

ULTRASONIC

| SENSOR | MEASUREMENT RANGE | EXPOSED MATERIALS | MOUNTING |
|---------|-------------------|-------------------|---------------------|
| PZ32T | 32 ft. / 10 m | PVC and Teflon | ¾" NPT |
| PZ32TE | 32 ft. / 10 m | all Teflon | ¾" NPT |
| PZ34 | 32 ft. / 10 m | PVC | ¾" NPT |
| PZ34TxF | 32 ft. / 10 m | all Teflon face | Flange mount |
| PZ12 | 12 ft. / 3.66 m | PVC | ¾" NPT |
| PZ12-LP | 12 ft. / 3.66 m | PVC | SS mounting bracket |
| PZ12TxF | 12 ft. / 3.66 m | all Teflon face | Flange mount |
| PZ52T | 50 ft. / 15.6 m | PVC and Teflon | ¾" NPT |
| PZ80 | 80 ft. / 25 m | PVC | 1" NPT |

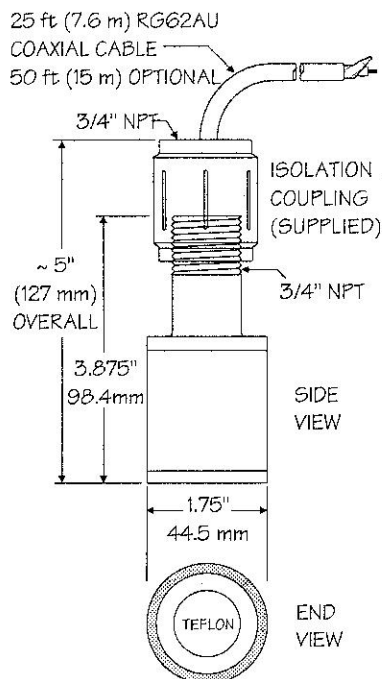
PRESSURE

| SENSOR | MEASUREMENT RANGE | EXPOSED MATERIALS | MOUNTING |
|--------|----------------------------|----------------------|-------------|
| PSxxS | 5 – 70 psi / 0.3 – 5.0 bar | 303 SS, polyurethane | Cable mount |
| PSxxT | 5 – 75 psi / 0.3 – 5.2 bar | 316 & 15-5 SS | ¼" NPT |

MISCELLANEOUS

| MODEL | DESCRIPTION |
|-------|---|
| SBMS | Submergence Shield for PZ32T, PZ32TE, PZ34 or PZ12 ultrasonic level sensors |

Ultrasonic Sensor Model PZ32T



General Specifications

| | |
|-----------------------------|--|
| Maximum Range: | 32 ft. (10 m) |
| Minimum Range (Deadband): | 12" (305 mm) |
| Operating Frequency: | 42 KHz |
| Beam Angle: | 8° |
| Operating Temperature: | -40° to 150° F (-40° to 65° C) |
| Maximum Operating Pressure: | 20 psi (1.35 bar) |
| Sensor Face: | Teflon |
| Sensor Housing: | PVC |
| Sensor Mounting: | 3/4" NPT |
| Maximum Cable Length: | 500 ft (150 m) |
| Optional Hazardous Rating: | CSA rated Intrinsically Safe Class I, Groups C,D, Class II, Groups E,F,G with optional Intrinsic Safety Barrier. Note: Max Range reduced to 25 ft. (7.8 m) with ISB option. |

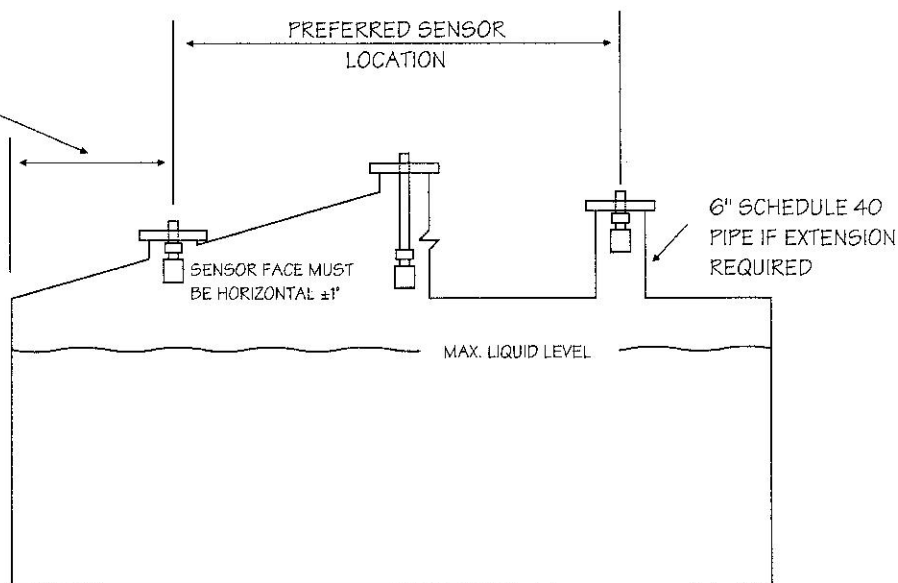
Notes:

1. Shield from direct sunlight (temperature probe in sensor)
2. Use the "Isolation Coupling" supplied for mounting.
3. Use with Option ISB Intrinsic Safety Barrier for installation in hazardous locations.
4. Run Sensor cable in grounded metal conduit with no other conductors.
5. Extend Sensor cable up to 500 ft (152 m) with RG62AU coaxial only.
6. Refer to the Instruction Manual for complete installation and wiring instructions.

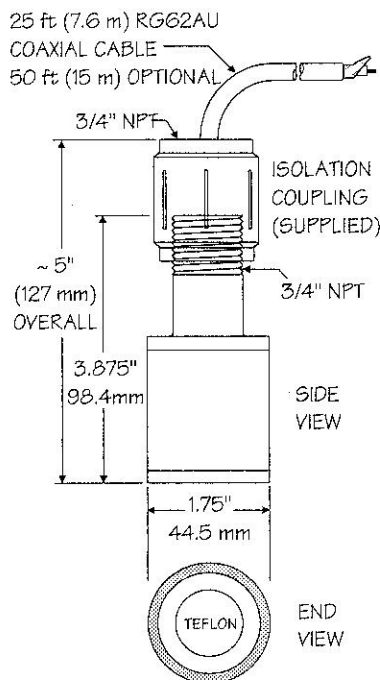
Recommended Sensor Mounting

1 FT (300 mm)
HORIZONTAL FROM
SIDEWALL FOR EVERY
10 FT (3 m) VERTICAL

NOTE:
2 FT (600 mm) FOR EVERY
10 FT (6 m) DEPTH IN
APPLICATIONS WITH
ROUGH SIDEWALLS,
LADDERS, REINFORCING
RINGS ETC.



