

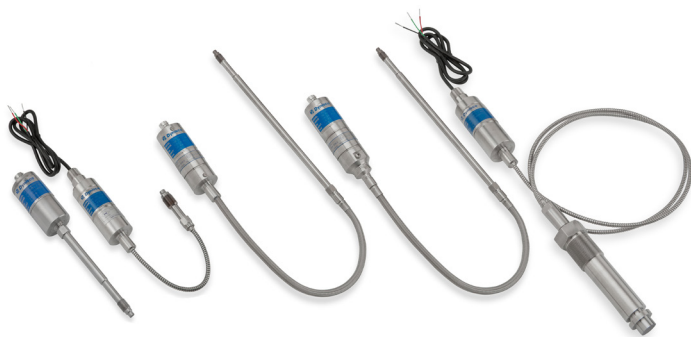


From lab to production,
providing a window into the process



Dynisco SPX 2-Series

GENERAL PURPOSE SMART PRESSURE SENSORS
FOR HAZARDOUS LOCATIONS



Description

The Dynisco SPX 2-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. The SPX 2-Series is an all welded construction.

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.

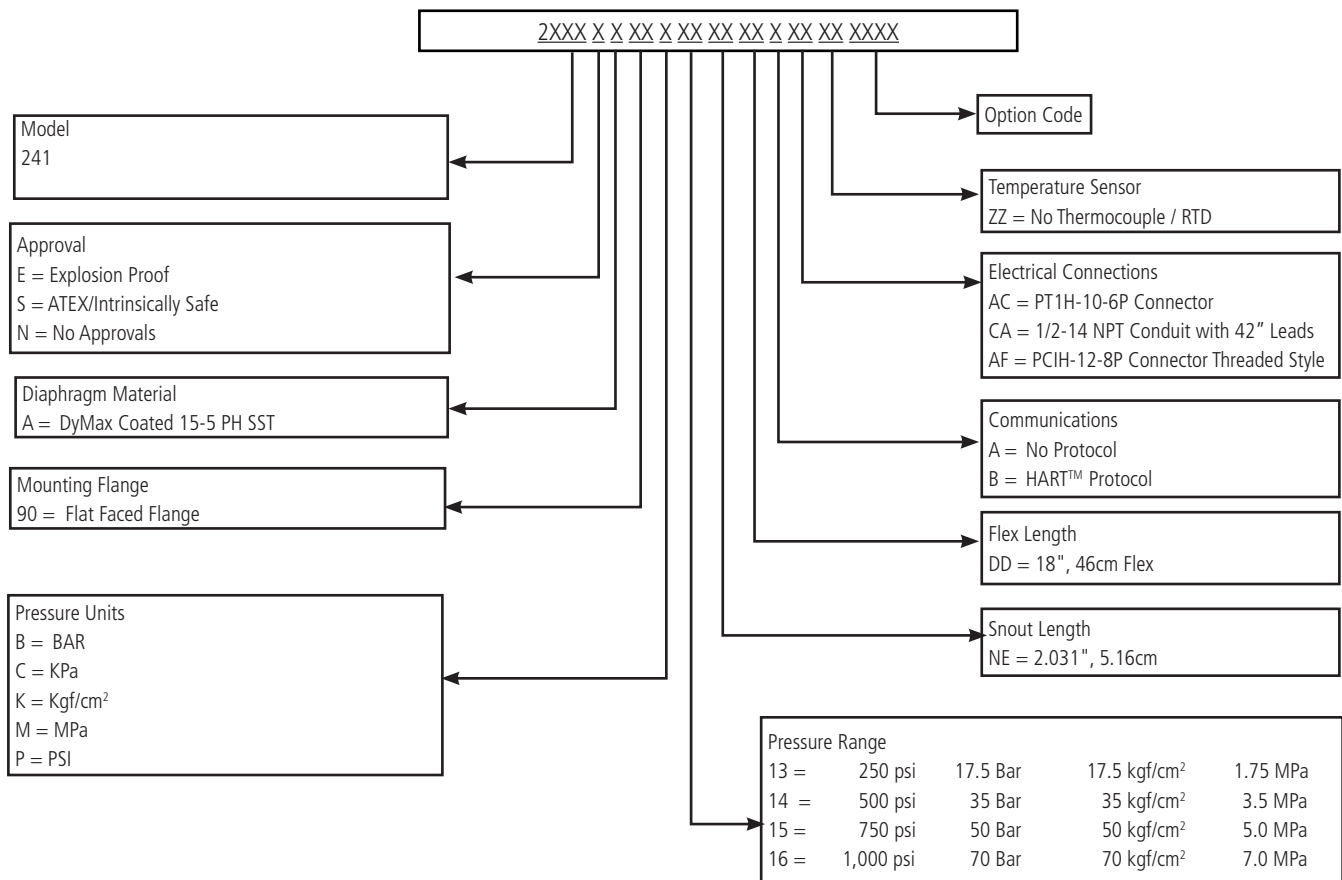
Features

- 4-20mA loop-powered output
- +/- 0.25% accuracy available
- Wide selection of pressure ranges available
- Turndown 6:1 (3:1 Turndown for model SPX 2290)
- 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
- FM Explosion Proof Approved
- CSA Explosion Proof Approved
- SIL 2 Certified (Pressure Output)
- PL'c' Certified (Relay Output)
- Additional approvals are available

Performance Characteristics SPX2- Series	
Output	4 - 20 mA, with optional HART™
Input Voltage	16 - 36 Vdc (Std); 16 - 30 Vdc (ATEX IS)
Accuracy 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.	2241 ± 1.0% 2242 ± 0.25% for pressure ranges ≥ 1,500 psi; ± 0.50% for pressure ranges < 1,500 psi 2243 ± 0.25% for pressure ranges ≥ 1,500 psi; ± 0.50% for pressure ranges < 1,500 psi 2244 ± 0.25% for pressure ranges ≥ 500 psi; ± 1.0% for pressure ranges < 500 psi 2290/2291/2292 ± 0.50%
Repeatability	±0.1%
Rangeability	6:1 Turndown (3:1 Turndown for Model SPX2290)
Over Pressure	2X FSO or 35,000 psi, whichever is less (2290, 2291, & 2292 1.5 x FSO for 10,000 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 [Models 2241, 2244, 2290, 2291, 2292 limited to 600°F (315°C)]
Electronics Compensated Temperature Range	0 to 150°F (-18 to 65°C)
Zero Shift (Electronics Temp Change)	All Models: 0.01% F.S./°F max (0.02% F.S./°C max)
Span Shift (Electronics Temp Change)	All Models: 0.01% F.S./°F max (0.02% F.S./°C max)
Zero Shift (Snout Temp Change)	2241/2244//2290/2291/2292: 1 psi/100°F (from 75-450°F) typical 2 psi/100°F (from 450-600°F) typical 2242/2243: 15 psi/100°F (27 psi/100°C) typical

