

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.

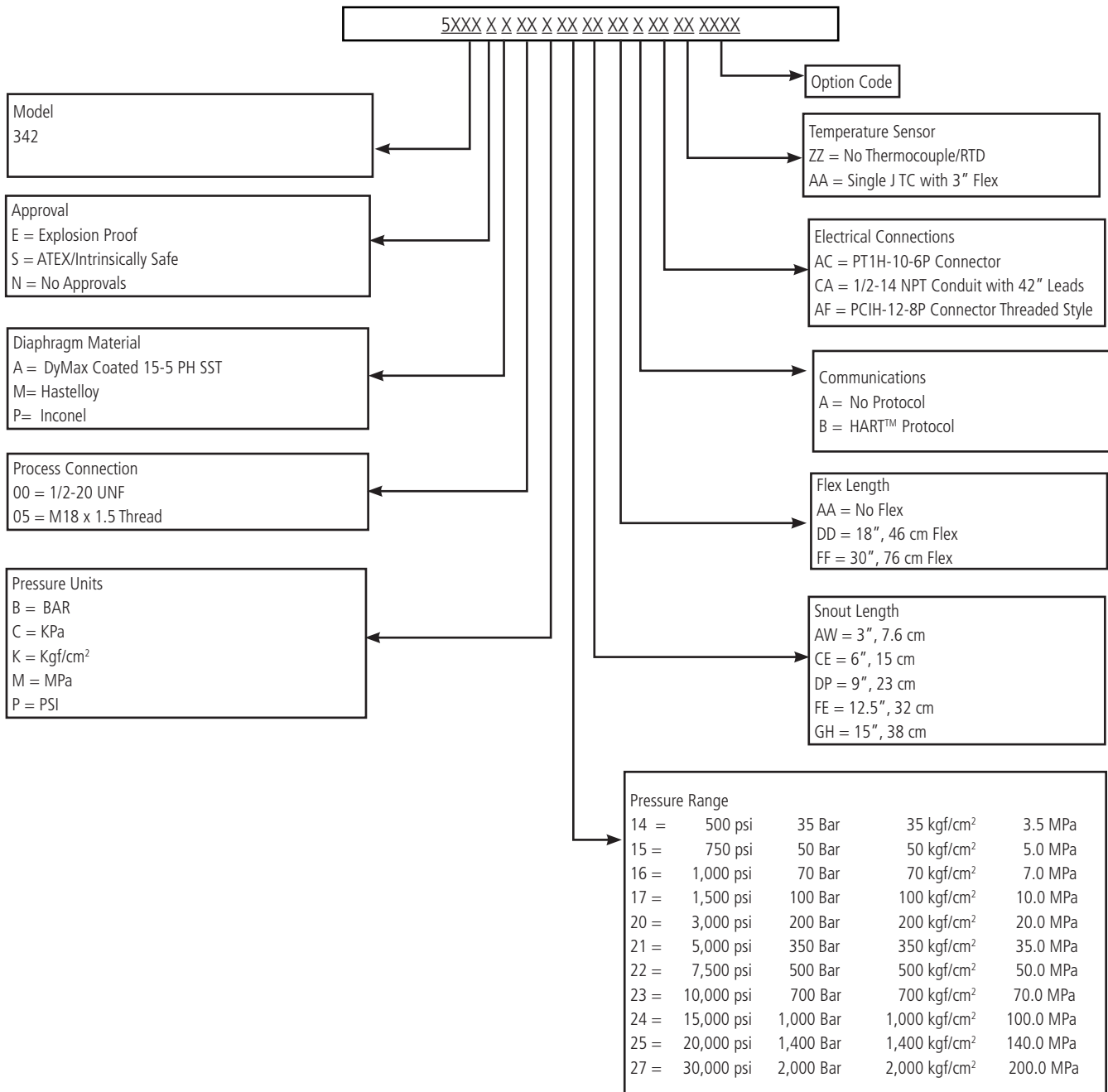
Features

- 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 $\leq 36"$; DyMax coated 15-5 SST diaphragm; Best Straight Line (BSL) %FS, per ISA-37.1 Consult Factory for availability and specifications of other configurations.</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 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 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

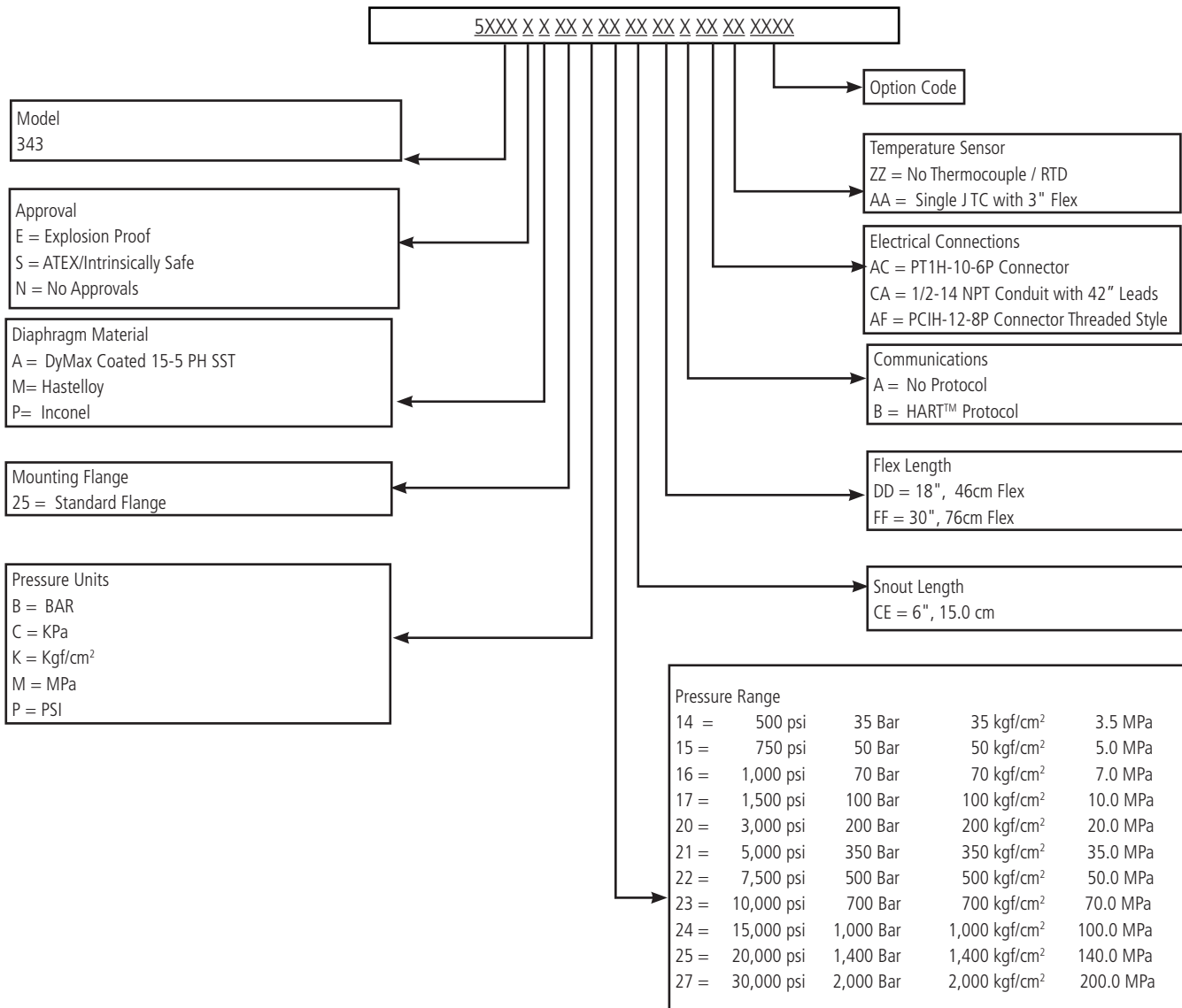
Mechanical Characteristics	
Mounting Torque	5342: 500 inch-lbf max 5343: 50 inch-lbf max 5344: 350 inch-lbf max 5390: 350 inch-lbf max 5391: 350 inch-lbf max 5392: 80 ft-lbf max
Standard Wetted Parts	DyMax coated 15-5 PH SST
Approvals & Certifications	
ATEC/IECEX Intrinsically Safe	
SIL 2 (pressure output)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