Ultrasonic Sensor Model PZ32TE - All Teflon



General Specifications

| | |
|-----------------------------|---|
| Maximum Range: | 32 ft. (10 m) |
| Minimum Range (Deadband): | 12" (305 mm) |
| Operating Frequency: | 42 KHz |
| Beam Angle: | 8° |
| Operating Temperature: | -40° to 170° F (-40° to 76° C) |
| Maximum Operating Pressure: | 20 psi (1.35 bar) |
| Sensor Face: | Teflon |
| Sensor Housing: | Teflon |
| Sensor Mounting: | 3/4" NPT |
| Maximum Cable Length: | 500 ft (150 m) |
| Optional Hazardous Rating: | CSA rated Intrinsically Safe Class I, Groups C,D, Class II, Groups E,F,G with optional Intrinsic Safety Barrier. Note: Max Range reduced to 25 ft. (7.8 m) with ISB option. |

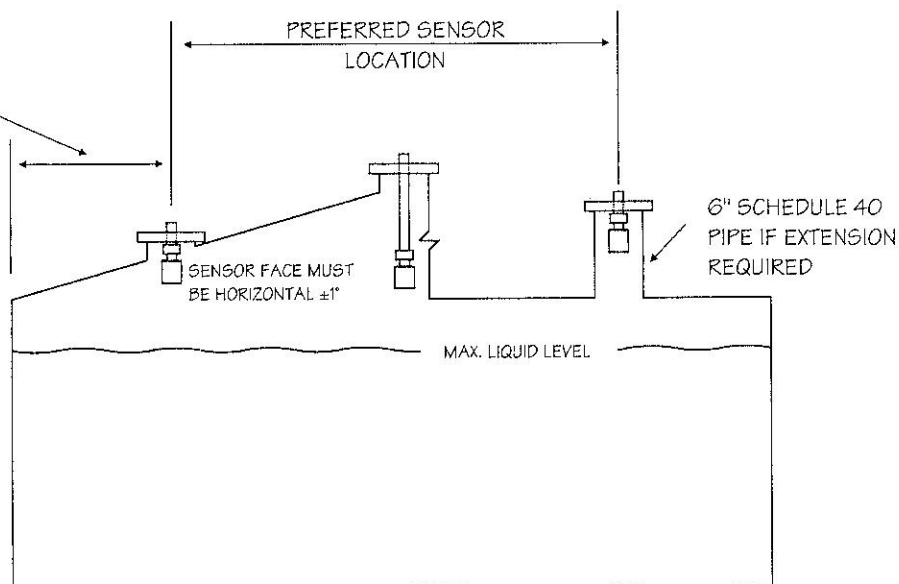
Notes:

1. Shield from direct sunlight (temperature probe in sensor)
2. Use the Teflon "Isolation Coupling" supplied for mounting.
3. Use with Option ISB Intrinsic Safety Barrier for installation in hazardous locations.
4. Run Sensor cable in grounded metal conduit with no other conductors.
5. Extend Sensor cable up to 500 ft (152 m) with RG62AU coaxial only.
6. Refer to the Instruction Manual for complete installation and wiring instructions.

Recommended Sensor Mounting

1 FT (300 mm)
HORIZONTAL FROM
SIDEWALL FOR EVERY
10 FT (3 m) VERTICAL

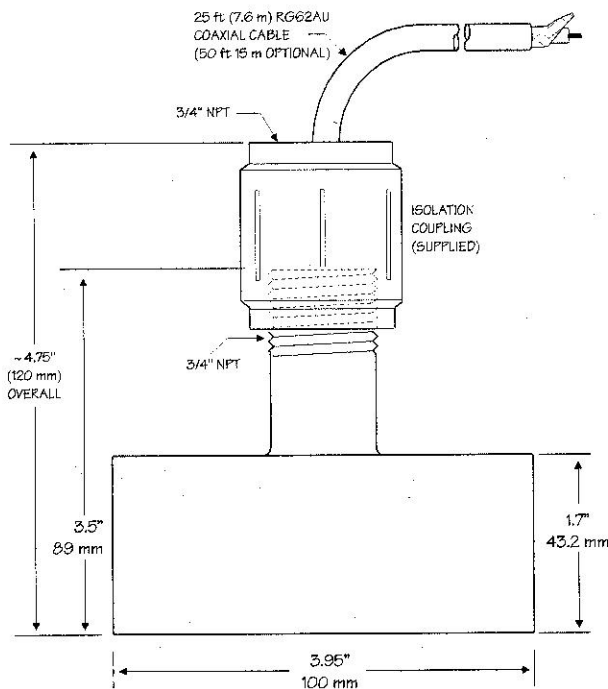
NOTE:
2 FT (600 mm) FOR EVERY
10 FT (3 m) DEPTH IN
APPLICATIONS WITH
ROUGH SIDEWALLS,
LADDERS, REINFORCING
RINGS ETC.



Ultrasonic Sensor Model PZ34

General Specifications

| | |
|-----------------------------|--|
| Maximum Range: | 32 ft. (10 m) |
| Minimum Range (Deadband): | 16" (406.4 mm) |
| Operating Frequency: | 46 KHz |
| Beam Angle: | 8° |
| Operating Temperature: | -40° to 150° F (-40° to 65° C) |
| Maximum Operating Pressure: | 20 psi (1.35 bar) |
| Exposed Materials: | PVC |
| Sensor Mounting: | 3/4" NPT |
| Maximum Cable Length: | 500 ft (150 m) |
| Optional Hazardous Rating: | CSA rated Intrinsically Safe Class I, Groups C,D, Class II, Groups E,F,G with optional Intrinsic Safety Barrier. Note: Max Range reduced to 25 ft. (7.8 m) with ISB option. |