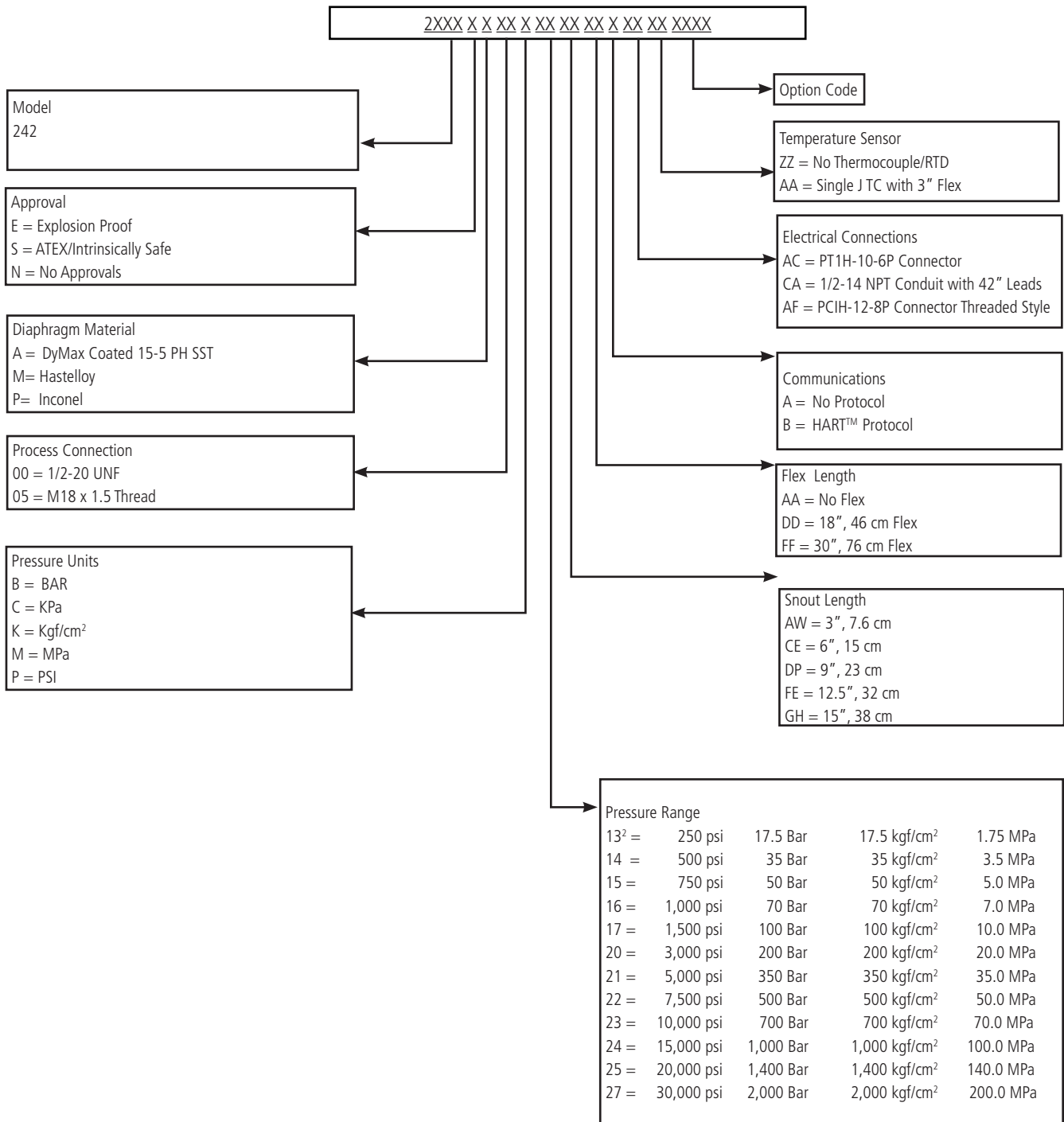
Mechanical Characteristics	
Mounting Torque	2241: 350 inch-lbf max 2242: 500 inch-lbf max 2243: 50 inch-lbf max 2244: 350 inch-lbf max 2290: 350 inch-lbf max 2291: 350 inch-lbf max 2292: 80 ft-lbf max
Standard Wetted Parts	DyMax coated 15-5 PH SST
Approvals & Certifications	
CE ATEX IS	
SIL 2 (pressure output) & PL'c' (relay output)	
FM & CSA Explosion Proof	
Additional Approvals are Available	

Ordering Guide for Models SPX2241¹



¹ Other configurations are available. Please consult factory.

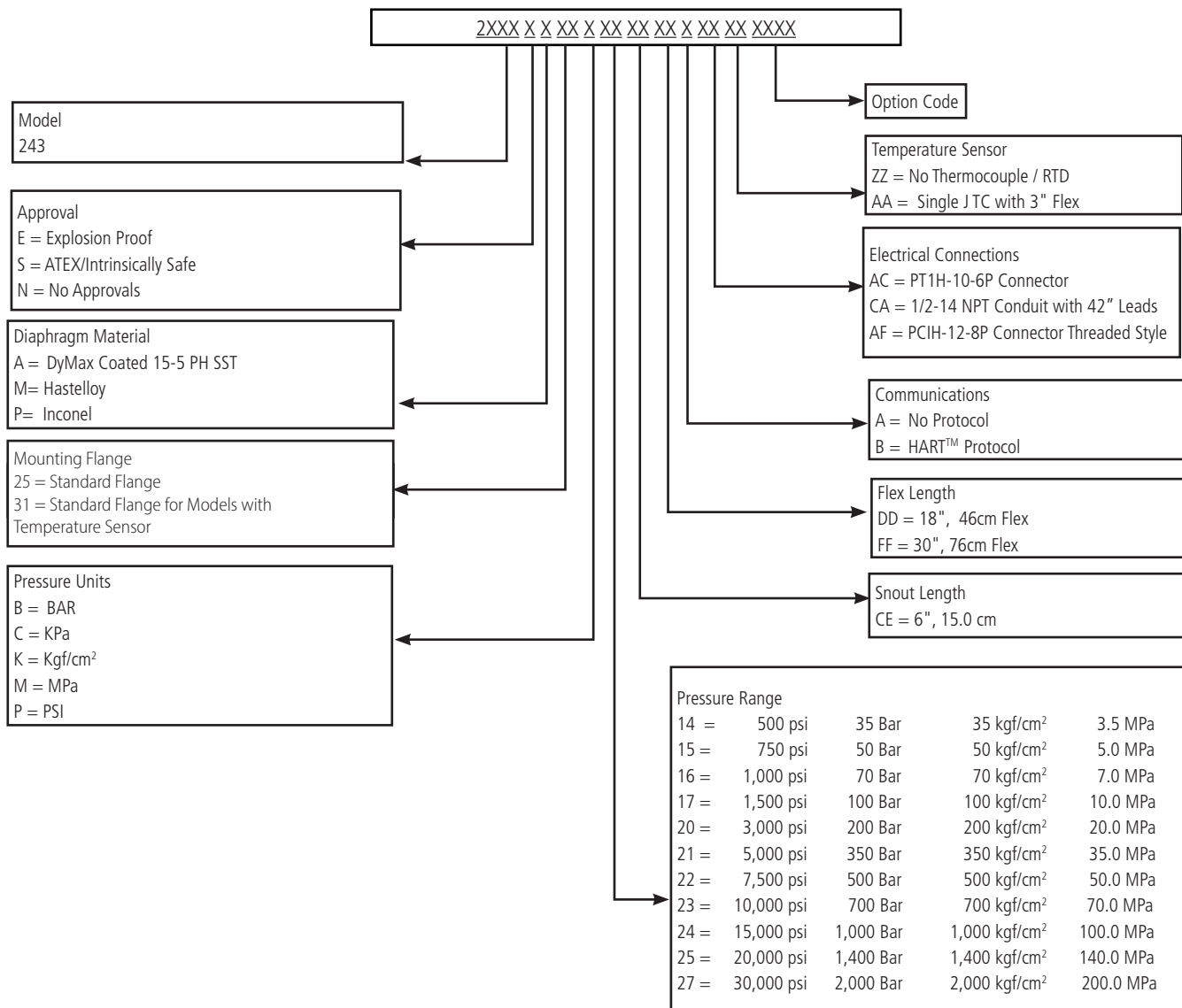
Ordering Guide for Models SPX2242¹



¹Other configurations are available. Please consult factory.