Ordering Guide for Models SPX5342¹



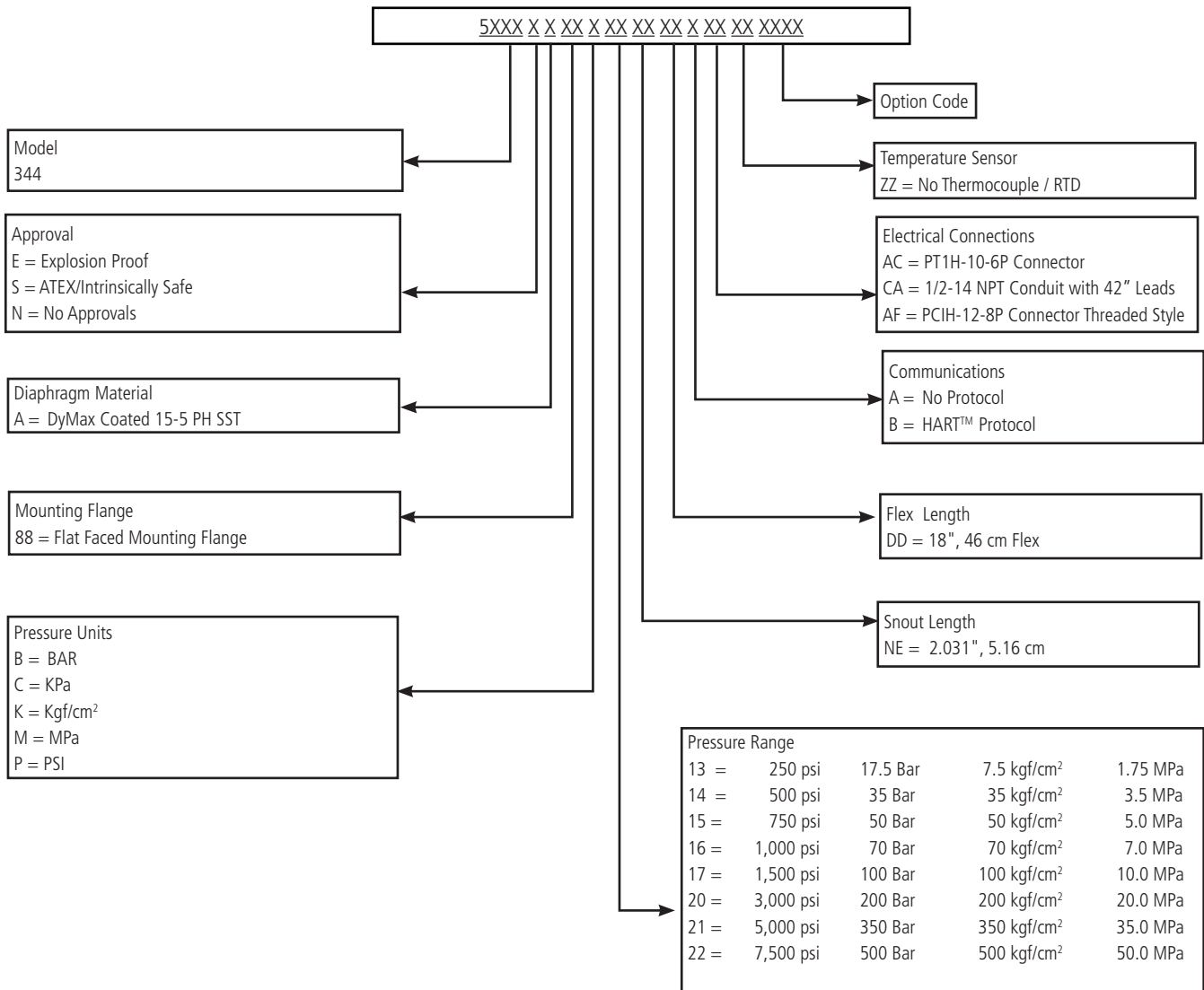
¹Other configurations are available. Please consult factory.

