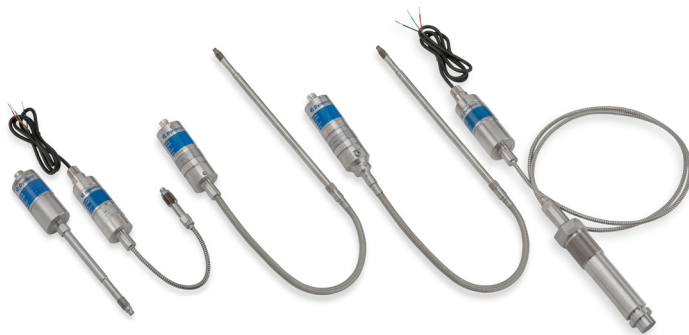


## Dynisco SPX 5-Series

GENERAL PURPOSE SMART PRESSURE SENSORS  
FOR HAZARDOUS LOCATIONS



### Description

The Dynisco SPX 5-Series is a smart 4-20mA pressure transmitter that includes Dynalarirty™, a Dynisco innovation that uses an advanced algorithm that will linearize offsets due to process effects on the sensor. The SPX 5-Series is an all welded construction designed for use in hazardous locations and is available with a variety of 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.

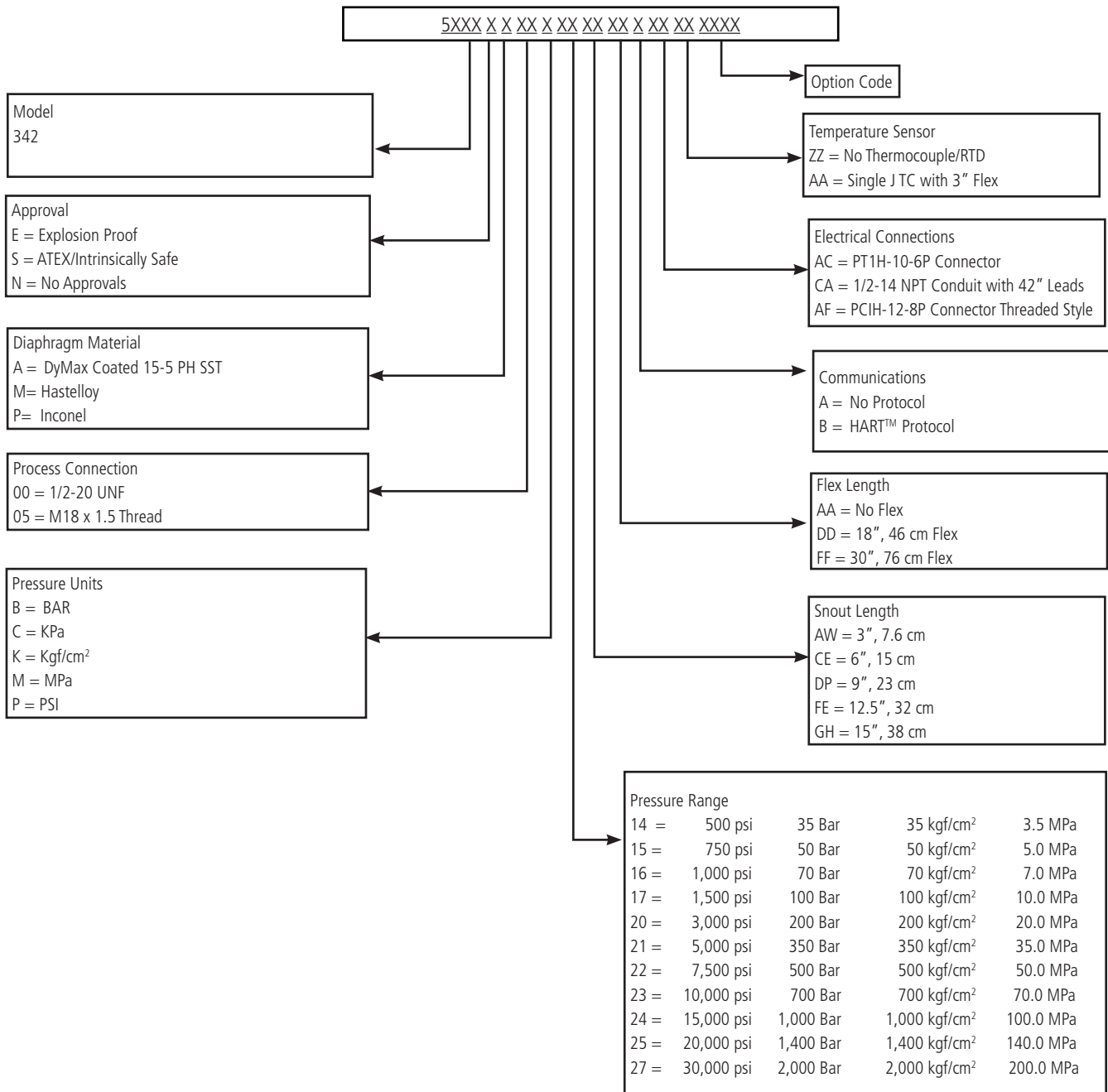
### Features

- A 20mA loop-powered output
- Improved accuracy with Dynalarirty  $\pm 0.2\%$  available
- Wide selection of pressure ranges available
- Turndown 3:1
- 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
- FM Explosion Proof Approved
- CSA Explosion Proof Approved
- SIL 2 Certified (Pressure Output)
- PL'c' Certified (Relay Output)
- Additional approvals are available

Performance Characteristics SPX5- Series	
Output	4 - 20 mA, with optional HART™
Input Voltage	16 - 36 Vdc (Std); 16 - 30 Vdc (ATEX IS)
Accuracy	All Models $\pm 0.20\%$ <small>Accuracy is defined as the combined error expressed as a percentage of full scale output with the specifications of: Electronics ambient temperature, capillary of <math>\leq 36"</math>; DyMax coated 15-5 SST diaphragm; Best Straight Line (BSL) %FS, per ISA-37.1 Consult Factory for availability and specifications of other configurations.</small>
Repeatability	$\pm 0.1\%$
Rangeability	3:1 Turndown
Over Pressure	2X FSO or 35,000 psi, whichever is less (5390, 5391, & 5392 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 $\Omega$ @ 24 Vdc, 1,000 $\Omega$ @ 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 5344, 5390, 5391, 5392 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)	5344/5390/5391/5392: 1 psi/100°F (from 75-450°F) typical 2 psi/100°F (from 450-600°F) typical 5342/5343: 15 psi/100°F (27 psi/100°C) typical

