FLOW
LEVEL
PRESSURE
ANALYTICAL
TEMPERATURE
INSTRUMENTATION
PASTEURIZATION CONTROLS

Sanitary Differential Level Transmitter (TDL)

Electronic sensors eliminate hard-to-install capillaries and solves temperature and position compensation issues.

Dual transmitter output eliminates one transmitter and its associated process penetration.

Smaller diaphragm size simplifies spud and sensor installation.

Meets intrinsic safety requirements, HART protocol optional.

Operates on 24 Vdc power.

Multifunction integral LCD display is standard.

Quick Disconnect Receptacles with optional Field Wiring Connectors

The Anderson TDL transmitter combines all the benefits of a completely electronic DP level transmitter with features that improve performance and application breadth. By incorporating our proven SL Driftless Level transmitters as primary inputs, installation, calibration, and long-term stability are all greatly enhanced versus competitive solutions. Furthermore, we designed the new transmitter to operate on 24 Volt DC power, meet intrinsic safety requirements for hazardous locations, and provided a HART protocol option.

With its NEMA 4X Stainless Steel enclosure and integral LCD Display, the transmitter can be mounted anywhere it's most convenient using standard electronic cabling for sensor and output wiring. Dual outputs are standard, with DP (level) as the primary output, with the secondary selectable for "top" (pressure and/or vacuum) or bottom (total tank pressure). In most applications this can save up to $1800 by eliminating a secondary transmitter and process connection.

Finally, we've added additional sensor fittings for simple retrofitting to sanitary tank spuds and ANSI flanges. The new TDL is now ready for virtually any level application where pressure and/or vacuum conditions exist.

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Sanitary Differential Level Transmitter Specifications

DIFFERENTIAL (LEVEL) OUTPUT

Low Range: 0-50" w.c. min span
0-415" w.c. max span
Medium Range: 0-100" w.c. min span
0-830" w.c. max span
High Range: 0-170" w.c. min span
0-1385" w.c. max span

SECONDARY OUTPUT (PRESSURE AND / OR VACUUM)

Low Range (HD1):
Min Span: 50" w.c.
Max Span: 775" w.c.
Min Low End: -360" w.c. (=26.48" Hg)
Max Low End: 0" (zero-inches) w.c.

Medium Range (HD2):
Min Span: 100" w.c.
Max Span: 1,190" w.c.
Min Low End: -360" w.c. (=26.48" Hg)
Max Low End: 0" w.c.

High Range (HD3):
Min Span: 170" w.c.
Max Span: 1,745" w.c.
Min Low End: -360" w.c. (=26.48" Hg)
Max Low End: 0" w.c.

PERFORMANCE SPECIFICATIONS

Calibrated Accuracy: ± 0.25% of URL
(1" w.c. for low range,
2" w.c. for medium range;
3.5" for high range)
Repeatability: ± 0.08% of URL
Stability: ± 0.2% of URL per 10°F (-12°C)
Resolution: Less than 0.1% of URL
Hysteresis: ± 0.07% of URL
Linearity: ± 0.1% of URL
(Best Fit Straight Line)
Over-Range Capacity: 60 psig - low/med range
100 - psig high range

TEMPERATURE SPECIFICATIONS

Process Temp. Limits: 0°- 300°F (-18°-149°C)
Ambient Temp. Limits (sensor only): 15°- 150°F
(-9°C-65°C)
Compensated Temp. Range (sensor only):
(Process) 0°- 270°F
(-18°C-132°C)
(Ambient) 15°- 150°F
(-9°C-65°C)
Ambient Temp. Limits (trans. enclosure):
15° to 120°F (-9°C-48°C)
Temperature Shock (system): -1" to +4" w.c.
per 100°F (38°C)
instantaneous change.
Within spec in five min.

ELECTRICAL

Signal Output: 4-20 mA DC for level output;
4-20 mA DC for pressure/
vacuum/total output
Transmitter Enclosure Power: External Source,
18-30 VDC, 92mA
(spec where power
supply utilized for
Transmitter only)
Loop Power: External Source, 12-30 VDC,
25mA (req'd for each loop)
(spec where power supply utilized
for Output Loops only)
Common Power Supply: 18-30 VDC, 150mA (spec
where power supply utilized for
both Loops and Transmitter)

Cable Recommended: 2 conductor, stranded, 18-24
AWG, shielded with ground.
0.17 - 0.26" Cable Sheath OD
for use with field wiring
connector.
Receptacle: Turck minifast (R) 3-pin, Nema
4x/IP-65 connected or discon
nected.

