

ZT61 High Purity Pressure Transmitter with Display

Features

- 3½ digit LED display with NPN or PNP switch outputs
- 316L Stainless steel pressure fitting
- 7 µin Ra Surface finish
- 1.125" Surface mounting, both W and C seal types
- 100% Helium leak tested
- ISO Class 1 cleanroom packaged (UC and EP grades are triple bagged)
- Available in gauge and compound ranges

Typical Uses

- Valve manifold boxes
- Film deposition equipment
- Etching equipment

Performance Specifications

Static Accuracy: ±0.50%, ±0.75%, or ±1.0% of span @ 73 °F (23 °C) Accuracy includes the effects of linearity, hysteresis and repeatability

Display Accuracy: ±0.50% of span (+1 digit) @73 °F (23 °C), ±0.75% of span (+1 digit) @73 °F (23 °C), or ±1.0% of span (+1 digit) @73 °F (23 °C)

Stability: ± 0.25% of span/year

Temperature Effect: ± 0.05% of span /°C for units with ±0.50% or ±0.75% of span accuracy (Zero and Span) in operating temperature range
 ± 0.10% of span /°C for units with ± 1.0% of span accuracy (Zero and Span) in operating temperature range

Environmental Specifications

Operating Temperature: 14 °F to 122 °F (-10 °C to 50 °C)

Storage Temperature: (-20 °C to 60 °C) -4 °F to 140 °F

Humidity: 35% to 80% RH

Functional Specifications

Ranges: Compound: Vacuum & 45 psi to Vacuum & 150 psi
 Gauge: 0-45 psi to 0-150 psi

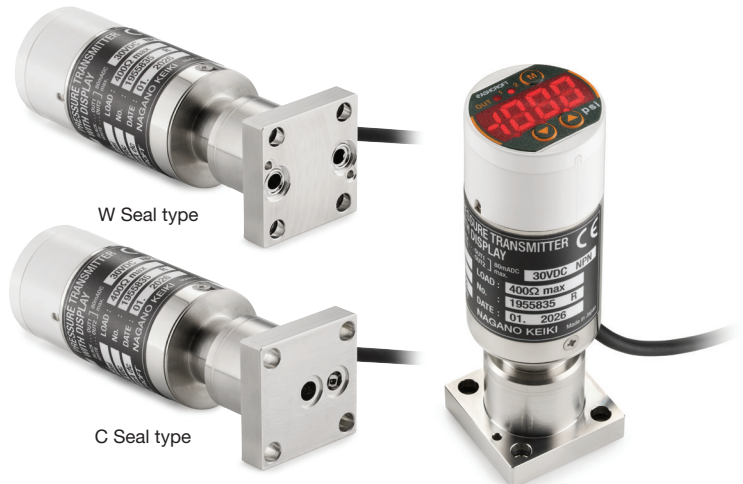
Analog Output Response Time: ≤ 50 mS

Digital Display Response Time: 200 mS

Adjustable Response Time for Analog Output & Digital Display: (Filtering/Dampening) no filter, 25 mS, 250 mS, 2.5 s, 5 s, 10 s

Leakage Test: < 5 x 10⁻¹¹ atm cc/s

Proof Pressure: 150% of F.S. (EP grades)
 200% of F.S. (UC grade)



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Key Benefits

- Bright easy-to-see LED display
- LED display can be rotated for optimal viewing angle
- 316L Stainless steel and CoNi wetted parts for protection against corrosion

Electrical Specifications

Output Signal: 4-20 mA (3 Wire), 1-5 Vdc (3 Wire) or 0-10 Vdc (3 Wire)

Supply Voltage: 15-24 Vdc for 4-20 mA version or 1-5 Vdc version
 21.6-26.4 Vdc for 0-10 Vdc version

Load Resistance: R_{max} = 400Ω for 4-20 mA output
 R_{min} = 10kΩ for 1-5 Vdc output or 0-10 Vdc output

Insulation Resistance: >100MΩ at 50 Vdc

EMC/EMI: EN61326-1:2013, EN61326-2-3:2013

LED Display: 3½ digit LED display with 270° rotation

LED Character Size: 0.3" Height

Hold function: Displays Max/Min value

Wetted Materials

Pressure Sensor: UC Grade: Co-Ni
 EP Grade: 316L Stainless steel

Pressure Fitting: All Grades: 316L Stainless steel

Contact Us

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Comparator Output

NPN or PNP open collector with two independent outputs

Load Current: 80 mA DC or less.