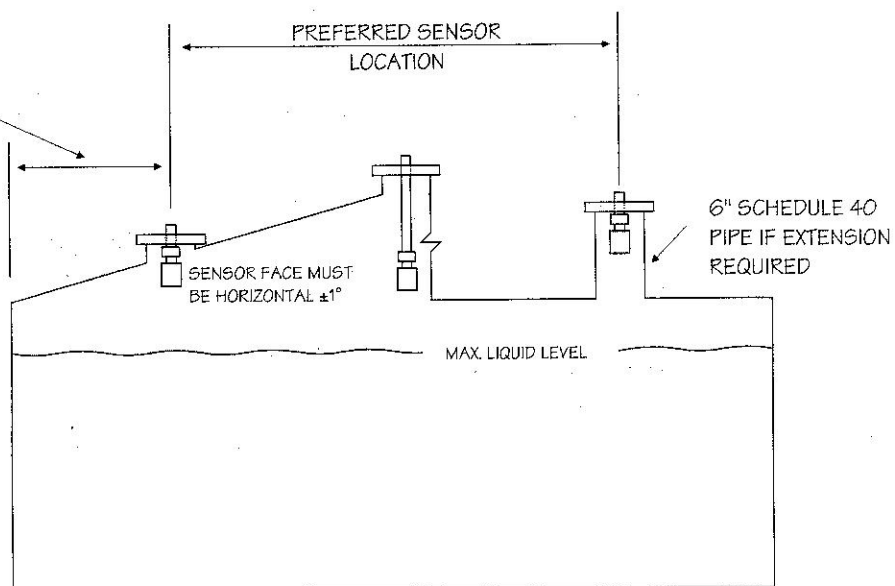
Notes:

1. Shield from direct sunlight (temperature probe in sensor)
2. Use the "Isolation Coupling" supplied for mounting.
3. Use with Option ISB Intrinsic Safety Barrier for installation in hazardous locations.
4. Run Sensor cable in grounded metal conduit with no other conductors.
5. Extend Sensor cable up to 500 ft (152 m) with RG62AU coaxial only.
6. Refer to the Instruction Manual for complete installation and wiring instructions.

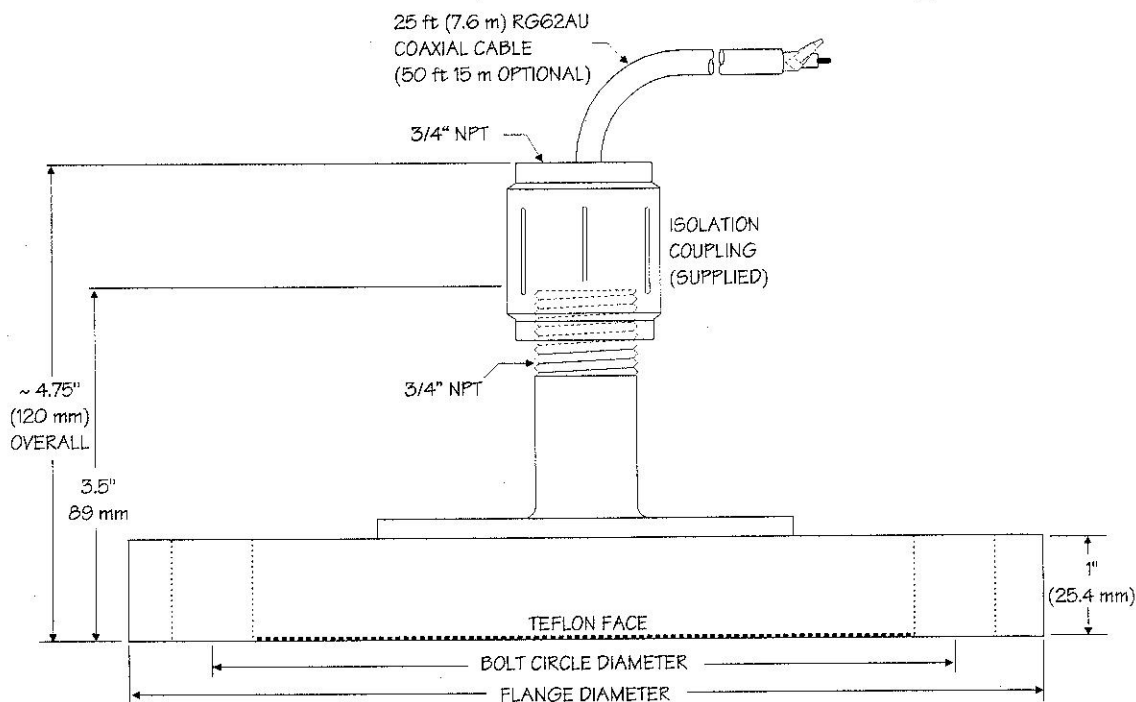
Recommended Sensor Mounting

1 FT (300 mm)
HORIZONTAL FROM
SIDEWALL FOR EVERY
10 FT (3 m) VERTICAL

NOTE:
2 FT (600 mm) FOR EVERY
10 FT (6 m) DEPTH IN
APPLICATIONS WITH ROUGH
SIDEWALLS, LADDERS,
REINFORCING RINGS ETC.



PZ34TF Flange Mount Sensors



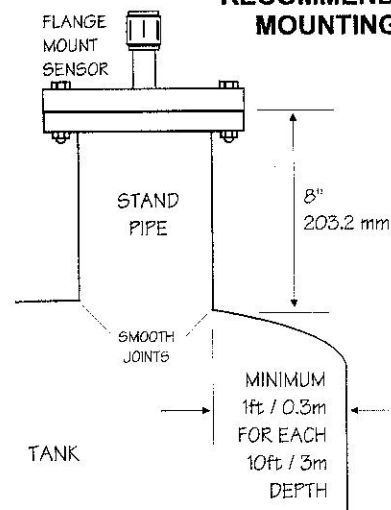
FLANGE DIMENSIONS

| SENSOR MODEL | NOMINAL FLANGE SIZE | BOLT CIRCLE DIAMETER | FLANGE DIAMETER | NUMBER OF BOLTS |
|--------------|---------------------|----------------------|-----------------|-----------------|
| PZ34T4F | 4 Inch | 7-1/2" | 9" | 8 |
| PZ34T6F | 6 Inch | 9-1/2" | 11" | 8 |
| PZ34T8F | 8 Inch | 11-3/4" | 13-1/2" | 8 |

