

KTE6000 / KTU6000 Series

OEM pressure transmitters for industrial media

FEATURES

- 0...-1 to 0...400 bar
0...-15 to 0...6000 psi
gage¹ or absolute
- For many industrial gases and liquids
- 0...10 V, 0.5...4.5 V, 0...5 V and
4...20 mA output
- Field interchangeable
- For industrial use

MEDIA COMPATIBILITY

Wetted materials:
stainless steel 1.4404 (316L), ceramic Al₂O₃, NBR⁹,
TPE⁹

Housing:
stainless steel, protection class IP 65 (according to
DIN EN 60529) respectively NEMA 4X¹

SPECIFICATIONS^{11,12}

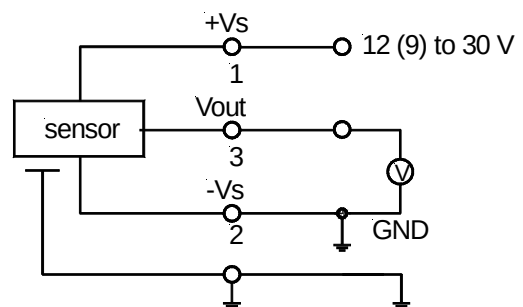
Maximum ratings

Supply voltage (reverse polarity protection)	
KTx6...0	12...30 V
KTx6...6, KTx6...7	9...30 V
KTx6...4 ²	9...30 V
Maximum load current (source)	
KTx6...0, KTx6...6, KTx6...7	1 mA
Temperature limits	
Storage	-55 to 100°C
Operating	-40 to 100°C
Compensated	0 to 70°C
Humidity limits	0 - 95 %RH
Vibration (5 to 500 Hz)	10 g _{RMS}
Mechanical shock	50 g
Proof pressure ³	
400 bar (6000 psi)	1.5 x rated pressure
all others	2 x rated pressure

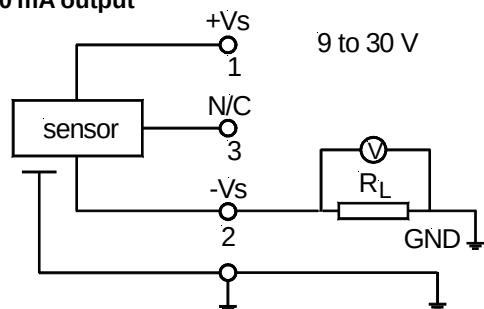


ELECTRICAL CONNECTION

0...10 V, 0.5...4.5 V, 0...5 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	KTE6001...		0		1	bar
	KTE6N01G...		-1		1	
	KTE6P01G...		-1		0	
	KTE6002...		0		2	
	KTE6005...		0		5	
	KTE6010...		0		10	
	KTE6016...		0		16	
	KTE6020...		0		20	
	KTE6025...		0		25	
	KTE6035...		0		35	
	KTE6050...		0		50	
	KTE6070...		0		70	
	KTE6100...		0		100	
	KTE6150...		0		150	
	KTE6200...		0		200	
	KTE6300...		0		300	
	KTE6400...		0		400	
	KTU6015...		0		15	psi
	KTU6N15G...		-15		15	
	KTU6P15G...		-15		0	
	KTU6030...		0		30	
	KTU6050...		0		50	
	KTU6100...		0		100	
	KTU6200...		0		200	
	KTU6300...		0		300	
	KTU6500...		0		500	
	KTU61K0...		0		1000	
	KTU61K5...		0		1500	
	KTU62K0...		0		2000	
	KTU63K0...		0		3000	
	KTU64K5...		0		4500	
	KTU66K0...		0		6000	
Thermal effects (0 to 70°C) ⁴	Offset			0.02	0.05	%FSO/°C
	Span			0.02	0.05	
Thermal effects (-40 to 0°C, 70 to 100°C)	Offset			0.03		%FSO/°C
	Span			0.03		
Non-linearity, hysteresis (BSL) and repeatability ⁵	> 200 bar (3000 psi)			±0.2	±0.4	%FSO
	all others			±0.1	±0.3	
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	Offset	KTx6...0, ...6, ...7		0.002		%FSO/V
		KTx6...4		0.05		
	Span	KTx6...0, ...6, ...7		0.002		
		KTx6...4		0.08		

