

Dynisco SPX 4-Series

GENERAL PURPOSE SMART PRESSURE SENSORS
FOR HAZARDOUS LOCATIONS



Description

The Dynisco SPX 4-Series is a smart 4-20mA pressure transmitter designed for use in hazardous locations and are available with a variety of different process and electrical connections

These amplified transmitters eliminate the need for external signal conditioning. All models can interface directly with distributed control systems, PLC's, computers, and similar high level control devices. Optional thermocouple or RTD configurations are available to provide melt temperature.

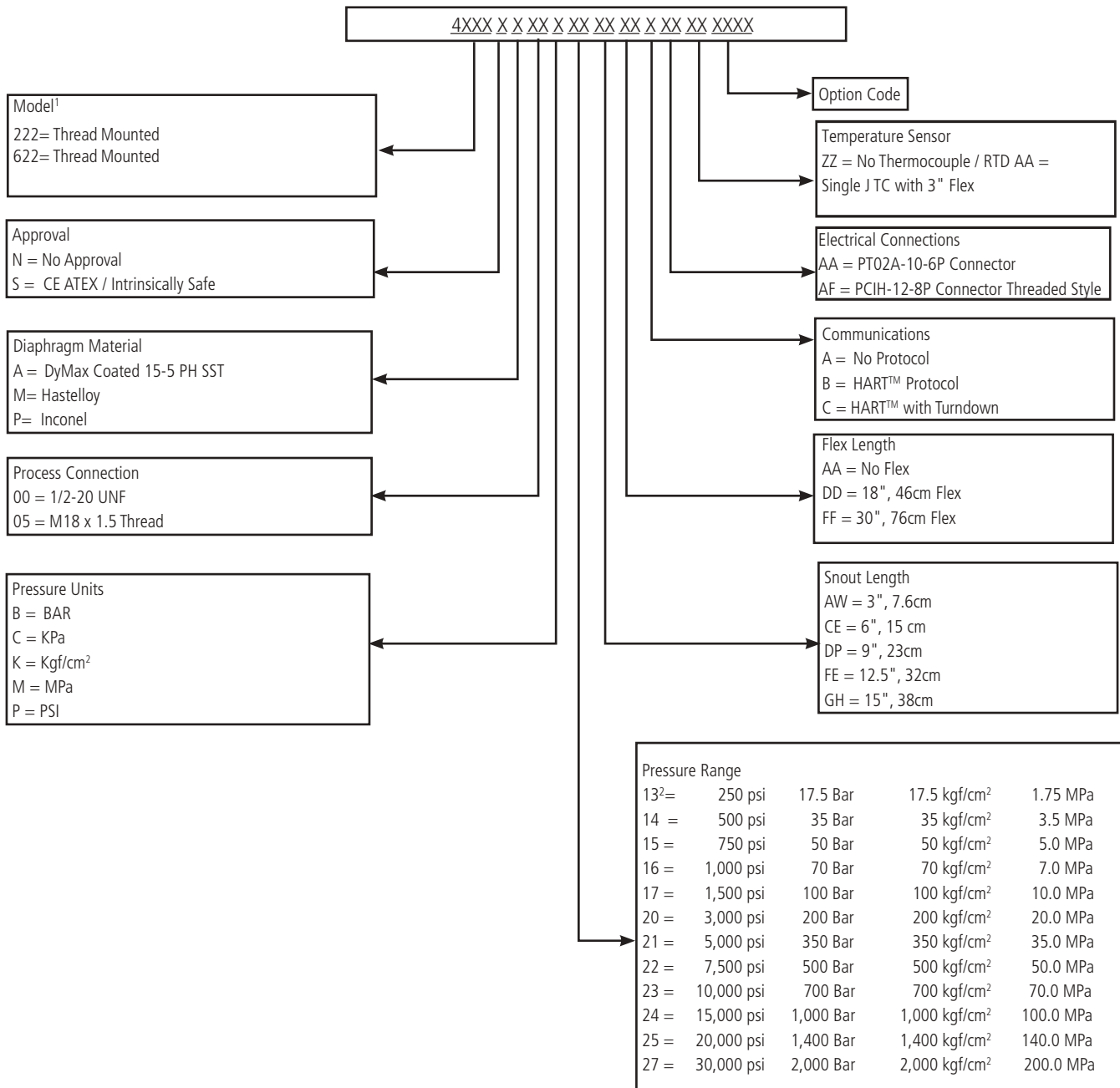
Features

- 4-20mA loop-powered output
- +/- 0.25% accuracy available
- Wide selection of pressure ranges available
- Turndown 6:1
- Configurations available for use in hazardous locations
- Remotely configurable via HART
- Precise, repeatable pressure measurements
- Output supplied directly to DSC or PLC
- Meets CE requirements
- CE ATEX Intrinsically Safe Approved
- IECEx Intrinsically Safe
- SIL 2 Certified (pressure output)
- PL 'c' Certified (relay output)
- Additional approvals are available