MATERIAL AND CONSTRUCTION

Ratings: NEMA 4X, IP-65
Transmitter Housing: 304 Stainless Steel
Dimensions: 7.87" W x 9.84" H x 5.91" D
Integral LCD: Liquid Crystal, 0.625" high digit
Window Material: Polycarbonate
Sensor Material: 304 and 316 SS finished to
maximum Ra = 32 microinches
Wetted Parts: 316L SS, electropolished to
maximum Ra = 15 microinches
Wetted Parts-Special: Hastelloy "C"
diaphragm optional

AGENCY APPROVALS

Hazardous Locations: Intrinsically safe for use in
Class1, Div. 1, Groups A-D
(UL Listed)
Electromagnetic
Compatibility: CE Compliant (accuracy degrades up
to 1.1% due to line conducted distur-
bance by RF Field in frequency range
0.8 to 1.8 MHz).
Standards: Complies with all applicable
provisions of 3-A Sanitary
Standards (74-00)

Designed and manufactured to sound
engineering practices in accordance
with Article 3.3 of the PED 97/23/EC

HOW TO ORDER

TRANSMITTER

TD □ □ □□□□□ □□□□□ □□□□

OUTPUT
1 Analog Only (4-20mA)
2 4-20 mA with HART Communication

SECONDARY OUTPUT
1 S.O. on top (pressure/vacuum)
2 S.O. on total system pressure (bottom sensor)

OUTPUT #2 ZERO CALIBRATION (LRV)
Value in inches w.c. to nearest tenth (0.1)

OUTPUT #2 FULL SCALE CALIBRATION (URV)
Value in inches w.c. to nearest tenth (0.1)

DIFFERENTIAL OUTPUT SPAN CALIBRATION (URV)
Value in inches w.c. to nearest tenth (0.1)

SENSOR

HD □ □ □□□ □□□□

UPPER RANGE LIMIT (URL)
1 Low Range - 15 psi (415" w.c.) max.
2 Medium Range - 30 psi (830" w.c.) max.
3 High Range - 50 psi (1385" w.c.) max.

Note: Top and bottom sensors must be specified same URL.

SENSOR LOCATION / TYPE
1 Bottom (Total Pressure)
2 Top (Pressure and or Vacuum)

FITTING
089 Anderson Flush Mount Long (71060-A3, A5, A7, A9)
088 Anderson Flush Mount Short (71060-A4, A6, A8)
004 1 1/2" Tri-Clamp
005 2" Tri-Clamp
141 Rosemount / Foxboro Sanitary Spud - Short
142 Rosemount / Foxboro Sanitary Spud - Long
150 3" ANSI 150 Flange (4-hole) - Flush
151 3" ANSI 150 Flange (4-hole) - 2" extension
152 3" ANSI 150 Flange (4-hole) - 4" extension
153 3" ANSI 150 Flange (4-hole) - 6" extension

DIAPHRAGM
1 SS 316L Electropolished (Std.)
2 Hastelloy "C" (Optional)

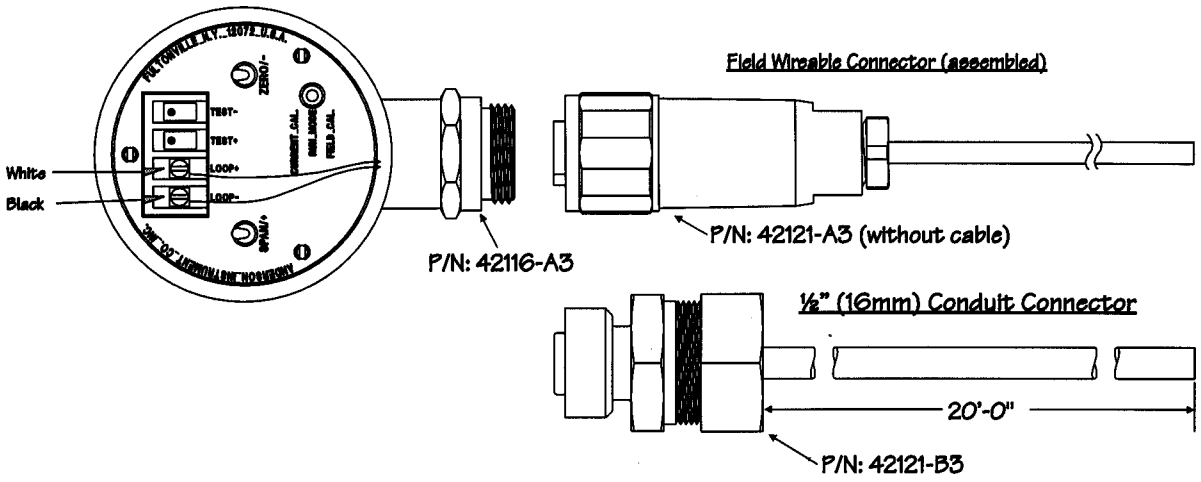
SENSOR WIRING
00 Quick Disconnect Receptacle (QDR) w/No Cable
02 QDR & FWC w/10 FT Cable
05 QDR & FWC w/25 FT Cable
10 QDR & FWC w/50 FT Cable
15 QDR & FWC w/75 FT Cable