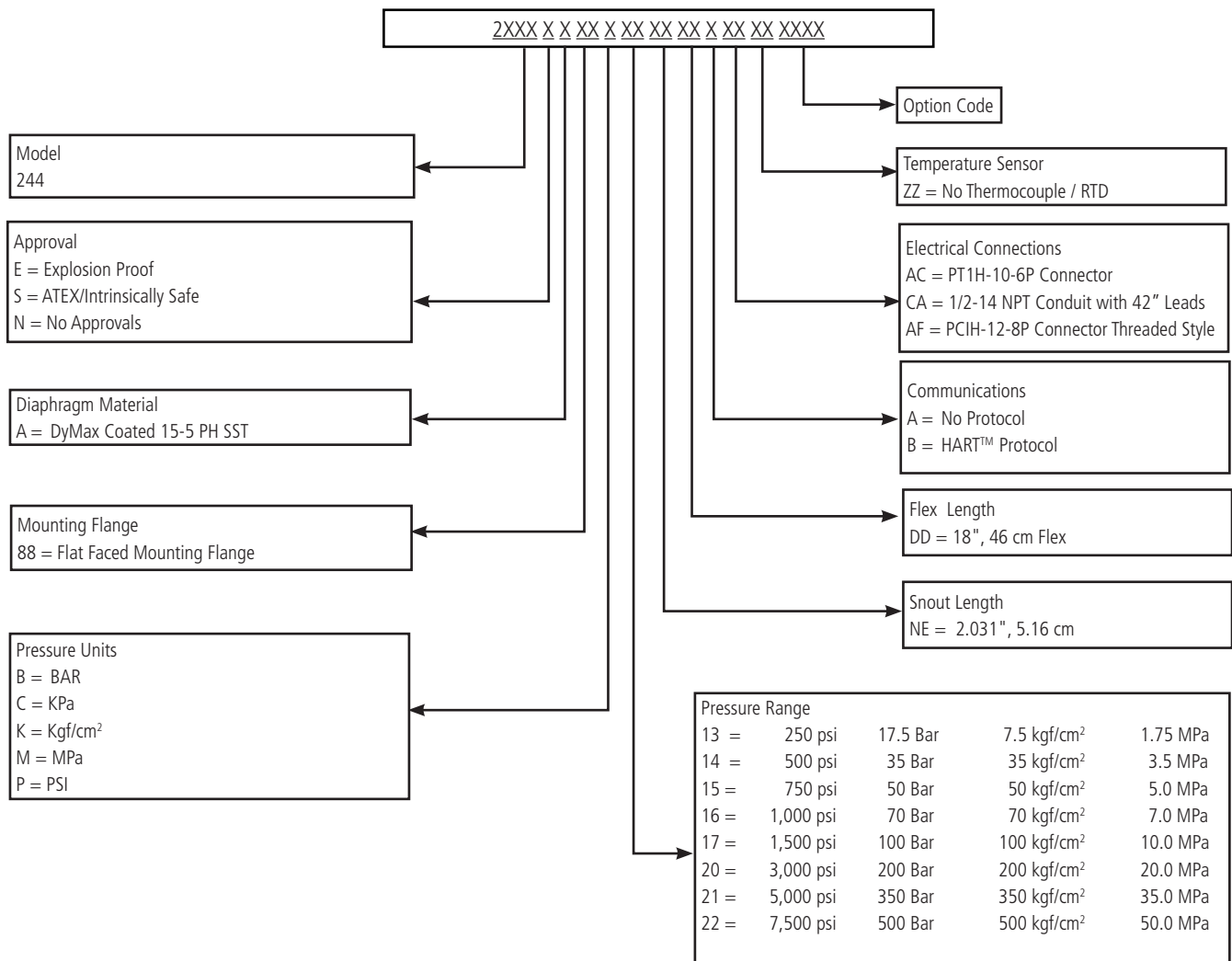
²Available in M18 x 1.5 thread only.

Ordering Guide for Models SPX2243¹



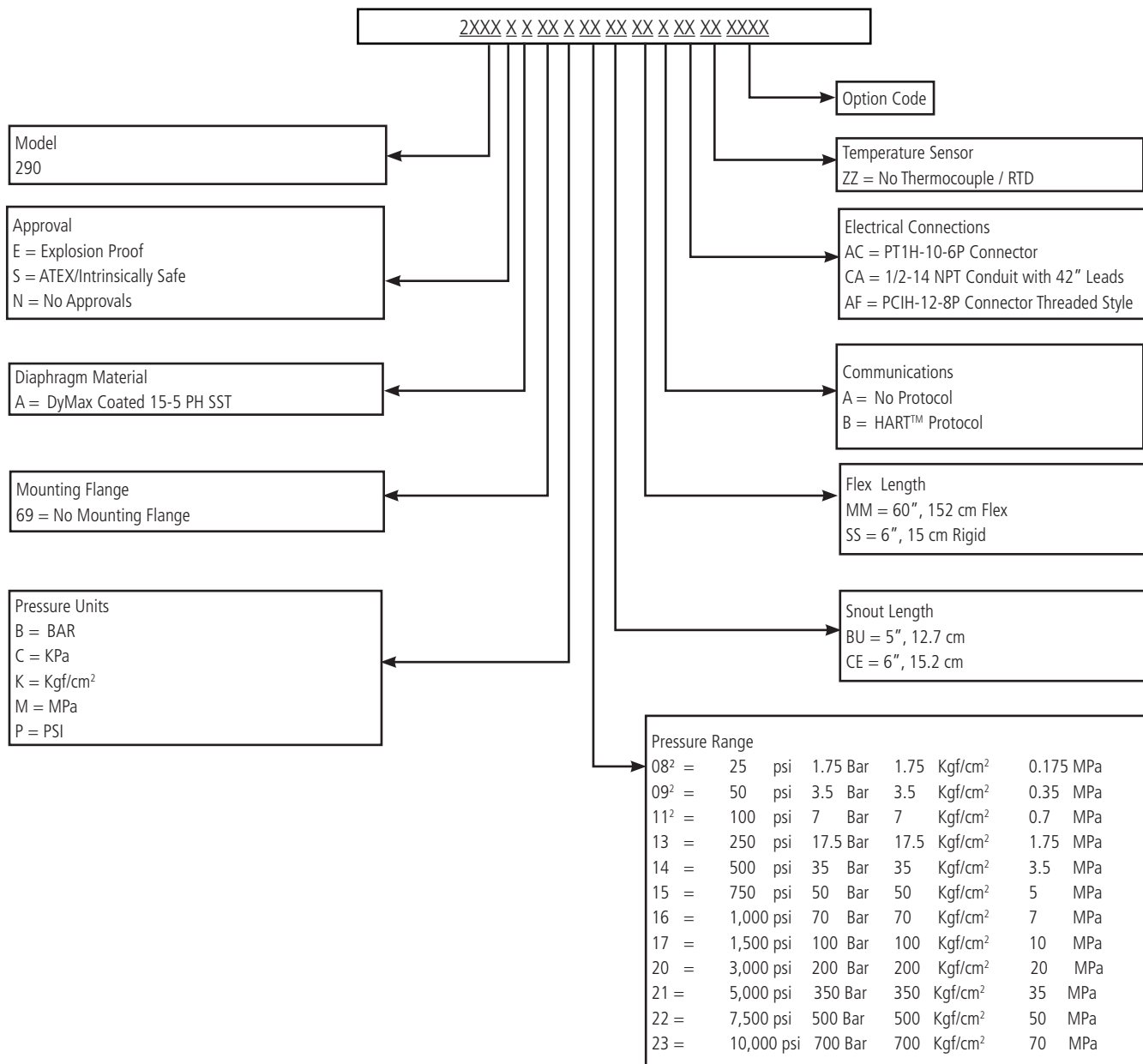
¹Other configurations are available. Please consult factory.