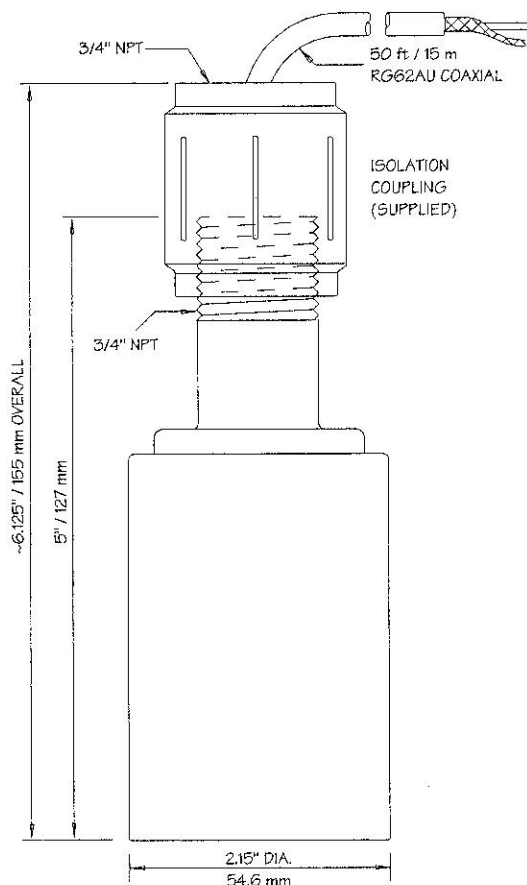
SENSOR SPECIFICATIONS

Maximum Range: 32 ft (10 m)
 Minimum Range (deadband): 16" (406.4 mm)
 Operating Frequency: 46 KHz
 Beam Angle: 8°
 Operating Temperature: -40° to 150°F (-40° to 65°C)
 Temperature Compensation: Automatic, continuous
 Max. Operating Pressure: 20 psi (1.35 bar)
 Sensor Face: Teflon
 Sensor Body: PVC (not exposed to tank contents)
 Cable Length: 25 ft (7.6 m) continuous RG62AU coaxial
 Optional 50 ft. (15 m) continuous
 Max. Cable Length: 500 ft. (152 m) RG62AU coaxial (splice)
 Hazardous Rating: CSA rated Intrinsically Safe Class I, Groups C,D, Class II, Groups E,F,G with optional Intrinsic Safety Barrier.

RECOMMENDED MOUNTING



Ultrasonic Sensor Model PZ52T



General Specifications

| | |
|-----------------------------|---|
| Maximum Range: | 50 ft. (15.6 m) |
| Minimum Range (Deadband): | 16" (406.4 mm) |
| Operating Frequency: | 40 KHz |
| Beam Angle: | 8° |
| Operating Temperature: | -40° to 150° F (-40° to 65° C) |
| Maximum Operating Pressure: | 20 psi (1.35 bar) |
| Sensor Face: | Teflon |
| Sensor Housing: | PVC |
| Sensor Mounting: | 3/4" NPT |
| Sensor Cable: | 50 ft (15 m) RG62AU coaxial |
| Maximum Cable Length: | 500 ft (150 m) |
| Optional Hazardous Rating: | CSA rated Intrinsically Safe Class I, Groups C,D, Class II, Groups E,F,G with optional Intrinsic Safety Barrier. Note: Max Range reduced to 32 ft. (10 m) with ISB option. |

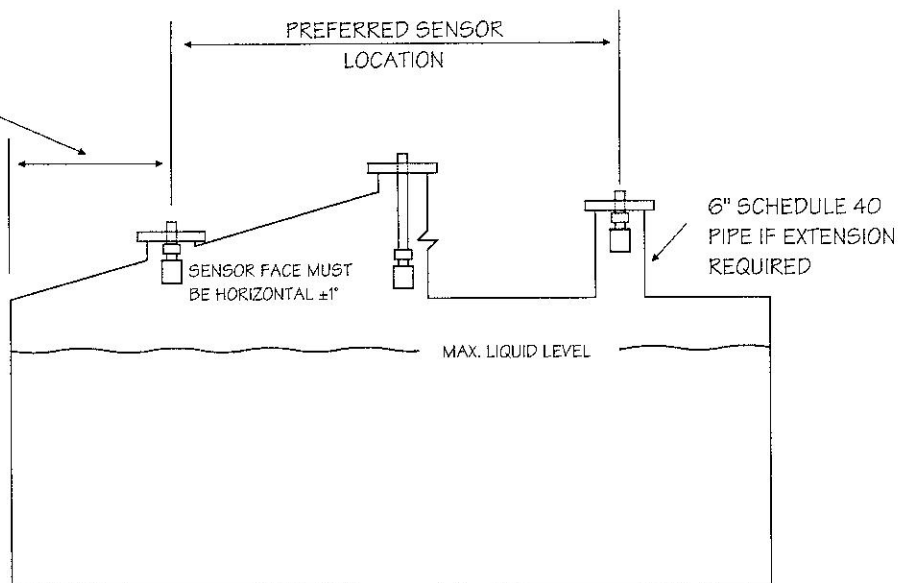
Notes:

1. Shield from direct sunlight (temperature probe in sensor)
2. Use the "Isolation Coupling" supplied for mounting.
3. Use with Option ISB Intrinsic Safety Barrier for installation in hazardous locations.
4. Run Sensor cable in grounded metal conduit with no other conductors.
5. Extend Sensor cable up to 500 ft (152 m) with RG62AU coaxial only.
6. Refer to the Instruction Manual for complete installation and wiring instructions.