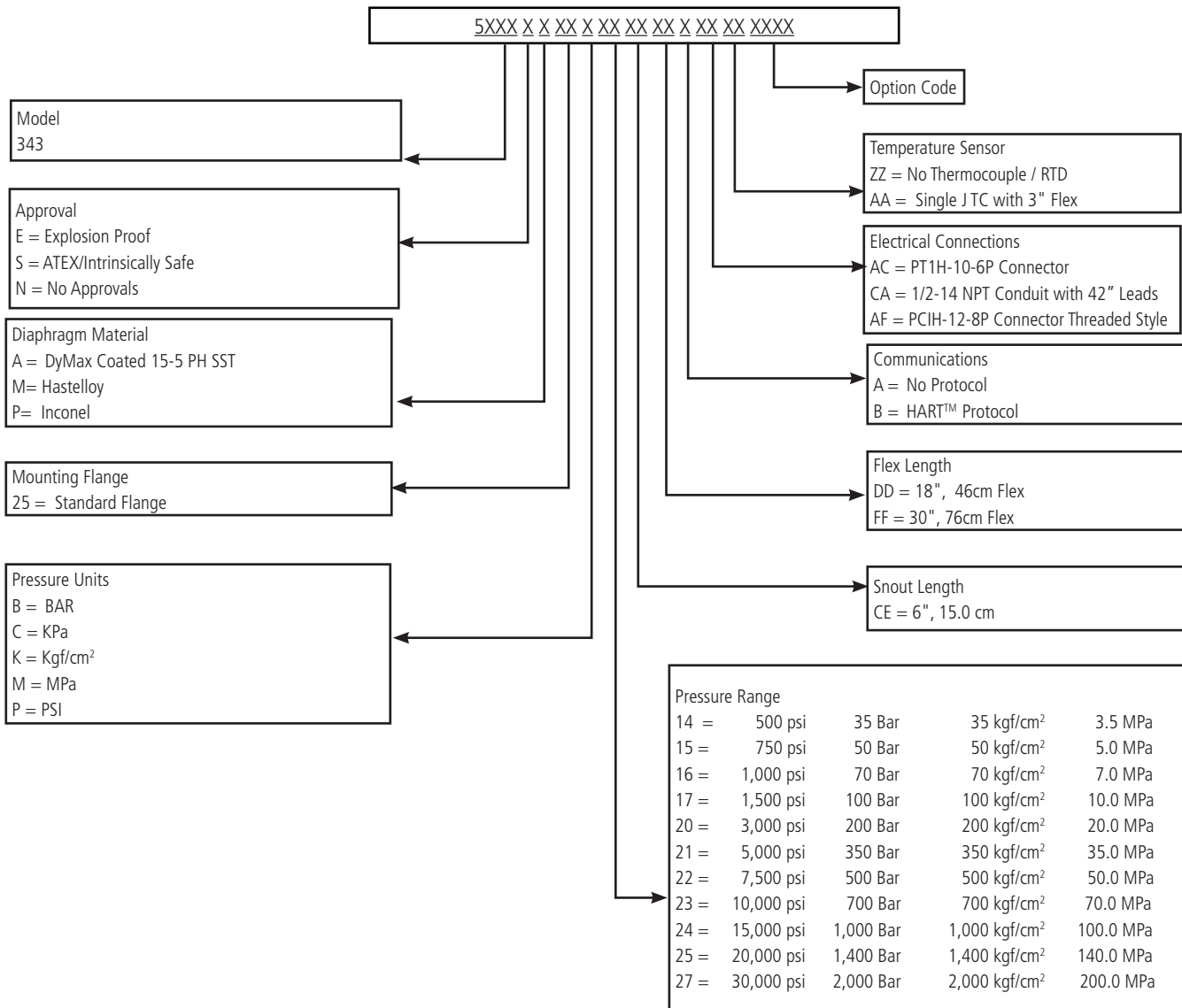
Mechanical Characteristics	
Mounting Torque	5342: 500 inch-lbf max 5343: 50 inch-lbf max 5344: 350 inch-lbf max 5390: 350 inch-lbf max 5391: 350 inch-lbf max 5392: 80 ft-lbf max
Standard Wetted Parts	DyMax coated 15-5 PH SST
Approvals & Certifications	
ATEC/IECEX Intrinsically Safe	
SIL 2 (pressure output) & PL 'c' (relay output)	
FM & CSA Explosion Proof	
Additional Approvals are Available	

## Ordering Guide for Models SPX5342<sup>1</sup>



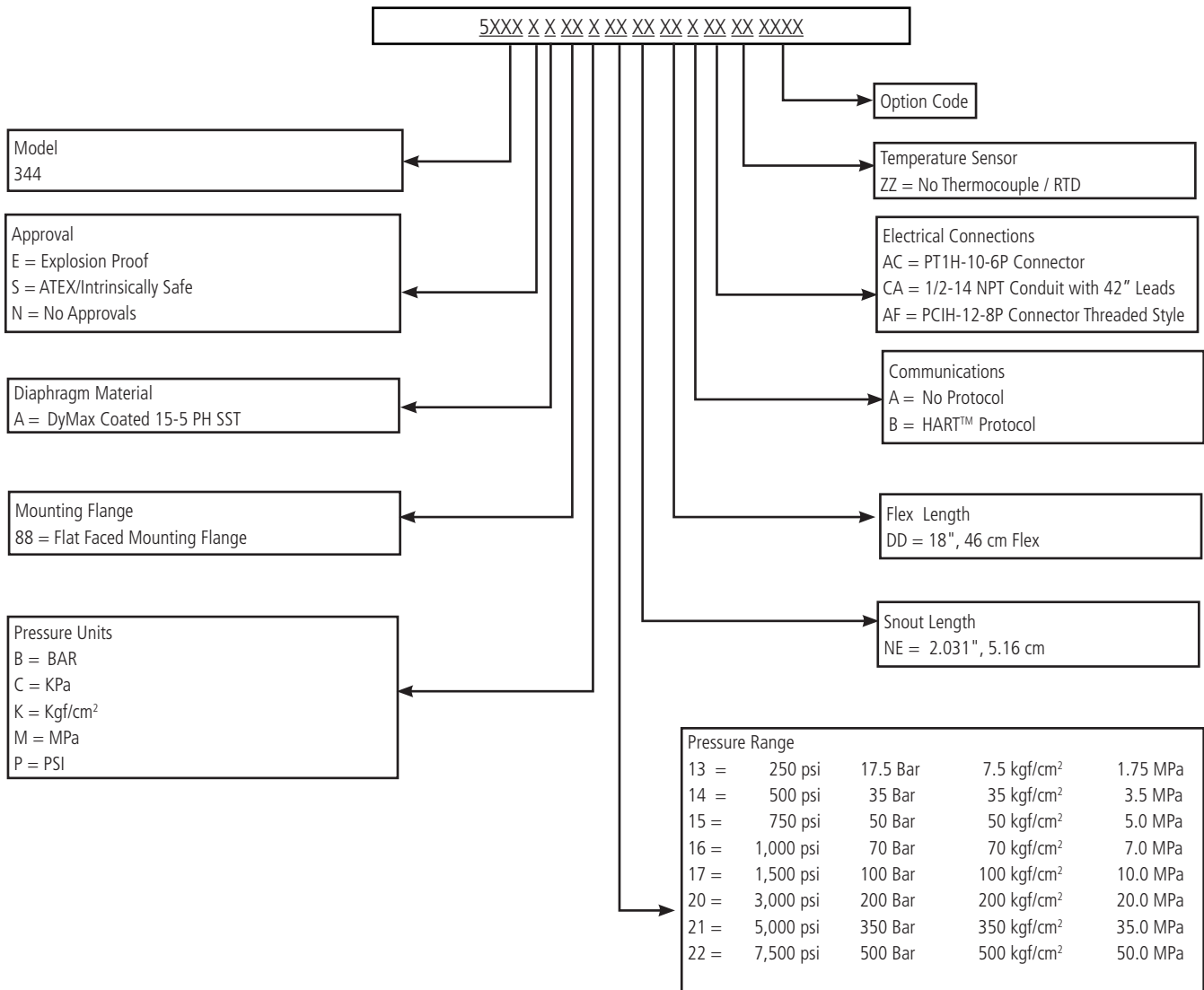
<sup>1</sup>Other configurations are available. Please consult factory.

