

# KTE3000 / KTU3000 Series

## OEM pressure transmitters for industrial media



### FEATURES

- 0...-1 to 0...50 bar, 0...-15 to 0...750 psi gage<sup>1</sup> 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<sub>2</sub>O<sub>3</sub> and NBR<sup>8</sup>

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



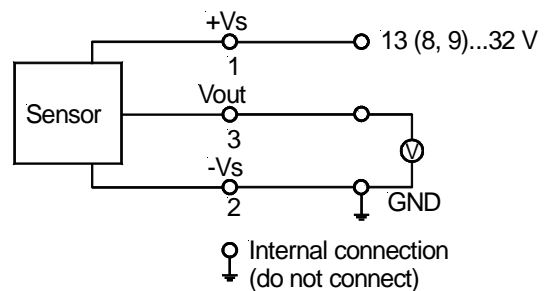
### SPECIFICATIONS<sup>10,11</sup>

#### Maximum ratings

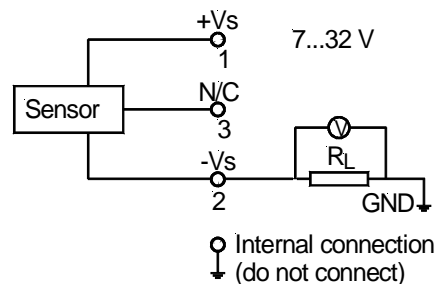
Supply voltage (reverse polarity protection)	
KTx3...0	13...32 V
KTx3...6	9...32 V
KTx3...1, ...7	8...32 V
KTx3...4 <sup>2</sup>	7...32 V
Maximum load current	
Source/Sink	1 mA
Temperature limits	
Storage	-40...100°C
Operating	-25...85°C
Compensated	0...70°C
Humidity limits	0 - 95 %RH
Vibration (5 to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



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### COMMON PERFORMANCE CHARACTERISTICS

( $V_s = 15\text{ V}$ ,  $R_L > 100\text{ k}\Omega$ ,  $t_{amb} = 25^\circ\text{C}$ )

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) <sup>4</sup>	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 <sup>5</sup>			±0.1	±0.3	%FSO	
Long term stability <sup>6</sup>			±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:

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

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### INDIVIDUAL PERFORMANCE CHARACTERISTICS

**0...10 V output** ( $V_s = 15\text{ V}$ ,  $R_L > 100\text{ k}\Omega$ ,  $t_{amb} = 25^\circ\text{C}$ )

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 <sup>7</sup>	KT...3N...	4.9	5	5.1	
	all others	9.9	10	10.1	
Output impedance				25	$\Omega$
Current consumption (no load)			3	5	mA

**0.5...4.5 V output** ( $V_s = 15\text{ V}$ ,  $R_L > 100\text{ k}\Omega$ ,  $t_{amb} = 25^\circ\text{C}$ )

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 <sup>7</sup>	KT...3N...	1.95	2	2.05	
	all others	3.95	4	4.05	
Output impedance				25	$\Omega$
Current consumption (no load)			3	5	mA

**0...5 V output** ( $V_s = 15\text{ V}$ ,  $R_L > 100\text{ k}\Omega$ ,  $t_{amb} = 25^\circ\text{C}$ )

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 <sup>7</sup>	KT...3N...	2.45	2.5	2.55	
	all others	4.95	5.0	5.05	
Output impedance				25	$\Omega$
Current consumption (no load)			3	5	mA

**1...6 V output** ( $V_s = 15\text{ V}$ ,  $R_L > 100\text{ k}\Omega$ ,  $t_{amb} = 25^\circ\text{C}$ )

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 <sup>7</sup>	KT...3N...	2.45	2.5	2.55	
	all others	4.95	5.0	5.05	
Output impedance				25	$\Omega$
Current consumption (no load)			3	5	mA