Applied Voltage: 30 Vdc or less (NPN output)

Short circuit protection: Over-current protection

Response Time: 10 mS or less (no filter)

Deadband: Hysteresis Mode (Variable)
Window Comparator Mode (1% of Span fixed)

Delay: 0 to 2 sec variable (for both ON and OFF)

Comparator operation display LED: Red LED (OUT 1,2) lights when turning on the power

Physical Specifications

Case Material: Aluminum Alloy / Polycarbonate ABS UL94 V-0

Pressure Connection: 1.125" Surface Mount (Type W and C)

Electrical Connection: Cable

Surface Finish: UC & EP Grade 7 µin (0.18 µm) Ra

Cable Length: 2 meters

Unit Weight: 180 g

Approvals

CE, RoHS

ZT61 High Purity Pressure Transmitter with Display

Ordering Code	Example:	ZT61	Z	C	2	75#	7	1	3	-X1N
Model										
ZT61		ZT61								
Mounting										
Z - Surface Mounting Interface			Z							
Pressure Connection										
C - 1.125 C-Seal (without bolts). Available for UC Grade and EP Grade.				C						
W - 1.125 W-Seal (with bolts). Only available for UC Grade.										
F - 1.125 W-Seal (without bolts). Only available for EP grade.										
Surface Finish/Cleaning Grade										
2 - UC Grade, 7 µin (0.18 µm) Ra					2					
E - EP Grade, 7 µin (0.18 µm) Ra										
Pressure Range										
V/45# - Vac to 45 psi (*Only available as 1.00% accuracy)										
V/75# - Vac to 75 psi										
V/100# - Vac to 100 psi (*Only available as 1.00% accuracy)										
V/150# - Vac to 150 psi										
45#- 45 psi (*Only available as 1.00% accuracy)										
75# - 75 psi						75#				
150# - 150 psi										
NP1/3MP - (-) 0.1 to 0.3 Mpa (*Only available as 1.00% accuracy)										
NP1/5MP - (-) 0.1 to 0.5 Mpa										
NP1/1MP - (-) 0.1 to 1 Mpa										
P3MP - 0.3 Mpa (*Only available as 1.00% accuracy)										
P5MP - 0.5 Mpa										
1MP - 1 Mpa										
N1/3BR - (-) 1 to 3 Bar (*Only available as 1.00% accuracy)										
N1/5BR - (-) 1 to 5 Bar										
N1/10BR - (-) 1 to 10 Bar										
3BR - 3 Bar (*Only available as 1.00% accuracy)										
5BR - 5 Bar										
10BR - 10 Bar										
Display Accuracy										
5 - ±0.50% of span +1 digit (This accuracy not available for ranges below 75#, 5BR and P5MP, or for V/100# range. For 4-20 mA and 1-5 Vdc analog outputs only.)										
6 - ±0.75% of span +1 digit (This accuracy not available for ranges below 75#, 5BR and P5MP, or for V/100# range. For 0-10 Vdc analog output only.)										
7 - ±1.00% of span +1 digit (Available for all analog outputs.)							7			
Analog Output										
1 - 4 to 20 mA output (3-wire)								1		
8 - 1 to 5 Vdc output (3-wire)										
7 - 0 to 10 Vdc output (3-wire)										
Comparator Output										
1 - PNP open collector with two outputs										
3 - NPN open collector with two outputs									3	
Options (If indicating an option, must include an "X" (-X...))										
1 - Material Test Report/Traceability Certificate										X
										1N

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Wiring Diagrams

Electric Connection

Colored cables are used as described below. Confirm the connection before power is on. Warm up the unit and allow it to stabilize for about fifteen minutes after power up before adjusting the zero point and starting measurements.