## Ordering Guide for Models SPX5343<sup>1</sup>



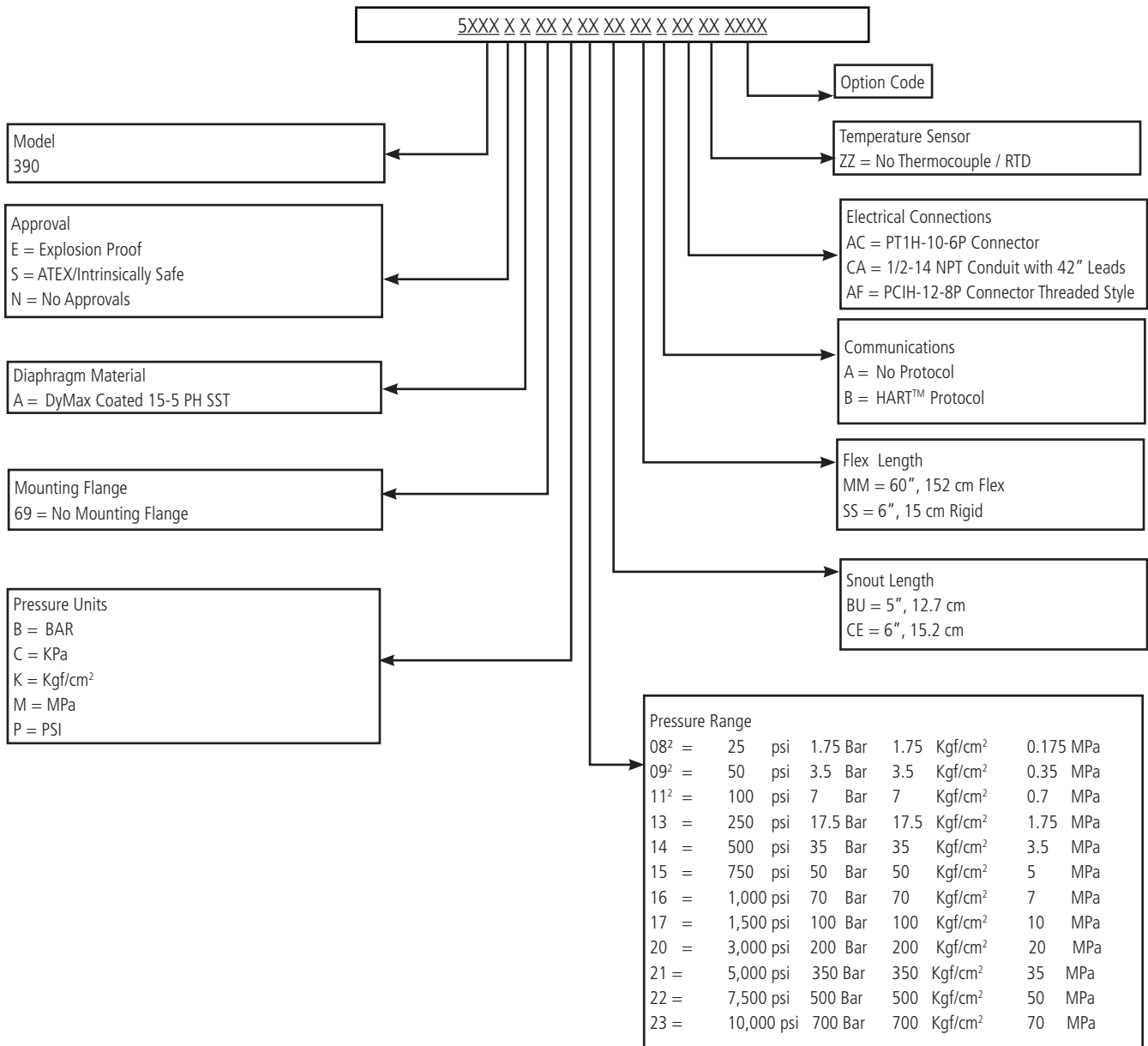
<sup>1</sup>Other configurations are available. Please consult factory.

## Ordering Guide for Models SPX5344<sup>1</sup>



<sup>1</sup>Other configurations are available. Please consult factory.

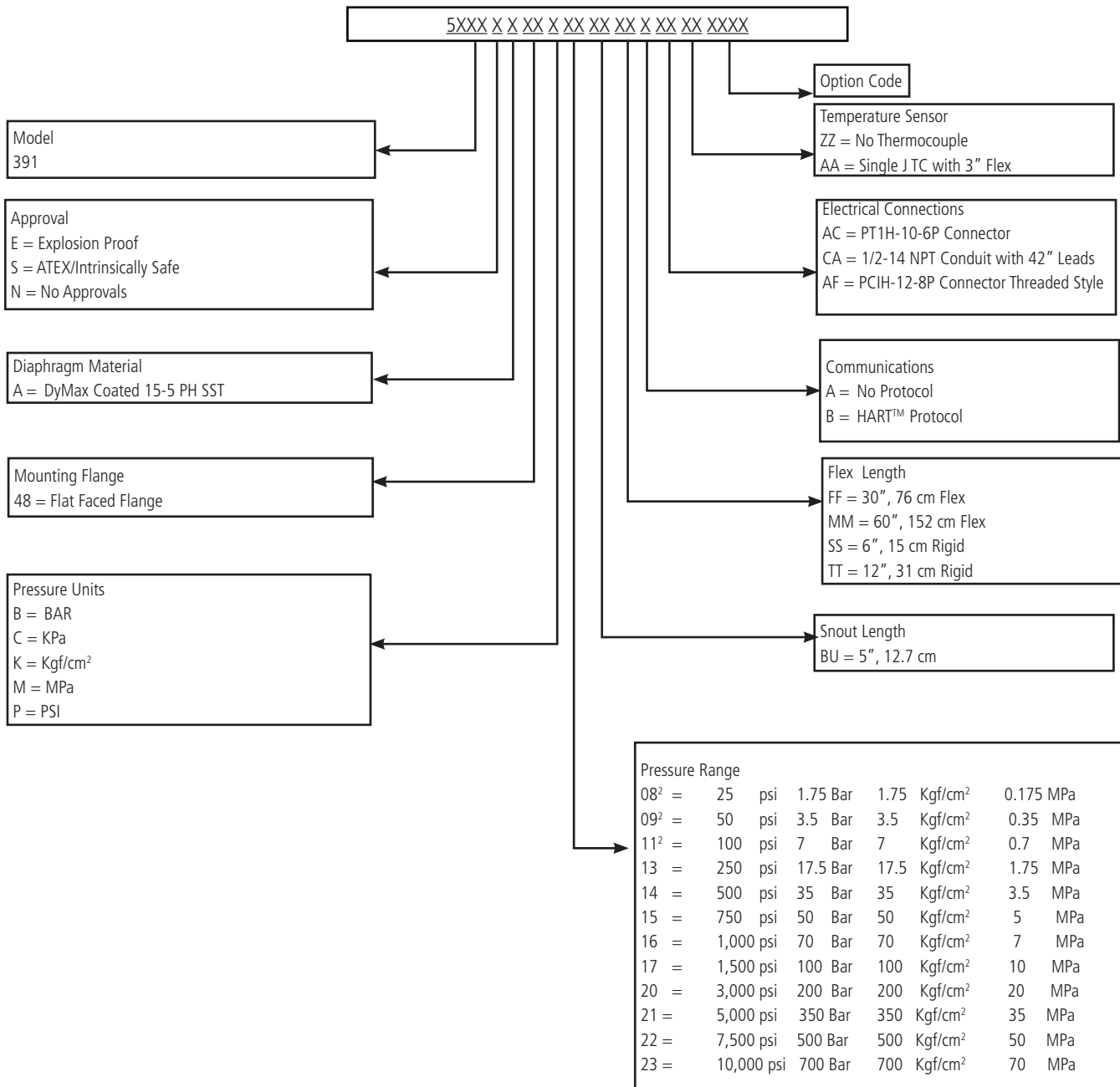
## Ordering Guide for Models SPX5390<sup>1</sup>



<sup>1</sup>Other configurations are available. Please consult factory.