**4...20 mA output** ( $V_s = 15\text{ V}$ ,  $R_L = 100\ \Omega$ ,  $t_{amb} = 25^\circ\text{C}$ )

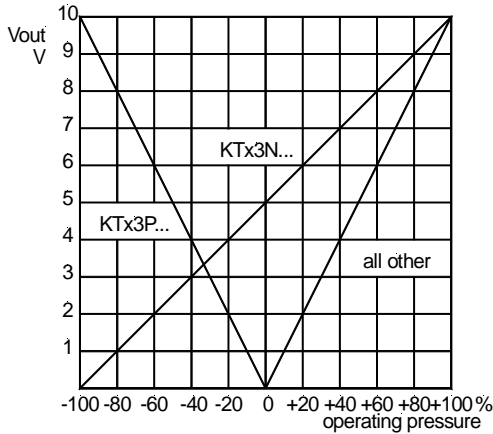
Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KT...3N...	11.9	12.0	12.1	mA
	all others	3.9	4.0	4.1	
Full scale span <sup>7</sup>	KT...3N...	7.9	8.0	8.1	
	all others	15.9	16.0	16.1	
Power consumption ( $I_L = 20\text{ mA}$ )			250		mW

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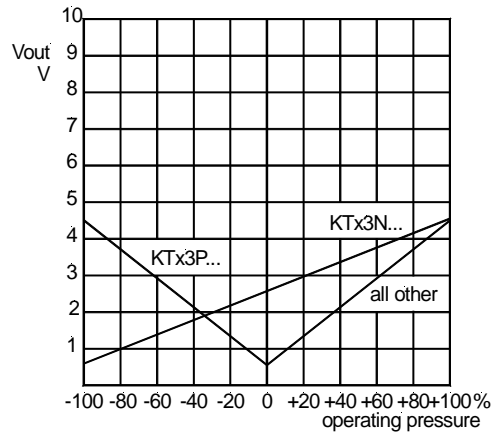
## OEM pressure transmitters for industrial media