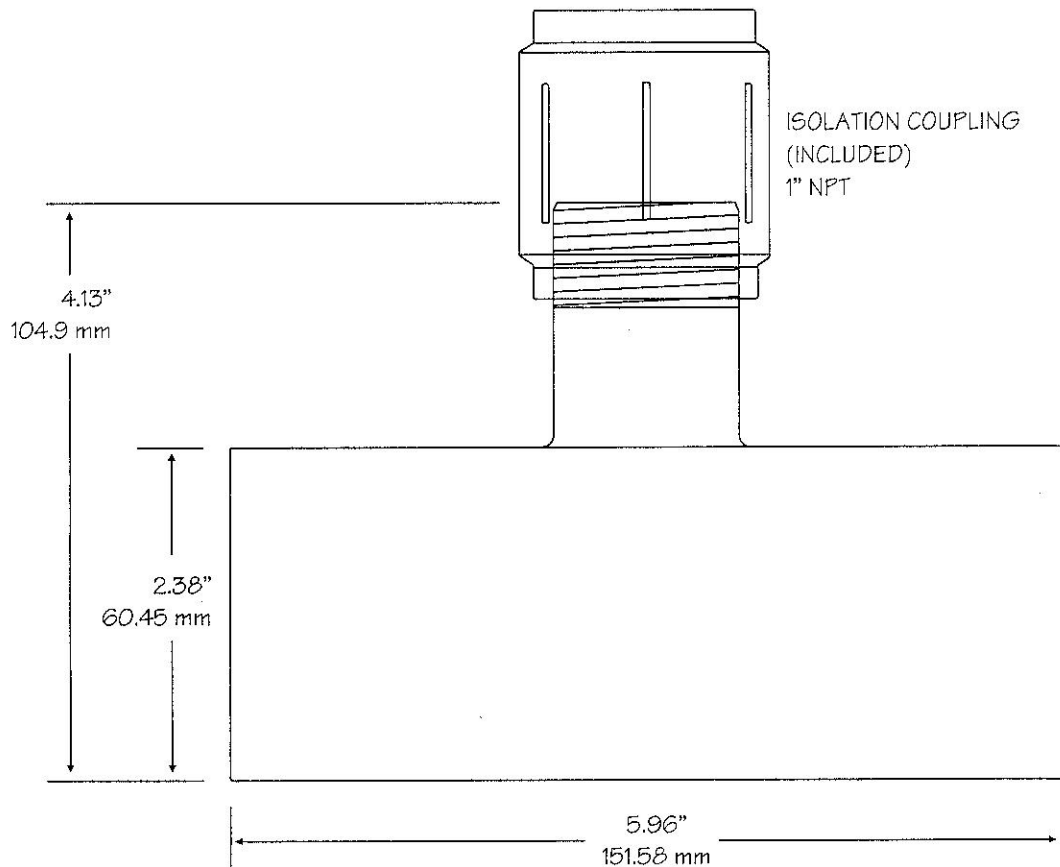
Recommended Sensor Mounting

1 FT (300 mm)
HORIZONTAL FROM
SIDEWALL FOR EVERY
10 FT (3 m) VERTICAL

NOTE:
2 FT (600 mm) FOR EVERY
10 FT (6 m) DEPTH IN
APPLICATIONS WITH
ROUGH SIDEWALLS,
LADDERS, REINFORCING
RINGS ETC.



Ultrasonic Sensor Model PZ80



General Specifications

Maximum Range: 80 ft. (25 m)
Minimum Range (Deadband): 24" (609.6 mm)
Operating Frequency: 29 KHz
Beam Angle: 8°
Operating Temperature: -40° to 150° F (-40° to 65° C)
Temperature Compensation: Automatic, continuous
Maximum Operating Pressure: 20 psi (1.35 bar)
Sensor Face: PVC
Sensor Housing: PVC
Sensor Mounting: 1" NPT
Sensor Cable: 100 ft (30.5 m) RG62AU coaxial
Maximum Cable Length: 500 ft (150 m)
Optional Hazardous Rating: CSA pending

Notes:

1. Shield from direct sunlight (temperature probe in sensor)
2. Use the "Isolation Coupling" supplied for mounting.
3. Use with Option ISB Intrinsic Safety Barrier for installation in hazardous locations.
4. Run Sensor cable in grounded metal conduit with no other conductors.
5. Extend Sensor cable up to 500 ft (152 m) with RG62AU coaxial only.
6. Refer to the Instruction Manual for complete installation and wiring instructions.

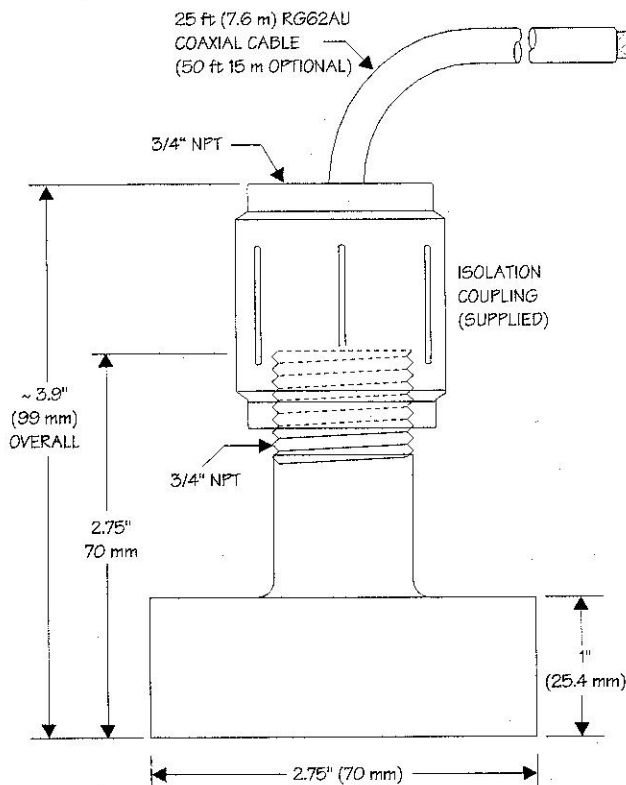
PZ12 Sensor Specifications & Mounting

SPECIFICATIONS:

| | |
|---------------------------|---|
| Maximum Range: | 12 ft (3.66 m) |
| Minimum Range (deadband): | 8" (203.2 mm) |
| Operating Frequency: | 92 KHz |
| Beam Angle: | 8° |
| Operating Temperature: | -40° To 150°F (-40° To 65°C) |
| Temperature Compensation: | Automatic, Continuous |
| Max. Operating Pressure: | 20 Psi (1.35 Bar) |
| Sensor Face: | PVC |
| Sensor Body: | PVC |
| Mounting: | 3/4" NPT |
| Cable Length: | 25 Ft. (7.6 M) continuous RG62AU coaxial [Optional 50 ft. (15 m) or 100 ft (30 m) continuous] |
| Max. Cable Length: | 500 ft. (152 m) RG62AU coaxial (splice) |
| Hazardous Rating: | CSA rated Intrinsically Safe Class I, Groups C,D, Class II, Groups E,F,G with optional Intrinsic Safety Barrier. |

NOTES:

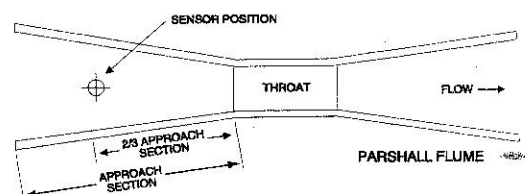
1. Shield from direct sunlight (Temp. probe in sensor).
2. Use the "Isolation Coupling" supplied for mounting.
Do not clamp sensor body or stem.
3. Run sensor cable in grounded metal conduit with no other conductors.
4. Extend sensor cable with RG62AU coaxial only. Splice with terminal strip connections in recommended Junction Box.
5. Refer to the instruction manual for complete installation and wiring information.



SENSOR POSITION

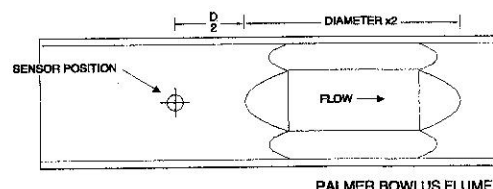
PARSHALL FLUME:

Position the sensor at 2/3 Approach as illustrated. Sensor height must be 8" (203.2 mm) or more above the highest water level.



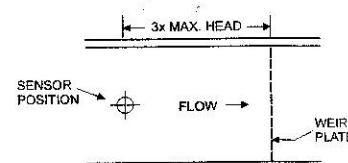
PALMER BOWLUS & LEOPOLD LAGCO FLUMES:

Position the sensor at 1/2 the flume Diameter upstream from the throat of the flume. Sensor height must be 8" (203.2 mm) or more above the highest water level.