Wiring for Analog Outputs

- Brown - Power source (+)
- Blue - Common for power source (-) and analog output (-)
- Black - Open collector output 1
- White - Open collector output 2
- Orange - Analog output (+)

Internal Type

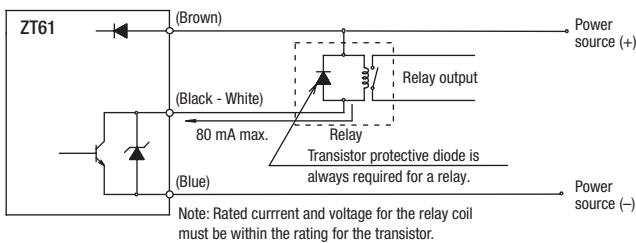
Output Type: The comparator output comprises open collector output. The analog output comprises 4 to 20 mA current output or any of the voltage outputs.

“Open collector” means that the collector of an output transistor is open for the user to use for any desired user defined application. Accordingly, the user is free to use the open collector output in any way.

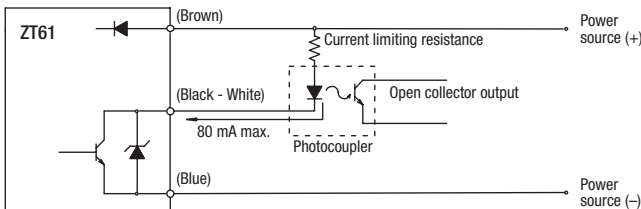
The output transistor is rated for 30 Vdc, 80 mA.
Be sure not to exceed this rating.

1. Wiring for open NPN Collector

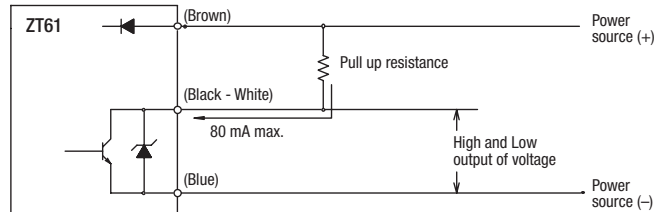
a. with relay



b. with photocoupler

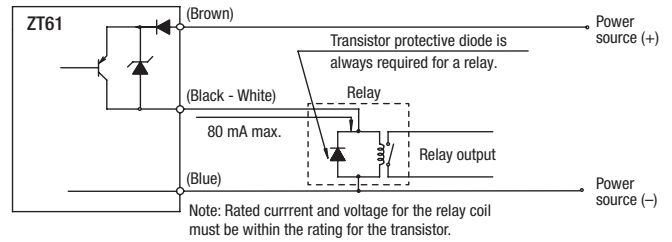


c. Voltage Output

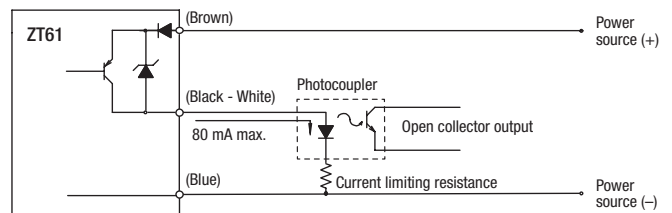


2. Wiring for open PNP Collector

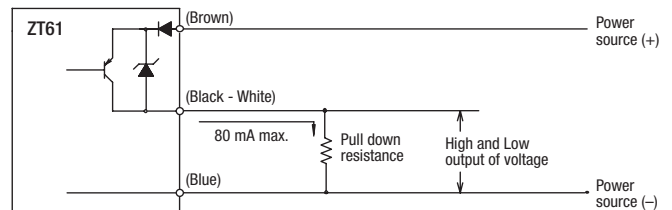
a. with relay



b. with photocoupler



c. Voltage Output

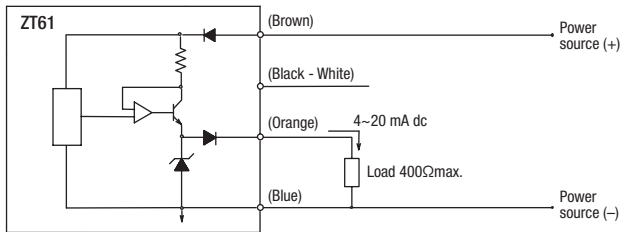


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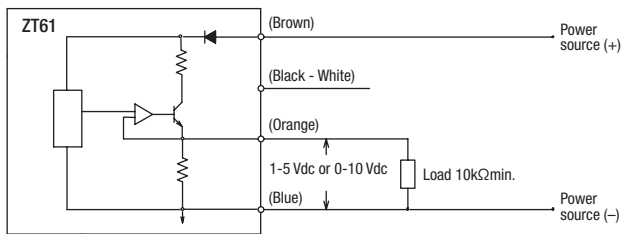
Wiring Diagrams

3. Wiring for Analog Outputs

a. 4-20 mA output



b. Voltage Output: 1-5 Vdc or 0-10 Vdc



Noise Precautions

Power Lines

Noise on the power lines can cause fluctuating pressure indication and incorrect operation. Check the cable routing for the DC power lines and use a power source of a high noise removal rate.