(*For longer cable lengths, consult factory*)

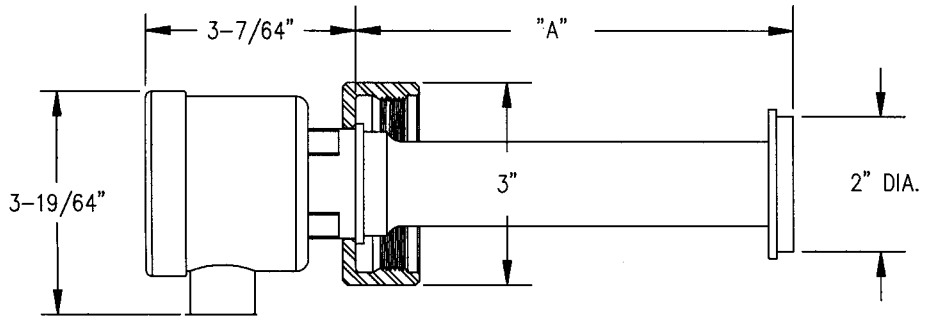
98 QDR and Liquid Tight Flex 1/2" (16mm) Conduit Connector w/20 FT Cable

99 No QDR, no FWC and no Cable (No sensor warranty for water damage)

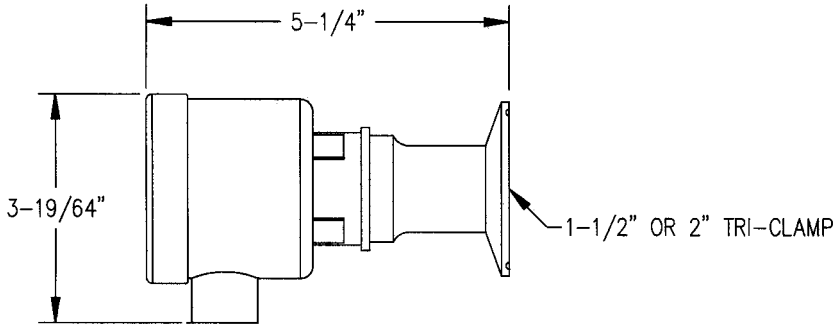
MOUNTING
0 Horizontal
1 Vertical (diaphragm up)
2 Other (specify angle from horizontal)
3 Inverted (diaphragm down)

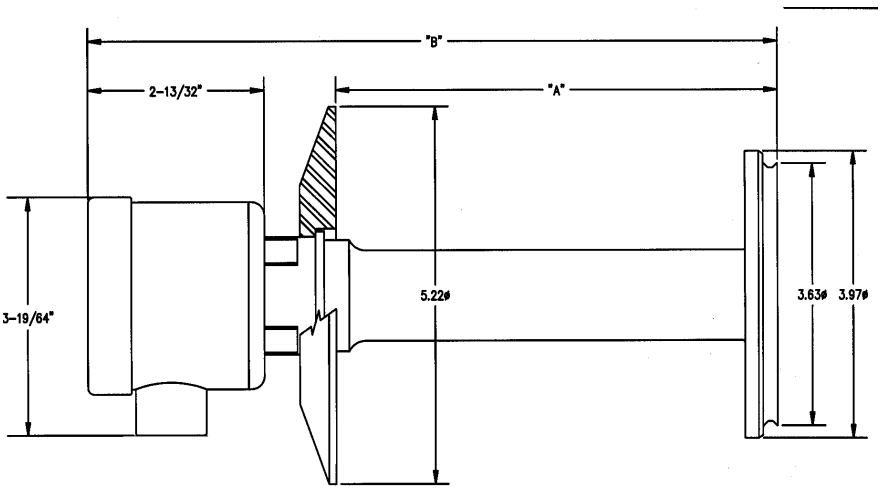


Sensor Fittings and Dimensions



ANDERSON SHELL TYPE	"A"
NON INSULATED	2–3/16
INSULATED	6–1/2





FITTING	"A" DIM.	"B" DIM.
ROSEMOUNT SHORT	2.11"	5–1/2"
ROSEMOUNT LONG	6.11"	9–1/2"

FORM AIC5012

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