



ME900/MEP900 datasheet

METALLUX
part of ELTEK GROUP

MONOLITHIC PIEZORESISTIVE CERAMIC PRESSURE TRANSDUCER

Metallux ME900 are ready to use monolithic pressure transducers made with 9 mm diameter ceramic cell mounted in dedicated housing. ME900 works following the piezoresistive principle, where the Wheatstone bridge is screen printed directly on one side of the ceramic diaphragm by means of thick film technology and signal conditioning electronics are added to generate 0.5...4.5 V ratiometric output.

Pressure and temperature calibration is done electronically with the on-board ASIC and can be performed in bar or in psi.

Electronics provide offset and span correction when temperature changes. Aging detection is constantly performed. This new method guarantees precision and long-term stability.

The Metallux ME900 meets EMC requirements. The ASIC stores production lot specific data for sensor traceability and allows custom calibration.

Due to the excellent chemical resistance of the the Al₂O₃ ceramic, the ME900 sensors are suitable for nearly all aggressive media.

FEATURES

11mm hexagonal nut

Ready to mount with different threads available

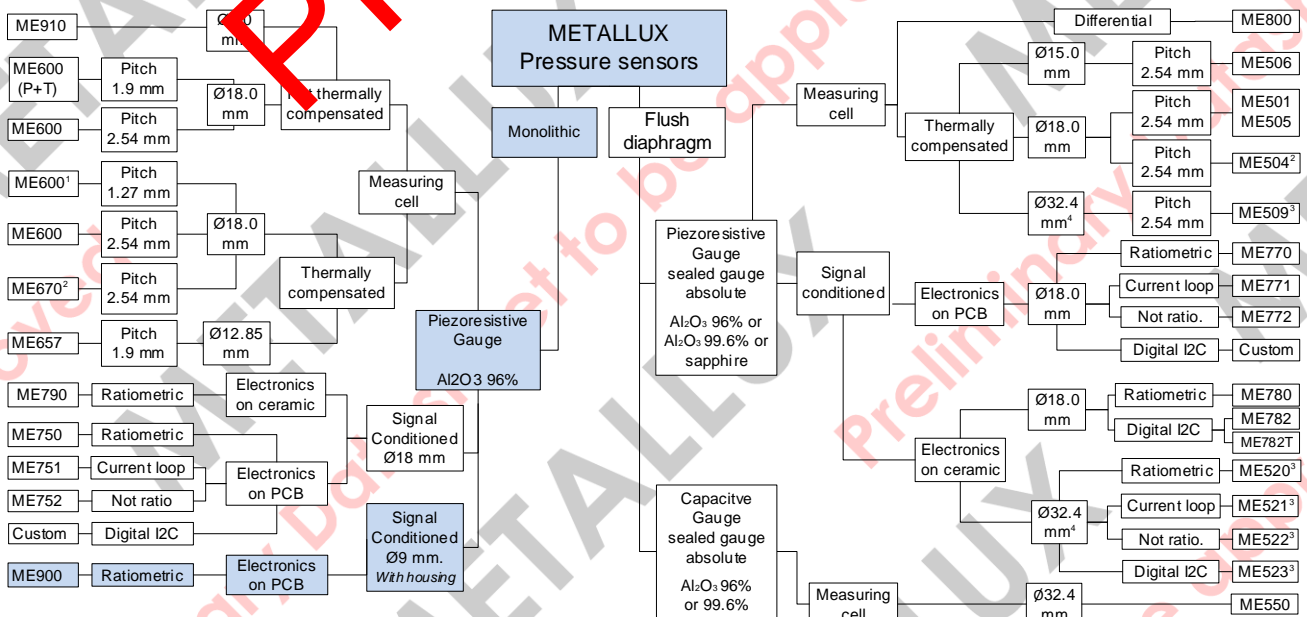
Stainless steel housing

Signal conditioning, on-board connector

EMC compliant



Pressure sensors family tree



¹ Also available in not thermally compensated version
² Digitally trimmed offset, also available not thermally compensated

³ Not available with sapphire diaphragm.
⁴ Suitable for low pressure range (≤ 1 bar)