<sup>2</sup>Pressure ranges below 250 psi are supplied with rigid capillary

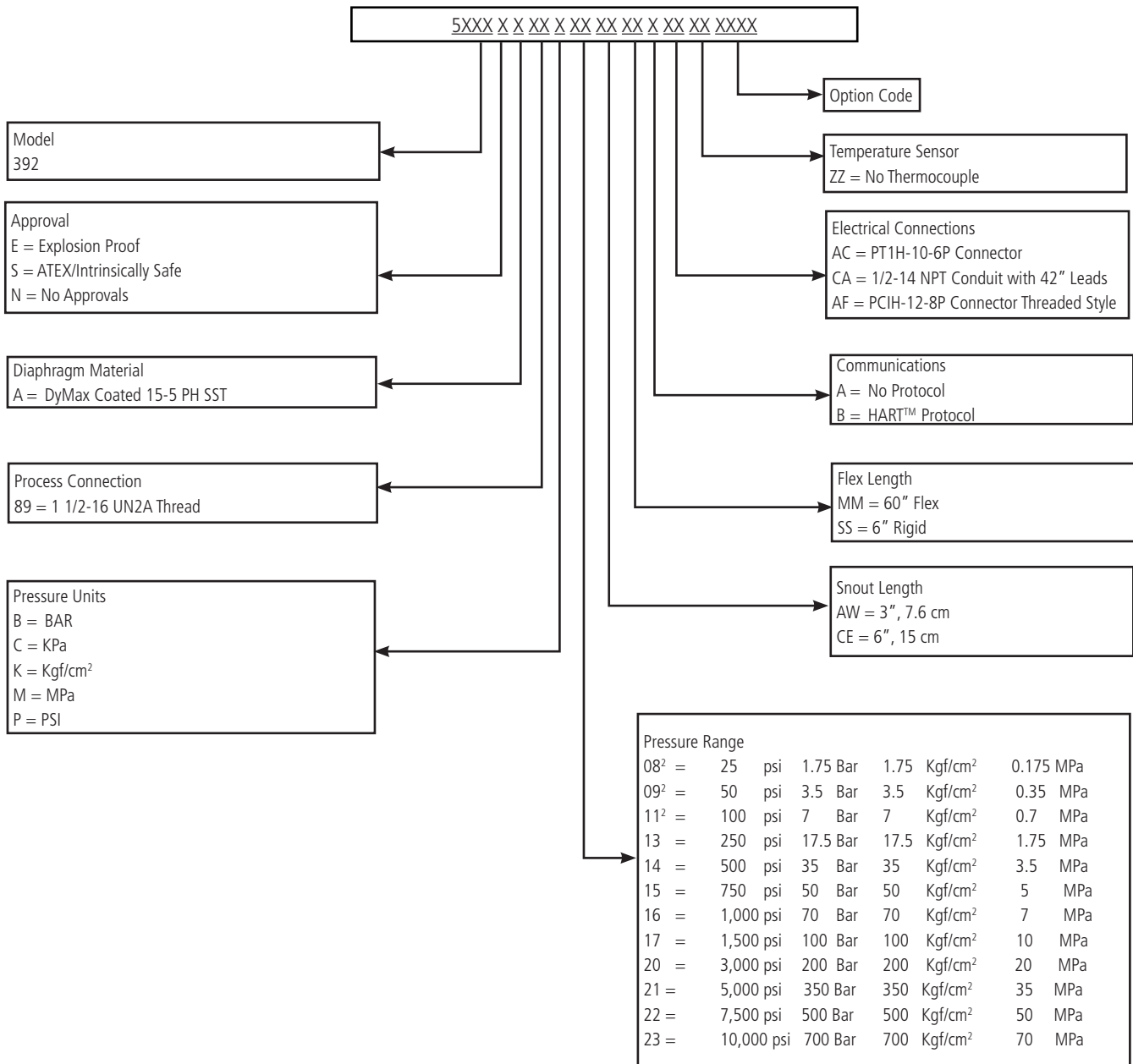
## Ordering Guide for Models SPX5391<sup>1</sup>



<sup>1</sup>Other configurations are available. Please consult factory.

<sup>2</sup>Pressure ranges below 250 psi are supplied with rigid capillary

## Ordering Guide for Models SPX5392<sup>1</sup>



<sup>1</sup>Other configurations are available. Please consult factory.

<sup>2</sup>Pressure ranges below 250 psi are supplied with rigid capillary

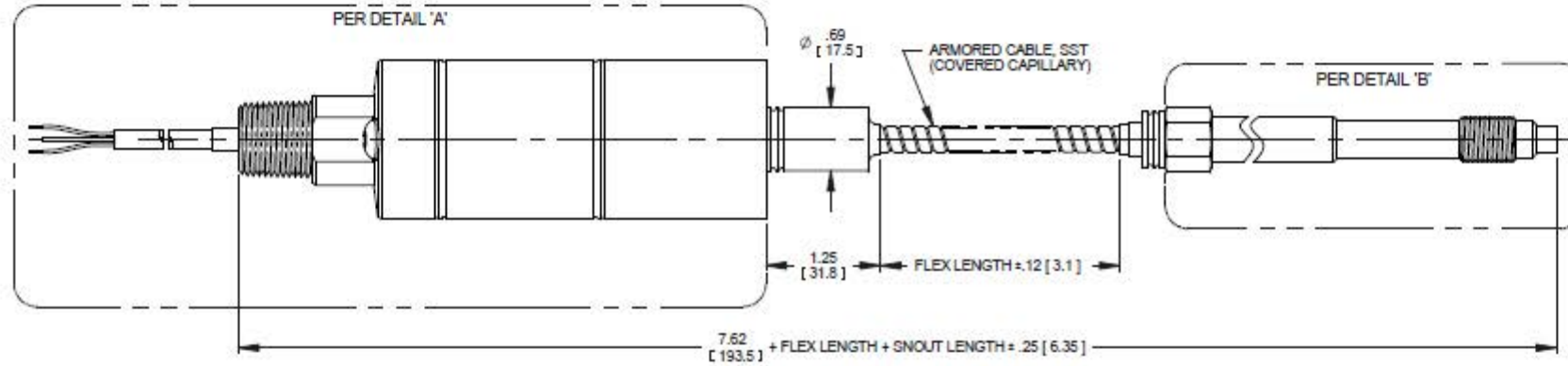
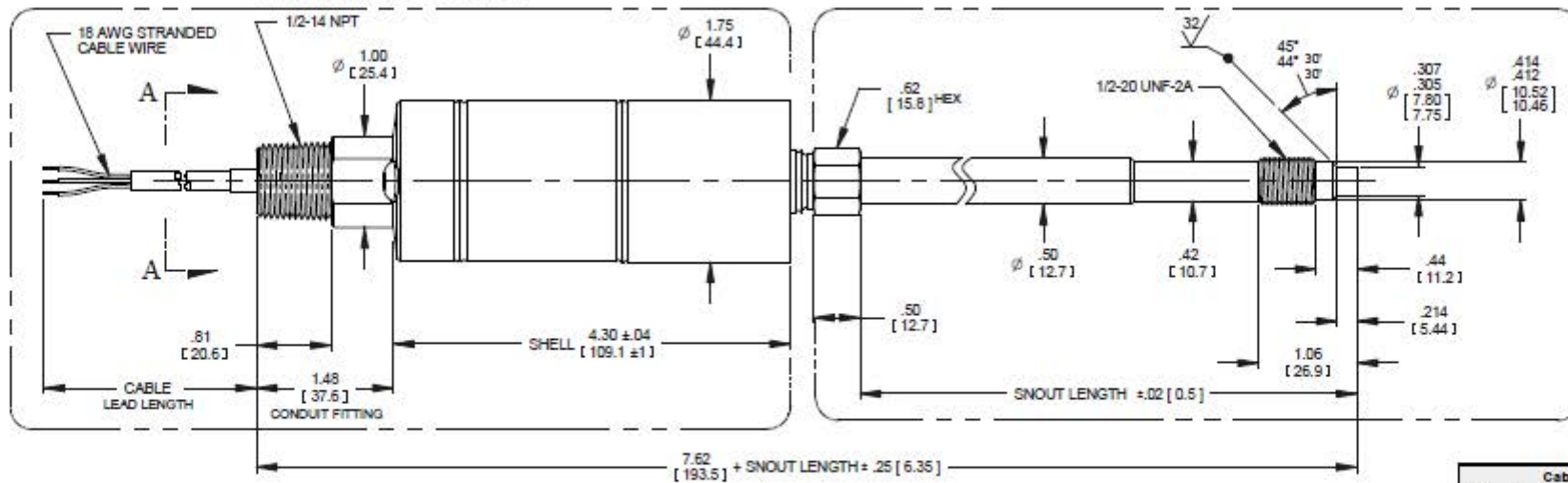


REV	ECO	BY	APP	DATE
C	47068	TP	LEB	11/18/16

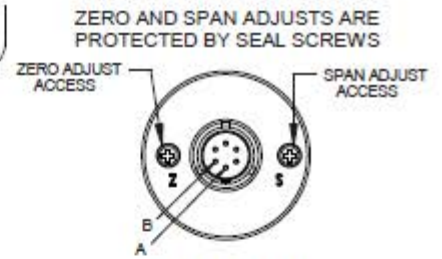
000616

**DETAIL 'A'**  
ELECTRICAL HOUSING, CONDUIT

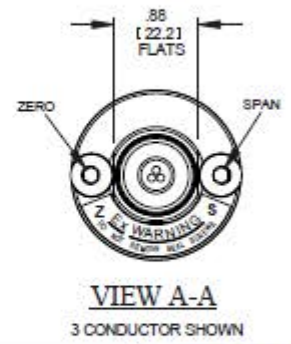
**DETAIL 'B'**  
1/2 - 20 PROCESS CONNECTION