| Performance Characteristics | |
|--|---|
| Output | 4 - 20 mA, with optional HART™ |
| Input Voltage | 16 - 36 Vdc (Std); 16 - 30 Vdc (ATEX IS) |
| Accuracy <i>Accuracy is defined as the combined error expressed as a percentage of full scale output with the specifications of: Electronics ambient temperature, capillary of <= 36"; DyMax coated 15-5 SST diaphragm; Best Straight Line (BSL) %FS, per ISA-37.1 Consult Factory for availability and specifications of other configurations.</i> | 4222 ± 0.25% for pressure ranges ≥ 1,500 psi; ± 0.50% for pressure ranges < 1,500 psi 4232 ± 0.25% for pressure ranges ≥ 1,500 psi; ± 0.50% for pressure ranges < 1,500 psi 4352 ± 0.25% for pressure ranges ≥ 1,500 psi; ± 0.50% for pressure ranges < 1,500 psi 4502 ± 0.50% 4622 ± 0.50% 4672 ± 0.50% |
| Repeatability | ±0.1% |
| Rangeability | 6:1 Turndown |
| Over Pressure | 2X FSO or 35,000 psi, whichever is less 1.2 X FSO 35,000 - 72,500 psi |
| Zero Balance Adjustment Range | -40% to +10%; -80% to 20% for FSP < 500 psi |
| Load Resistance | 500 Ω @ 24 Vdc, 1,000 Ω @ 36 Vdc |
| Electronics Ambient Temperature | 70°F (20°C) |
| Electronics Operating Temperature | -20 to 185°F (-29 to 85°C) |
| Diaphragm Temperature | 750°F (400°C) max [SPX4502 model limited to 600°F (315°C)] |
| Electronics Compensated Temperature Range | 0 to 150°F (-18 to 65°C) |
| Zero Shift (Electronics Temp Change) | 4222: 0.01% F.S./°F max (0.02% F.S./°C max) 4232: 0.01% F.S./°F max (0.02% F.S./°C max) 4352: 0.01% F.S./°F max (0.02% F.S./°C max) 4502: 0.01% F.S./°F max (0.02% F.S./°C max) 4622: 0.05% F.S./°F max (0.10% F.S./°C max) 4672: 0.05% F.S./°F max (0.10% F.S./°C max) |
| Span Shift (Electronics Temp Change) | 4222: 0.01% F.S./°F max (0.02% F.S./°C max) 4232: 0.01% F.S./°F max (0.02% F.S./°C max) 4352: 0.01% F.S./°F max (0.02% F.S./°C max) 4502: 0.01% F.S./°F max (0.02% F.S./°C max) 4622: 0.02% F.S./°F max (0.04% F.S./°C max) 4672: 0.02% F.S./°F max (0.04% F.S./°C max) |
| Zero Shift (Snout Temp Change) | 4222: 15 psi/100°F (27 psi/100°C) typical 4232: 15 psi/100°F (27 psi/100°C) typical 4352: 15 psi/100°F (27 psi/100°C) typical 4502: 1 psi/100°F (from 75-450°F); 2 psi/100°F (from 450-600°F) typical 4622: 25 psi/100°F (45 psi/100°C) typical 4672: 25 psi/100°F (45 psi/100°C) typical |

| Mechanical Characteristics | |
|--|---|
| Mounting Torque | 4222: 500 inch-lbf max 4232: 50 inch-lbf max 4352: 500 inch-lbf max 4502: 350 inch-lbf max 4622: 500 inch-lbf max 4672: 500 inch-lbf max |
| Standard Wetted Parts | DyMax coated 15-5 PH SST |
| Approvals & Certifications | |
| ATEX/IECEX Intrinsically Safe | |
| SIL 2 (pressure output) & PL'c' (relay output) | |
| Additional approvals available (consult factory) | |

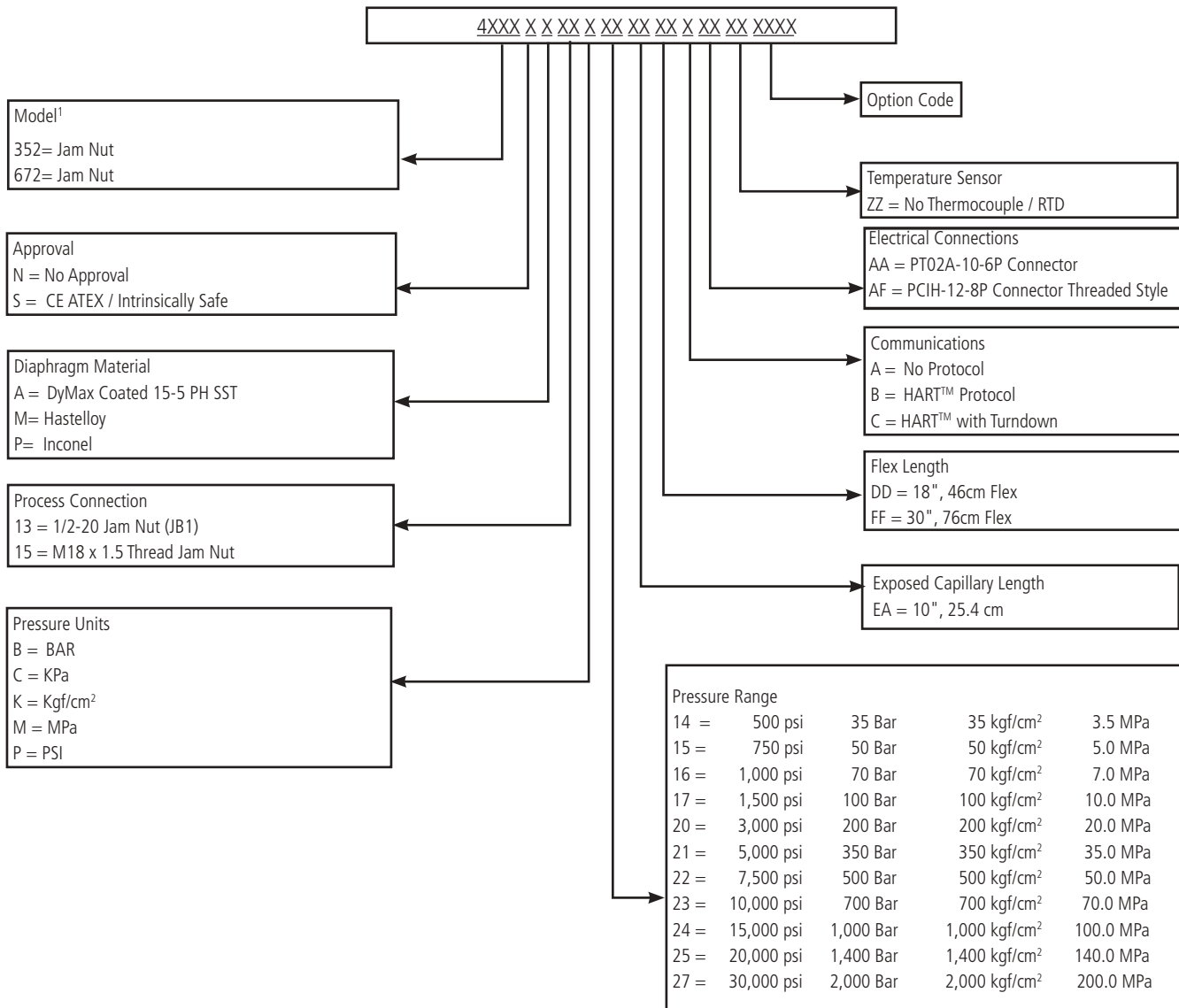
Ordering Guide for Models SPX4222 & SPX4622



¹Other configurations are available. Please consult factory.

