KTE / KTW8000...CS Series
Submersible pressure transducers

FEATURES

- **250 to 5000 mbar, 2.5 to 50 mH_2O gage[1] pressure**
- **For corrosive media**
- **0...10 V or 4...20 mA output**
- **Field interchangeable**
- **EMC according to EN 61326-1[11]**

MEDIA COMPATIBILITY

Wetted materials:
PPS, ceramic Al_2O_3, NBR (FKM), PUR (PE/FEP)

Protection class:
IP 68 (according to DIN EN 60529, NEMA 6P)[1]

SPECIFICATIONS[8,9]

Maximum ratings

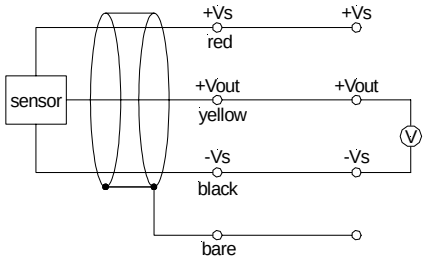
Supply voltage (reverse polarity protection)	
KT...0...	13...32 V
KT...4...[2]	9...32 V
Load current	
KT...0...	1 mA
Proof pressure[3]	2 x rated pressure

Environmental

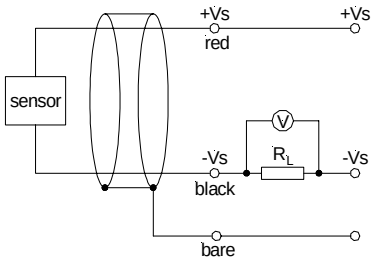
Temperature limits	
Storage	-25...70 °C
Operating	-10...70 °C
Compensated	0...70 °C
Vibration (5 to 500 Hz)	10 g_{RMS}
Mechanical shock	50 g

ELECTRICAL CONNECTION

Voltage output device



Current output device



First Sensor

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COMMON PERFORMANCE CHARACTERISTICS

(V_S=15 V ±0.1 V, T_A=25 °C, RH=50 %)

Characteristics			Min.	Typ.	Max.	Unit
Thermal effects (0...70°C)[4]	Offset	devices up to 1 bar/10 m H_2O		±0.03	±0.06	%FSO/°C
		all others		±0.02	±0.04	
	Span			±0.02	±0.04	
Thermal effects (-10...0 °C)[4]	Offset			±0.03		
	Span			±0.03		
Non-linearity (BSL)[5], hysteresis and repeatability				±0.1	±0.3	%FSO
Long term stability[6]				±0.1	±0.3	
Output noise (0< f <1 kHz)				±0.1		
Response time (10 to 90 %)				35		ms
D/A resolution					11	bit
Power supply rejection	Offset			±0.01		%FSO/V
	Span			±0.02		

INDIVIDUAL PERFORMANCE CHARACTERISTICS

(V_S=15 V ±0.1 V, T_A=25 °C, RH=50 %)

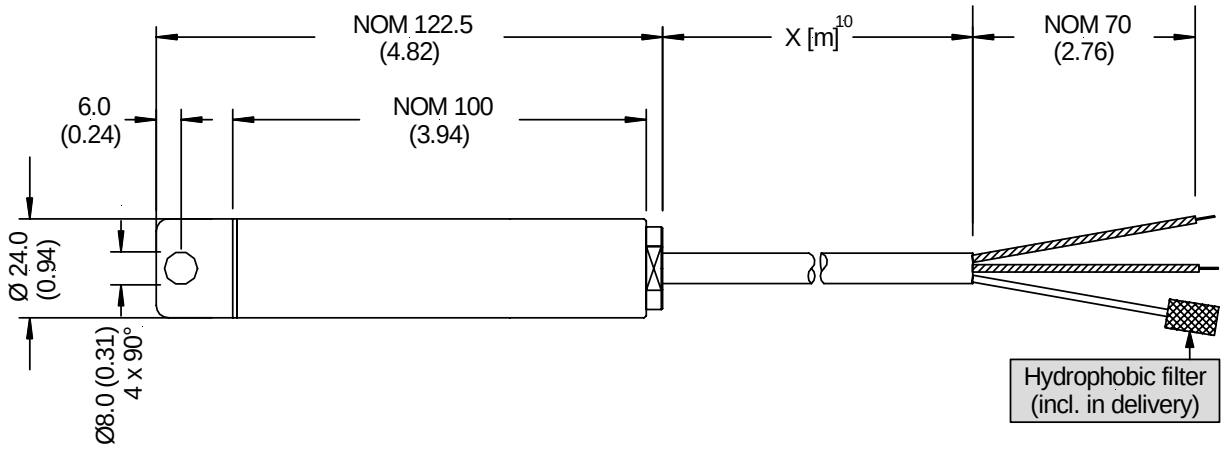
0...10 V output (R_L>100 kΩ)