Ordering Guide for Models SPX5343¹



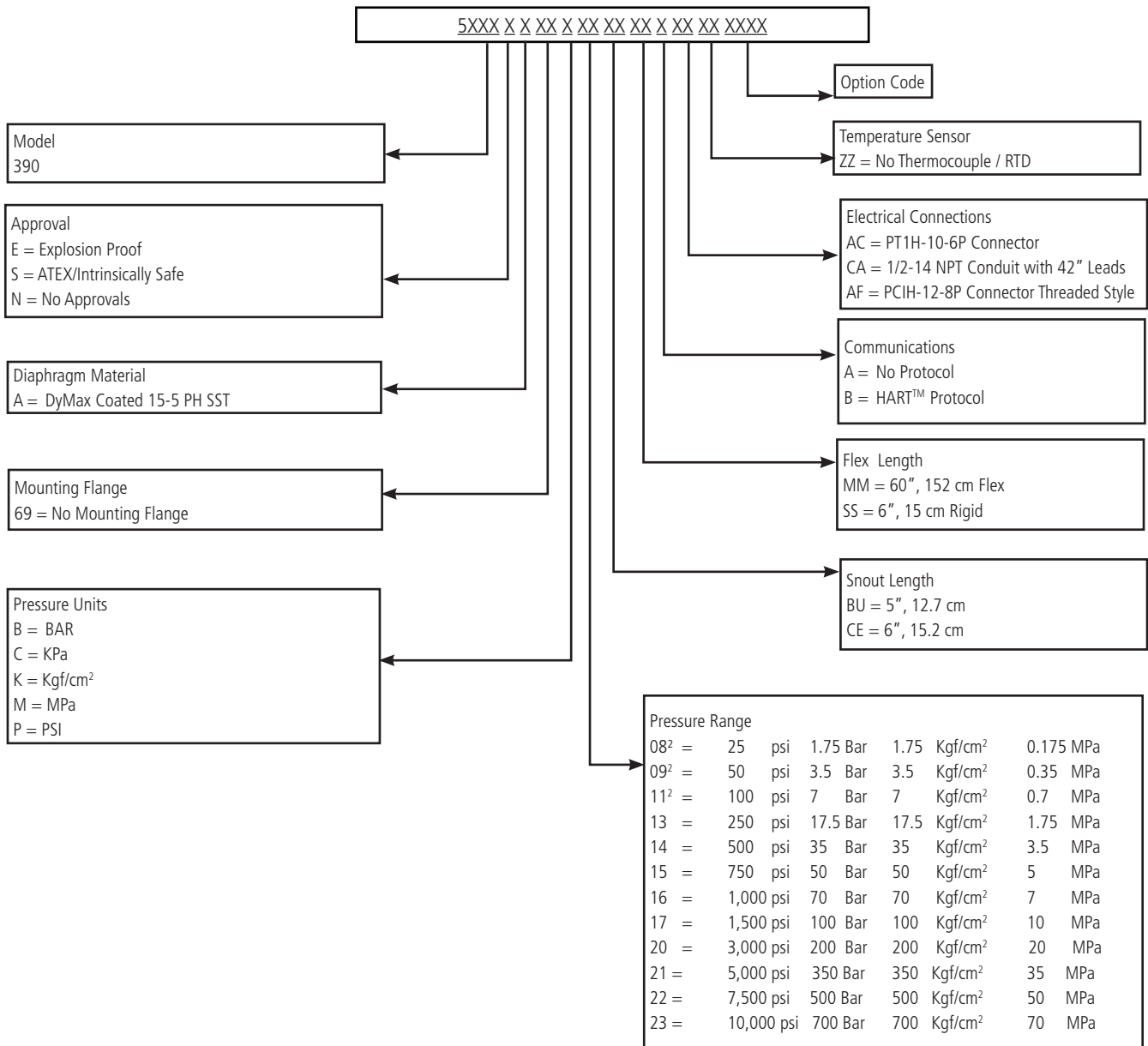
¹Other configurations are available. Please consult factory.

Ordering Guide for Models SPX5344¹



¹Other configurations are available. Please consult factory.