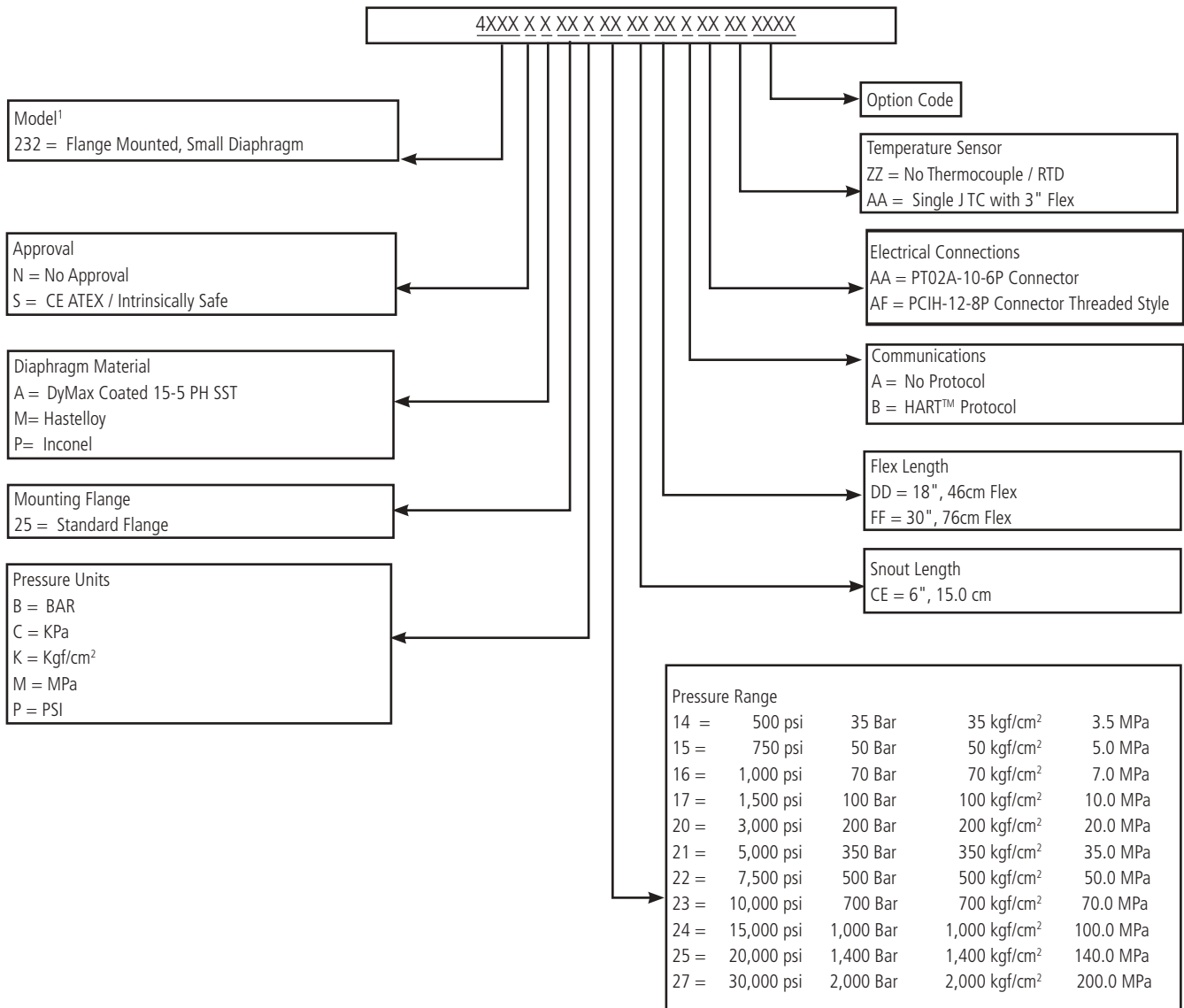
²Available in M18 x 1.5 thread only

Ordering Guide for Models SPX4352 & SPX4672



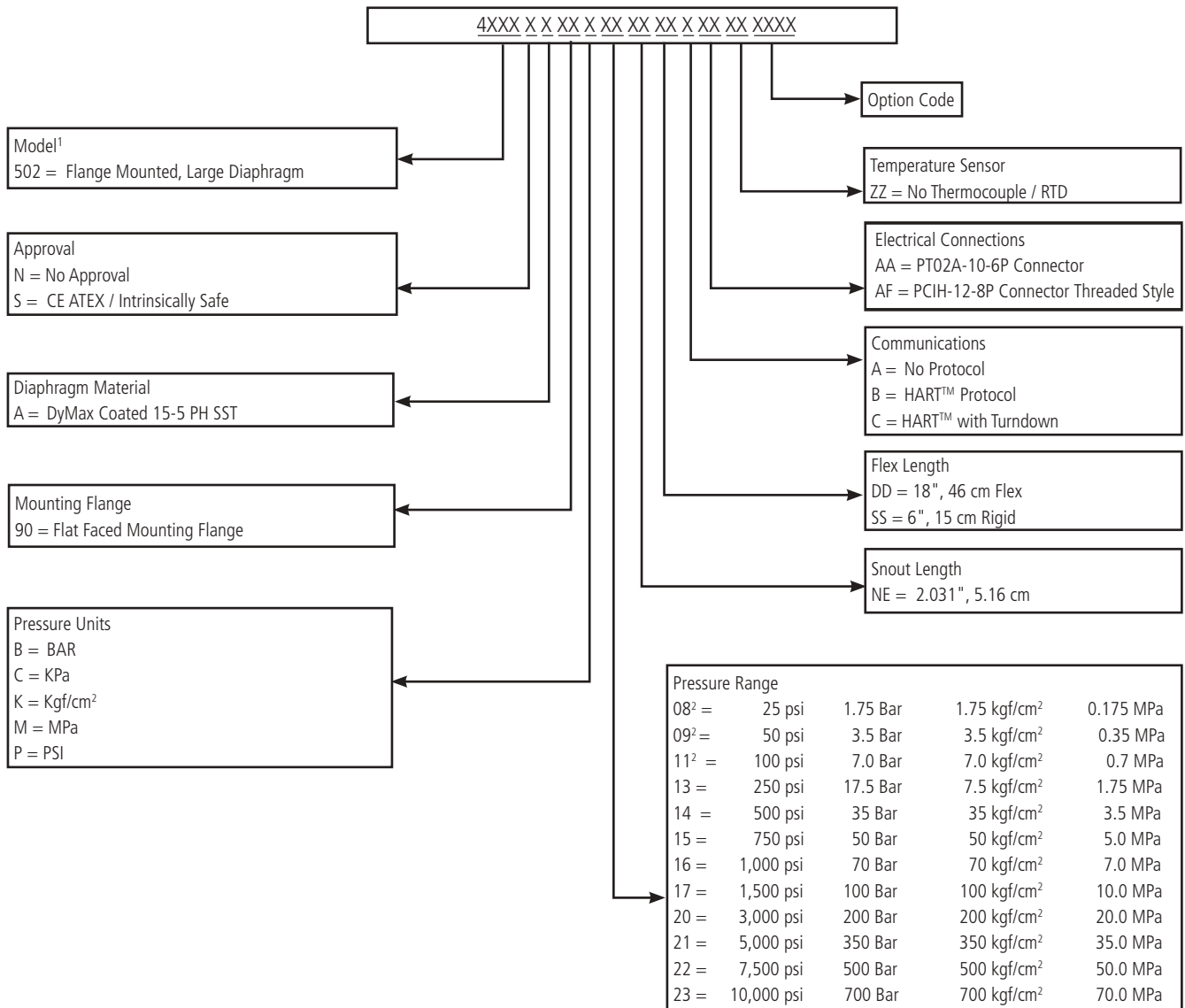
¹Other configurations are available. Please consult factory.

Ordering Guide for Model SPX4232



