KTE3000 / KTU3000 Series

OEM pressure transmitters for industrial media

FEATURES

- **0...-1 to 0...50 bar, 0...-15 to 0...750 psi gage[1] or absolute**
- **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**
- **For industrial use**

MEDIA COMPATIBILITY

Wetted materials:
PPS, ceramic Al_2O_3 and NBR[8]

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

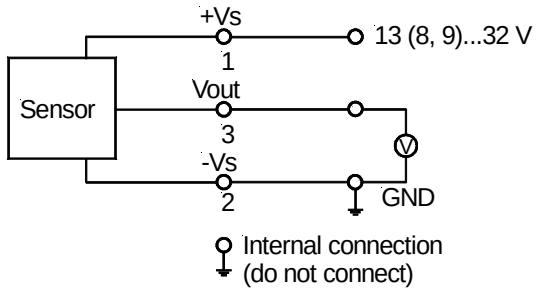
SPECIFICATIONS[10,11]

Maximum ratings

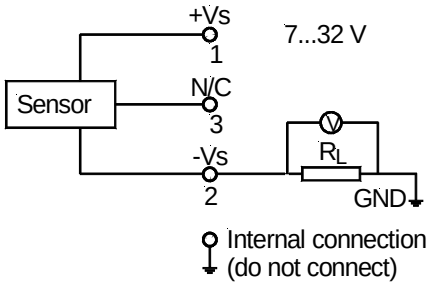
Supply voltage (reverse polarity protection)	
KTx3...0	13...32 V
KTx3...6	9...32 V
KTx3...1, ...7	8...32 V
KTx3...4[2]	7...32 V
Maximum load current	
Source/Sink	1 mA
Temperature limits	
Storage	-40...100°C
Operating	-25...85°C
Compensated	0...70°C
Humidity limits	0 - 95 %RH
Vibration (5 to 500 Hz)	10 g_{RMS}
Mechanical shock	50 g
Proof pressure[3]	2 x rated pressure

ELECTRICAL CONNECTION

0...10 V, 0.5...4.5 V, 0...5 V, 1...6 V output



4... 20 mA output



COMMON PERFORMANCE CHARACTERISTICS

(V_S = 15 V, R_L > 100 kΩ, t_{amb} = 25°C)

Characteristics		Min.	Typ.	Max.	Unit
Operating pressure	KTE3001...	0		1	bar
	KTE3N01G...	-1		1	
	KTE3P01G...	-1		0	
	KTE3002...	0		2	
	KTE3005...	0		5	
	KTE3010...	0		10	
	KTE3016...	0		16	
	KTE3020...	0		20	
	KTE3025...	0		25	
	KTE3035...	0		35	
	KTE3050...	0		50	
	KTU3015...	0		15	psi
	KTU3N15G...	-15		15	
	KTU3P15G...	-15		0	
	KTU3030...	0		30	
	KTU3050...	0		50	
	KTU3100...	0		100	
	KTU3200...	0		200	
	KTU3300...	0		300	
	KTU3500...	0		500	
	KTU3750...	0		750	
Thermal effects (0...70°C)[4]	Offset		0.02	0.05	%FSO/°C
	Span		0.02	0.05	
Thermal effects (-25...0°C, 70...85°C)	Offset		0.03		
	Span		0.03		
Non-linearity, hysteresis (BSL) and repeatability[5]			±0.1	±0.3	%FSO
Long term stability[6]			±0.3		
Output noise (0 < f < 1 kHz)			±0.04		
Response time (10 to 90 %)			1	5	ms
Power supply rejection			0.005		%FSO/V

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. For more details see the load limitation diagram.
3. Proof pressure is the maximum pressure which may be applied without causing damage to the sensing element.
4. Thermal effects tested and guaranteed from 0 to 70°C relative to 25°C. All specifications shown are relative to 25°C.
5. Non-linearity refers to the **B**est **S**traight **L**ine fit measured for offset, full scale span and 1/2 full scale span.
6. Long term stability is the change in output after one year or 1 million pressure cycles.
7. Span is the arithmetic difference in transmitter output signal measured at zero pressure and the maximum operating pressure.
8. Other sealing materials are available on request.
9. Test are in accordance with EN61000-6-2, April 1999.
10. CE-labelling is in accordance with 89/336/EEC.
11. The pressure transmitters must not be used as safety accessories according to article 1, 2.1.3 of the directive 97/23/EC.

