



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.

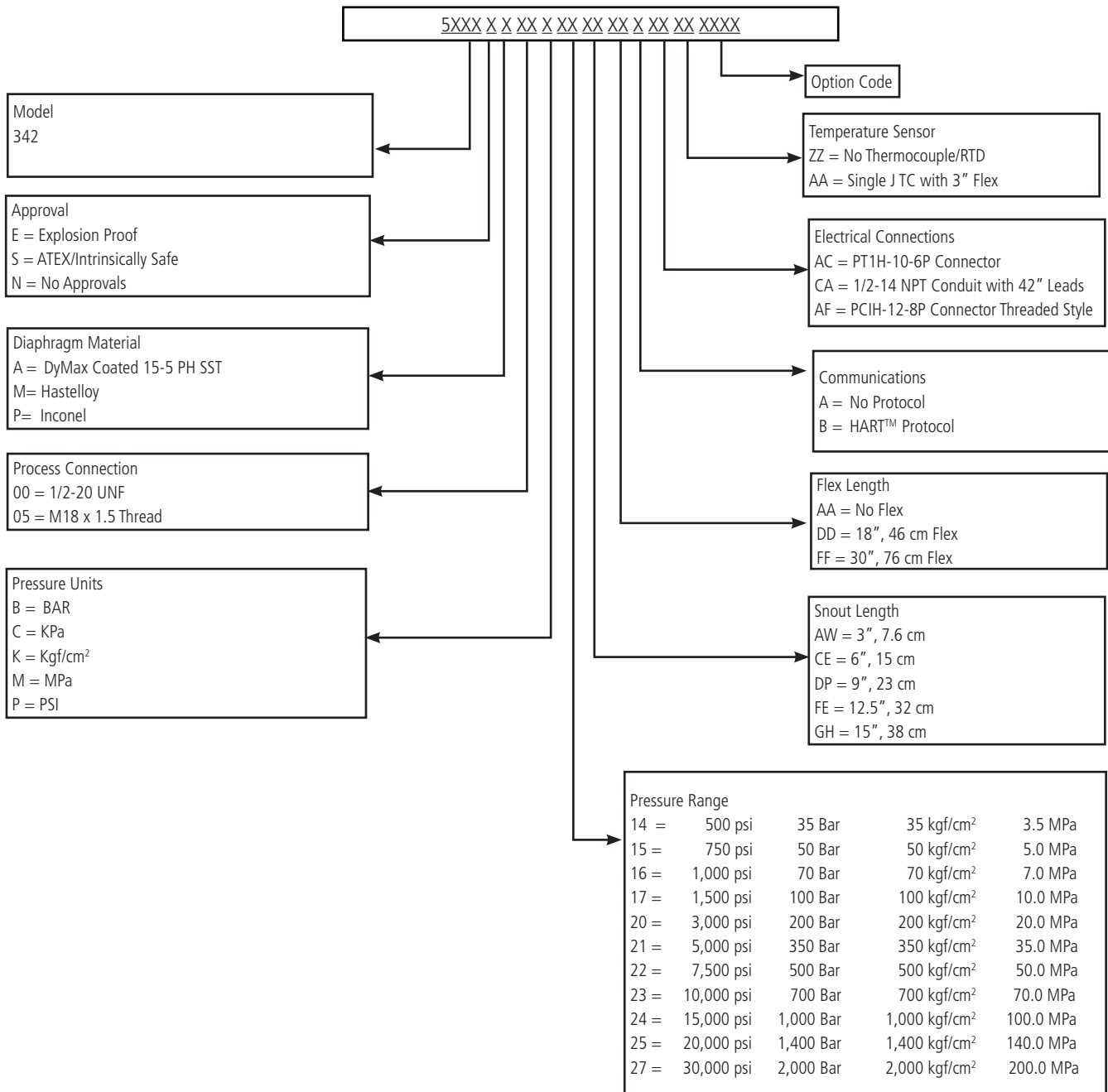
Features

- 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 <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 <= 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>	All Models ± 0.20%
Repeatability	±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

