 1D Ex ia IIIC T 130 °C Da
Note	The conditions for safe use can be found in the operating instructions.	

Series 26Y – Dimensions and options

Electrical connections



M: marking of diaphragm position

Cable gland	2-wire
Cable	4...20 mA
	WH n.c.
	RD OUT/GND
	BK +Vs
	BU n.c.
	Shield on CASE

Available pressure connections

Standard	Optional
End cap	G1/4
Recessed diaphragm (M)	DIN EN ISO 1179-2

Customer-specific options

- Other compensated pressure ranges
- Other compensated temperature ranges between -20...85 °C
- Extended lightning protection
- O-rings made of other materials
- Modifications to customer-specific options

Examples of similar products

- Series 26X: Highly accurate level probe with RS485 and analog interface
- Series 26Xi: Highly accurate level probe with SDI-12 interface
- Series 36XS: Level probe with 16 mm diameter and RS485 and analog interface
- Series 36XiW: Level probe with excellent accuracy with SDI-12 interface
- Series 36XiW-CTD: Level probe with excellent accuracy with RS485 or SDI-12 interface

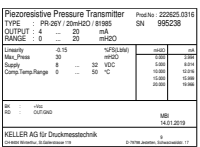

Series 26Y – Scope of delivery and accessories

Scope of delivery

USIT ring

With G1/4 pressure connection enclosed.

Accessories

KELLER test report	Calibration certificate
	
Issued by KELLE.	Issued by an external, accredited calibration laboratory according to DAkkS or SAS.