INDIVIDUAL PERFORMANCE CHARACTERISTICS

0...10 V output (V_S = 15 V, R_L > 100 kΩ, t_{amb} = 25°C)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KT...3N...	4.9	5	5.1	V
	all others		0.03	0.1	
Full scale span[7]	KT...3N...	4.9	5	5.1	
	all others	9.9	10	10.1	
Output impedance				25	Ω
Current consumption (no load)			3	5	mA

0.5...4.5 V output (V_S = 15 V, R_L > 100 kΩ, t_{amb} = 25°C)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KT...3N...	2.45	2.5	2.55	V
	all others	0.45	0.5	0.55	
Full scale span[7]	KT...3N...	1.95	2	2.05	
	all others	3.95	4	4.05	
Output impedance				25	Ω
Current consumption (no load)			3	5	mA

0...5 V output (V_S = 15 V, R_L > 100 kΩ, t_{amb} = 25°C)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KT...3N...	2.45	2.5	2.55	V
	all others		0.03	0.08	
Full scale span[7]	KT...3N...	2.45	2.5	2.55	
	all others	4.95	5.0	5.05	
Output impedance				25	Ω
Current consumption (no load)			3	5	mA

1...6 V output (V_S = 15 V, R_L > 100 kΩ, t_{amb} = 25°C)

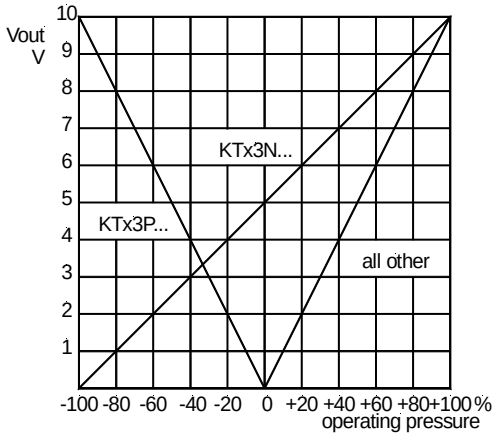
Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KT...3N...	3.45	3.5	3.55	V
	all others	0.95	1	1.05	
Full scale span[7]	KT...3N...	2.45	2.5	2.55	
	all others	4.95	5.0	5.05	
Output impedance				25	Ω
Current consumption (no load)			3	5	mA

4...20 mA output (V_S = 15 V, R_L = 100 Ω, t_{amb} = 25°C)

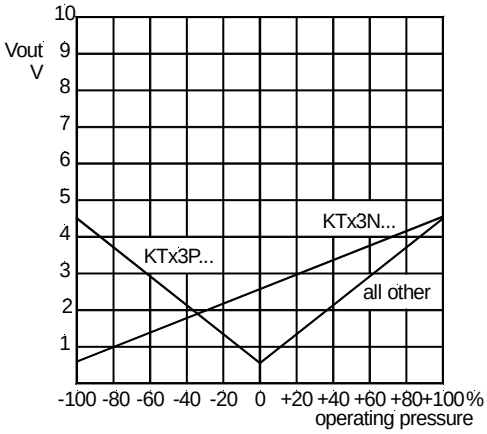
Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KT...3N...	11.9	12.0	12.1	mA
	all others	3.9	4.0	4.1	
Full scale span[7]	KT...3N...	7.9	8.0	8.1	
	all others	15.9	16.0	16.1	
Power consumption (I_L = 20 mA)			250		mW