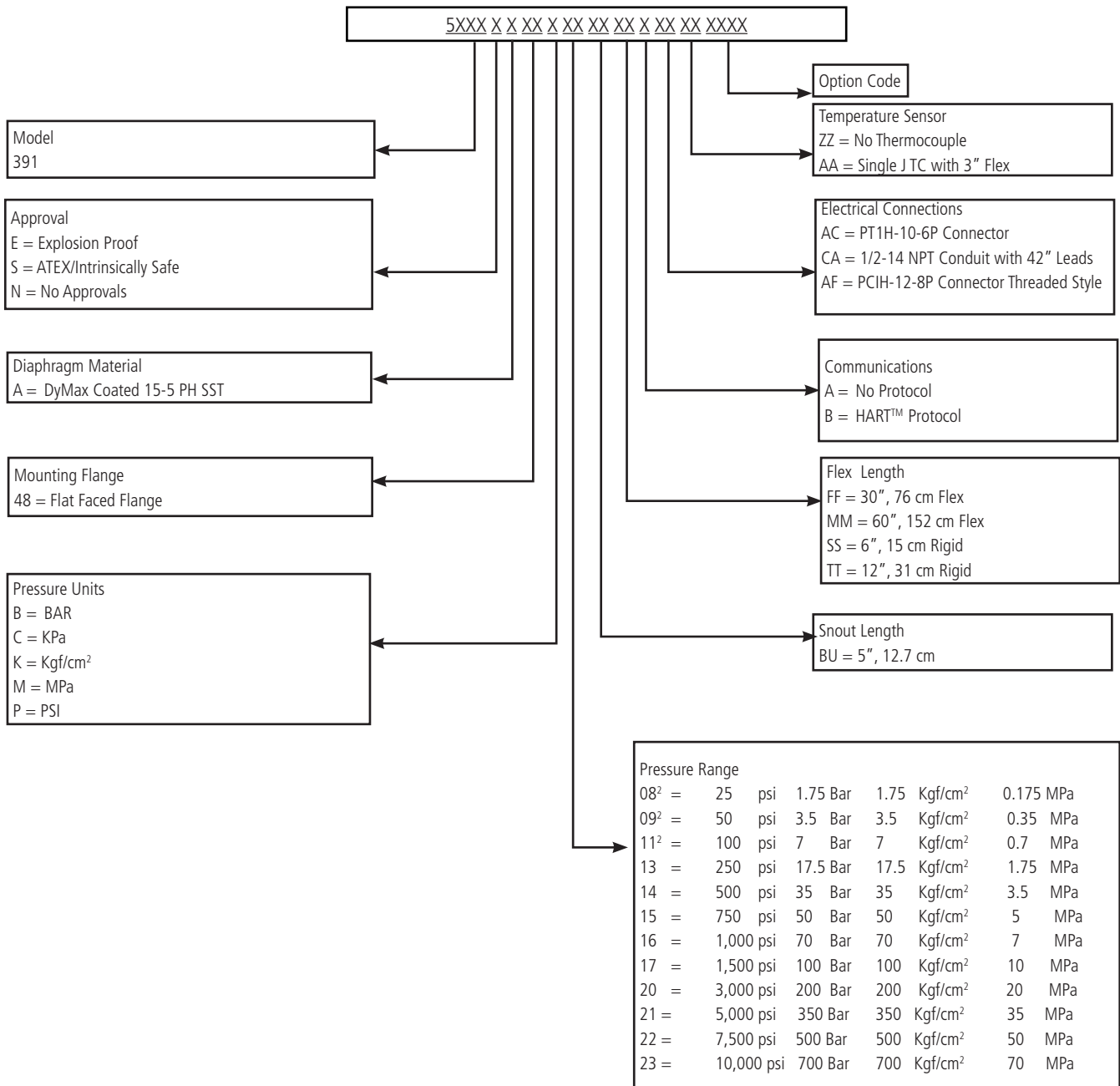
Ordering Guide for Models SPX5390¹



¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary

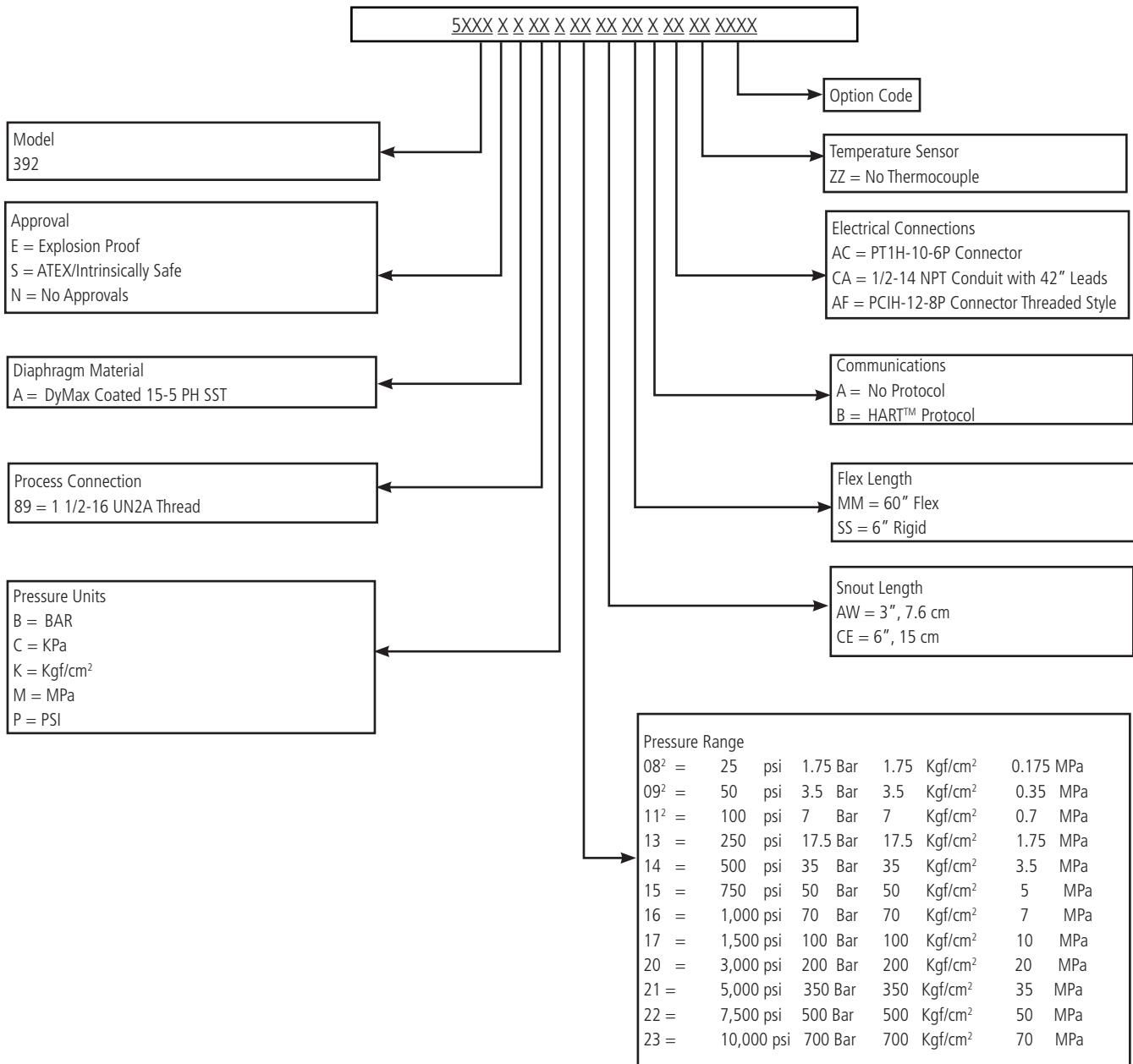
Ordering Guide for Models SPX5391¹



¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary

Ordering Guide for Models SPX5392¹



¹Other configurations are available. Please consult factory.

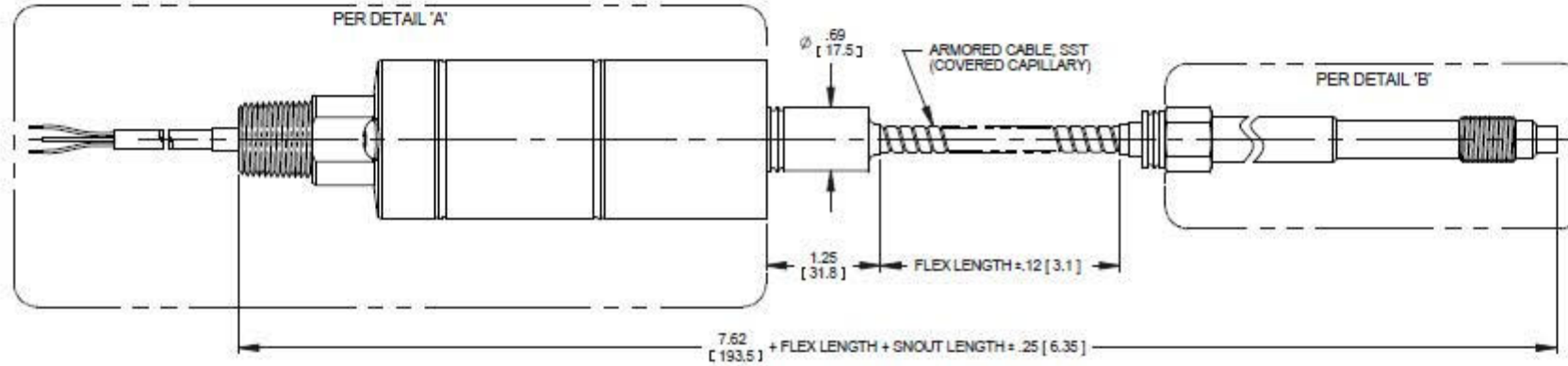
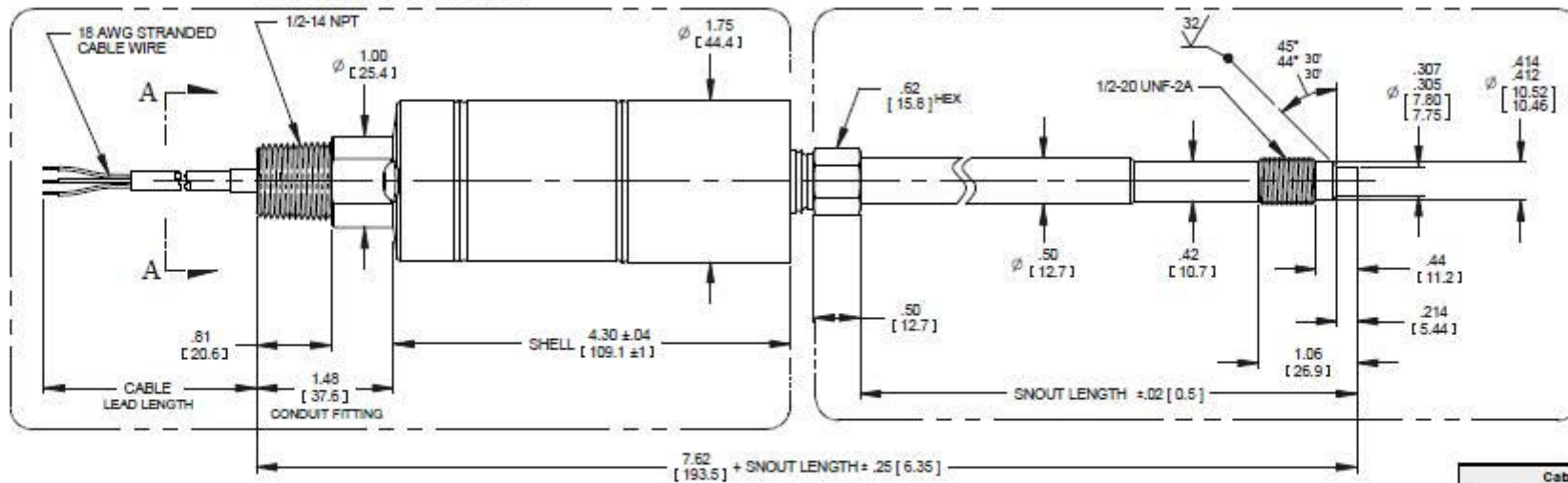
²Pressure ranges below 250 psi are supplied with rigid capillary