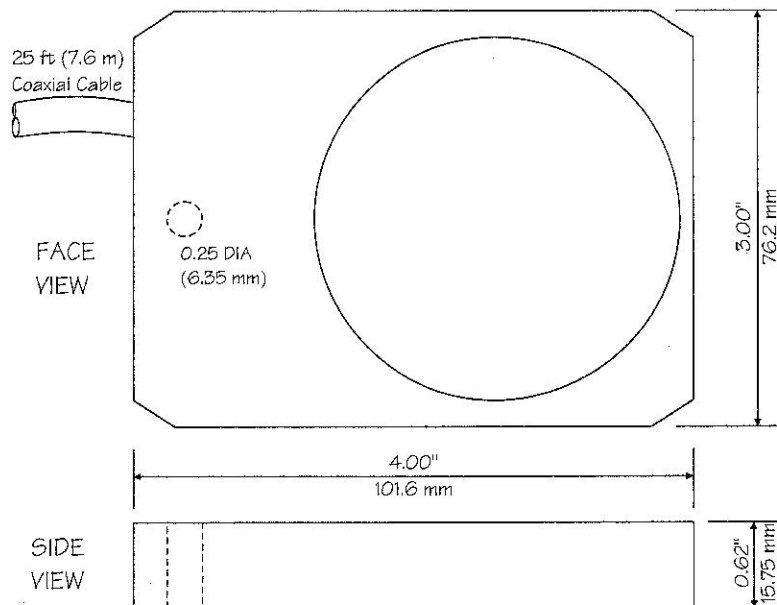


V-NOTCH & RECTANGULAR WEIRS:

Position the sensor at 3 x maximum Head upstream from the weir plate. Sensor height must be 8" (203.2 mm) or more above the highest water level.

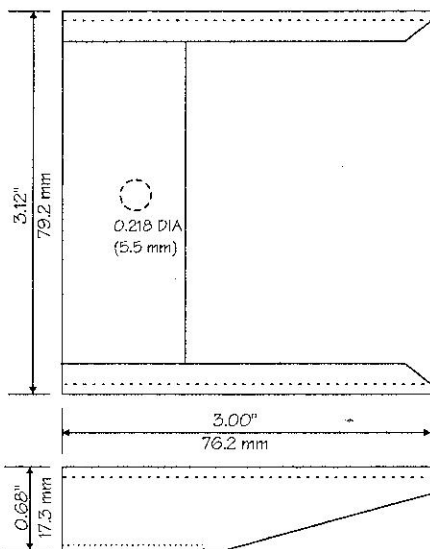


PZ12-LP Low Profile Ultrasonic Sensor



SPECIFICATIONS:

| | |
|---------------------------|--|
| Maximum Range: | 12 ft (3.66 m) |
| Minimum Range (deadband): | 8" (203.2 mm) |
| Operating Frequency: | 92 KHz |
| Beam Angle: | 8° |
| Operating Temperature: | -40° To 150°F (-40° To 65°C) |
| Temperature Compensation: | Automatic, Continuous |
| Max. Operating Pressure: | 20 Psi (1.35 Bar) |
| Sensor Face: | PVC |
| Sensor Body: | PVC |
| Mounting: | MB12 Stainless Steel Mounting Bracket (included) |
| Cable Length: | 25 Ft. (7.6 M) continuous RG62AU coaxial Optional 50 ft. (15 m) continuous |
| Max. Cable Length: | 500 ft. (152 m) RG62AU coaxial (splice) |
| Hazardous Rating: | CSA rated Intrinsically Safe Class I, Groups C,D, Class II, Groups E,F,G with optional Intrinsic Safety Barrier. |

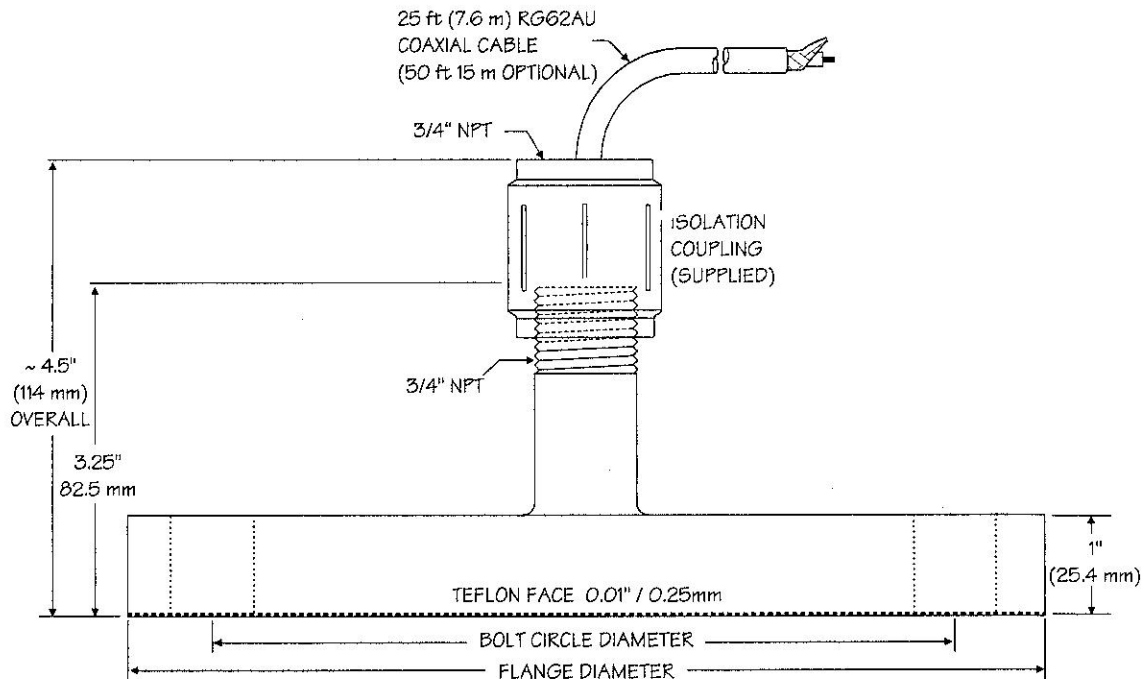


MB12 - MOUNTING BRACKET
(Stainless Steel - included)

NOTES:

1. Shield from direct sunlight (Temp. probe in sensor).
2. Run sensor cable in grounded metal conduit with no other conductors.
3. Extend sensor cable with RG62AU coaxial only. Splice with terminal strip connections in recommended Junction Box.
4. Refer to the instruction manual for complete installation and wiring information.

