

KTE3000 / KTU3000 Series

OEM pressure transmitters for industrial media



FEATURES

- 250 mbar to 50 bar, 5 to 750 psi gage¹ or absolute¹¹ pressure
- For many industrial gases and liquids
- 0...10 V, 0.5...4.5 V, 0...5 V, 1...6 V or 4...20 mA output
- Field interchangeable
- EMC according to EN 61326-1⁸

MEDIA COMPATIBILITY

Wetted materials:
PPS, ceramic Al₂O₃ and NBR (FKM)

Housing:
Stainless steel 1.4404 (316L), protection class IP 65 (according to DIN EN 60529, NEMA 4X)¹



SPECIFICATIONS^{9,10}

Maximum ratings

Supply voltage (reverse polarity protection)

KT...0...	13...32 V
KT...1...	9...32 V
KT...6..., ...7...	8...32 V
KT...4... ²	7...32 V

Maximum load current (source)

KT...0..., ...1..., ...6..., ...7...	1 mA
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Proof pressure³ 2 x rated pressure

Environmental

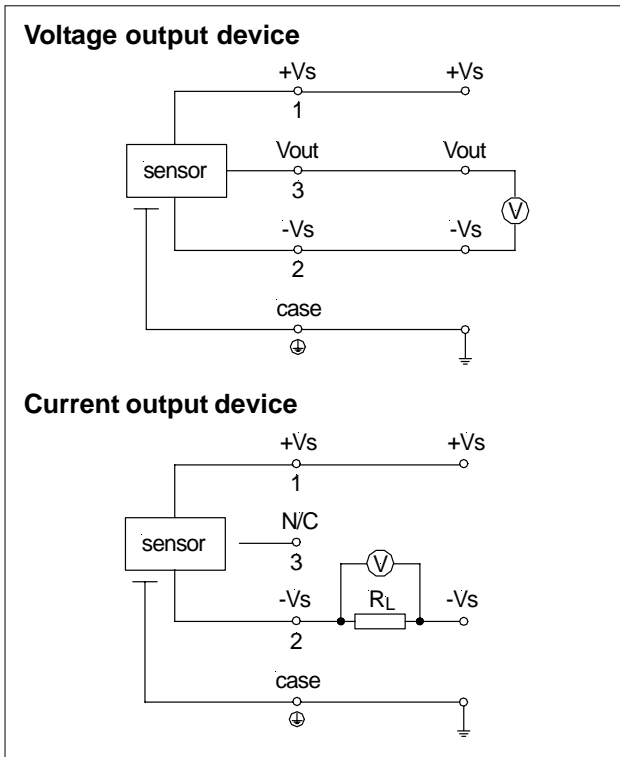
Temperature limits

Storage	-40...85 °C
Operating (media)	-25...85 °C
Electronic (ambient)	-25...85 °C
Compensated	0...70 °C

Vibration (5 to 500 Hz) 10 g_{RMS}

Mechanical shock 50 g

ELECTRICAL CONNECTION



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COMMON PERFORMANCE CHARACTERISTICS

($V_s=15\text{ V} \pm 0.1\text{ V}$, $T_A=25\text{ }^\circ\text{C}$, $\text{RH}=50\%$)

Characteristics		Min.	Typ.	Max.	Unit
Thermal effects (0...70 °C) ⁴	Offset	devices up to 1 bar/15 psi	±0.03	±0.06	%FSO/°C
		all others	±0.02	±0.04	
	Span		±0.02	±0.04	
Thermal effects (-25...0 °C, 70...85 °C) ⁴	Offset		±0.03		%FSO
	Span		±0.03		
Non-linearity (BSL), hysteresis and repeatability ⁵	KT...3N...		±0.2	±0.5	%FSO
	all others		±0.1	±0.3	
Long term stability ⁶			±0.1	±0.3	ms
Output noise (0 < f < 1 kHz)			±0.1		
Response time (10 to 90 %)	devices up to 350 mbar/5 psi		35		ms
	all others		5		
D/A resolution				11	bit
Power supply rejection	Offset		±0.01		%FSO/V
	Span		±0.02		

INDIVIDUAL PERFORMANCE CHARACTERISTICS

($V_s=15\text{ V} \pm 0.1\text{ V}$, $T_A=25\text{ }^\circ\text{C}$, $\text{RH}=50\%$)

0...10 V output ($R_L > 100\text{ k}\Omega$)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KT...3N...		5		V
	all others		0	0.1	
Full scale span ⁷		9.9	10	10.1	Ω
Output impedance				25	
Current consumption (no load)			4		mA

0.5...4.5 V output ($R_L > 100\text{ k}\Omega$)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KT...3N...		2.5		V
	all others	0.45	0.5	0.55	
Full scale span ⁷		3.95	4	4.05	Ω
Output impedance				25	
Current consumption (no load)			4		mA

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INDIVIDUAL PERFORMANCE CHARACTERISTICS (cont.)