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INDIVIDUAL PERFORMANCE CHARACTERISTICS

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

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KTx6N... all others	4.9	5 0.03	5.1 0.1	V
Full scale span ⁷	KTx6N... all others	4.9 9.9	5 10	5.1 10.1	
Output impedance				25	Ω
Current consumption (no load)			3	5	mA

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

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KTx6N... all others	2.450 0.450	2.5 0.5	2.550 0.550	V
Full scale span ⁷	KTx6N... all others	1.950 3.950	2 4	2.050 4.050	
Output impedance				25	Ω
Current consumption (no load)			3	5	mA

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

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KTx6N... all others	2.45	2.5 0.03	2.55 0.08	V
Full scale span ⁷	KTx6N... all others	2.45 4.95	2.5 5.0	2.55 5.05	
Output impedance				25	Ω
Current consumption (no load)			3	5	mA

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

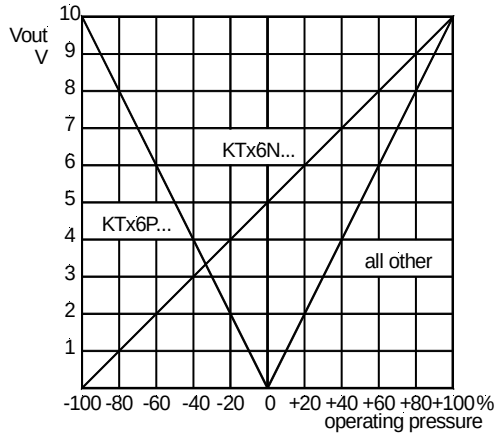
Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	KTx6N... all others	11.9 3.9	12.0 4.0	12.1 4.1	mA
Full scale span ⁷	KTx6N... all others	7.9 15.9	8.0 16.0	8.1 16.1	
Power consumption ($I_L = 20\text{ mA}$)			250		mW

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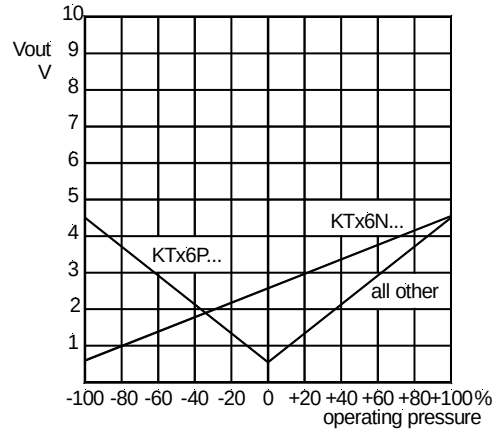
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OUTPUT CHARACTERISTICS