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

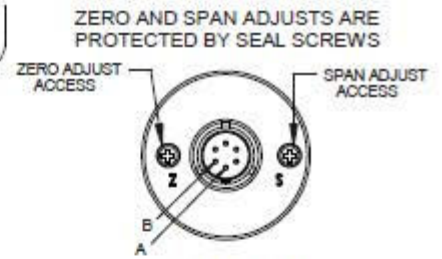
000616

DETAIL 'A'
ELECTRICAL HOUSING, CONDUIT

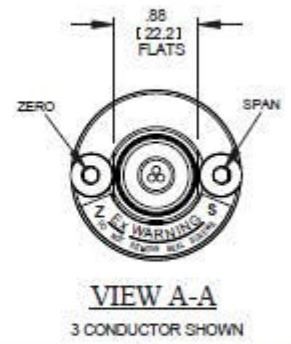
DETAIL 'B'
1/2 - 20 PROCESS CONNECTION



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

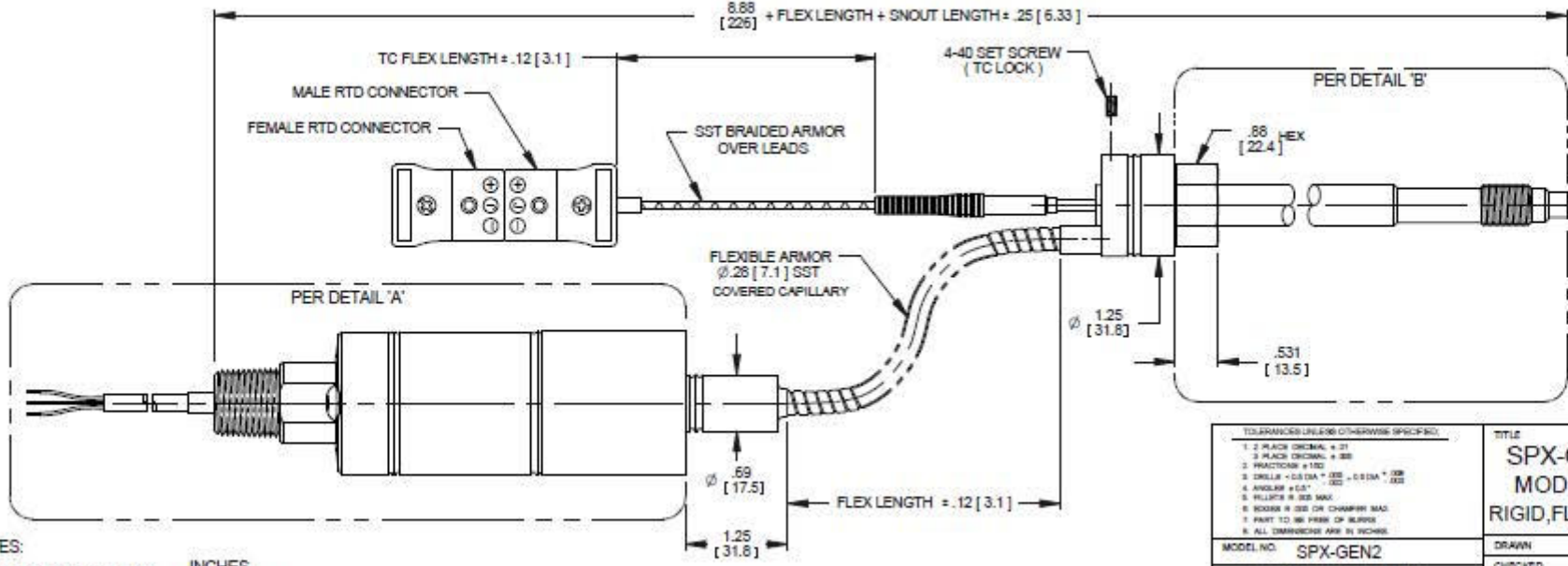


VIEW A-A



VIEW A-A

3 CONDUCTOR SHOWN



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

TOLERANCES UNLESS OTHERWISE SPECIFIED:	
1. 2 PLACE DECIMAL = .01	
2. 3 PLACE DECIMAL = .005	
3. FRACTIONS = .001	
4. DRILLS = .0015 DIA * .002 - .0015 DIA * .002	
5. HOLE IN .002 DIA	
6. ANGLES = 45°	
7. HOLE IN .002 DIA	
8. HOLE IN .002 DIA OR CHAMFER DIA	
9. PART TO BE FREE OF BURRS	
10. ALL DIMENSIONS ARE IN INCHES	