¹Other configurations are available. Please consult factory.

Ordering Guide for Model SPX4502

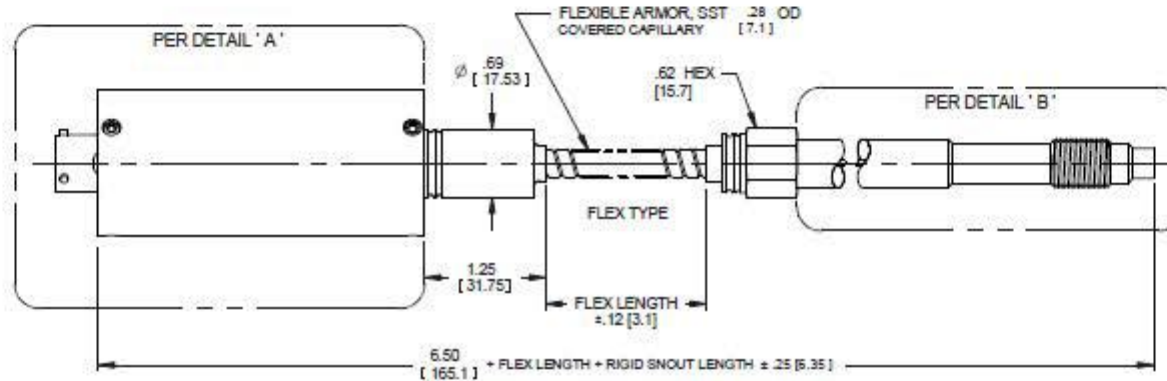
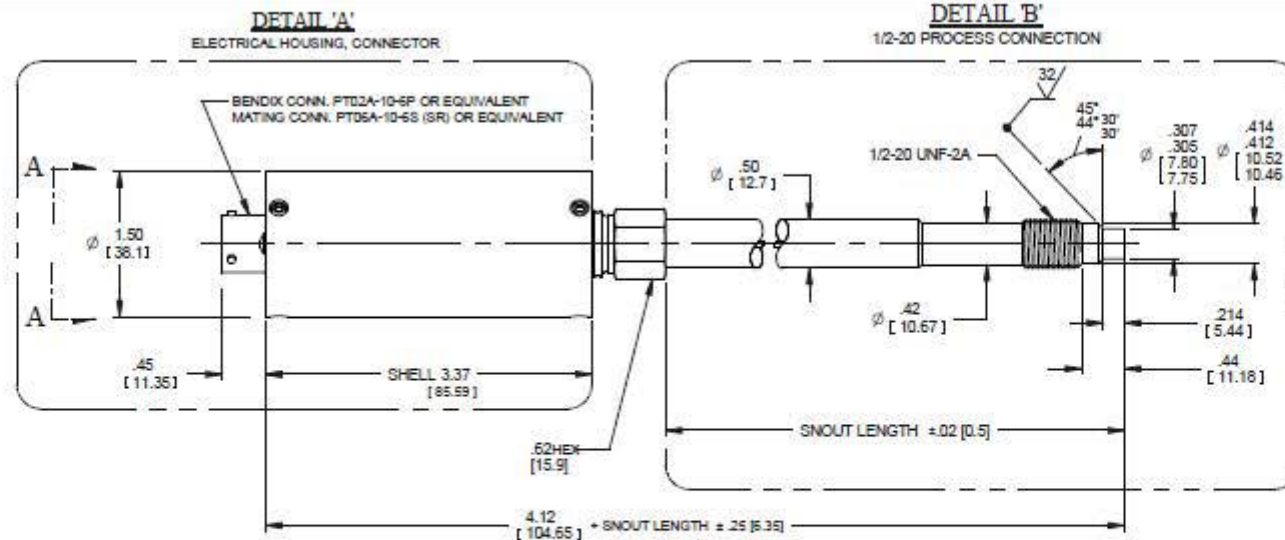


¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary.