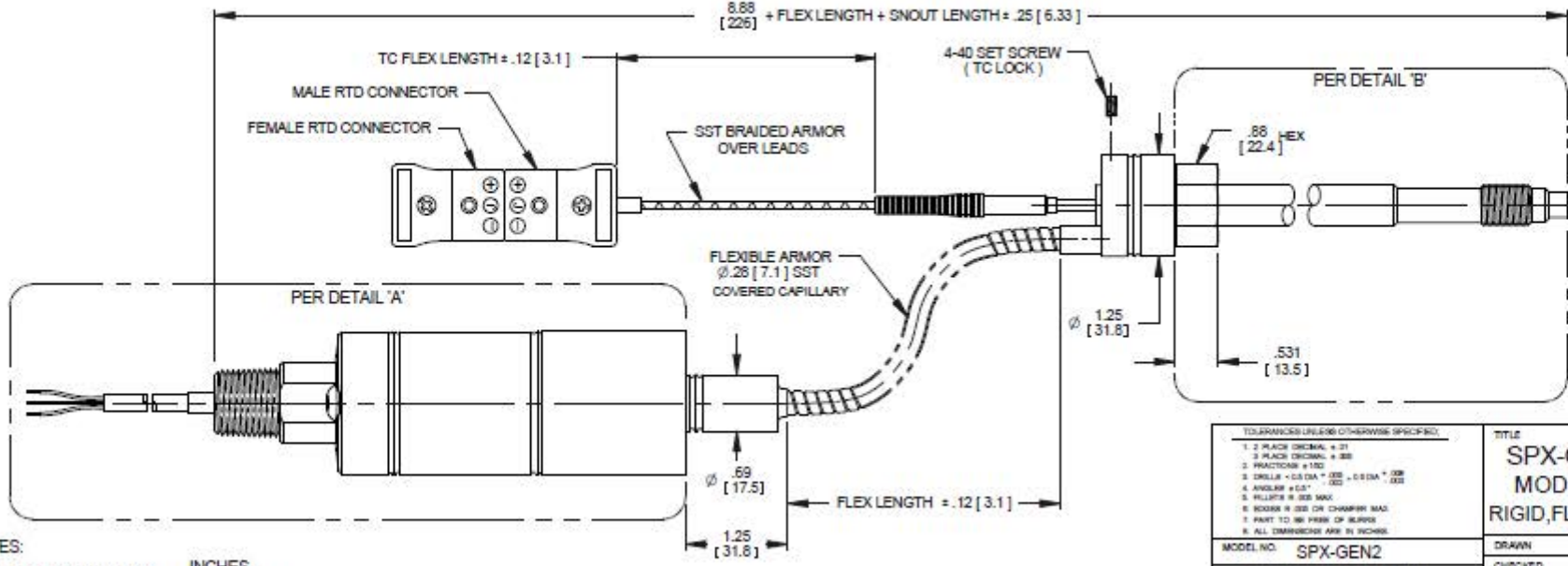
Cable Wiring		
Conductor	Color	Function
3 - Conductor	RED	POWER + / SIG +
	BLACK	POWER - / SIG -
	GREEN	GROUND
	ORANGE	Real +
6 - Conductor	BLUE	Real -



VIEW A-A



VIEW A-A



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

- TOLERANCES UNLESS OTHERWISE SPECIFIED:
- 2 PLACE DECIMAL = .01
  - 3 PLACE DECIMAL = .005
  - FRACTIONS = +.002
  - DRILLS =  $+.0015 \text{ DIA} \times .002$  -  $0.0015 \text{ DIA} \times .002$
  - ANGLES = ± 0.1°
  - HOLE IN HOLE = .002
  - ROUNDER IN HOLE OR CHAMFER MAX
  - PART TO BE FREE OF BURRS
  - ALL DIMENSIONS ARE IN INCHES

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

MODEL NO.	SPX-GEN2
DO NOT SCALE DRAWING	
MATERIAL	

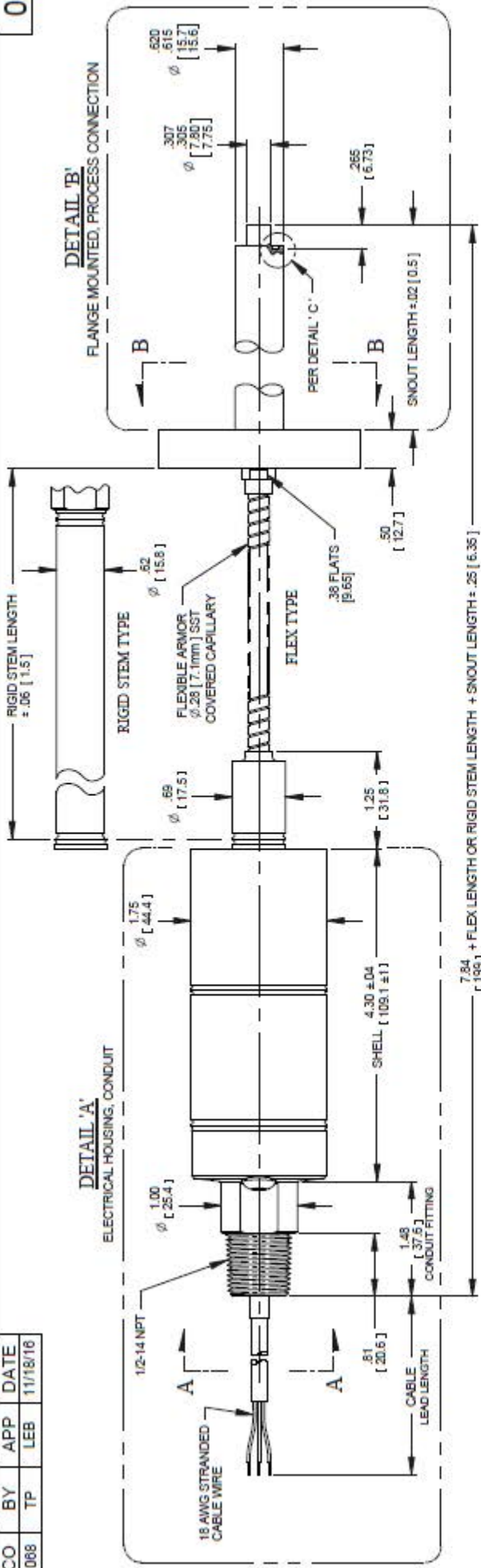
DRAWN	DRG	DATE	11/29/10
CHECKED		DATE	
APPROVED	MJL	DATE	01/31/11
FINISH			

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<b>Dynisco</b>		
FORM PAPER NO. FRANKLIN 64	SIZE	DWG. NO.
	C	000616
SCALE: NONE	SHEET 1 OF 1	REV
		C

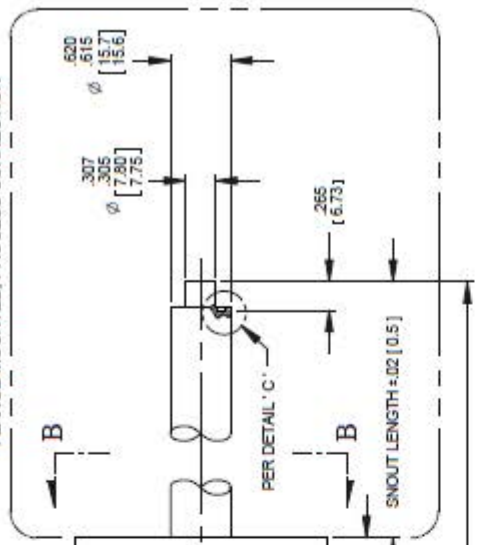
REV	ECO	BY	APP	DATE
C	47088	TP	LEB	11/18/10