PZ12TF Flange Mount Sensors



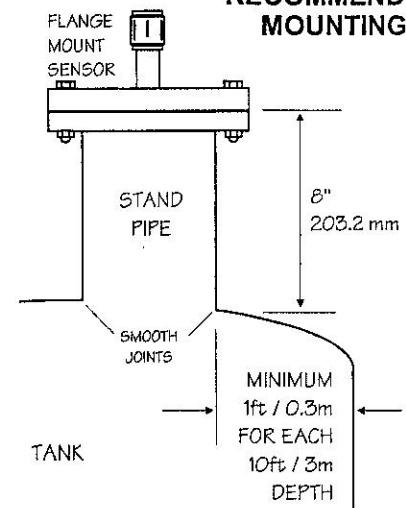
FLANGE DIMENSIONS

| SENSOR MODEL | NOMINAL FLANGE SIZE | BOLT CIRCLE DIAMETER | FLANGE DIAMETER | NUMBER OF BOLTS |
|--------------|---------------------|----------------------|-----------------|-----------------|
| PZ12T3F | 3 Inch | 6" | 7-1/2" | 4 |
| PZ12T4F | 4 Inch | 7-1/2" | 9" | 8 |
| PZ12T6F | 6 Inch | 9-1/2" | 11" | 8 |
| PZ12T8F | 8 Inch | 11-3/4" | 13-1/2" | 8 |

SENSOR SPECIFICATIONS

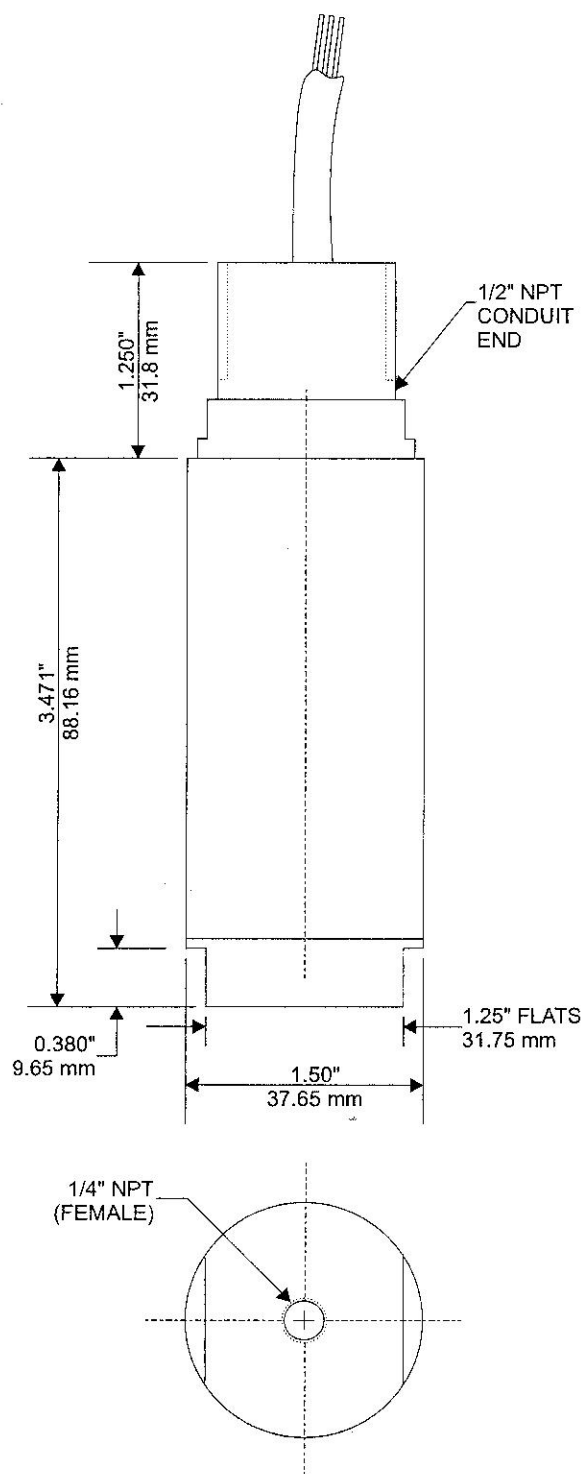
| | |
|---------------------------|--|
| Maximum Range: | 12 ft (3.66 m) |
| Minimum Range (deadband): | 8" (203.2 mm) |
| Operating Frequency: | 92 KHz |
| Beam Angle: | 8° |
| Operating Temperature: | -40° to 150°F (-40° to 65°C) |
| Temperature Compensation: | Automatic, continuous |
| Max. Operating Pressure: | 20 psi (1.35 bar) |
| Sensor Face: | Teflon |
| Sensor Body: | PVC (not exposed to tank contents) |
| Cable Length: | 25 ft. (7.6 m) continuous RG62AU coaxial Optional 50 ft. (15 m) continuous |
| Max. Cable Length: | 500 ft. (152 m) RG62AU coaxial (splice) |
| Hazardous Rating: | CSA rated Intrinsically Safe Class I, Groups C,D, Class II, Groups E,F,G with optional Intrinsic Safety Barrier. |

RECOMMENDED MOUNTING



Threaded Models

Two wire 4-20mA output, gage type Pressure Sensors offering a wide range of chemical and corrosion resistance, temperature compensation and excellent long term stability.



| MODEL | MEASUREMENT RANGE |
|--------|------------------------------------|
| PS11T | 5 psi (11 ft) / 0.3 bar (3 m) |
| PS17T | 7.5 psi (17 ft) / 0.5 bar (5 m) |
| PS23T | 10 psi (23 ft) / 0.67 bar (7 m) |
| PS35T | 15 psi (35 ft) / 1.0 bar (10 m) |
| PS46T | 20 psi (46 ft) / 1.3 bar (14 m) |
| PS69T | 30 psi (69 ft) / 2.0 bar (21 m) |
| PS115T | 50 psi (115 ft) / 3.45 bar (35 m) |
| PS173T | 75 psi (173 ft) / 5.2 bar (52.7 m) |