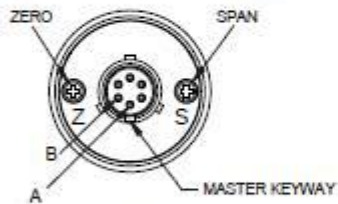
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000405

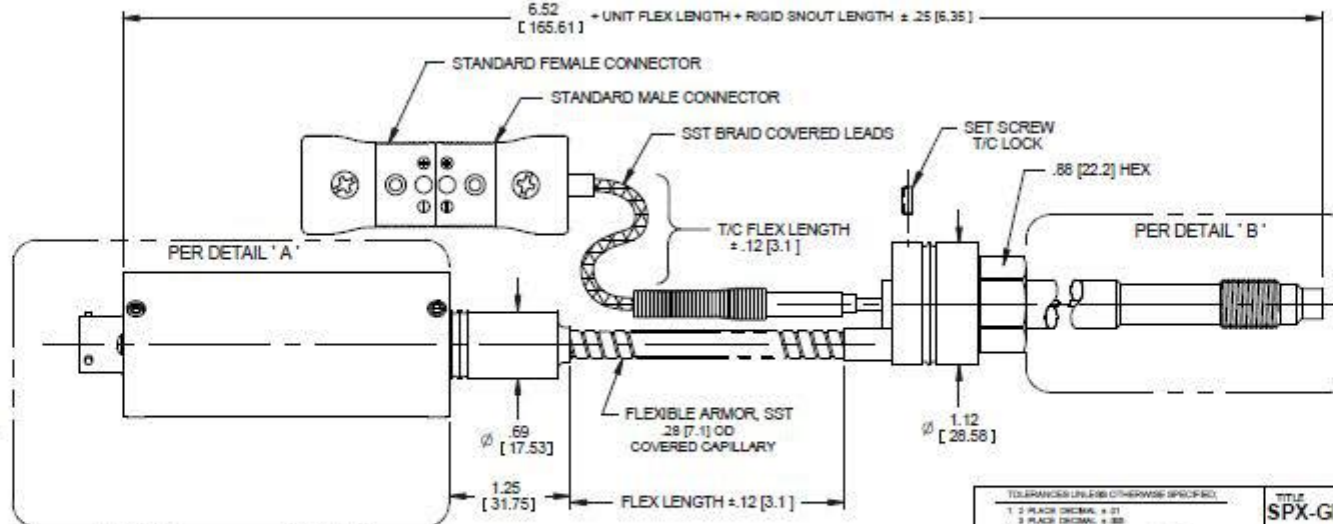


| CONNECTOR WIRING | |
|------------------|--------------------|
| PIN | FUNCTION |
| A | POWER + / SIGNAL + |
| B | POWER - / SIGNAL - |
| C | NO |
| D | CONNECTION |
| E | Rcal - |
| F | Rcal + |

ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



VIEW A-A



NOTES:

UNLESS OTHERWISE SPECIFIED:

1. ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]

- TELEMARKS UNLESS OTHERWISE SPECIFIED:
1. 2 PLACE DECIMAL ± .01
 2. 3 PLACE DECIMAL ± .005
 3. FRACTIONS ± 1/32
 4. DRILLS - 0.015 ± .002, 0.0315 ± .002
 5. ANGLES ± 0.5°
 6. RADIUS ± .005 MAX.
 7. ROSS R .005 ON CHAMFER MAX.
 8. PART TO BE FREE OF BURRS
 9. ALL DIMENSIONS ARE IN INCHES