000618

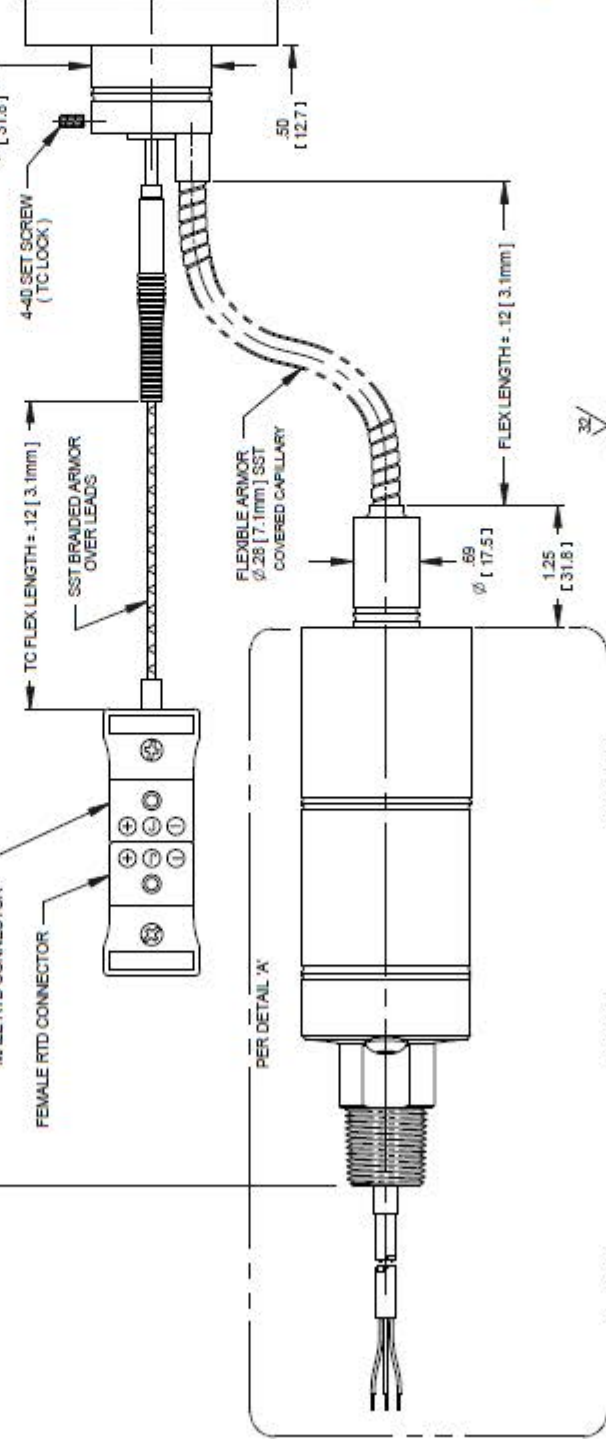
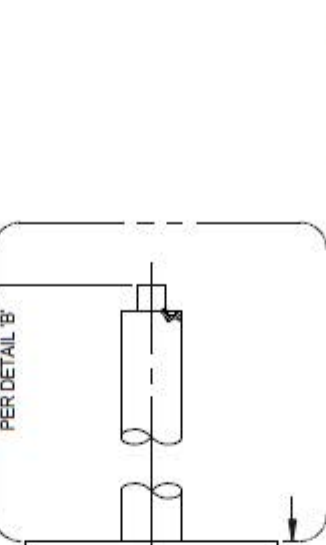
**DETAIL 'A'**  
ELECTRICAL HOUSING, CONDUIT



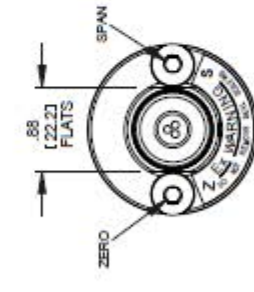
**DETAIL 'B'**  
FLANGE MOUNTED, PROCESS CONNECTION



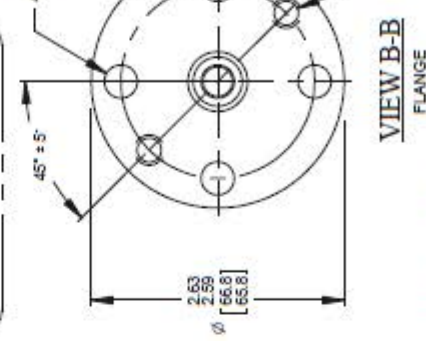
**DETAIL 'C'**  
PER DETAIL 'C'



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



**DETAIL 'C'**  
GROOVE FOR 1/2 NOM O.D.  
VENTED METAL O-RING



**VIEW B-B**  
FLANGE

NOTES:

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

TOLERANCES UNLESS OTHERWISE SPECIFIED:	DATE: 11/29/10
1. HOLE DIMENSIONS ± .01	DATE: 01/31/11
2. FINISHES ± .005	DATE: 01/31/11
3. HOLE LOCATIONS ± .005	DATE: 01/31/11
4. DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED	DATE: 01/31/11
5. DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED	DATE: 01/31/11
6. DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED	DATE: 01/31/11
7. DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED	DATE: 01/31/11

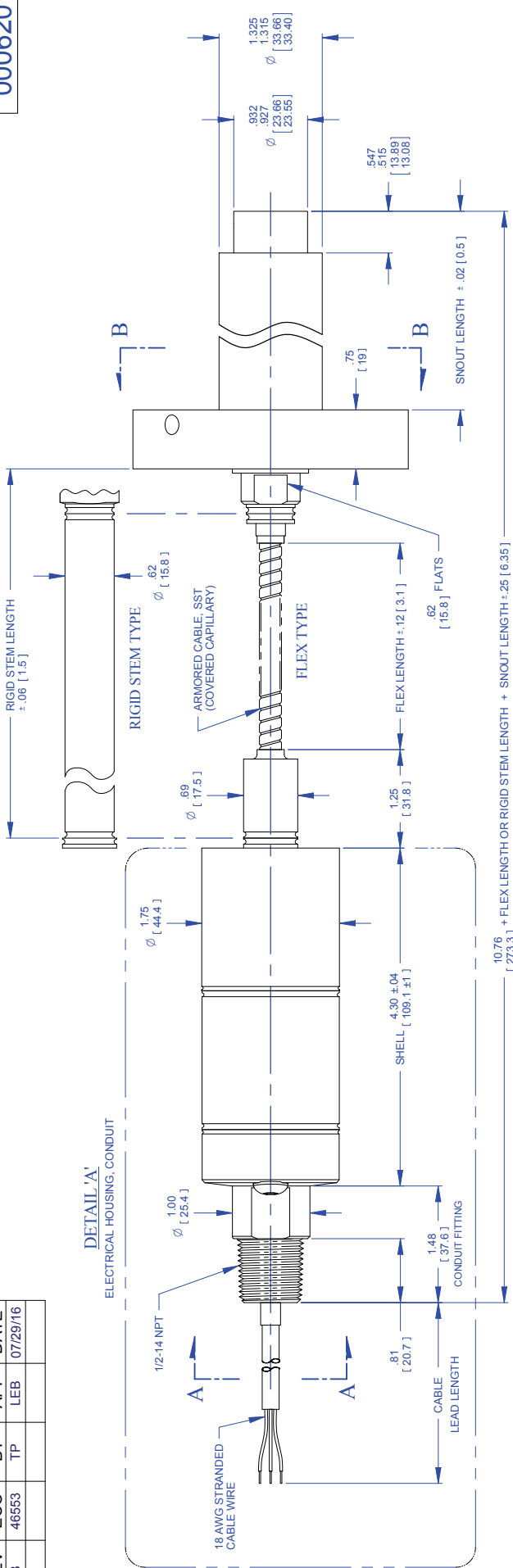
TITLE	SPX-GEN2 OUTLINE
MODEL NO.	MODELS 2243, 5343
DESCRIPTION	FLEX, RIGID & TPT VERSIONS
DATE	11/29/10
APPROVED	
CHECKED	
DRAWN	
DATE	
MATERIAL	
SCALE	NONE
DWG. NO.	C 000618
REV	C
SHEET	1 OF 1



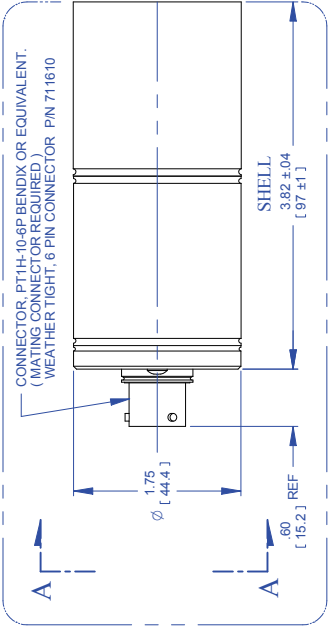
REV	ECO	BY	APP	DATE
B	46563	TP	LEB	07/29/16