Ordering Guide for Models SPX2244¹



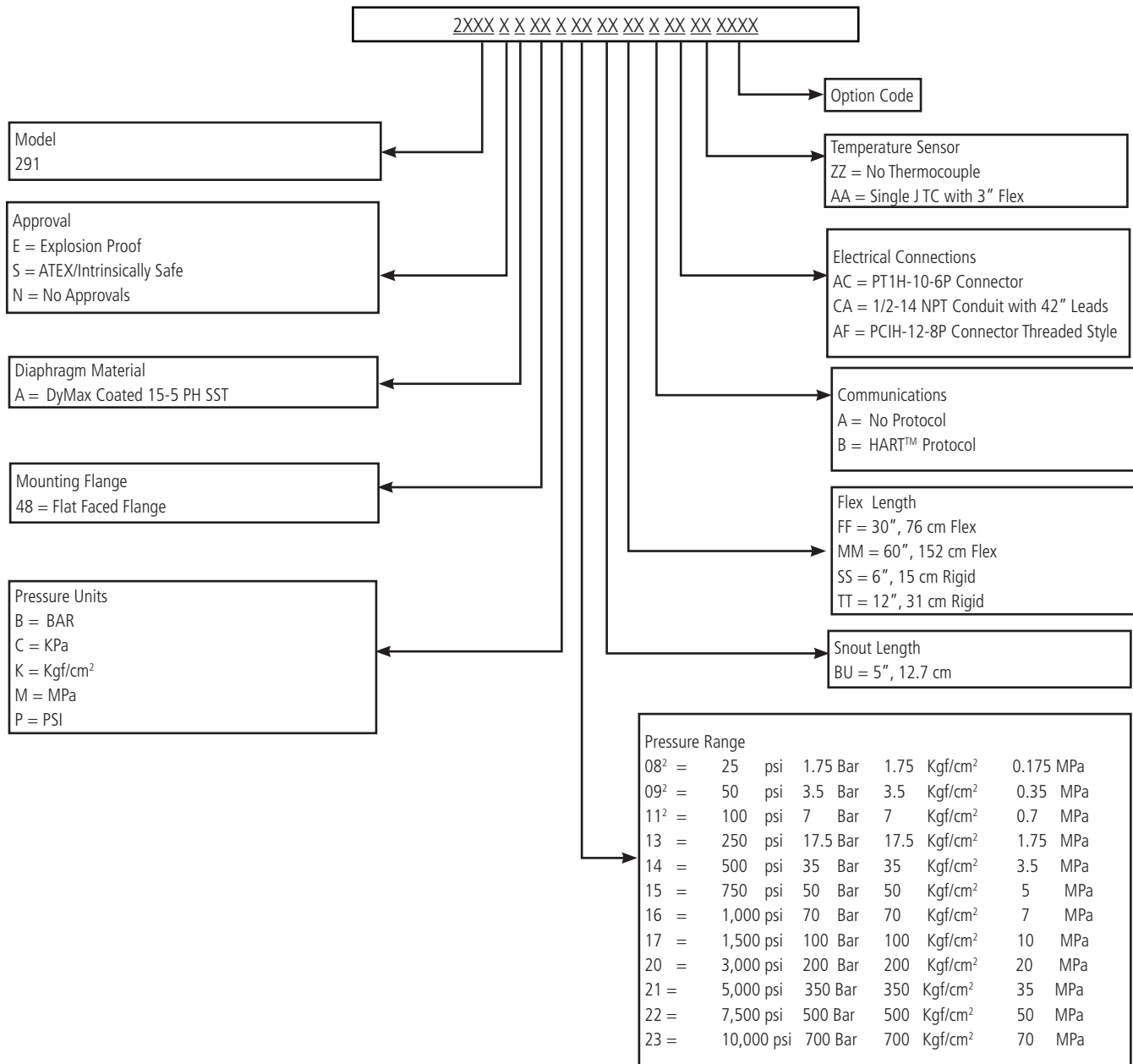
¹Other configurations are available. Please consult factory.

Ordering Guide for Models SPX2290¹

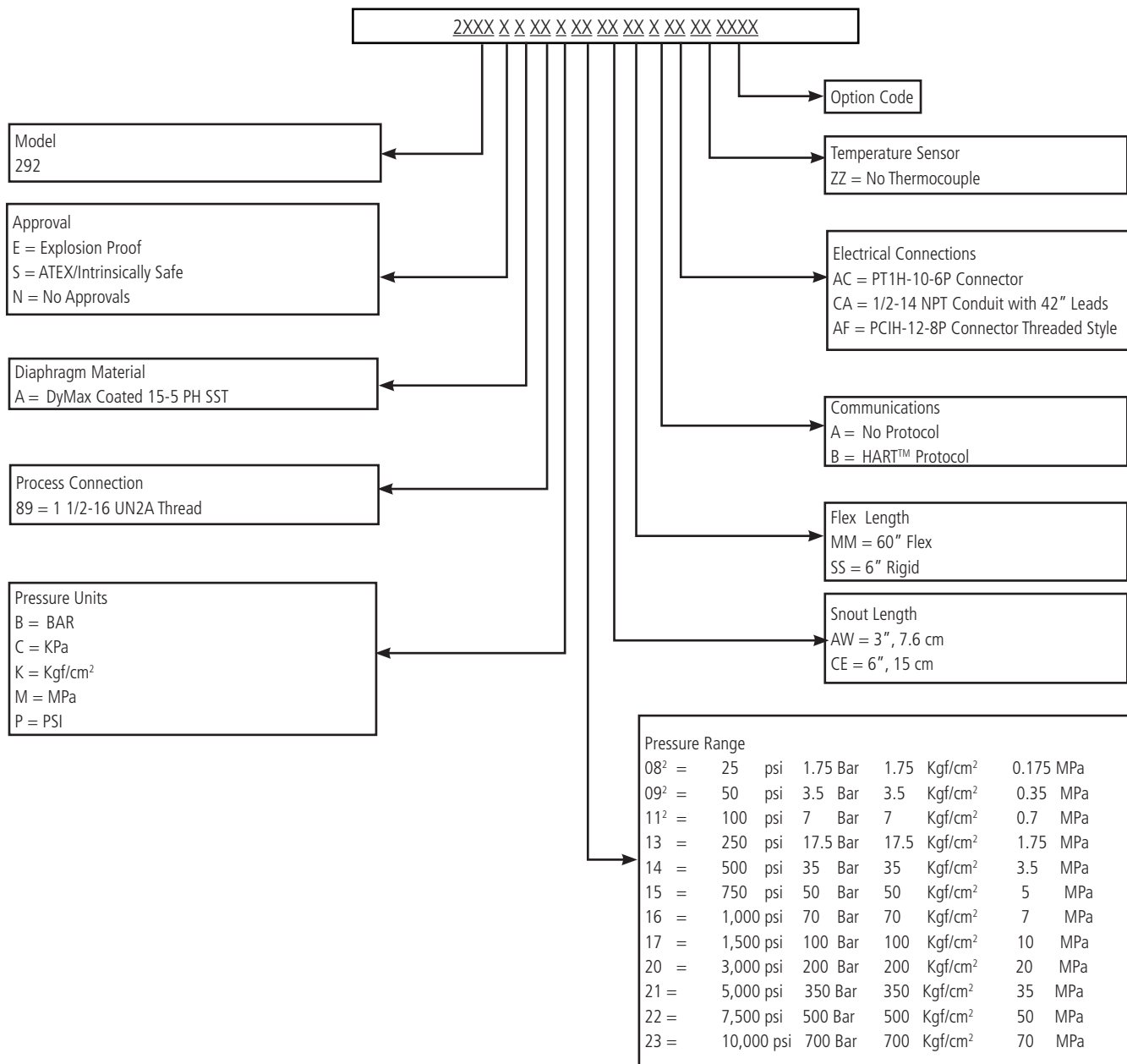


¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary

Ordering Guide for Models SPX2291¹¹Other configurations are available. Please consult factory.²Pressure ranges below 250 psi are supplied with rigid capillary

Ordering Guide for Models SPX2292¹



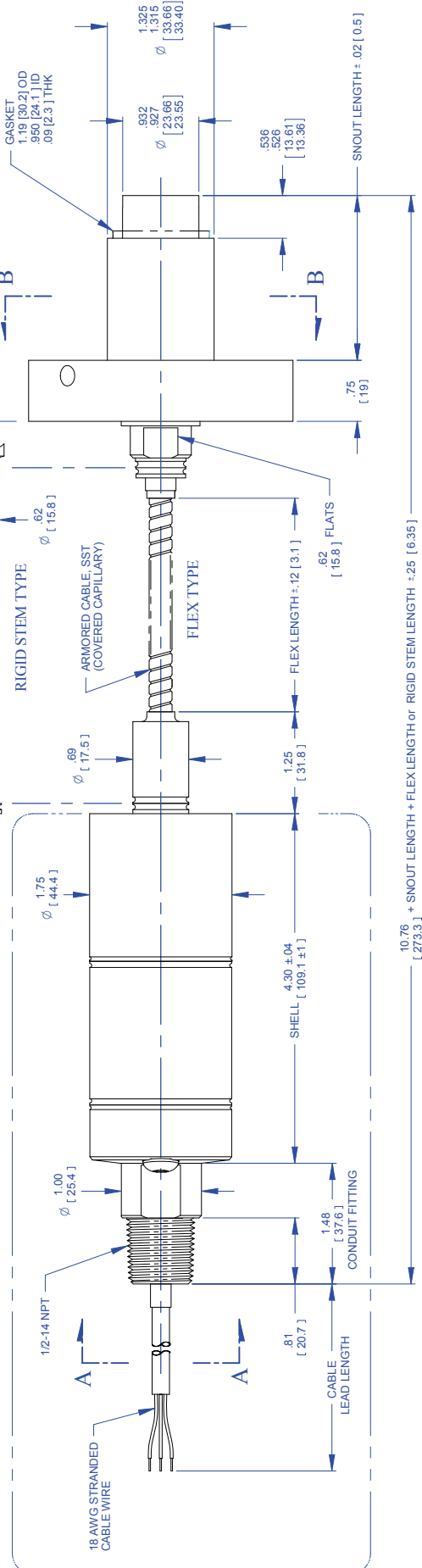
¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary

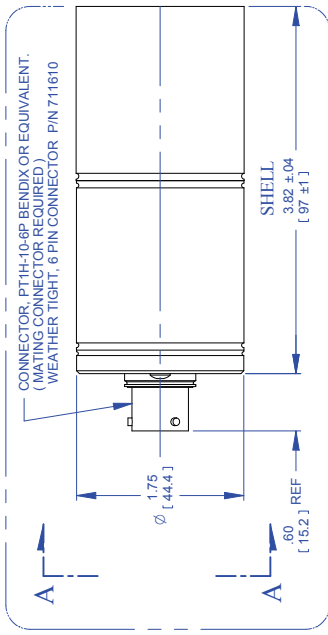
REV	ECO	BY	APP	DATE
B	46553	TP	LEB	07/29/16

000614

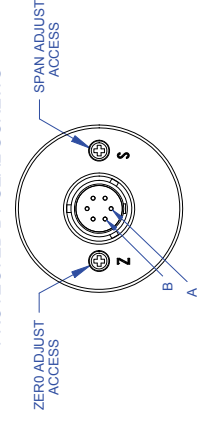
ELECTRICAL HOUSING, CONDUIT



ELECTRICAL HOUSING, CONNECTOR CONFIGURATION

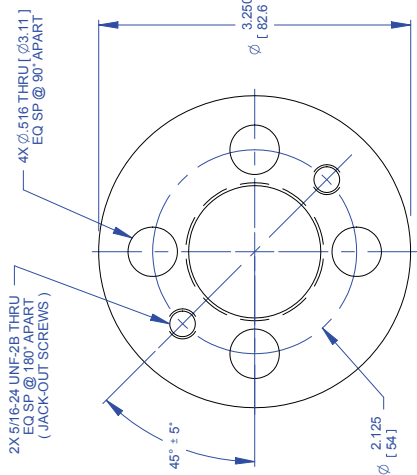


ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS

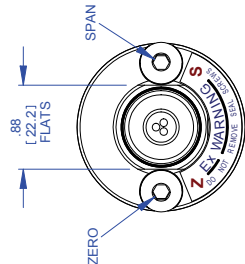


VIEW A-A

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



VIEW B-B
FLANGE



VIEW A-A
3 CONDUCTOR SHOWN

Cable Wiring	Color	Function
5 - Conductor	RED	POWER + / SIG +
	BLACK	POWER - / SIG -
	GREEN	GROUND
	ORANGE	Rcal +
	BLUE	Rcal -

NOTES:

1. ALL DIMENSIONS ARE [MILLIMETERS]
2. EXPOSED SURFACES ARE STAINLESS STEEL.

TOLERANCES UNLESS OTHERWISE SPECIFIED:

1. 2 PLACE DECIMAL ± 0.01
2. 3 PLACE DECIMAL ± 0.005
3. DIMENSIONS IN PARENTHESES ARE IN INCHES
4. DRILLS ± 0.005 DIA., ± 0.005 DIA. ± 0.005
5. ANGLES ± 0.5° MAX
6. EDGES R 0.005 OR CHAMFER MAX
7. FINISHES ARE IN INCHES
8. ALL DIMENSIONS ARE IN INCHES

TITLE

SPX-GEN2 OUTLINE
MODELS 2241, 5341
FLEX & RIGID VERSIONS

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SIZE	REV
C	B

DRAWN	DATE	11/24/11
CHECKED	DATE	11/13/11
APPROVED	MUL	DATE
FINISH		

MODEL NO.	SPX-GEN2
DO NOT SCALE DRAWING	
MATERIAL	

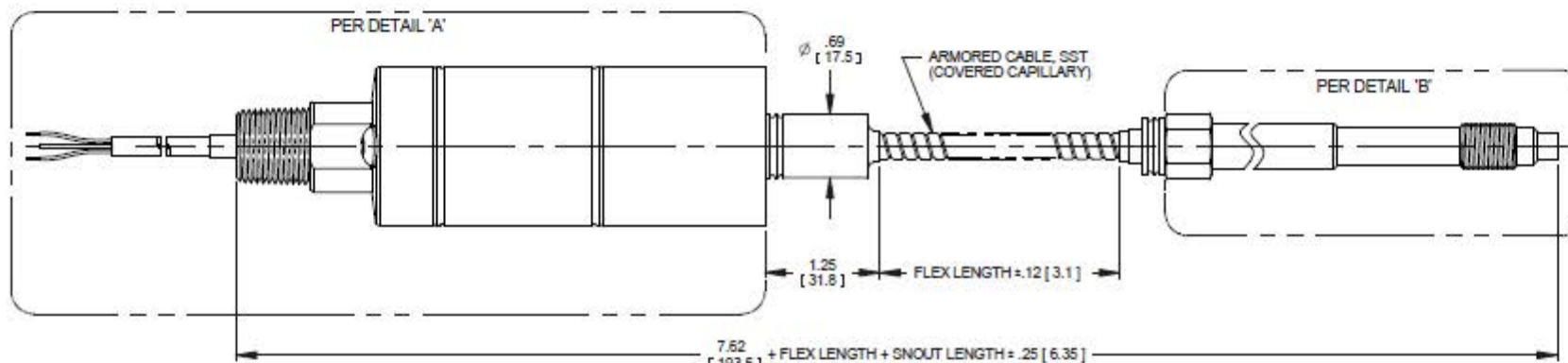
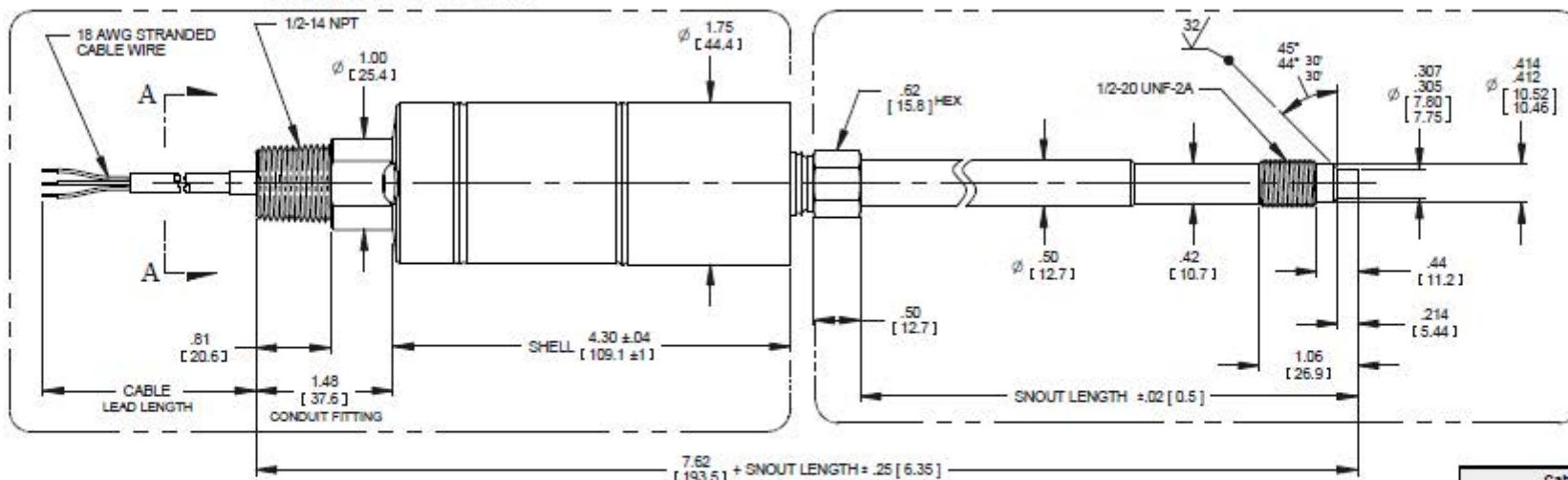
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SHEET	1 OF 1