TITLE
SPX-GEN2 OUTLINE MODELS
4222, 4622
FLEX, RIGID & TPT

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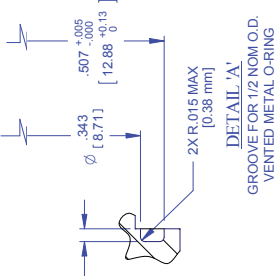
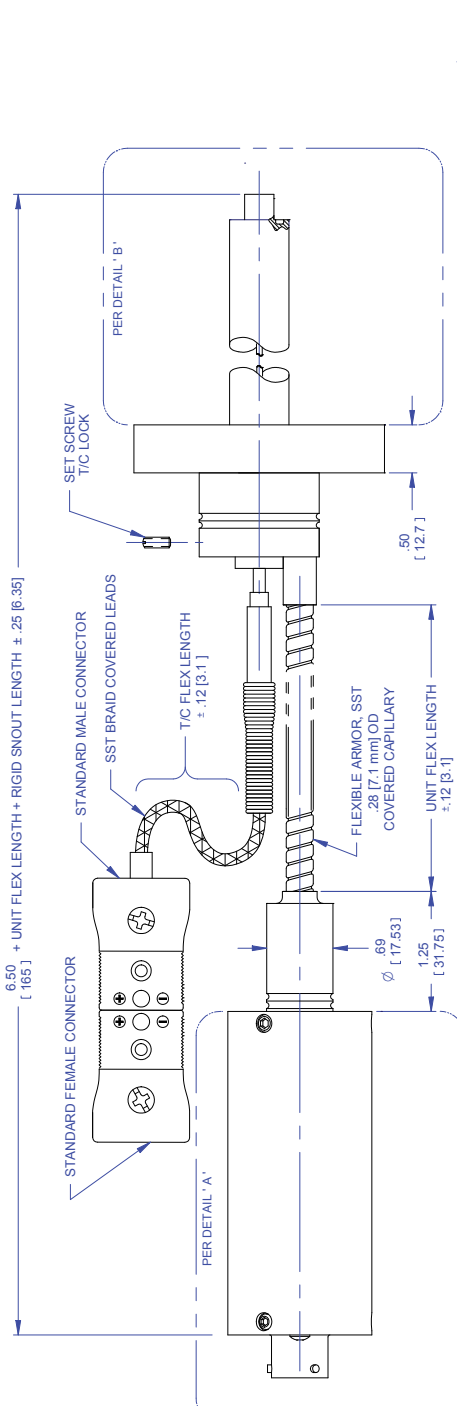
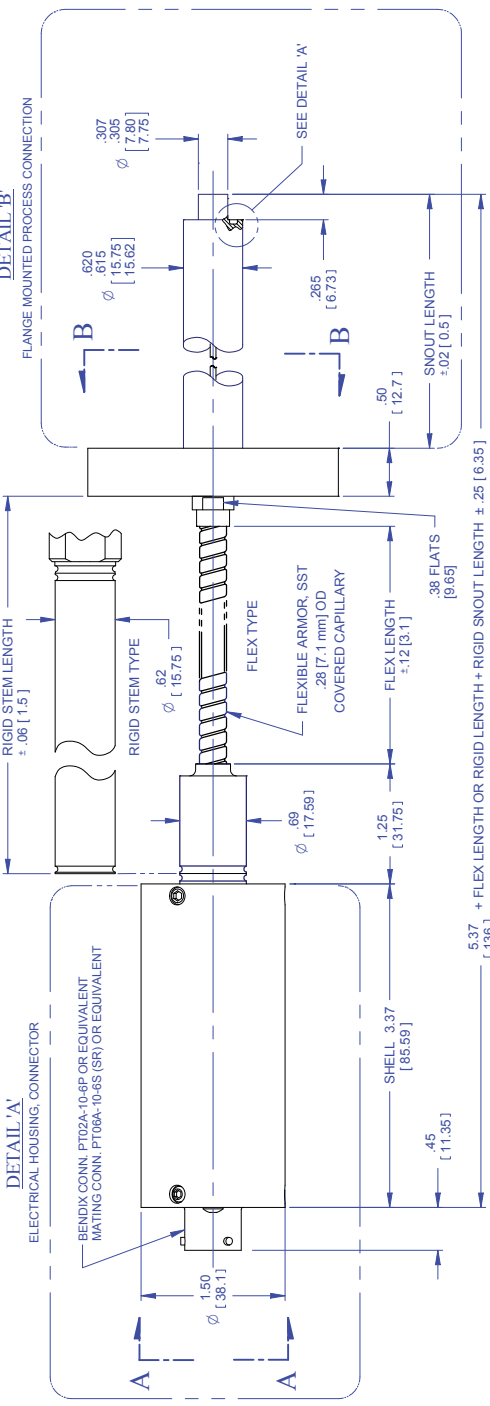
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| MATERIAL | X |

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| DRAWN | DRG | DATE | 7/20/10 |
| CHECKED | | DATE | |
| APPROVED | MJL | DATE | 7/20/10 |
| FINISH | 63 | | ✓ |

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| C | 000405 | C |
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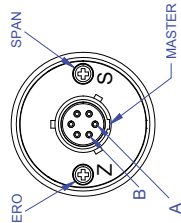
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| REV | ECO | BY | APP | DATE |
| B | 46553 | TP | LEB | 07/29/16 R |

000408



| CONNECTOR WIRING | |
|------------------|--------------------|
| PIN | FUNCTION |
| A | POWER + / SIGNAL + |
| B | POWER - / SIGNAL - |
| C | NO CONNECTION |
| D | NO CONNECTION |
| E | Recal - |
| F | Recal + |

ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



VIEW A-A

NOTES:
UNLESS OTHERWISE SPECIFIED:
1. ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]

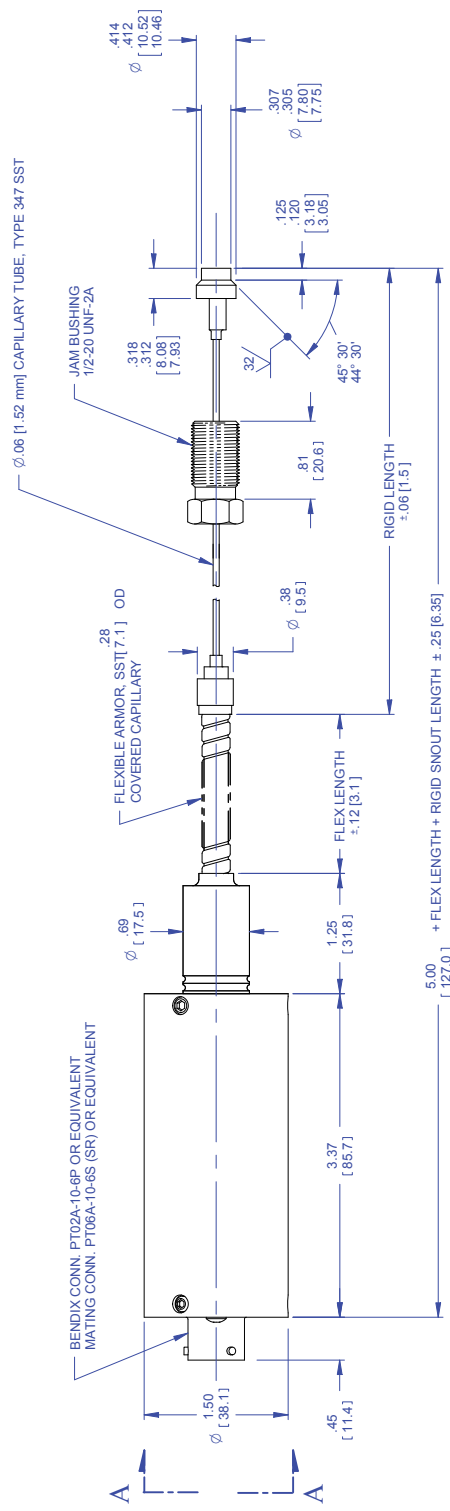
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|--|----------------------------------|
| TOLERANCES UNLESS OTHERWISE SPECIFIED: | |
| 1 | 2 PLACE DECIMAL 1.001 |
| 2 | 3 PLACE DECIMAL 1.005 |
| 3 | 4 PLACE DECIMAL 1.005 |
| 4 | ANGLES ± 0.05° MAX |
| 5 | EDGES R .005 OR CHAMFER MAX .010 |
| 6 | ALL DIMENSIONS ARE IN INCHES |

| | |
|----------------------|-------------------|
| TITLE | SPX-GEN2 OUTLINES |
| MODEL | MODEL4232 |
| DESCRIPTION | FLEX, RIGID & TPT |
| DRAWN | DG |
| DATE | 07/20/10 |
| CHECKED | |
| APPROVED | MJL |
| DATE | 07/20/10 |
| FINISH | 65/ |
| MATERIAL | X |
| DO NOT SCALE DRAWING | |