### OUTPUT CHARACTERISTICS

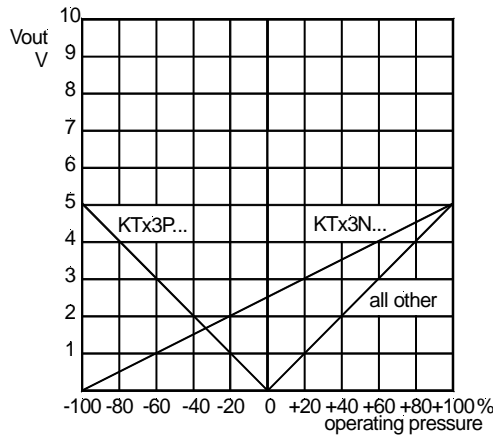
0...10 V output version



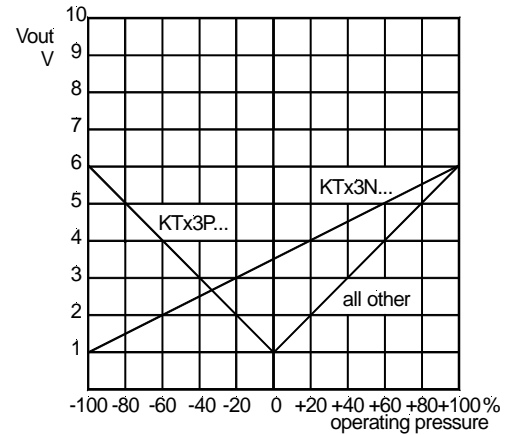
0.5...4.5 V output version



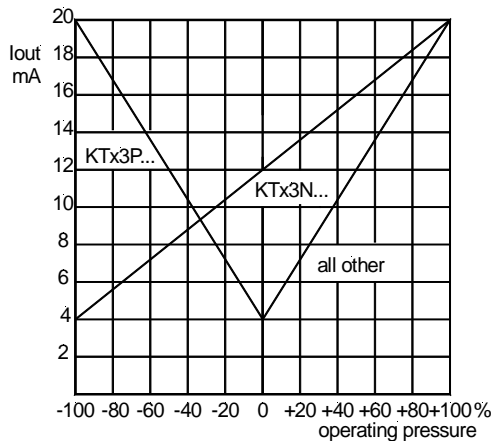
0...5 V output version



1...6 V output version



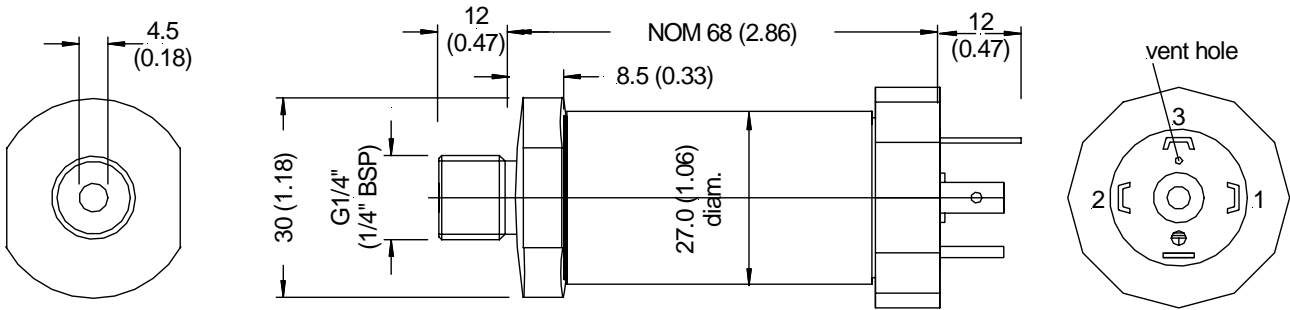
4...20 mA output version



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### OUTLINE DRAWING

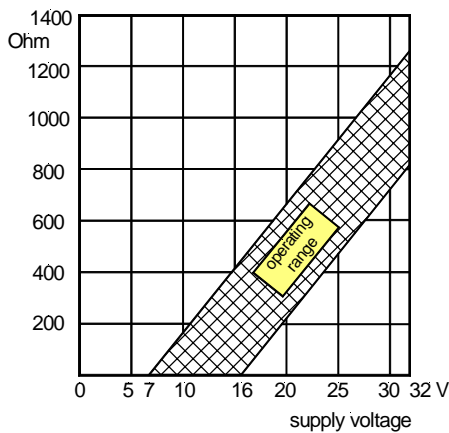


mass: 210 g

dimensions in mm (inches)

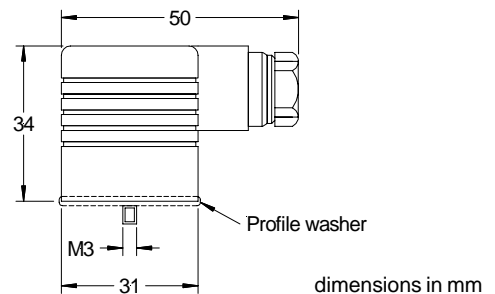
### LOAD LIMITATION

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 lengths 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.

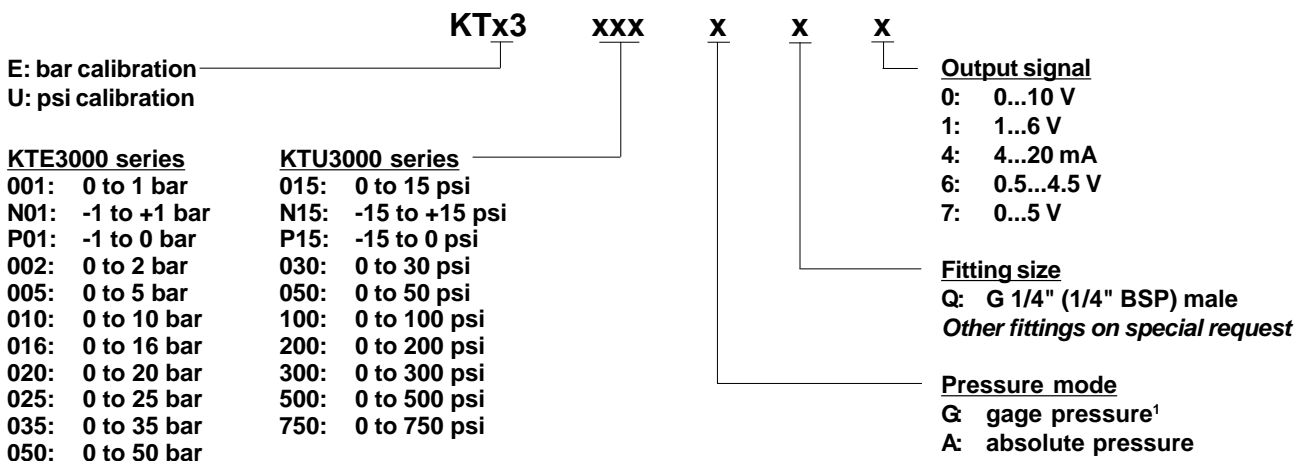
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### ELECTROMAGNETIC CAPABILITY<sup>9</sup>

	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



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

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