Technical features

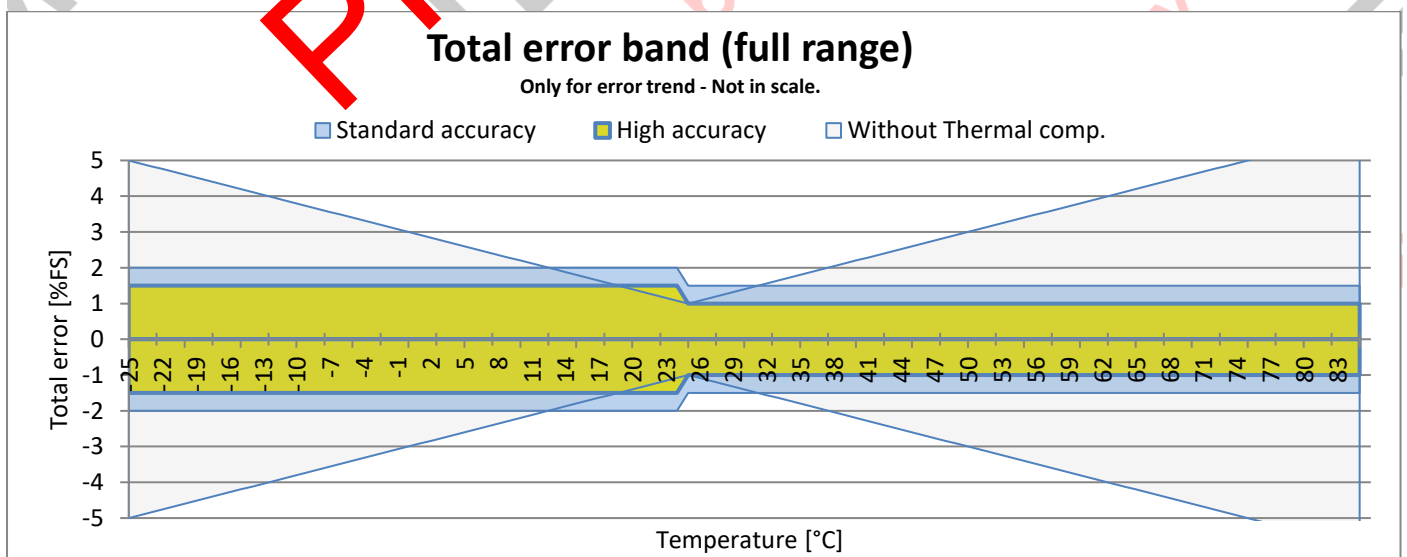
Parameters	Units	ME900 / MEP900	
Output	-	Ratiometric	
Output range	-	0.5...4.5 [V]	
Sensor type	-	Monolithic, gauge	
Technology	-	Piezo-resistive with electronic signal conditioning	
Material	-	Sensor : ceramic Al ₂ O ₃ 96% Housing : stainless steel AISI 316L (EN 1.4404)	
Weight	g	≤ 10 (without cable)	
Response time	ms	≤ 5	
Supply voltage	VDC	4.5...5.5	
Max current ¹	mA	6 (R _{LOAD} ≥ 2 kΩ)	
Operating temp.	°C	-20...+85 (-4 °F...+185 °F)	
Storage temp.	°C	-25...+90 (-13 °F...+194 °F)	
Compliant with	-	REACH, RoHS, Conflict Minerals free	
EMC / ESD ²	-	Electrostatic discharge	EN 61326-1(2013) / IEC/EN 61000-4-2(2009)
		Radiated electromagnetic field	EN 61326-1(2013) / IEC/EN 61000-4-3(2006)
		Electrical fast transient burst	EN 61326-1(2013)
		RF conducted disturbances	EN 61326-1(2013) / IEC/EN 61000-4-6(2014)

Pressure range			ME900 / MEP900			
Nominal	ME	bar	10	20	50	100
	MEP	psi ^A	150	300	750	1500
Overload pressure		bar	35	35	100	160
		psi	507	507	1450	2320
Burst pressure		bar	40	40	120	180
		psi	580	580	1740	2610
Vacuum capability		bar	-1	-1	-1	-1
		psi	-14.5	-14.5	-14.5	-14.5