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| Dynisco COMMERCIAL STREET BUCKINGHAM, MASSACHUSETTS |
| SIZE DWG. NO. REV. |
| C 000408 B |
| SCALE NONE SHEET 1 OF 1 |

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| REV | ECO | BY | APP | DATE |
| B | 46553 | TP | LEB | 07/29/16 R |

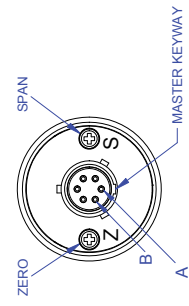
000411



* FLEX LENGTH ±.12 [3.1]
 * FLEX LENGTH + RIGID SNOOT LENGTH ±.25 [6.35]
 * FLEX LENGTH + RIGID SNOOT LENGTH ±.06 [1.5]

| CONNECTOR WIRING | |
|------------------|--------------------|
| PIN | FUNCTION |
| A | POWER + / SIGNAL + |
| B | POWER - / SIGNAL - |
| C | NO CONNECTION |
| D | NO CONNECTION |
| E | Real - |
| F | Real + |

ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



VIEW A-A

NOTES:
 UNLESS OTHERWISE SPECIFIED:
 1. ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]

| | |
|--|----------|
| TOLERANCES UNLESS OTHERWISE SPECIFIED: | |
| 1. 2 PLACE DECIMAL 1.01 | |
| 2. 3 PLACE DECIMAL 1.005 | |
| 3. DRILLS 0.0001 | |
| 4. DRILLS 0.0001 | |
| 5. ANGLES ± 0.5° MAX | |
| 6. EDGES R 0.005 OR CHAMFER MAX | |
| 7. HOLE DIMENSIONS ARE IN INCHES | |
| 8. ALL DIMENSIONS ARE IN INCHES | |
| MODEL NO | SPX-GEN2 |
| DRAWN | DRG |
| CHECKED | DATE |
| APPROVED | DATE |
| FINISH | DATE |
| MATERIAL | X |

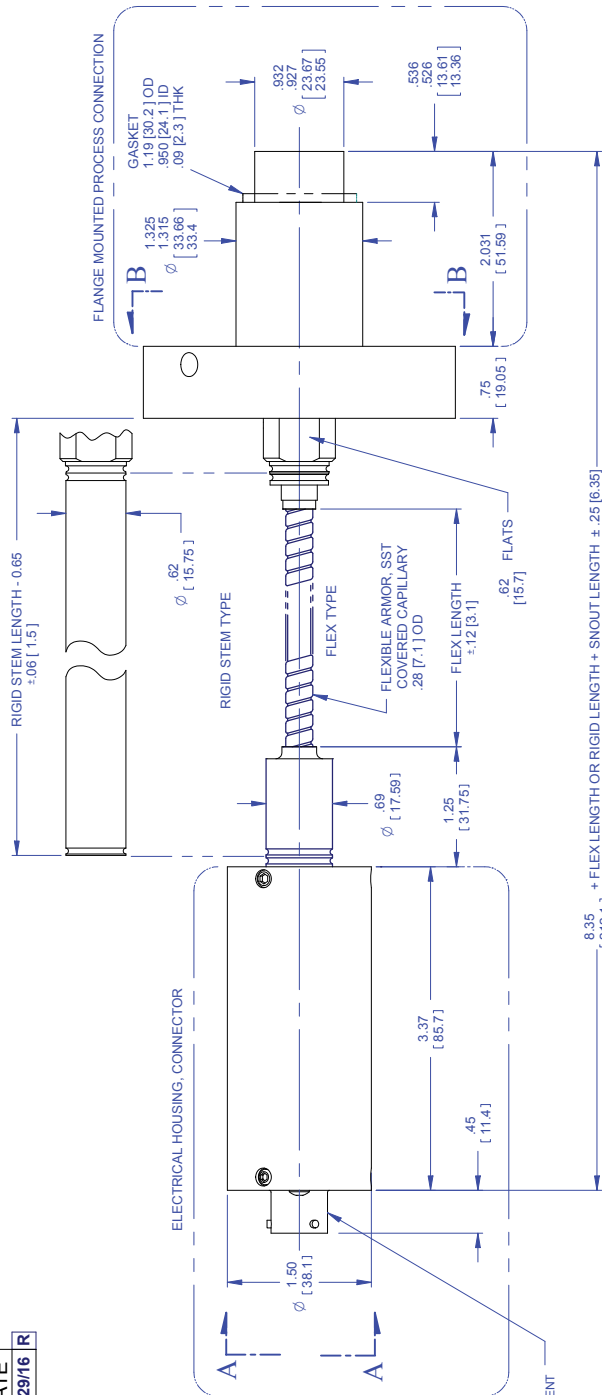
| | | | |
|----------------------|----------|-----------------|----------|
| TITLE | | OUTLINE DRAWING | |
| SPX4352-GEN2 | | SPX4672-GEN2 | |
| MODEL NO | SPX-GEN2 | DRAWN | DRG |
| CHECKED | DATE | DATE | DATE |
| APPROVED | MJL | DATE | 08/12/10 |
| FINISH | 63 | DATE | 06/15/10 |
| DO NOT SCALE DRAWING | | SCALE NONE | |
| MATERIAL X | | SHEET 1 OF 1 | |