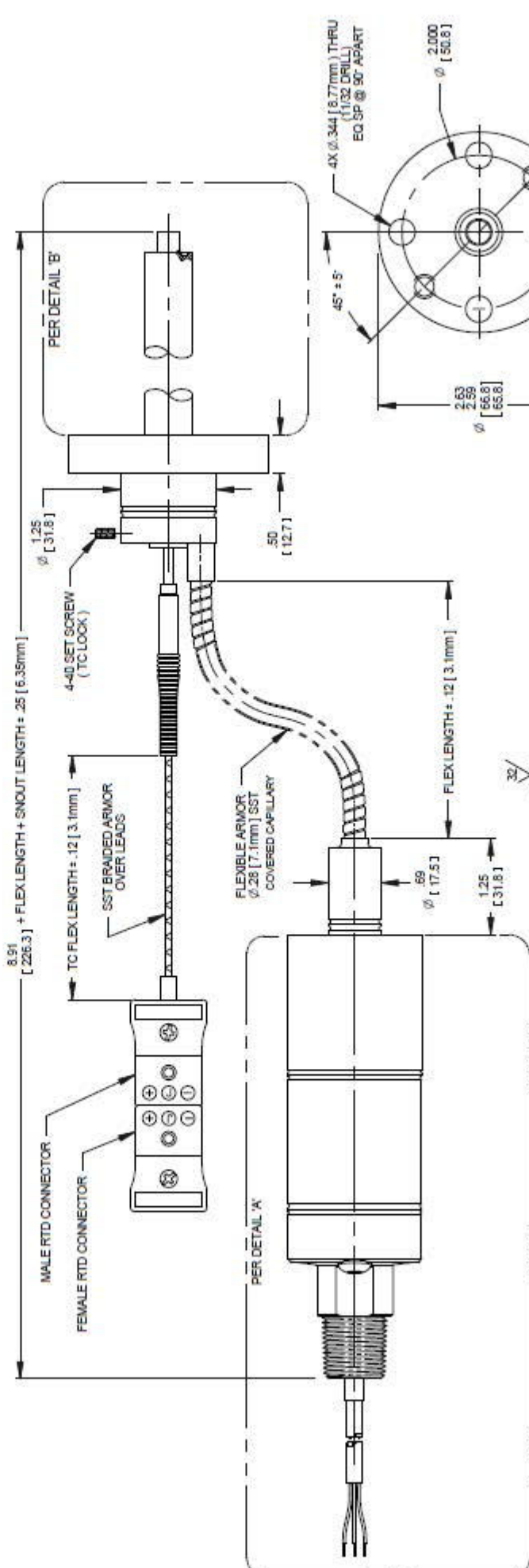
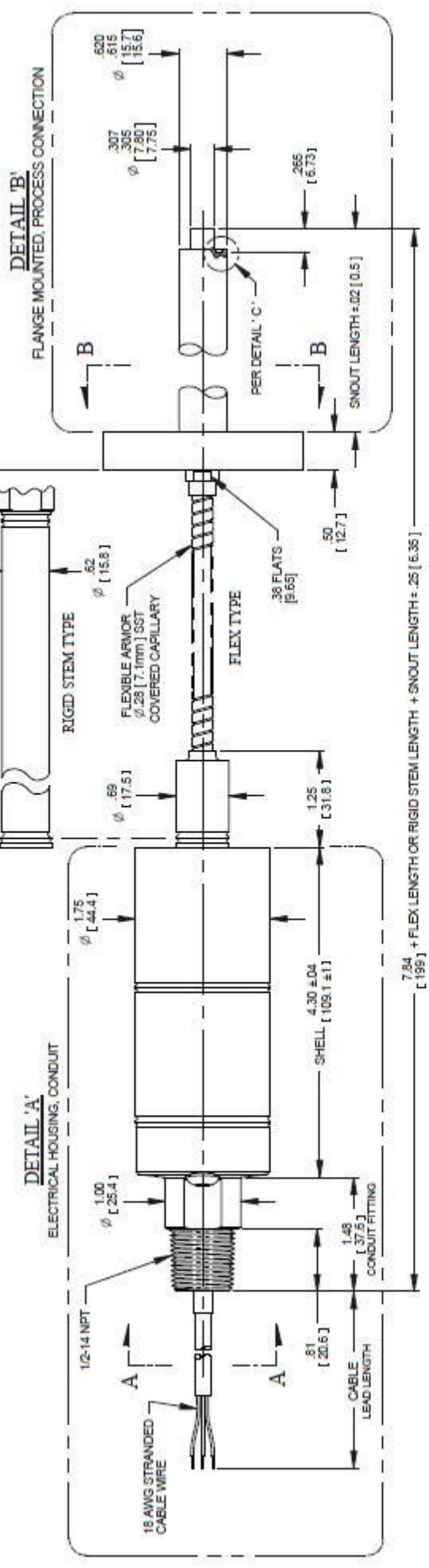
TITLE
SPX-GEN2 OUTLINE
MODELS 2242, 5342
RIGID, FLEX & TPT VERSION

MODEL NO.	SPX-GEN2	DRAWN	DRG	DATE	11/29/10
CHECKED		DATE			
APPROVED	MJL	DATE	01/31/11		
MATERIAL		FINISH			

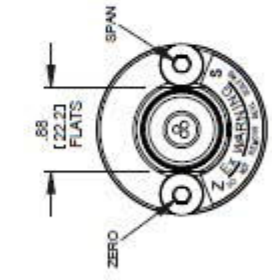
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FORM FAVORITE PRINTING, INC.		
SIZE	DWG. NO.	REV.
C	000616	C
SCALE: NONE SHEET 1 OF 1		

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

000618



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



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

DETAIL A-A
3 CONDUCTOR SHOWN

TELEPHONE LINE USE ONLY (FOR WIRELESS SERVICE ONLY)

1. MAKE ORIGINAL & 21
2. FACTORY & 100
3. SHELL - 0.010" - .002 - 0.010" - .002
4. FLATS - 0.005 MAX
5. ROOTS - 0.005 OR CHAMFER MAX
6. PART TO BE MADE OF STAINLESS
7. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

Dynisco
CORPORATION, MODEL NO. C 000618
DATE: 11/29/10
MATERIAL: NONE

SPX-GEN2 OUTLINE
MODELS 2243, 5343
FLEX, RIGID & TPT VERSIONS

DATE: 11/29/10
MATERIAL: NONE

SCALE: NONE

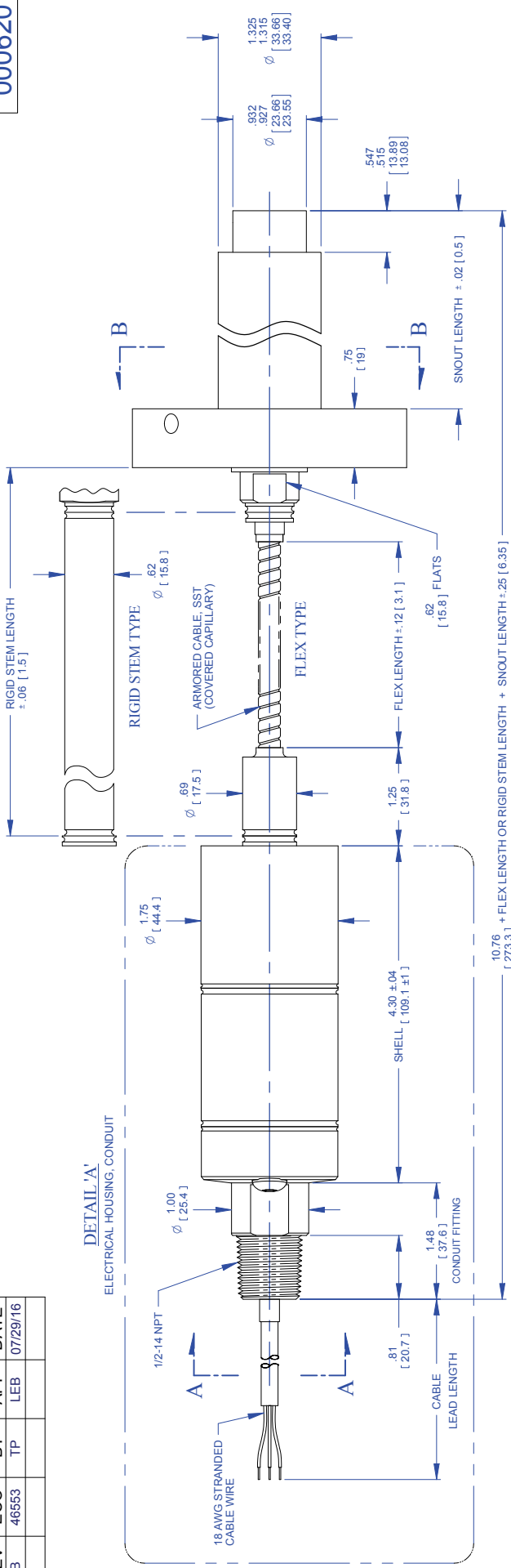
SHEET 1 OF 1

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

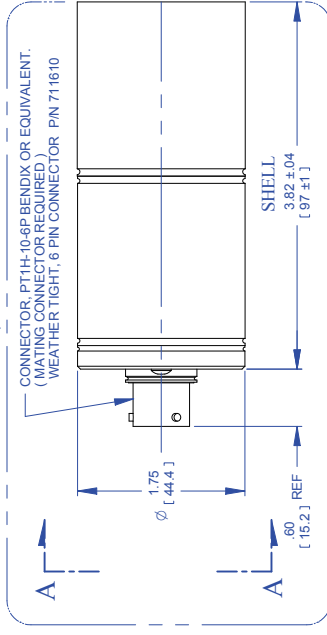
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000620