000620

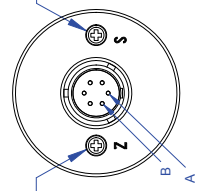
DETAIL 'A'  
ELECTRICAL HOUSING, CONDUIT



ELECTRICAL HOUSING, CONNECTOR CONFIGURATION

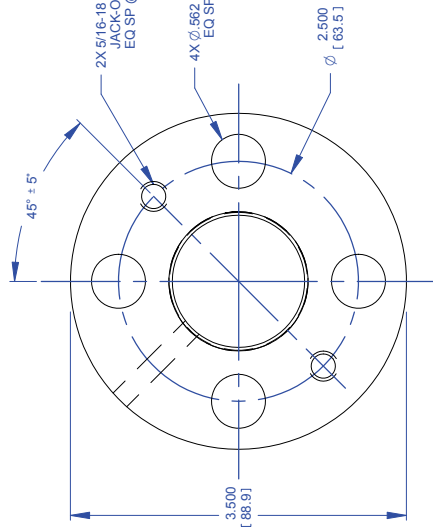


ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS

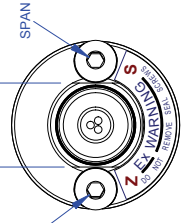


VIEW A-A

CONNECTOR WIRING	FUNCTION
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 +
3 - Conductor	BLUE	Rcal -

NOTES:

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

TOLERANCES UNLESS OTHERWISE SPECIFIED:	
1. FRACTIONS	±.01
2. DECIMALS	±.005
3. DIMENSIONS	±.005
4. ANGLES	±.05° MAX
5. EDGES	R .005 OR CHAMFER MAX
6. ALL DIMENSIONS ARE IN INCHES	

TITLE	SPX-GEN2 OUTLINE MODELS 2244, 5344 FLEX & RIGID VERSIONS
DRAWN	DRG DATE 11/29/10
CHECKED	MUL DATE 01/13/11
APPROVED	DATE
FINISH	

MODEL NO.	SPX-GEN2
DO NOT SCALE DRAWING	
MATERIAL	

SIZE	C
REV	B

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FORCE PARKWAY, HANNAH, VA

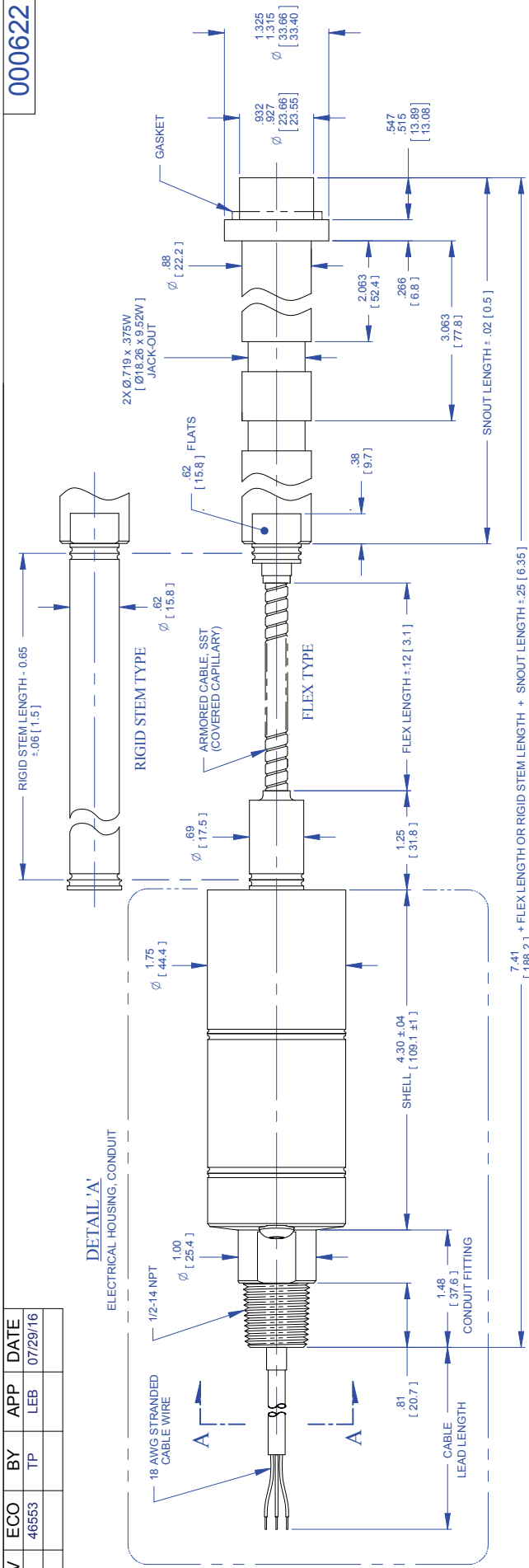
SCALE: NONE SHEET 1 OF 1



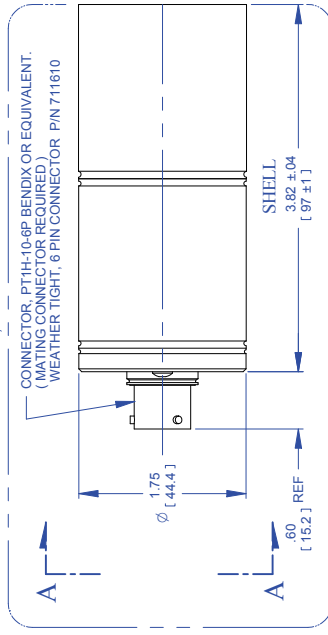
REV	ECO	BY	APP	DATE
B	46553	TP	LEB	07/29/16

000622

DETAIL A  
ELECTRICAL HOUSING, CONDUIT

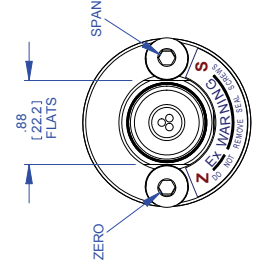


ELECTRICAL HOUSING, CONNECTOR CONFIGURATION



CONNECTOR, PT1H-10-6P BENDY OR EQUIVALENT.  
(MATING CONNECTOR REQUIRED)  
WEATHER TIGHT, 6 PIN CONNECTOR, P/N 711610

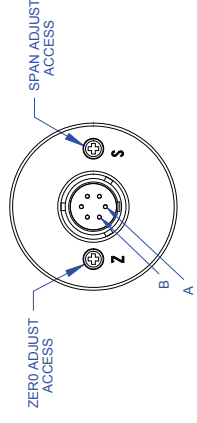
ZERO AND SPAN ADJUSTERS ARE PROTECTED BY SEAL SCREWS



VIEW A-A  
3. CONDUCTOR SHOWN

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

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



VIEW A-A

- TOLERANCES UNLESS OTHERWISE SPECIFIED:
1. 2 PLACE DECIMAL ±.01
  2. 3 PLACE DECIMAL ±.005
  3. DRILLS ±0.030
  4. DRILLS ±0.030, ±.005 -0.030, +.008
  5. ANGLES ±0.5° MAX
  6. EDGES R .005 OR CHAMFER MAX
  7. FINISHES AS SHOWN
  8. ALL DIMENSIONS ARE IN INCHES

TITLE		DATE	DRG	DATE
SPX-GEN2 OUTLINE		12/08/10		
MODELS 2290, 5390				
FLEX & RIGID VERSIONS				
DRAWN	CHECKED	APPROVED	MUL	DATE
				01/31/11
FINISH				

SIZE	DWG. NO.	REV
C	000622	B

NOTES:

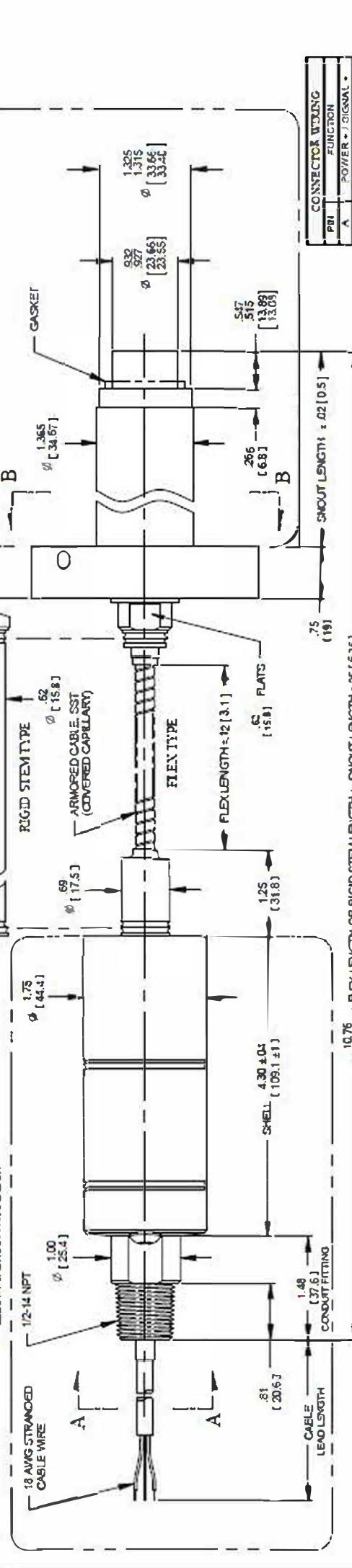
1. ALL DIMENSIONS ARE INCHES [ MILLIMETERS ]
2. EXPOSED SURFACES ARE STAINLESS STEEL.



FORCE PARKWAY, FRANKLIN, VA

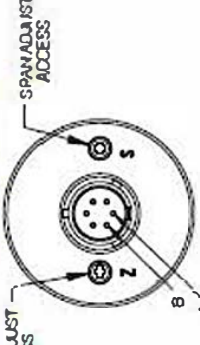
REV	ECO	BY	APP	DATE
C	4708B	TP	LEB	11/18/16

**DETAIL 'A'**  
ELECTRICAL HOUSING, CONDUIT

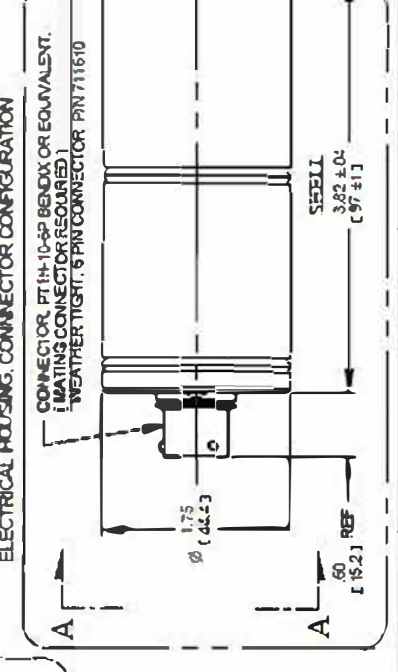


CONDUCTOR WINDING	FUNCTION
A	POWER - 1 SIGNAL *
B	POWER - 2 SIGNAL *
C	NO
D	CONNECTION
E	RC'3 *
F	RC'3 *

ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



**VIEW A-A**



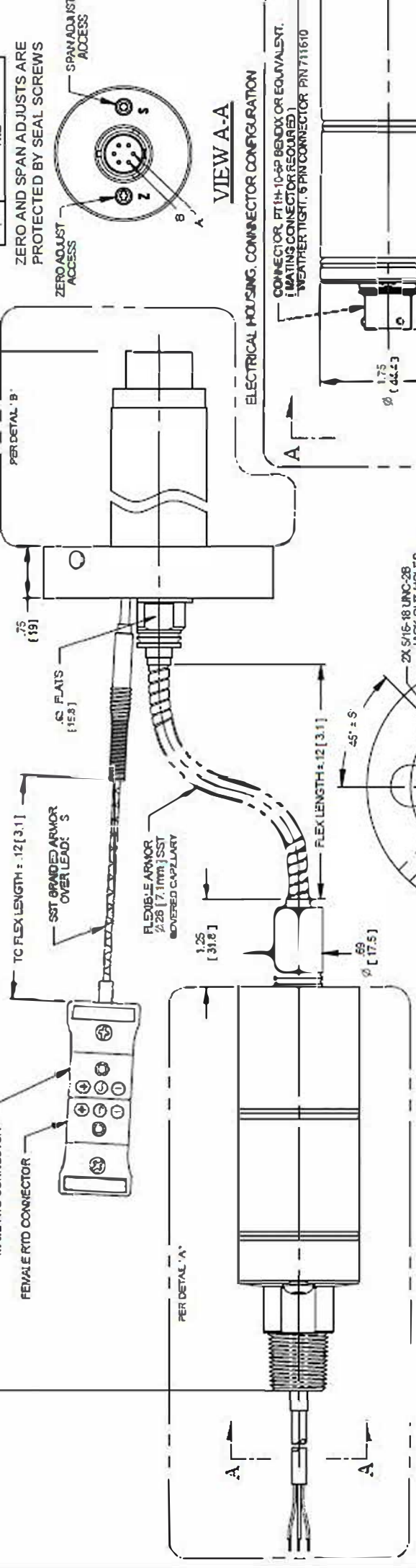
CONNECTIONS TO THIS PRODUCT SHOULD BE MADE IN ACCORDANCE WITH THE FOLLOWING INSTRUCTIONS: 1. ALL DIMENSIONS ARE IN MILLIMETERS. 2. EXPOSED SURFACES ARE STAINLESS STEEL. 3. CONDUCTOR SHOWN PER DETAIL 'A'.

DATE	12/08/10
DRG	SPX-GEN2
APPROVED	MLB
DATE	01/31/11
REV	C
SCALE	NONE
SHEET	1 OF 1

**SPX-GEN2 OUTLINE**  
MODELS 2291, 5391  
FLEX, RIGID & TPT VERSIONS

DO NOT SCALE DRAWING  
MATERIAL

**DETAIL 'B'**  
FLANGE MOUNTED, PROCESS CONNECTION



Cable Winding	Function
RED	POWER - 1 SIG *
BLACK	POWER - 2 SIG *
GREEN	GROUND
ORANGE	Power *
SILVER	Power *

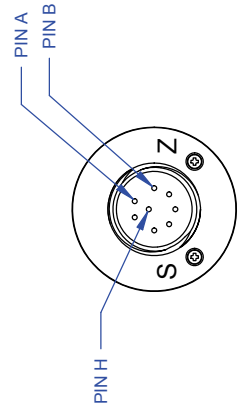
- NOTES:
- ALL DIMENSIONS ARE INCHES [ MILLIMETERS ]
  - EXPOSED SURFACES ARE STAINLESS STEEL.

**VIEW B-B**  
FLANGE

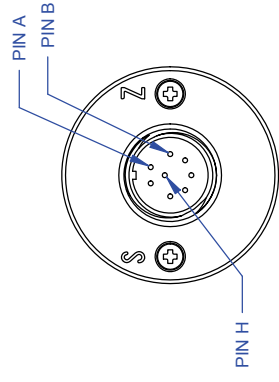
**VIEW A-A**  
3 CONDUCTOR SHOWN

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

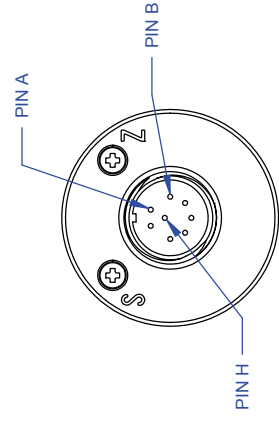
000652



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. DIMENSIONS IN PARENTHESES  
 2. PLACE DECIMAL ± .005  
 3. FRACTIONS ± 1/32  
 4. DRILLS < 0.5 DIA. ± .002 > 0.5 DIA. ± .003  
 5. ANGLES ± 0.5° MAX.  
 6. EDGES R .006 OR CHAMFER MAX.  
 7. PART TO BE FREE OF BURRS  
 8. 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			
SCALE NONE SHEET 1 OF 1			

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Refer to [www.dynisco.com](http://www.dynisco.com) for access to Operator Manual and other support documentation.  
PN: DSSPX5SERIES  
REV: 1116  
ECO: 47068



# Dynisco

[www.dynisco.com](http://www.dynisco.com)

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