REV	ECO	BY	APP	DATE
C	47068	TP	LEB	11/18/16

000616

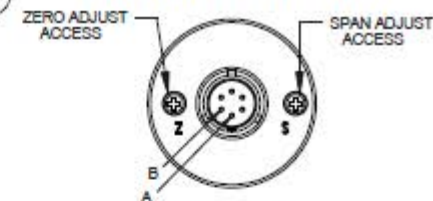
DETAIL 'A'
ELECTRICAL HOUSING, CONDUIT

DETAIL 'B'
1/2 - 20 PROCESS CONNECTION

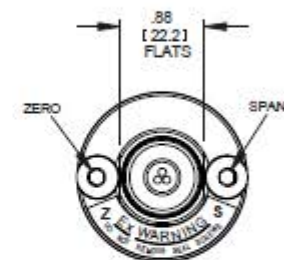


Cable Wiring		
Conductor	Color	Function
3 - Conductor	RED	POWER + / SIG +
	BLACK	POWER - / SIG -
	GREEN	GROUND
5 - Conductor	ORANGE	Real +
	BLUE	Real -

ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS

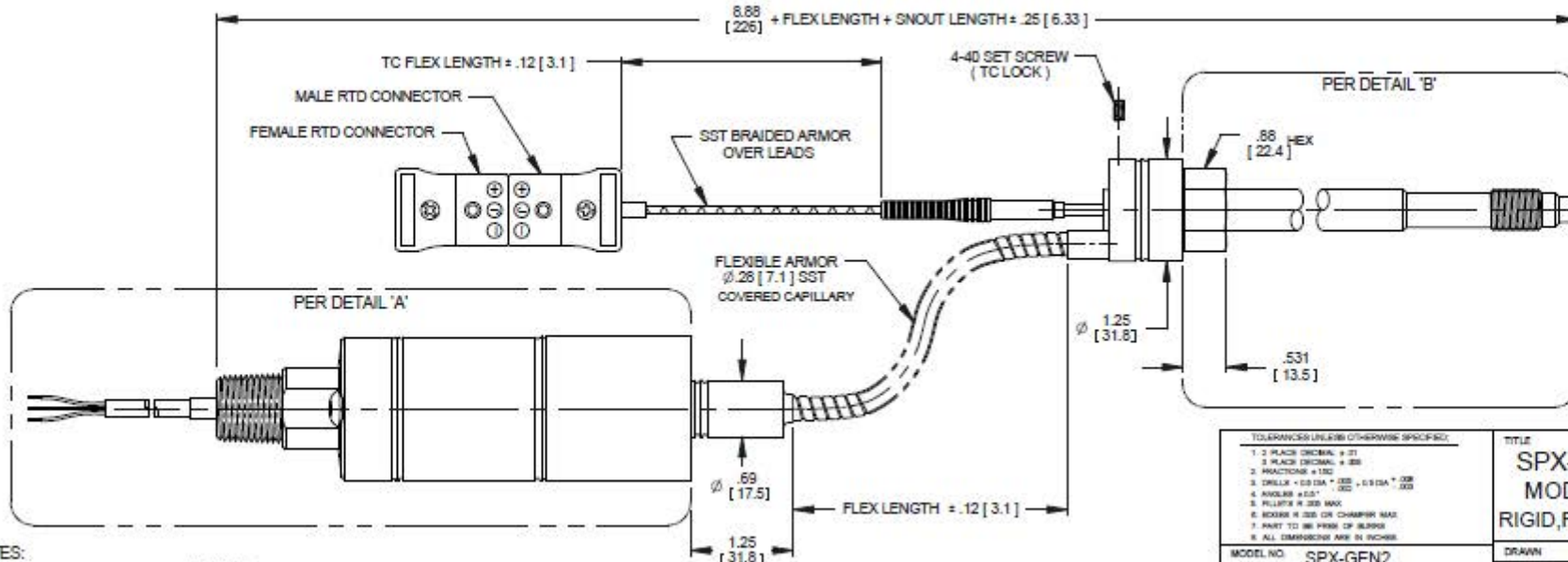


VIEW A-A



VIEW A-A

3 CONDUCTOR SHOWN



- NOTES:
1. ALL DIMENSIONS ARE INCHES [MILLIMETERS]
 2. EXPOSED SURFACES ARE STAINLESS STEEL.

TOLERANCES UNLESS OTHERWISE SPECIFIED	
1. 3 PLACE DECIMAL ±.01	2. 3 PLACE DECIMAL ±.005
3. 3 PLACE DECIMAL ±.002	4. 3 PLACE DECIMAL ±.001
5. 3 PLACE DECIMAL ±.0005	6. 3 PLACE DECIMAL ±.0002
7. 3 PLACE DECIMAL ±.0001	8. 3 PLACE DECIMAL ±.00005
9. 3 PLACE DECIMAL ±.00002	10. 3 PLACE DECIMAL ±.00001