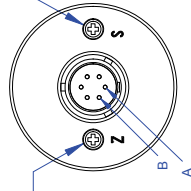
DETAIL 'A'
ELECTRICAL HOUSING, CONDUIT



ELECTRICAL HOUSING, CONNECTOR CONFIGURATION

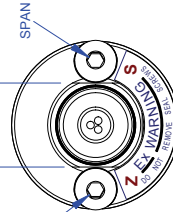
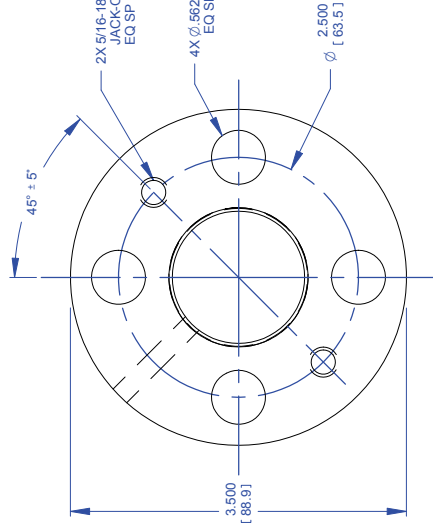


ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



VIEW A-A

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



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

NOTES:

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

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Dynisco
FORCE PARKWAY, TINKERHILL, VA

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

MODEL NO: **SPX-GEN2** | DRAWN: [] | DRG: [] | DATE: 11/29/10

CHECKED: [] | DATE: 01/13/11 | REV: **C 000620 B**

APPROVED: [] | DATE: [] | SCALE: NONE | SHEET 1 OF 1

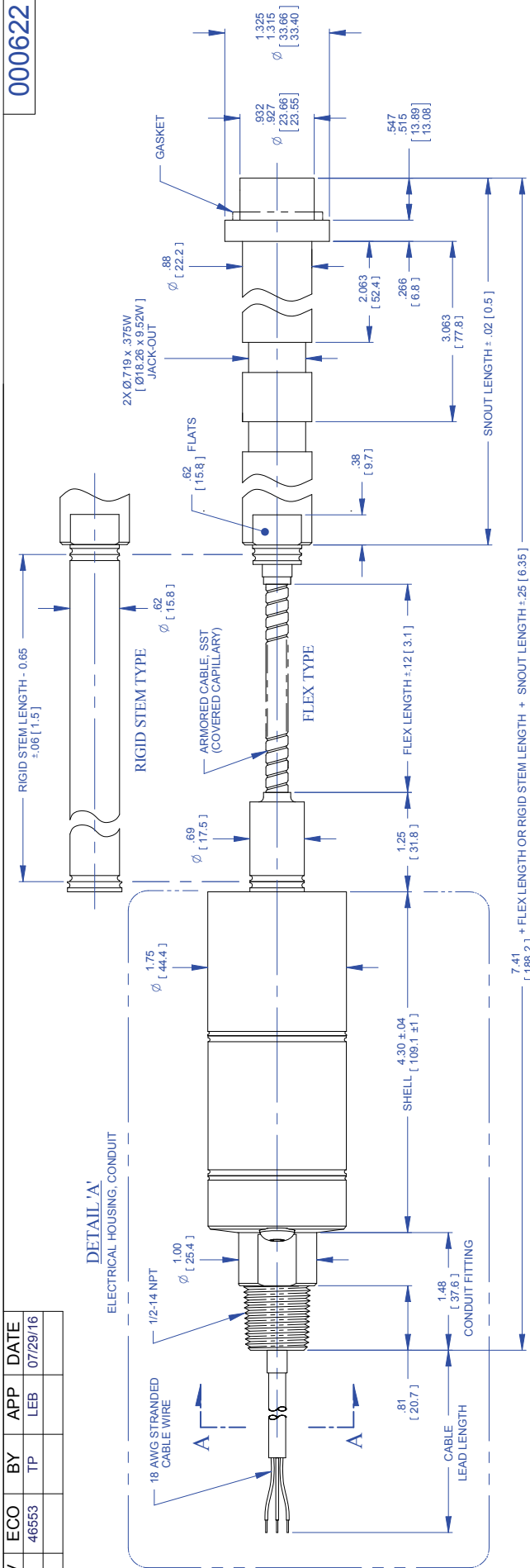
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DO NOT SCALE DRAWING

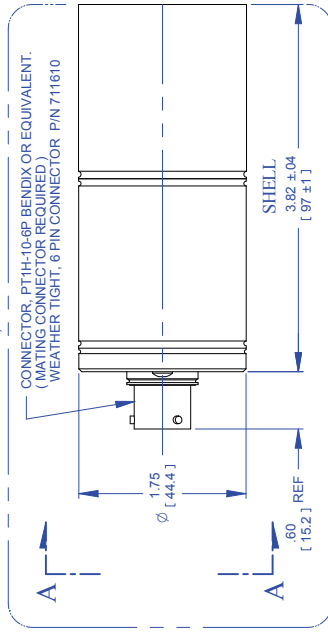
REV	ECO	BY	APP	DATE
B	46553	TP	LEB	07/29/16