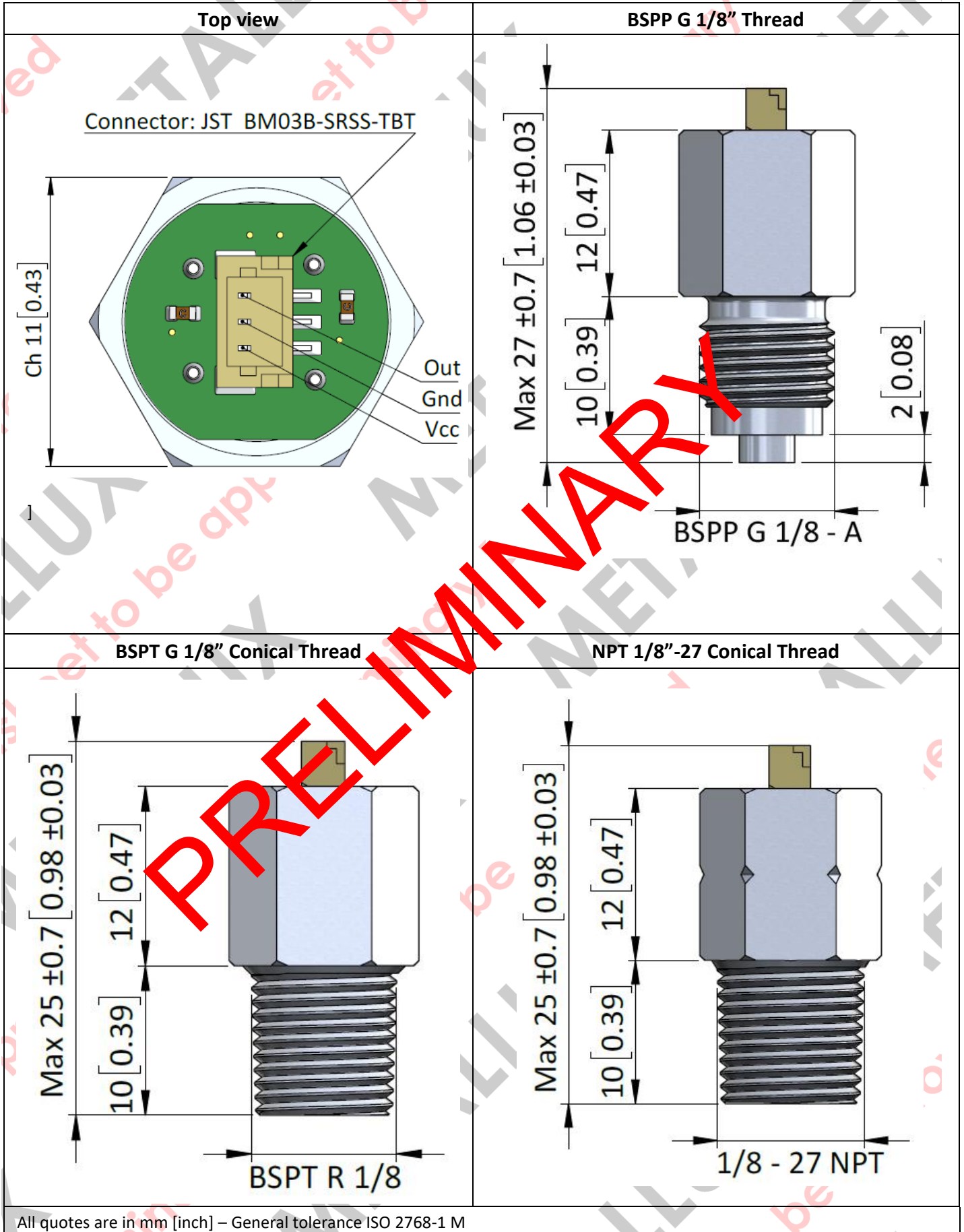
Accuracy ⁵ [%FS]	Calibration with high accuracy	
A) 25...85°C (77...185 °F)	2.0	1.0
B) -20...+25°C (-4...77 °F)	3.0	1.5
Accuracy ⁵ [%FS]	Calibration with standard accuracy	
A) 0...85°C (32...185 °F)	2.5	1.5
B) -20...+25°C (-4...14 °F)	3.0	2.0
Accuracy ⁵ [%FS]	Calibration without thermal compensation	
25°C (77 °F)	2.0	1.0
-20...85 °C (-4...185 °F)	Max ± 0.1 %FS/K (Ceramic cell thermal offset shift + thermal span shift) + Accuracy at 25°C	

Unless indicated, all data are based on a reference temperature of 25°C.

