



## MODEL 7880

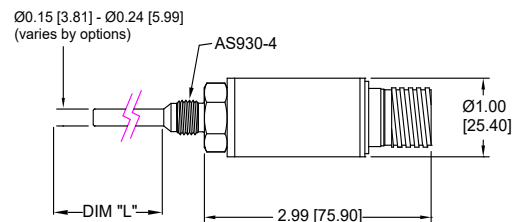
### DUAL - PRESSURE & TEMPERATURE TRANSDUCER

#### STANDARD WIRING CONFIGURATION\*

PIN	DUAL 4-20mA OUTPUT	3-WIRE OUTPUT WITH DUAL VDC
A/1	+EXC/SIG (PRESS)	+EXC (PRESS)
B/2	-EXC/SIG (PRESS)	+SIG (PRESS)
C/3	+EXC/SIG (TEMP)	-EXC/SIG (PRESS)
D/4	-EXC/SIG (TEMP)	+EXC (TEMP)
E/5	N/C	+SIG (TEMP)
F/6	N/C	-EXC/SIG (TEMP)

\*FOR NON-STANDARD WIRING CONFIGURATION CONSULT FACTORY

See page two for additional wiring options.



**REF DIMENSIONS ONLY.  
CONSULT FACTORY FOR ACTUAL DIMENSIONS.**

#### PRODUCT OVERVIEW:

GP:50's 7880 aerospace grade pressure and temperature transducer provides reliable measurements from -65 °F to +250 °F (-59 °C to +121 °C) while withstanding the harsh conditions associated with space exploration. The compact size and rugged design are an excellent choice for on-board space flight or military vehicle applications where space and weight constraints are critical.

#### FEATURES:

- Dual pressure and temperature outputs
- Operating ranges from -65 °F to +250 °F (-54 °C to +121 °C)
- Lightweight, 8 oz (0.2 kg)
- Dual analog outputs
- 100 or 1000 Ω platinum RTD on temperature
- Pressure ranges from 0-1 PSI thru 0-15,000 PSI

#### APPLICATIONS:

- Propulsion systems
- Military and defense applications
- Space flight vehicles
- Military vehicles

#### OPTIONS:

- 0 to 5 Vdc or 0 to 10 Vdc output (4-wire isolated option)
- 4-20 mA output
- Digital outputs: CanBUS, RS485 or USB
- 2, 3 or 4 wire RTD
- Hydrogen or LOX compatibility options
- Custom probe lengths
- Various MIL-SPECS available. Consult factory.

# GP:50 MODEL 7880

## REFERENCE SPECIFICATIONS

(Standard configurations shown, consult factory for other options)

ELECTRICAL	
Output Signal:	Pressure: 4-20 mA 0 to 5 Vdc or 0 to 10 Vdc or (isolated options) CanBUS or RS485 Options  Temperature: 4-20 mA 0 to 5 Vdc or 0 to 10 Vdc or (isolated options) CanBUS or RS485 Options 100 Ohm 2 wire Platinum RTD 0.00385 Alpha $\Omega/\Omega/\text{deg C}$ , Class B 1000 Ohm 2 wire Platinum RTD 0.00385 Alpha $\Omega/\Omega/\text{deg C}$ , Class B
Excitation Voltage:	10 to 36 Vdc (Options may affect this)
RLoad max:	$(4-20 \text{ mA}) = ((\text{Power supply Voltage} - 9.0\text{V}) / .020) - \text{Wire Resistance}$ . (Options may affect this, consult factory)
Circuit Protection:	EMI/RFI, some options may affect ratings
Response Time:	Pressure: <4 ms Temperature: <2 Seconds

MATERIALS OF CONSTRUCTION	
Probe:	17-4 PH (Inconel, Monel or Nitronic 50 available)
Housing:	316 Stainless Steel
O-Ring:	Buna-N (Nitrile) is standard.
Internal Fill:	Silicone or Fomblin oil fill <300 PSI (Consult factory for options)

ACCURACY (BFSL): Non-Linearity @ +70 °F	
Standard:	Pressure: $\leq \pm 0.3\%$ FSO Temperature: $< \pm 3.0\%$ FSO, ( $\pm 1.0\%$ FSO optional)
Non-linearity:	$\leq \pm 0.20\%$ FSO (Typ)
Hysteresis:	$\leq \pm 0.1\%$ FSO (Typ)
Repeatability:	$\leq \pm 0.1\%$ FSO (Typ)
Zero Balance:	$\pm 1.0\%$ FSO
Span Balance:	$\pm 1.0\%$ FSO

(BFSL method used. Improved options available.)

Calibration:	NIST Traceable Cert
Workmanship:	IPC-A-610 Soldering
Quality System:	AS9100

Options may affect specifications.  
Please consult factory for your specific needs.

MECHANICAL	
Process Connection:	per AS930-4
Electrical Connection:	D38999 standard, options available
Probe Length:	1" From port end (optionals lengths and ports available)
Proof Pressure:	1.5X or 22.5X Max whichever is less (May affect Probe size)
Burst Pressure:	2X-5X, range dependent
Approximate Weight:	8 oz (0.2 kg)

PRESSURE RANGES	
15 thru 0 to 15K PSIA, PSIG or PSISG options (1 thru 1,034 BAR)	

PRESSURE TRANSMITTER THERMAL SPECIFICATIONS	
Operating Range:	-65 °F to +250 °F (-54 °C to +121 °C)
Compensated Range:	0 °F to +180 °F (-17.8 °C to +82 °C)
Compensated Ranges from -65 °F to +250 °F (-54 °C to +121 °C) available	
Effect on Zero & Span:	$\pm 1.0\%$ FSO/100 °F (Improved specifications available)

### STANDARD WIRING CONFIGURATION\*

4-20mA OUTPUT	PIN	DESCRIPTION WITH 3-WIRE RTD	DESCRIPTION WITH 2-WIRE RTD
	A/1	+EXC/SIG (PRESS)	+EXC/SIG (PRESS)
	B/2	N/C	N/C
	C/3	RTD**	N/C
	D/4	-EXC/SIG (PRESS)	-EXC/SIG (PRESS)
	E/5	RTD**	RTD
	F/6	RTD	RTD

VDC 3-WIRE OUTPUT	PIN	DESCRIPTION WITH 3-WIRE RTD	DESCRIPTION WITH 2-WIRE RTD
	A/1	+EXC (PRESS)	+EXC (PRESS)
	B/2	+SIG (PRESS)	+SIG (PRESS)
	C/3	RTD**	N/C
	D/4	-EXC/SIG (PRESS)	-EXC/SIG (PRESS)
	E/5	RTD**	RTD
	F/6	RTD	RTD

\*FOR NON-STANDARD WIRING CONFIGURATION CONSULT FACTORY  
\*\*JUMPERED