000622

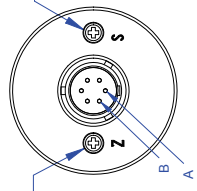
DETAIL A
ELECTRICAL HOUSING, CONDUIT



ELECTRICAL HOUSING, CONNECTOR CONFIGURATION

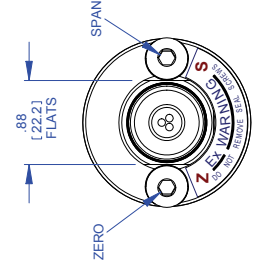


ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



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

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



VIEW A-A
3. CONDUCTOR SHOWN

- 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
SPX-GEN2 OUTLINE
MODELS 2290, 5390
FLEX & RIGID VERSIONS

DRAWN	DRG	DATE	12/08/10
CHECKED	MUL	DATE	01/31/11
APPROVED	MUL	DATE	01/31/11
FINISH			

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

Dynisco
FORCE PARKWAY, FRANKLIN, MA

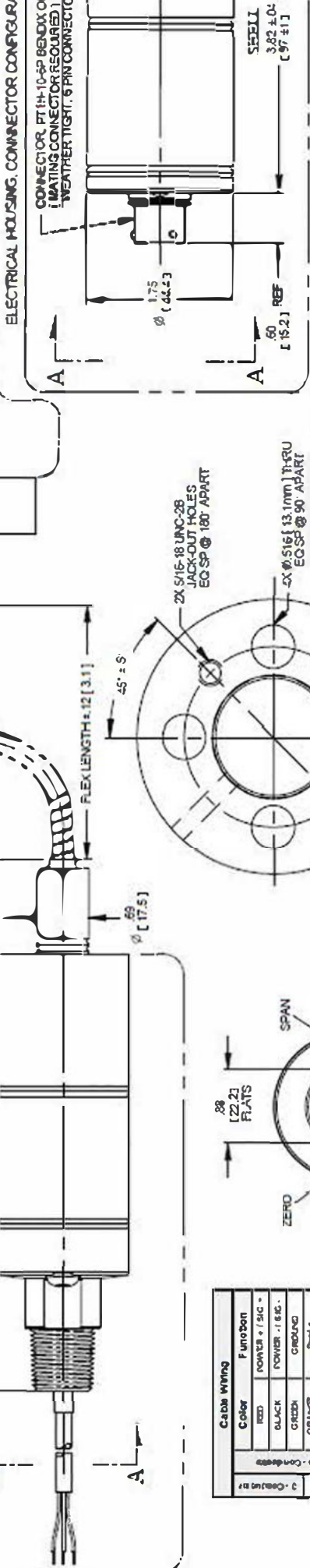
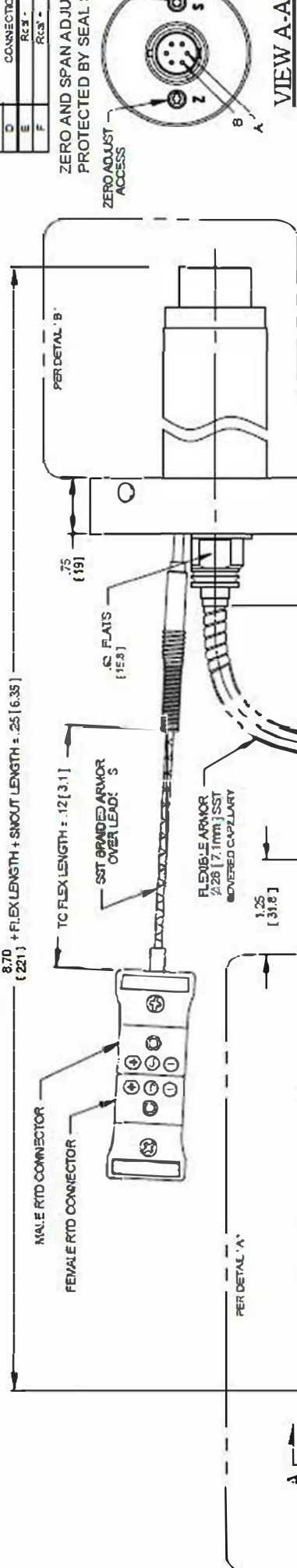
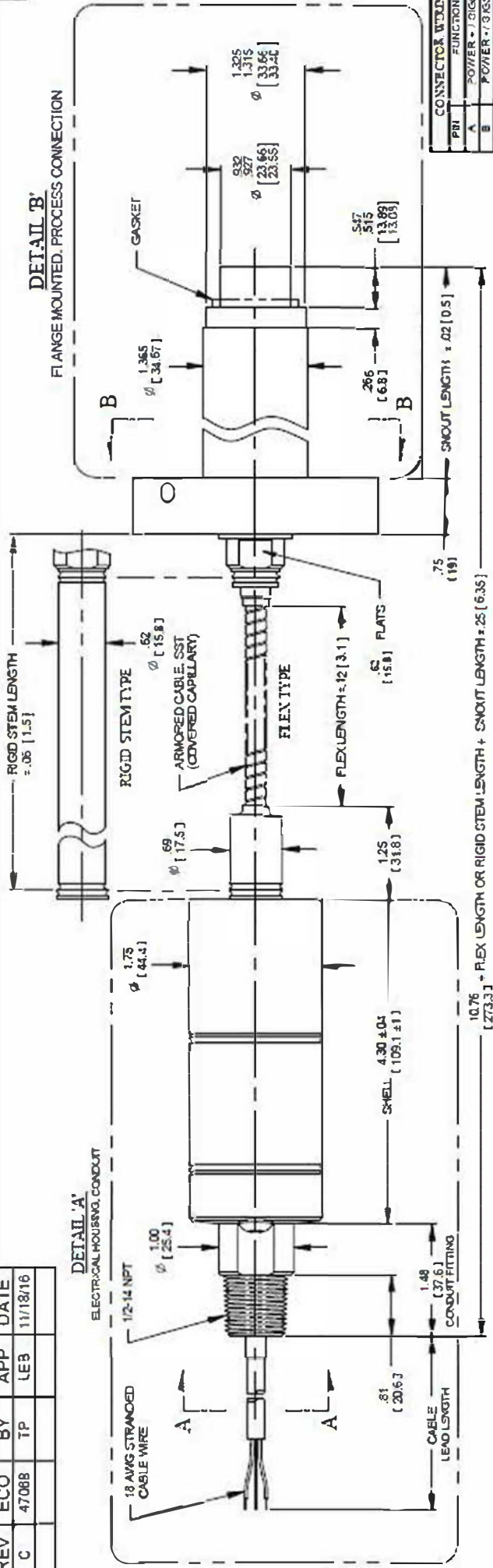
SIZE	DWG. NO.	REV
C	000622	B

SCALE: NONE SHEET 1 OF 1

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

000623

DETAIL 'B'
FLANGE MOUNTED, PROCESS CONNECTION



VIEW B-B
FLANGE

VIEW A-A
3 CONDUCTOR SHOWN

NOTES:

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

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

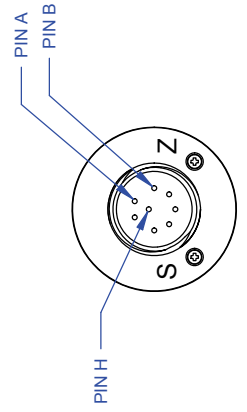
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DATE: 01/31/11

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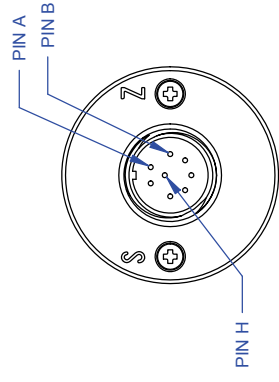
Dynisco

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A	46553	TP	LEB	07/29/16 R

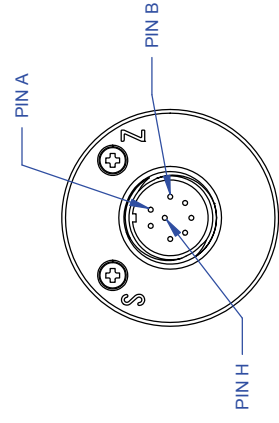
000652



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. 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.

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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