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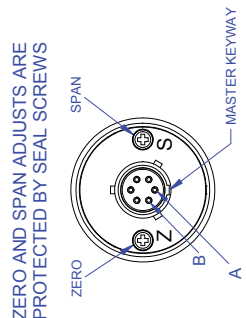
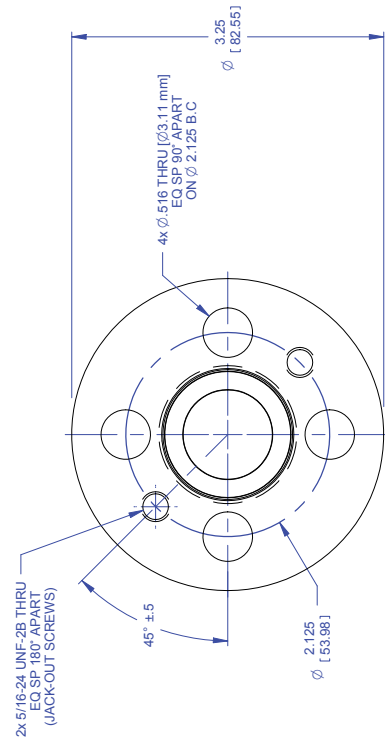
Dynisco
 COMMERCIAL STREET BARKSVILLE, MO 64738
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 SCALE **1** OF **1**

| | | | | |
|-----|-------|----|-----|----------|
| REV | ECO | BY | APP | DATE |
| B | 46553 | TP | LEB | 07/29/16 |

000412



BENDIX CONN. PT02A-10-6P OR EQUIVALENT
MATING CONN. PT06A-10-6S (SR) OR EQUIVALENT



| CONNECTOR WIRING | |
|------------------|--------------------|
| PIN | FUNCTION |
| A | POWER + / SIGNAL + |
| B | POWER - / SIGNAL - |
| C | NO |
| D | CONNECTION |
| E | Rcal - |
| F | Rcal + |

1. TO CHANGE UNLESS OTHERWISE SPECIFIED:
 1. 2 PLACE DECIMAL 1.01
 2. 3 PLACE DECIMAL 1.005
 3. DRILLS - 0.050 DIA. ± .005
 4. ANGLES ± 0.5° MAX
 5. EDGES R .005 OR CHAMFER MAX
 6. ALL DIMENSIONS ARE IN INCHES
 7. ALL DIMENSIONS ARE IN MILLIMETERS

| | | |
|----------|-------------------------|---------------|
| TITLE | SPX - GEN2 OUTLINE | |
| MODEL | MODEL 4502 FLEX / RIGID | |
| DRAWN | DRG | DATE 07/20/10 |
| CHECKED | MJL | DATE 07/20/10 |
| APPROVED | FINISH | 63 |
| MATERIAL | X | |

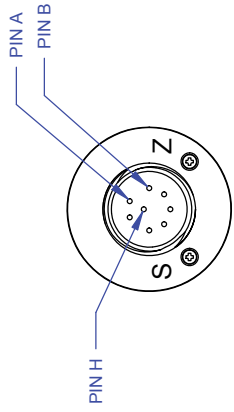
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| SIZE | DWG. NO. | REV. |
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| SCALE | | SHEET 1 OF 1 |



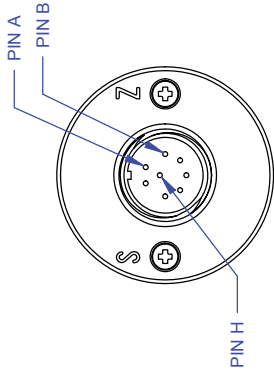
NOTES:
 UNLESS OTHERWISE SPECIFIED: _____ INCHES
 1. ALL DIMENSIONS ARE IN _____ [MILLIMETERS]

| | | | | |
|-----|-------|----|-----|------------|
| REV | ECO | BY | APP | DATE |
| A | 46553 | TP | LEB | 07/29/16 R |

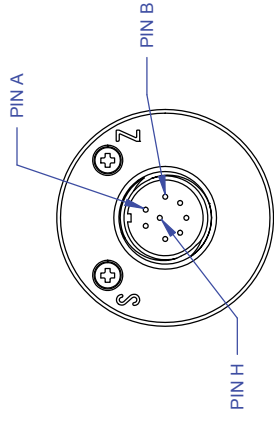
000652



8 - PIN PC
O-RING WITH PUSH BUTTONS
PCIH-12-8P



8 - PIN PC
WELDED WITH PUSH BUTTONS
PCIH-12-8P



8 - PIN PC
WELDED WITH HALLS
PCIH-12-8P

| GUARDIAN CONNECTOR WIRING | |
|---------------------------|---------------|
| PIN | FUNCTION |
| A | POWER + |
| B | SIGNAL - |
| C | POWER - |
| D | NO CONNECTION |
| E | Rcal - |
| F | Rcal + |
| G | RELAY CONTACT |
| H | RELAY CONTACT |

NOTE:
1. THESE CONNECTOR OPTIONS ARE AVAILABLE ON MOST OF THE CONFIGURATIONS SHOWN ON THE PREVIOUS SHEETS.

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 1. 3 PLACE DECIMAL ± .005
 2. FRACTIONS ± 1/32
 3. DRILLS < 0.5 DIA. ± .002 > 0.5 DIA. ± .003
 4. ANGLES ± 0.5° MAX.
 5. EDGES R .006 OR CHAMFER MAX.
 6. PART TO BE FREE OF BURRS
 7. ALL DIMENSIONS ARE IN INCHES.

| | | | |
|----------------------------|----------|---------|---------|
| TITLE | | DATE | |
| GUARDIAN SERIES CONNECTORS | | TP | 7/27/16 |
| DRAWN | CHECKED | DATE | DATE |
| LEB | LEB | 7/27/16 | 7/27/16 |
| APPROVED | APPROVED | | |
| FINISH | FINISH | 63 | ✓ |

| | | | |
|-------------------------|--|-----|--|
| SIZE | | REV | |
| B | | A | |
| DWG. NO. | | REV | |
| 000652 | | A | |
| SCALE NONE SHEET 1 OF 1 | | | |

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 1/31/2016/01/31/2016

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Refer to www.dynisco.com for access to Operator Manual and other support documentation.
P/N: DSSPX4SERIES
REV: 1116
ECO: 47068



www.dynisco.com



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