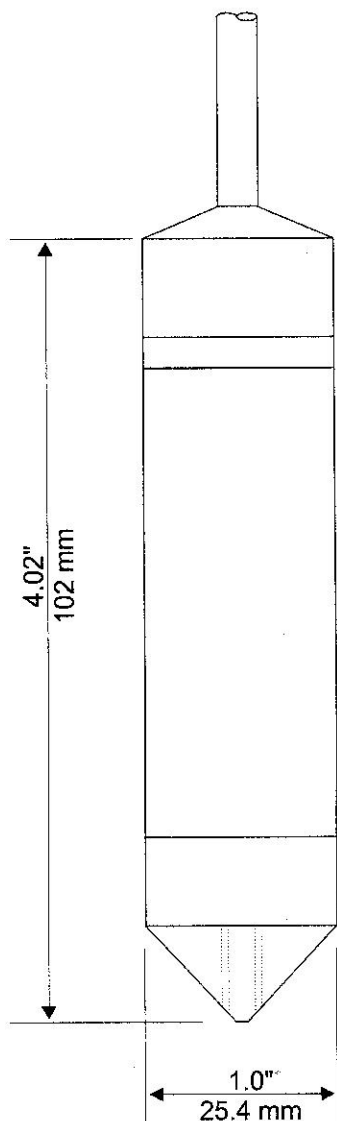
GENERAL SPECIFICATIONS

| | |
|--|---|
| Wetted Materials: | 316 and 15-5 PH Stainless steel |
| Enclosure Material: | 316 stainless steel |
| Accuracy: (includes non-linearity, hysteresis and non-repeatability) | ±0.2% FSO (RSS) |
| Operating Temperature: | -20°F to 190°F (-29°C to 88°C) |
| Compensated Temperature: | 0°F to 180°F (-18° to 82°C) |
| Load Impedance: | 600 ohms max at 24VDC |
| Proof Pressure: | 2 times full scale pressure range (or URL) |
| Burst Pressure: | 5 times full scale pressure range (or URL) |
| Pressure Response: | Less than 5 ms to 90% |
| Pressure Connection: | 1/4" NPT (Female) |
| Electrical Cable: | 2' (0.6 m) long moulded polyurethane jacket, 6-conductor with breather tube |

ELECTRICAL CABLE COLOR CODE

| | |
|--------|---------------------|
| Red | + Excitation/Signal |
| Black | - Excitation/Signal |
| Shield | GND |
| Green | NC |
| White | NC |
| Blue | NC |
| Brown | NC |

Two wire 4-20mA output, gage type Submersible Pressure Sensors offering a wide range of chemical and corrosion resistance, temperature compensation and excellent long term stability.



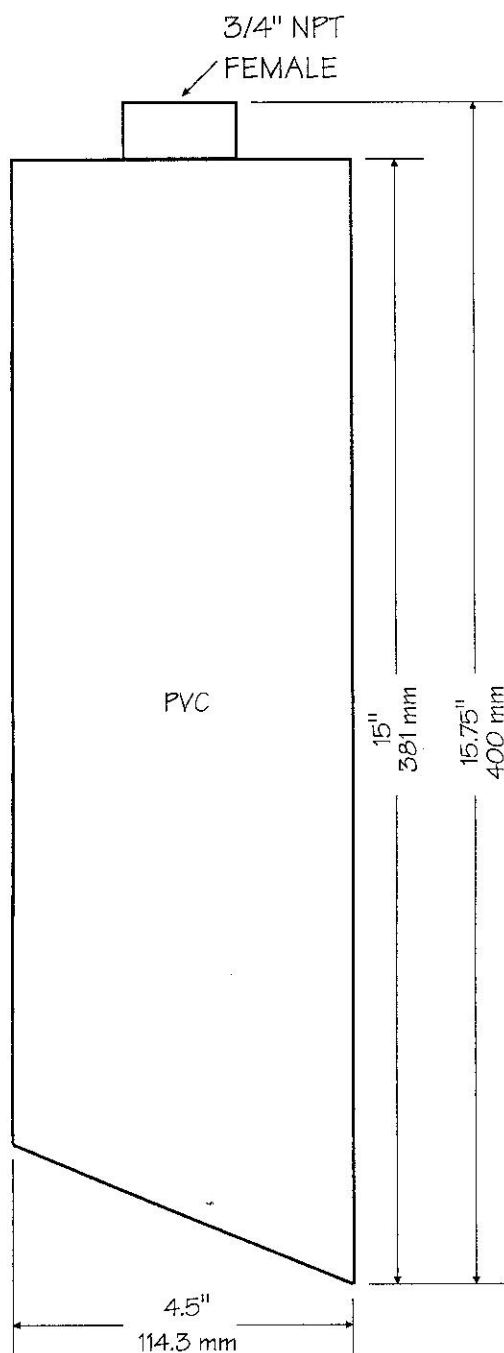
| MODEL | MEASUREMENT RANGE | CABLE LENGTH |
|--------|--|---------------|
| PS11S | 5 psi (11.55 ft) / 0.3 bar (3.15 m) | 20 ft / 6 m |
| PS17S | 8 psi (18.45 ft) / 0.55 bar (5.62 m) | 23 ft / 7 m |
| PS23S | 10 psi (23.10 ft) / 0.67 bar (7.04 m) | 30 ft / 9 m |
| PS35S | 15 psi (34.65 ft) / 1.0 bar (10.50 m) | 40 ft / 12 m |
| PS46S | 20 psi (46.20 ft) / 1.3 bar (13.65 m) | 55 ft / 17 m |
| PS69S | 30 psi (69.30 ft) / 2.0 bar (21.00 m) | 75 ft / 23 m |
| PS102S | 44 psi (101.64 ft) / 3.0 bar (31.50 m) | 105 ft / 32 m |
| PS170S | 72 psi (166.32 ft) / 5.0 bar (52.50 m) | 174 ft / 53 m |

GENERAL SPECIFICATIONS

| | |
|--|--|
| Wetted Materials: | 316 Stainless Steel body with Delrin nose cone |
| Cable: | Polyurethane jacketed, shielded, with vent tube and Kevlar strain members rated to 200 lb. (90 kg) pull strength |
| Accuracy: (includes non-linearity, hysteresis and non-repeatability) | ±0.25% FSO (RSS) |
| Operating Temperature: | -4°F to 140°F (-20°C to 60°C) |
| Compensated Temperature: | 32°F to 122°F (0°C to 50°C) |
| Load Impedance: | 600 ohms max at 24VDC |
| Proof Pressure: | 1.5 times full scale pressure range |
| Burst Pressure: | 2 times full scale pressure range |
| Hazardous Locations: | With optional Intrinsic Safety Barrier: FM, CSA, UL rated for Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G |

ELECTRICAL CABLE COLOR CODE

| | |
|--------|---------------------|
| Red | + Excitation/Signal |
| Black | - Excitation/Signal |
| Shield | GND |



SBMS Submergence Shield

Use with Greyline PZ32T, PZ32TE or PZ52T Ultrasonic level Sensors to prevent sensor fouling and false readings during accidental submergence.

Instructions

1. Mount with conduit/pipe connection to 3/4" NPT Female coupling.
2. Locate Submergence Shield 0.1 m from sidewall for every 1.0 m depth.
3. Run sensor cable in conduit for mechanical protection.
4. Do not mount in direct sunlight.