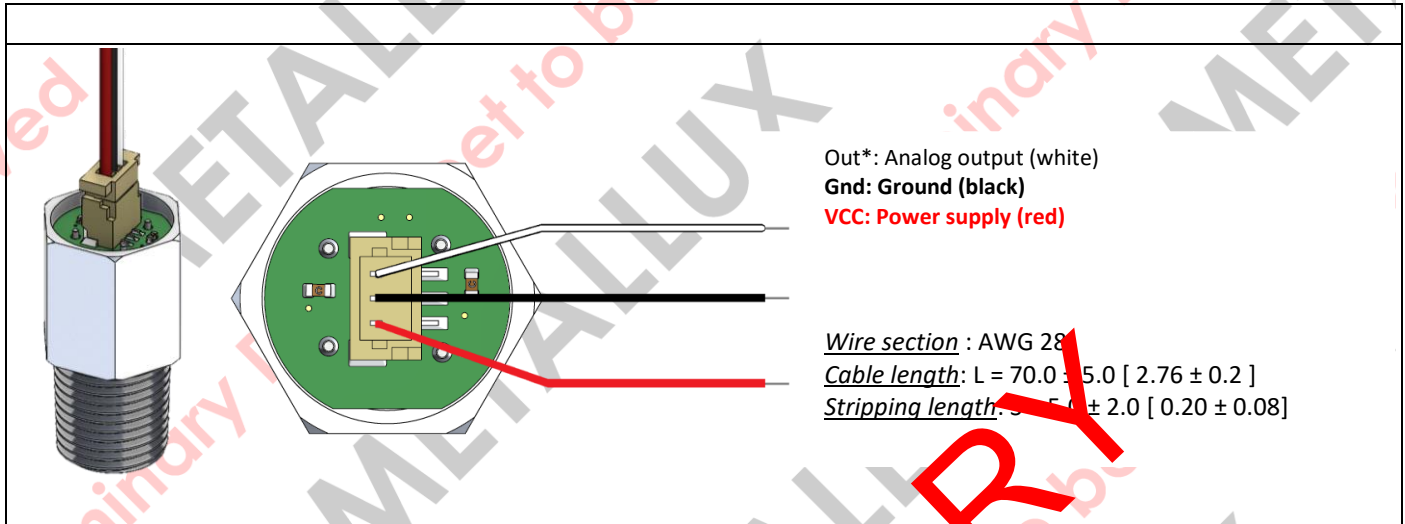
1. During calibration or auto-zero, current consumption is < 300 nA
2. Housing must be grounded
3. Pressure ranges not shown specifically in the technical chart have performance of the nearest listed pressure range.
4. Psi nominal pressure values are not the result of conversion of bar value. Psi ranges are defined to cover different standard values.
5. Accuracy includes room temperature error of non-linearity, hysteresis and non-repeatability, offset and span deviation PLUS thermal span shift and thermal offset shift.



Mechanical drawings



Electrical terminations



Ordering code

	ME	MEP	900	---	-	-
Pressure unit	bar	blank				
	psi	P				
Pressure range	ME	MEP		ME – MEP		
	0...10 bar	or	0...150 psi	010 – 150		
	0...20 bar	or	0...300 psi	020 – 300		
	0...50 bar	or	0...750 psi	050 – 750		
	0...100 bar	or	0...1500 psi	100 – 1500		
	Others on request (please specify)			999 – 999		
Calibration	High accuracy				0	
	Standard accuracy				1	
	No temperature compensation (calibration done at room temperature)				2	
	Others on request (please specify)				9	
Termination type	Connector plus 70 mm cable				0	
	Only connector				1	
	Others on request (please specify)				9	
Mechanical connection	Gas 1/8 BSPP				0	
	Gas 1/8 BSPT (conical thread)				1	
	1/8 27 NTP (conical thread)				2	
	Other on request (please specify)				9	

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