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# Technical Bulletin

ELH Pressure Transmitter Quick Start Installation Guide

## Section 1 - Field Wireable Connector Assembly

- 1. Insert cable through Pressing Screw, Compression Ring, Seal Grommet, and Sleeve as shown below.
- 2. Strip back 1-1/4" of outer sheathing, cut off any excess wires, shield and ground. Strip off 1/4" insulation from remaining two wires. It is not necessary or recommended to tin the wires.
- 3. Orient Connector end so that center pin connecting screw is horizontal facing right (see detail).
- 4. Wire LOOP+ (red) wire to top-right terminal, and LOOP- (black) wire to topleft terminal. No connection is made to the center and bottom terminals.
- 5. Screw on the Sleeve. Hand-tighten only.



## Section 2 - Gauge Calibration Verification/Re-zero

This Anderson EL-Series Gauge has been factory calibrated to within published specifications using a pressure reference traceable to NIST. Impacts due to drops, rough handling at shipping, etc may impart an offset that can be corrected in the field. If the pointer is visibly outside of the zero band, a re-zero calibration may be desired. The below Re-zero procedures are designed to provide optimum accuracy at the normal operating pressure of the gauge.

#### Re-zero Procedure with available pressure standard

Mount the gauge on a test fixture with a variable pressure source and an accurate pressure reference. Raise the test pressure to the normal operating pressure at which the gauge will be used. Insert a 2.5mm or 3/32 hex wrench into the head of the re-zero shaft, located in the upper right corner of the back of the gauge. Carefully rotate the shaft to reposition the pointer to agree with the test reference. Warning: Adjusting more than  $\pm5\%$  of the span of the gauge may cause damage to the re-zero adjustment mechanism. Return the test pressure to zero before removal of the gauge from test fixture. Note: For offsets greater than  $\pm5\%$  of the span, return the gauge for factory recalibration or replacement. Caution: Return the test pressure to zero before removal of the gauge to zero before removal of the gauge from the test fixture.

Re-zero Procedure without pressure standard

While not as accurate as a calibration with a pressure standard, this procedure will improve the accuracy of a gauge whose needle has moved outside of the zero band while at O psig

Confirm gauge is exposed to 0 psig. Insert a 2.5mm or 3/32 hex wrench into the head of the re-zero shaft, located in the upper right corner of the back of the gauge. Carefully rotate the shaft to reposition the pointer to center of the zero band. Warning: Adjusting more than ±5% of the span of the gauge may cause damage to the re-zero adjustment mechanism

## Section 3 - Transmitter Calibration Re-zero

The optional transmitter integrated with the ELH is factory calibrated to within published specifications using a pressure reference traceable to NIST. While the transmitter is adjustable for zero and span, this is unlikely to be required during normal use for the life of the transmitter. The following procedure is supplied as a reference.

### Equipment required:

Pressure source Accurate reference gauge or display DC milliamp capable multi meter Small flat head screwdriver

- 1) Expose the transmitter to Opsi reference.
- 2) Remove back from transmitter
- 3) Set your multi meter to DC mA and connect in series with the loop
- 4) Adjust the transmitter Zero screw (potentiometer) until 4 mA is seen
- 5) Expose the transmitter to a known pressure source at the top end of the range. If desired, standard range may be turned down up to 10%
- 6) Adjust the transmitter Span screw (potentiometer) until 20 mA is seen.



# Section 4 - Specifications

Performance Mechanical & Electrical		Dial:	Adhesive-backed printed Mylar in various scales, 90mm
Gauge Accuracy:	Factory Calibrated to +/- 1.5% of full scale, from		diameter minimum
	10 to 90% of pressure range	Lens/Dial Plate:	Chemical resistant polysulfone, able to withstand 325°F
Transmitter Accuracy:	+/- 0.5%of full span	Bezel:	304 stainless steel, polished, compression formed to case (non-
Over-range capability:	15% for ranges up to 600 BAR (8.7k PSI)		removable)
·	10% for ranges up to 16K BAR (23k PSI)	Viewing Angle:	100 degrees minimum
		Pointer:	Aluminum, black anodized
Temperature Effect:	.16% per 10°F process temperature change	Operational	
	.25% per 10°F ambient temperature change	Spiral Coil, Tip, and Socket Construction: Welded connections	
Process Temperature Limits:	25 to 300°F (-4 to 149°C)	Internal Fill:	Standard, ETR (extended Temperature range) mineral oil
Ambient Temperature Limits:	32 to 140°F (0 to 60°C)	Case Fill:	Standard, glycerin 100% USP Food Grade
CIP Temperature Limit:	300°F (149°C)	Mechanical Dampening: Standard	
SIP Temperature Limit:	300°F (149°C)	Output:	Optional 4-20 mA DC, 2 wire (4 mA at zero pressure & 20 mA at
Stability:	Within specified accuracy for 6 months		upper range value).
Decay Rate:	1-2 seconds	Loop Resistance:	0-700 ohms at 24 VDC
Construction / Finish		Electrical Connection: M12 5Pin quick disconnect receptacle (field wireable	
Diaphragm:	C276 Hastelloy		connector and cable available.
Fitting:	316L stainless steel	Recommended Cable:	22-24 AWG, foil shielded, 0.17 - 0.26" Cable Sheath OD
Diaphragm and Fitting:	Welded & polished. Max. Ra=25µ		for use with field wiring connector
Spiral Coil:	Stainless steel	Electrical Protection:	: Voltage spike and reverse polarity
Socket:	Stainless steel with integral fill port	Operating voltage:	10-40 VDC (Absolute), 24 VDC Nominal regulated or unregulated.
Case/Stem:	Welded 304 stainless steel (polished)	Transmitter Zero Adjustment: +/- 10% of span (With back removed)	
	·	Pointer Re-zero Adjustment: Tamper resistant adjustment, +/- 5% of span. Non interactive with span. External adjustment located on back of case.	