Characteristics	Min.	Typ.	Max.	Unit
Zero pressure offset		0	0.1	V
Full scale span[7]	9.9	10	10.1	
Output impedance			25	Ω
Current consumption (no load)		4		mA

4...20 mA output (R_L=100 Ω)

Characteristics	Min.	Typ.	Max.	Unit
Zero pressure offset	3.9	4.0	4.1	mA
Full scale span[7]	15.9	16.0	16.1	
Power consumption (I_L = 20 mA)		250		mW

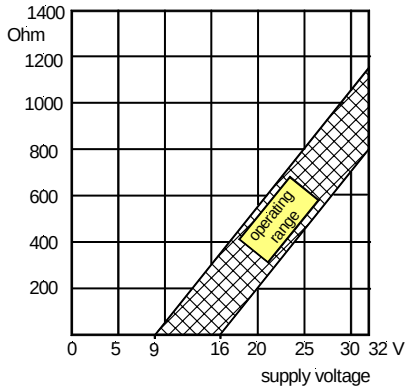
OUTLINE DRAWING[1]



mass: approx. 75 g (without cable)

dimensions in mm (inches)

LOAD LIMITATION (4...20 mA output version)



ELECTRICAL CONNECTION (cont.)

WIRE CONNECTION		
Colour	**0...10 V**	**4...20 mA**
red	+Vs	+Vs
black	-Vs	-Vs
yellow	Vout	-
bare	shield	shield
transparent	vent tube[1]	vent tube[1]

RECOMMENDED ACCESSORY (not included in delivery)

ZA000850: Cable hanger
ZA004151: Desiccant filter box

Specification notes:

1. The package is an all-sealed housing. For proper function the gage port is vented to the atmosphere through the connecting cable. Thus the vent tube of 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 are relative to 25 °C. Signal is clamped at 0 V.
5. Non-linearity refers to **B**est **S**traight **L**ine 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. Span is the arithmetic difference in transmitter output signal measured at zero pressure and the maximum operating pressure.
8. CE-labelling is in accordance with 2004/108/EC.
9. The pressure transmitters must not be used as safety accessories according to article 1, 2.1.3 of the directive 97/23/EC.
10. Cable length for 0...10 V versions is max. 10 m.
11. Surge immunity according to EN 61000-4-5 for current output devices with cable lenghts longer than 10 m. For shorter cable lenghts please contact First Sensor.

ORDERING INFORMATION

Series/Pressure range		Pressure mode		Output signal		Cable length[10]		Cable material		Sealing material	
KTEM8250	0...250 mbar	**G**	Gage	**0**	0...10 V	**C5S**	5 m	**E**	PE	**V**	Viton (FKM)
KTEM8500	0...500 mbar			**4**	4...20 mA	**C10S**	10 m	**U**	PUR	**N**	NBR
KTEM81K0	0...1000 mbar					**C15S**	15 m	**F**	FEP	Note: Older part no. do not contain this digit. Without this digit NBR will be used.	
KTEM81K6	0...1600 mbar					Note: Other cable lengths on request.		Note: Older part no. do not contain this digit. Without this digit PUR will be used.			
KTEM82K0	0...2000 mbar										
KTEM85K0	0...5000 mbar										
KTW82x5	0...2.5 mH_2O										
KTW8005	0...5 mH_2O										
KTW8010	0...10 mH_2O										
KTW8016	0...16 mH_2O										
KTW8020	0...20 mH_2O										
KTW8050	0...50 mH_2O										
Example: KTEM81K0G4C10SEV											
Devices highlighted in grey are preferred items.						**For all other devices MOQ may apply.**					

Custom pressure ranges and other fittings are available on request. MOQ applies. Contact First Sensor.