($T_A=25\text{ }^\circ\text{C}$, RH=50 %, $V_S=15\text{ V} \pm 0.1\text{ V}$)

0...5 V output ($R_L > 100\text{ k}\Omega$)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KT...3N...		2.50		V
	all others		0	0.05	
Full scale span ⁷		4.95	5.00	5.05	
Output impedance				25	Ω
Current consumption (no load)			4		mA

1...6 V output ($R_L > 100\text{ k}\Omega$)

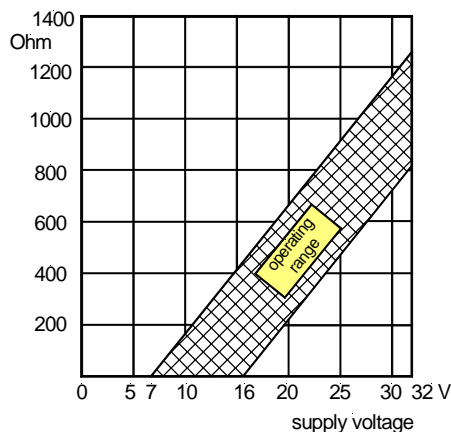
Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KT...3N...		3.50		V
	all others	0.95	1.00	1.05	
Full scale span ⁷		4.95	5.00	5.05	
Output impedance				25	Ω
Current consumption (no load)			4		mA

4...20 mA output ($R_L = 100\ \Omega$)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KT...3N...		12.0		mA
	all others	3.9	4.0	4.1	
Full scale span ⁷		15.9	16.0	16.1	
Power consumption ($I_L = 20\text{ mA}$)			250		mW

LOAD LIMITATION

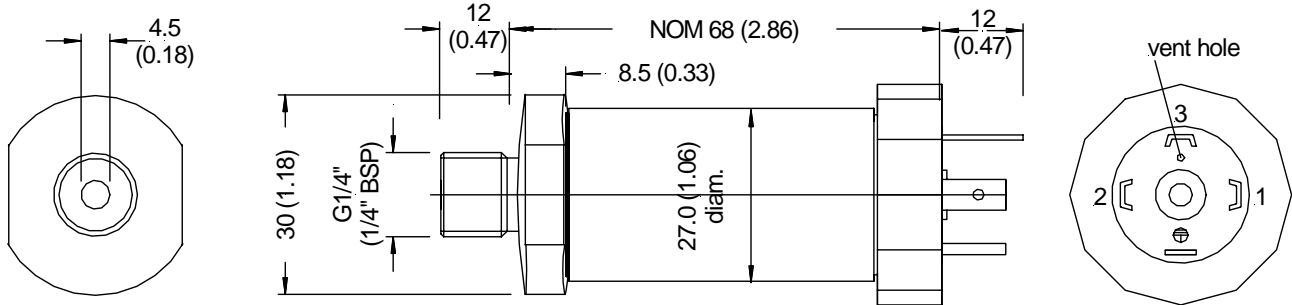
4...20 mA output version



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OUTLINE DRAWING

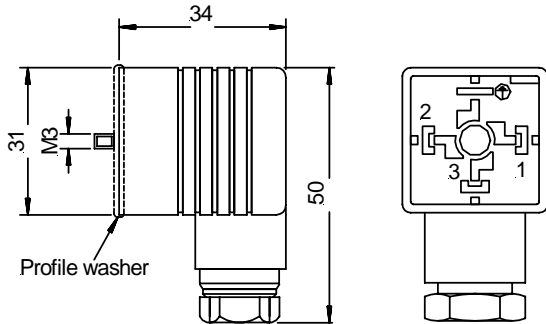


mass: approx. 200 g
 dimensions in mm (inches)

Pin	Output	
	Voltage	Current
1	+Vs	+Vs
2	-Vs	-Vs
3	Vout	N/C
⊕	Case	Case

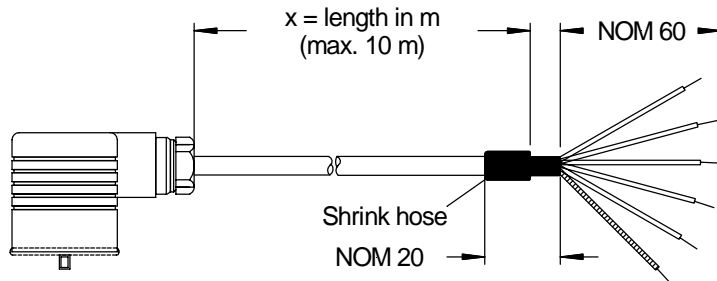
RECOMMENDED ACCESSORY

Plug **DIN EN 175301-803A** and profile washer included in delivery.