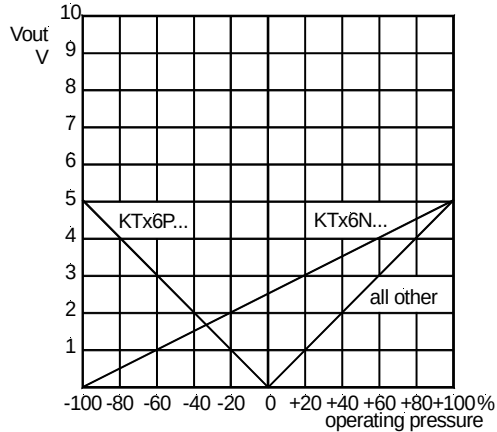
0...10 V output version



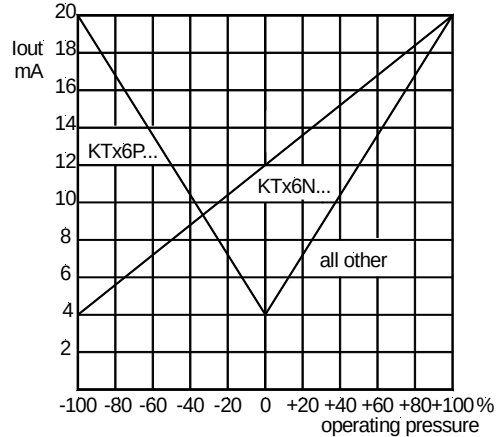
0.5...4.5 V output version



0...5 V output version

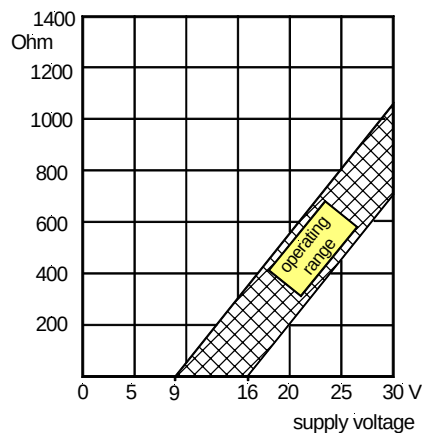


4...20 mA output version



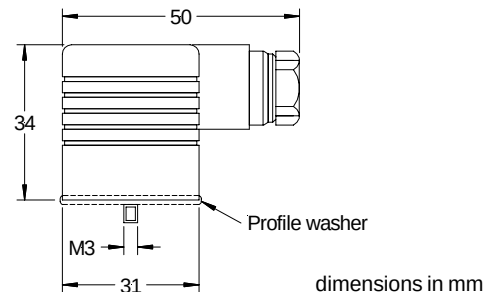
LOAD LIMITATION

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).



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 CAPABILITY⁸

	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

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 **Best Straight Line** 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. Test are in accordance with EN61000-6-2, April 1999.
9. Other sealing materials on special request.
10. Other fittings on special request.
11. CE-labelling is in accordance with 89/336/EEC.
12. The pressure transmitters must not be used as safety accessories according to article 1, 2.1.3 of the directive 97/23/EC.

ORDERING INFORMATION

		KTx6	xxx	X	X	X	
E: bar calibration U: psi calibration							Output signal
							0: 0...10 V 4: 4...20 mA 6: 0.5...4.5 V 7: 0...5 V
KTE6000 series	KTU6000 series						Fitting size¹⁰
001: 0 to 1 bar	015: 0 to 15 psi						L: 1/4" NPT male
N01: -1 to +1 bar	N15: -15 to +15 psi						O: G 3/4" (3/4" BSP)
P01: -1 to 0 bar	P15: -15 to 0 psi						only up to 16 bar/200 psi
002: 0 to 2 bar	030: 0 to 30 psi						Q: G 1/4" (1/4" BSP) male
005: 0 to 5 bar	050: 0 to 50 psi						T: G 1/2" (1/2" BSP)
010: 0 to 10 bar	100: 0 to 100 psi						
016: 0 to 16 bar	200: 0 to 200 psi						Pressure mode
020: 0 to 20 bar	300: 0 to 300 psi						G: gage pressure ¹
025: 0 to 25 bar	500: 0 to 500 psi						(up to 50 bar/750 psi)
035: 0 to 35 bar	1K0: 0 to 1000 psi						S: sealed gage
050: 0 to 50 bar	1K5: 0 to 1500 psi						(above 50 bar/750 psi)
070: 0 to 70 bar	2K0: 0 to 2000 psi						A: absolute pressure
100: 0 to 100 bar	3K0: 0 to 3000 psi						(up to 50 bar/750 psi)
150: 0 to 150 bar	4K5: 0 to 4500 psi						
200: 0 to 200 bar	6K0: 0 to 6000 psi						
300: 0 to 300 bar							
400: 0 to 400 bar							

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

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