Output Lines

The internal circuit of the open collector output is connected to that of the output line. Take special care when routing the wires and make the wires as short as possible.

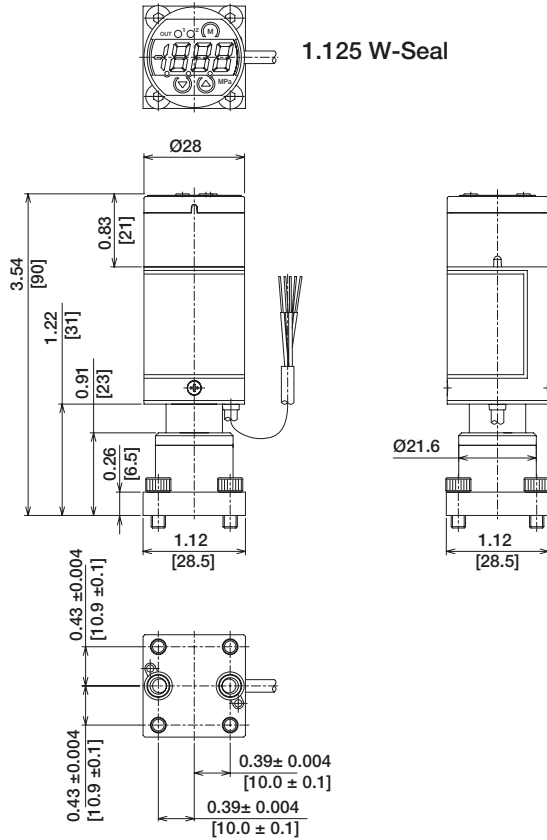
Induced Noise

The unit may operate erroneously when subjected to external induction. Keep off a noise source, change the direction, or provide a magnetic or static shield, etc.

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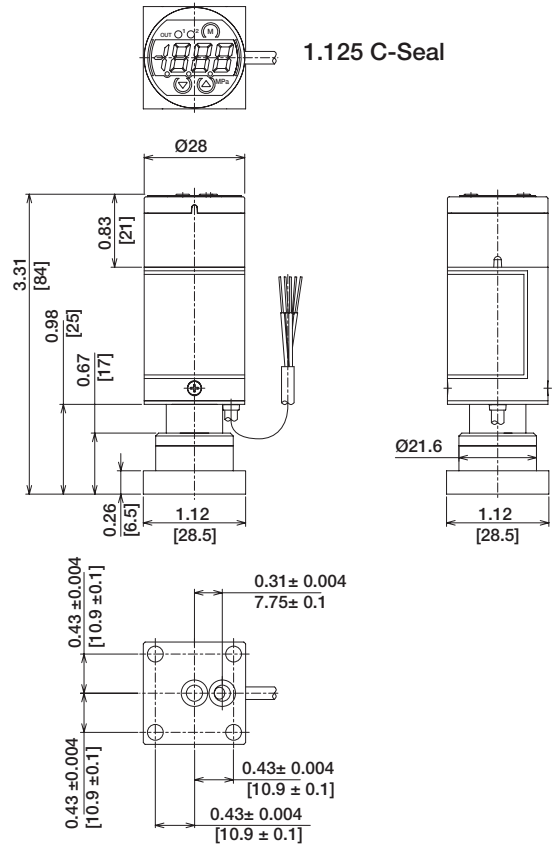
Dimensions are in inches [mm]

UC/EP Grade



Grade	Connection	Model Number
UC	1.125 W-Seal (With bolts)	ZT61-ZW2
EP	1.125 W-Seal (Without bolts)	ZT61-ZFE

UC/EP Grade



Grade	Connection	Model Number
UC	1.125 C-Seal (Without bolts)	ZT61-ZC2
EP	1.125 C-Seal (Without bolts)	ZT61-ZCE