OUTPUT CHARACTERISTICS

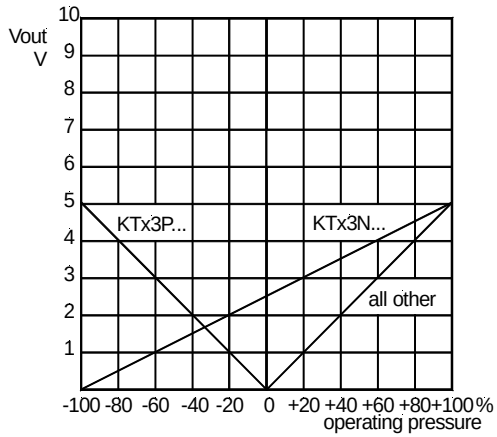
0...10 V output version



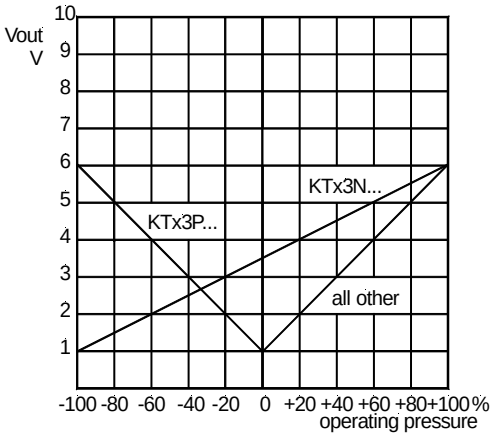
0.5...4.5 V output version



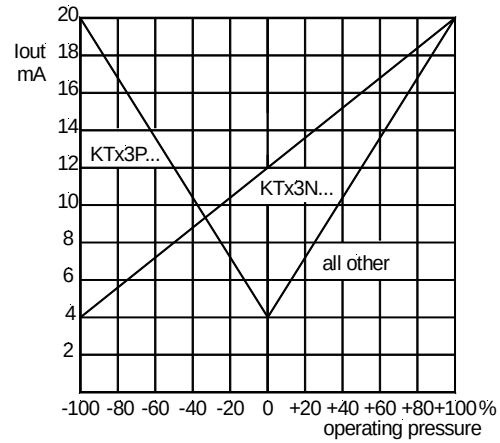
0...5 V output version



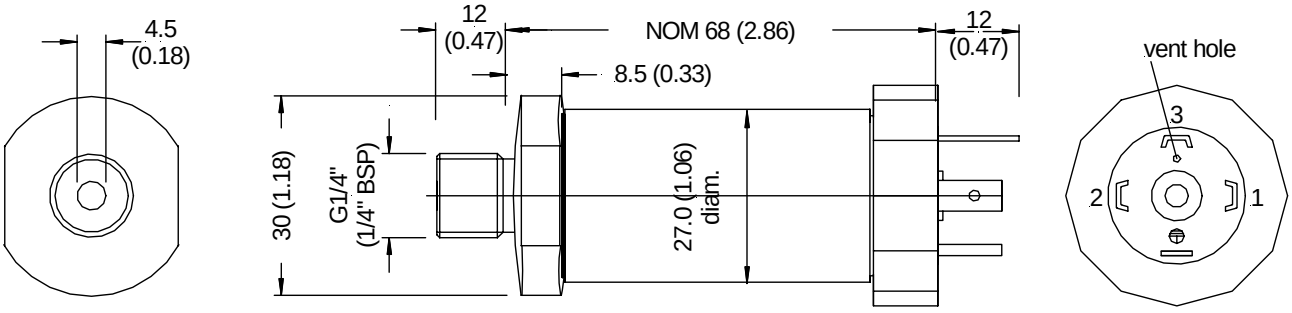
1...6 V output version



4...20 mA output version



OUTLINE DRAWING

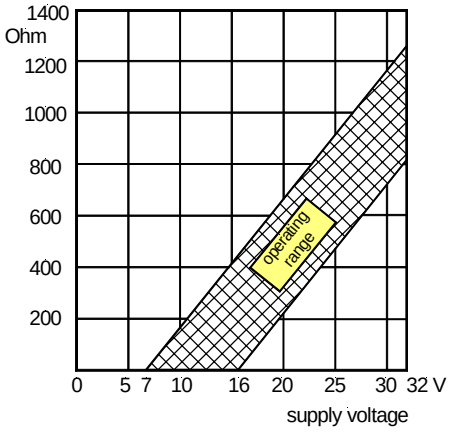


mass: 210 g

dimensions in mm (inches)

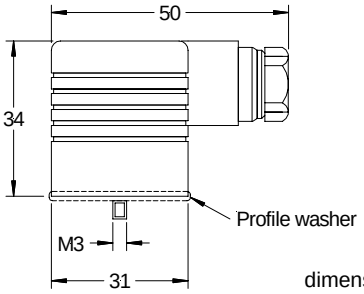
LOAD LIMITATION

4...20 mA output version



RECOMMENDED ACCESSORY

Plug **DIN EN 175301-803 A** and profile washer included in delivery. For a complete connector/cable assembly use order no. **ZK000110-x** (x=cable lenghts in m).



dimensions in mm

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

ELECTROMAGNETIC CAPABILITY[9]

	Test conditions	Criterion	Interference
Radiated, radio frequency electromagnetic field immunity (RFI)	EN61000-4-3: Grade 3, 10 V/m, 80 to 1000 MHz 80 % AMC (1 kHz)	A	<1 %FSO
Electrical fast transient / burst immunity (EFT)	EN61000-4-4: Grade 3, ±2 kV	B	<1 %FSO
Electrostatic discharge immunity test (ESD)	EN61000-4-2: Grade 4, ±8 kV, contact discharge	B	<1 %FSO
Immunity to conducted disturbances induced by radio-frequency fields	EN61000-4-6: Grade 3, 0.15 to 80 MHz 10 V, 80 % AMC (1 kHz)	A	<1 %FSO

ORDERING INFORMATION

KTx3 xxx x x x

E: bar calibration
U: psi calibration

KTE3000 series
001: 0 to 1 bar
N01: -1 to +1 bar
P01: -1 to 0 bar
002: 0 to 2 bar
005: 0 to 5 bar
010: 0 to 10 bar
016: 0 to 16 bar
020: 0 to 20 bar
025: 0 to 25 bar
035: 0 to 35 bar
050: 0 to 50 bar

KTU3000 series
015: 0 to 15 psi
N15: -15 to +15 psi
P15: -15 to 0 psi
030: 0 to 30 psi
050: 0 to 50 psi
100: 0 to 100 psi
200: 0 to 200 psi
300: 0 to 300 psi
500: 0 to 500 psi
750: 0 to 750 psi

Output signal
0: 0...10 V
1: 1...6 V
4: 4...20 mA
6: 0.5...4.5 V
7: 0...5 V

Fitting size
Q: G 1/4" (1/4" BSP) male
Other fittings on special request

Pressure mode
G: gage pressure[1]
A: absolute pressure

Note: Other pressure ranges and options are widely available.
Please contact your nearest Sensortechnics sales representative.