Note:
 For proper function of all gage devices the gage port must be vented to the atmosphere through the connector/cable assembly.

For a complete **connector/cable assembly** use order no. **ZK000110-x** (x=cable lengths in m, max. 10 m).



PIN CONNECTION	
Pin	Flying lead end
1	Brown
2	Yellow
3	Green
⊕	White and bare

dimensions in mm

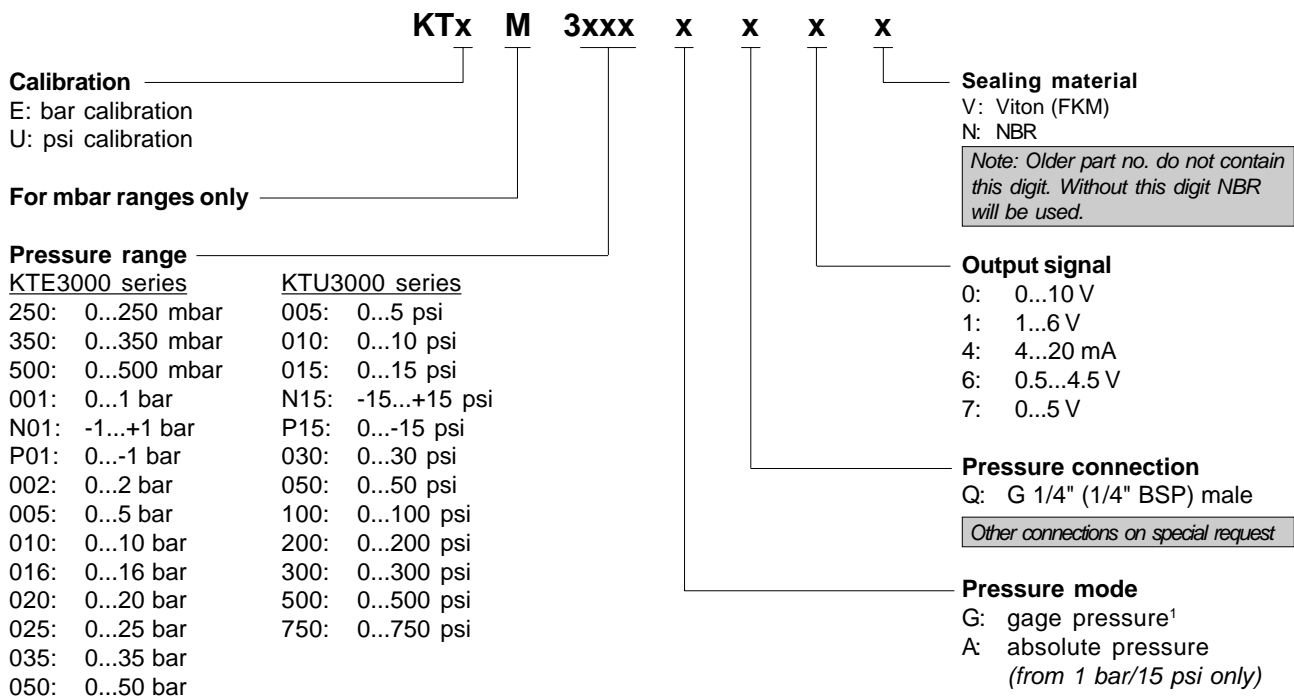
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Specification notes:

1. IP 65 protection is given when the connector is locked with a rubber washer. For proper function the gage port is vented to the atmosphere through the connector/cable assembly. Thus the cable end must have access to the ambient pressure.
2. The minimum supply voltage is directly proportional to the load resistance seen by the transmitter (see load limitation diagram).
3. Proof pressure is the maximum pressure which may be applied without causing damage to the sensing element.
4. Thermal effects are relative to 25 °C. Signal is clamped at 0 V.
5. Non-linearity refers to **Best Straight Line** fit. Hysteresis is the maximum output difference at any point within the operating pressure range for increasing and decreasing pressure.
6. Long term stability is the change in output after one year.
7. Full scale span is the algebraic difference between the output signal for the highest and lowest specified pressure.
8. Surge immunity according to EN 61000-4-5 on request for current output devices.
9. CE-labelling is in accordance with 2004/108/EC.
10. The pressure transmitters must not be used as safety accessories according to article 1, 2.1.3 of the directive 97/23/EC.
11. Available for pressure ranges from 1 bar (15 psi) absolute upwards only.

ORDERING INFORMATION



Other pressure ranges and options are widely available. Please contact First Sensor.

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