SPX-GEN2 OUTLINE
MODELS 2242, 5342
RIGID, FLEX & TPT VERSION

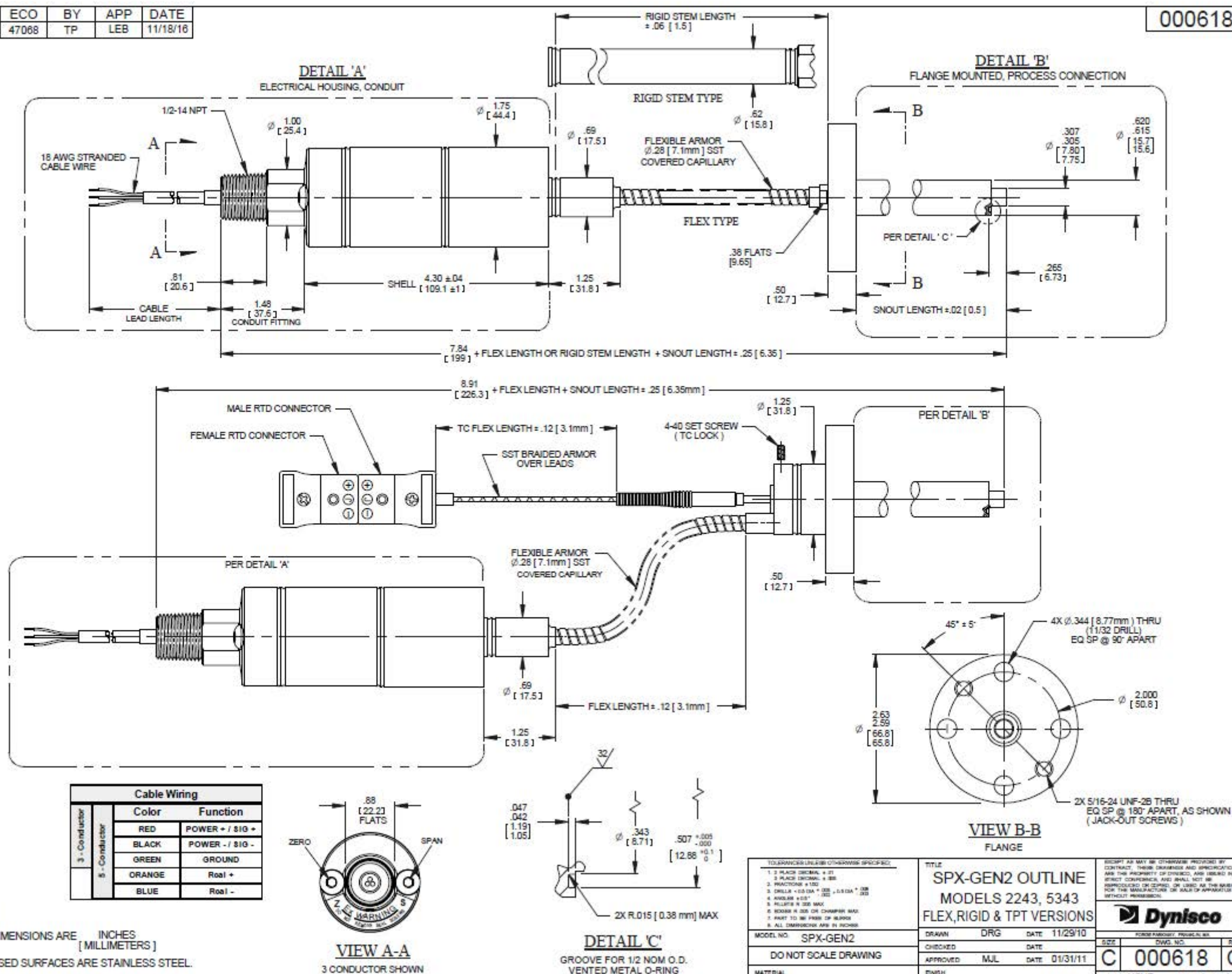
MODEL NO.	SPX-GEN2
DO NOT SCALE DRAWING	
MATERIAL	

DRAWN	DRG	DATE	11/29/10
CHECKED		DATE	
APPROVED	MJL	DATE	01/31/11
FINISH			

DYNISCO		
SIZE	DWG. NO.	REV
C	000616	C
SCALE: NONE SHEET 1 OF 1		

REV	ECO	BY	APP	DATE
C	47068	TP	LEB	11/18/16

000618

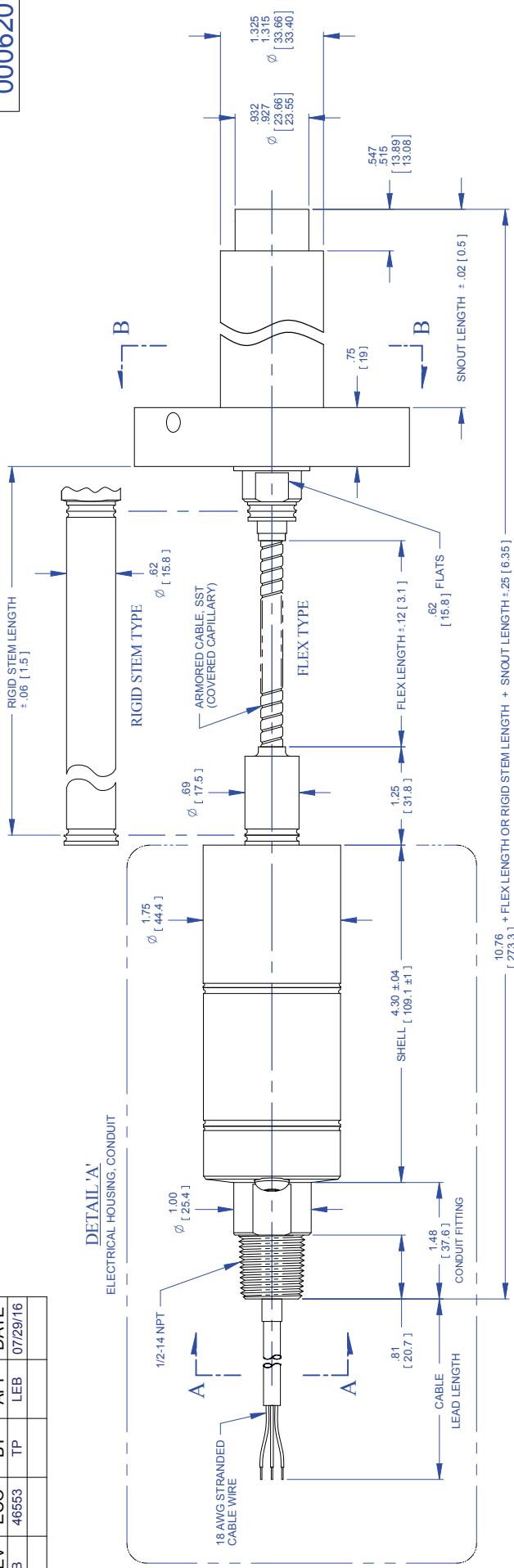


REV	ECO	BY	APP	DATE
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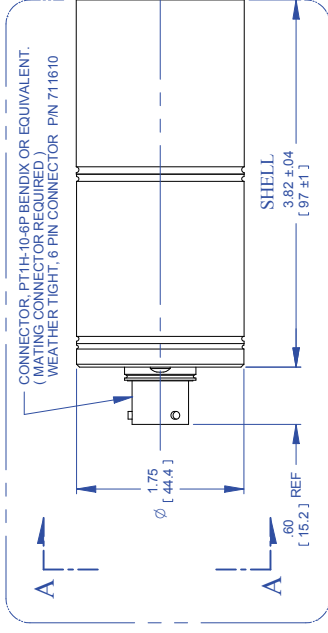
000620

DETAIL 'A'

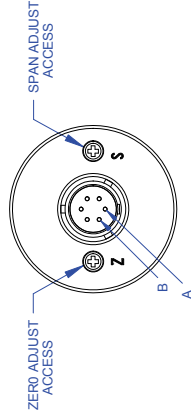
ELECTRICAL HOUSING, CONDUIT



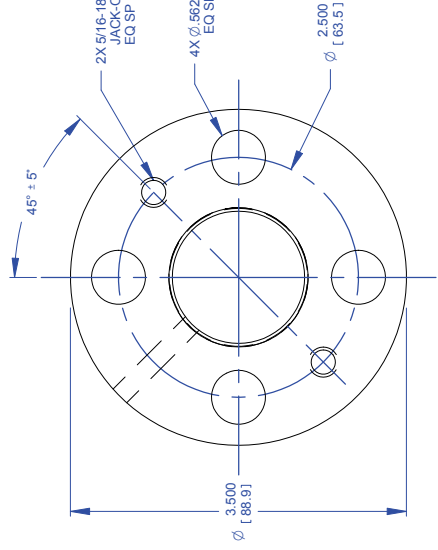
ELECTRICAL HOUSING, CONNECTOR CONFIGURATION



ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



VIEW A-A



VIEW B-B
FLANGE

Cable Wiring	
Color	Function
RED	POWER + / SIG +
BLACK	POWER - / SIG -
GREEN	GROUND
ORANGE	Rcal +
BLUE	Rcal -

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

VIEW A-A

3 CONDUCTOR SHOWN

NOTES:

- ALL DIMENSIONS ARE INCHES [MILLIMETERS]
- EXPOSED SURFACES ARE STAINLESS STEEL.

TOLERANCES UNLESS OTHERWISE SPECIFIED:

1. 2 PLACE DECIMAL ±.01
2. 3 PLACE DECIMAL ±.005
3. 4 PLACE DECIMAL ±.0005
4. DRILLS < .05 DIA. ±.005
5. DRILLS > .05 DIA. ±.005
6. ANGLES ±.05° MAX
7. EDGES R .005 OR CHAMFER MAX
8. FINISHES AS SHOWN
9. ALL DIMENSIONS ARE IN INCHES

TITLE
SPX-GEN2 OUTLINE
MODELS 2244, 5344
FLEX & RIGID VERSIONS

DRAWN DATE 11/29/10
CHECKED DATE 01/31/11
APPROVED MUL DATE
FINISH

MODEL NO. SPX-GEN2

DO NOT SCALE DRAWING

MATERIAL

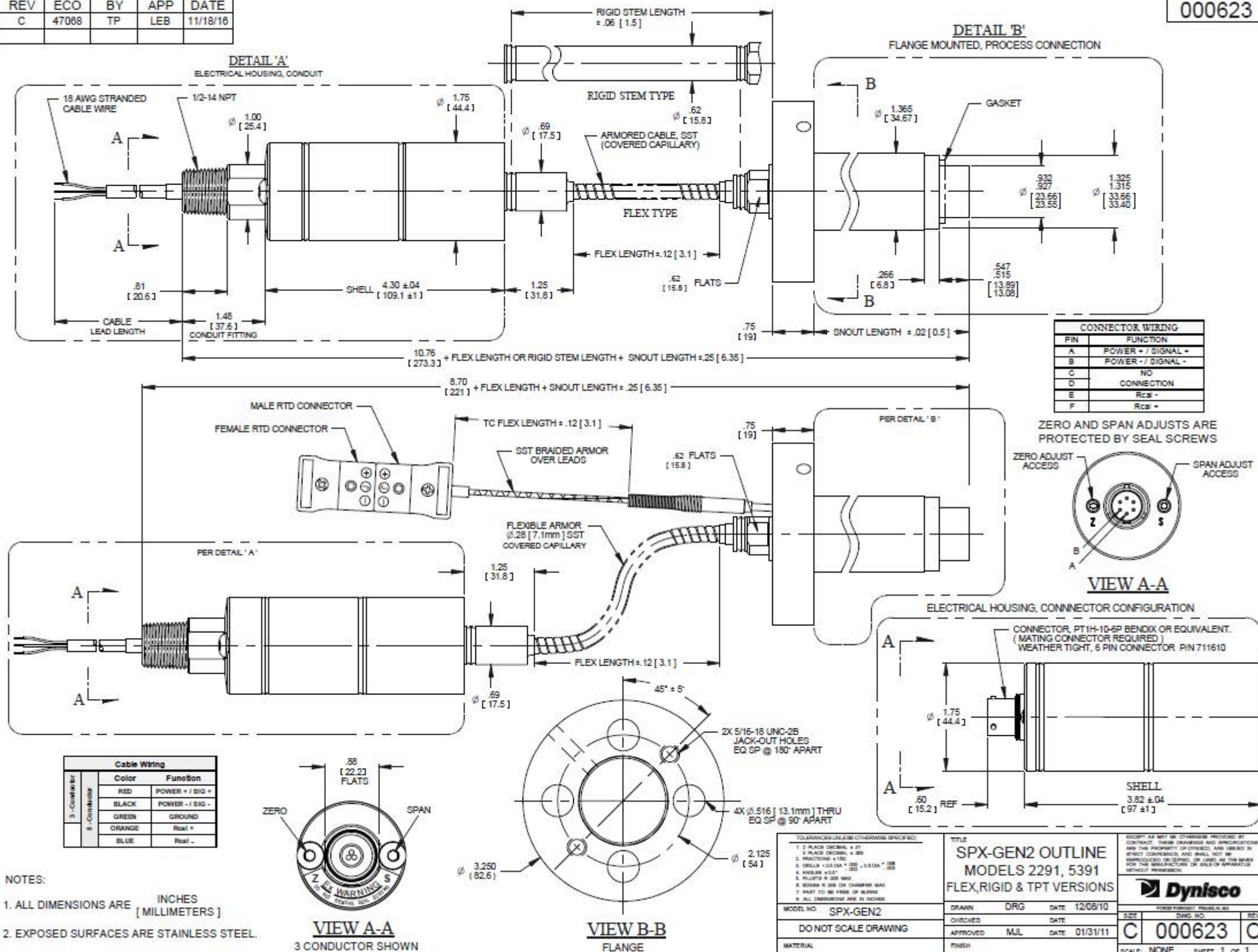
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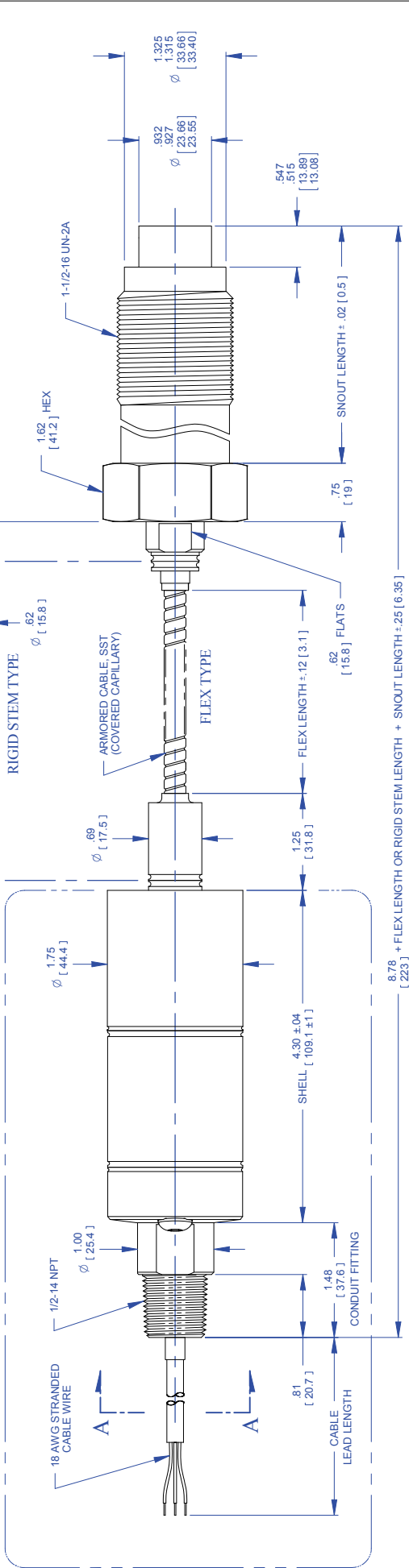
FORGE PARKWAY, HANKS, VA

SIZE	DWG NO.	REV
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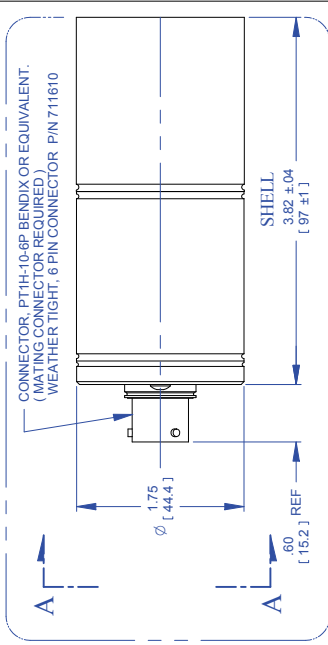
SCALE: NONE SHEET 1 OF 1

000623

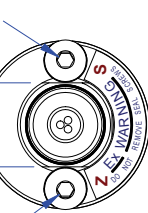
ELECTRICAL HOUSING, CONDUIT



ELECTRICAL HOUSING, CONNECTOR CONFIGURATION



ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



Cable Wiring	
Color	Function
RED	POWER + / SIG +
BLACK	POWER - / SIG -
GREEN	GROUND
ORANGE	Rail +
BLUE	Rail -

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

VIEW A-A
3 CONDUCTOR SHOWN

VIEW A-A

NOTES:

1. ALL DIMENSIONS ARE INCHES [MILLIMETERS]

2. EXPOSED SURFACES ARE STAINLESS STEEL.

TOLERANCES UNLESS OTHERWISE SPECIFIED:

- 1. 2 PLACE DECIMAL 1.01
- 2. 3 PLACE DECIMAL 1.005
- 3. DRILLS < .05 DIA. * .005
- 4. DRILLS < .05 DIA. * .005
- 5. ANGLES ± .05° MAX
- 6. EDGES R .005 OR CHAMFER MAX
- 7. FINISHES ARE IN INCHES
- 8. ALL DIMENSIONS ARE IN INCHES

TITLE

SPX-GEN2 OUTLINE

MODELS 2292, 5392

FLEX & RIGID VERSIONS

MODEL NO. SPX-GEN2

DO NOT SCALE DRAWING

MATERIAL

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FORGE PARKWAY, FRANKLIN, VA

DATE 12/07/10

DATE 01/31/11

DATE

DATE

SIZE C

DWG NO. 000625

REV B

SCALE NONE

SHEET 1 OF 1

REV	ECO	BY	APP	DATE	000652		
A	46553	TP	LEB	07/29/16	R		

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.

TITLE

GUARDIAN SERIES CONNECTORS

TOLERANCES UNLESS OTHERWISE SPECIFIED:
1. 1 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. PART TO BE FREE OF BURRS
8. ALL DIMENSIONS ARE IN INCHES.

DRAWN

TP

DATE

7/27/16

CHECKED

DATE

APPROVED

LEB

DATE

7/27/16

FINISH

63

MODEL NO.

X

DO NOT SCALE DRAWING

MATERIAL

X

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FORCE INNOVATION. FRANKLIN, MA

1/31/2016/1618

SIZE

B

DWG. NO.

000652

REV

A

SCALE

NONE

SHEET

1

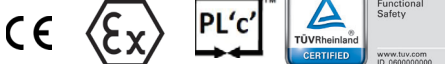
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Refer to www.dynisco.com for access to Operator Manual and other support documentation.
PN: DSSPX2SERIES
REV: 1116
ECO: 470658



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