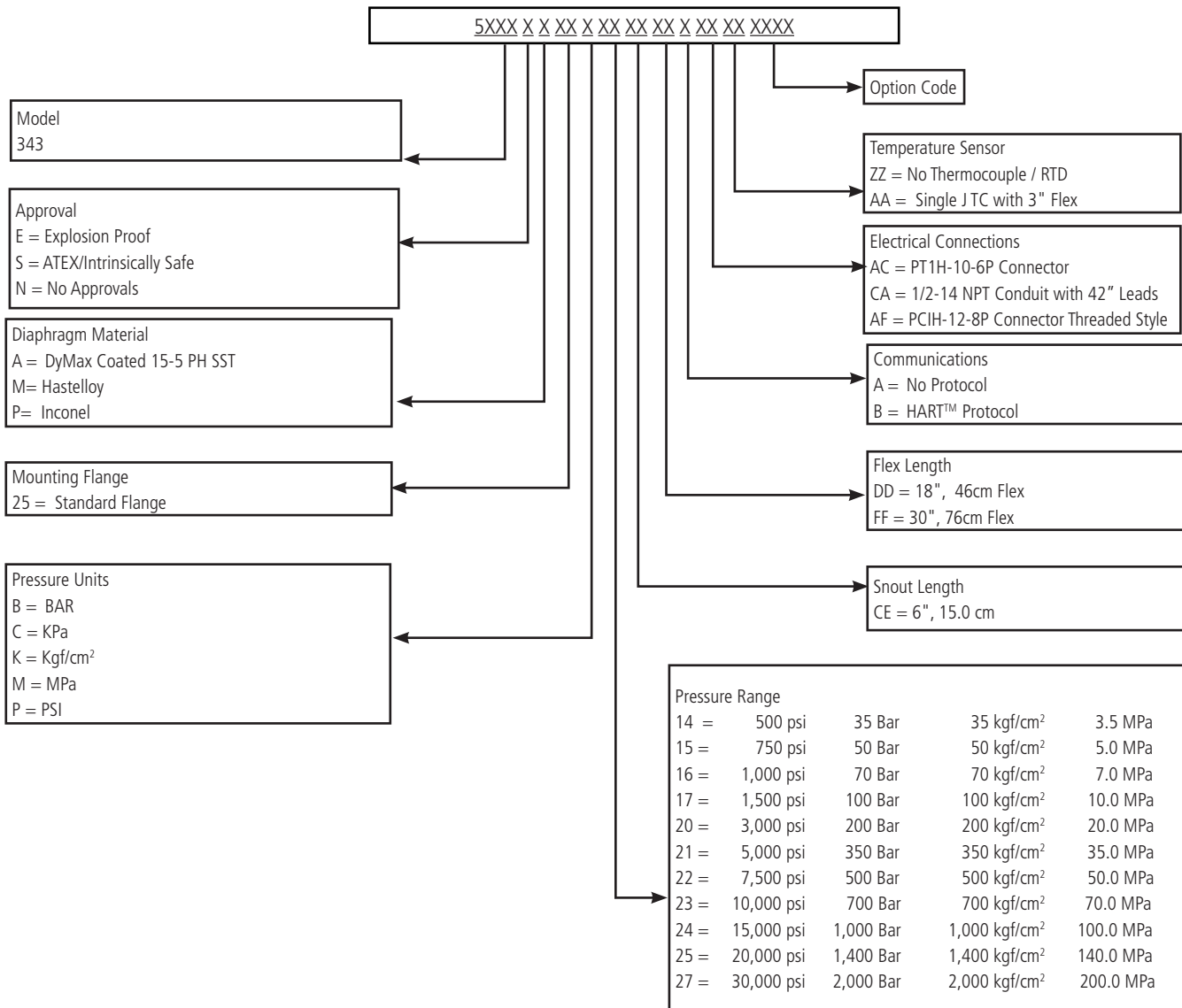
Mechanical Characteristics	
Mounting Torque	5342: 500 inch-lbf max 5343: 50 inch-lbf max 5344: 350 inch-lbf max 5390: 350 inch-lbf max 5391: 350 inch-lbf max 5392: 80 ft-lbf max
Standard Wetted Parts	DyMax coated 15-5 PH SST
Approvals & Certifications	
ATEC/IECEX Intrinsically Safe	
SIL 2 (pressure output)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

Ordering Guide for Models SPX5342¹



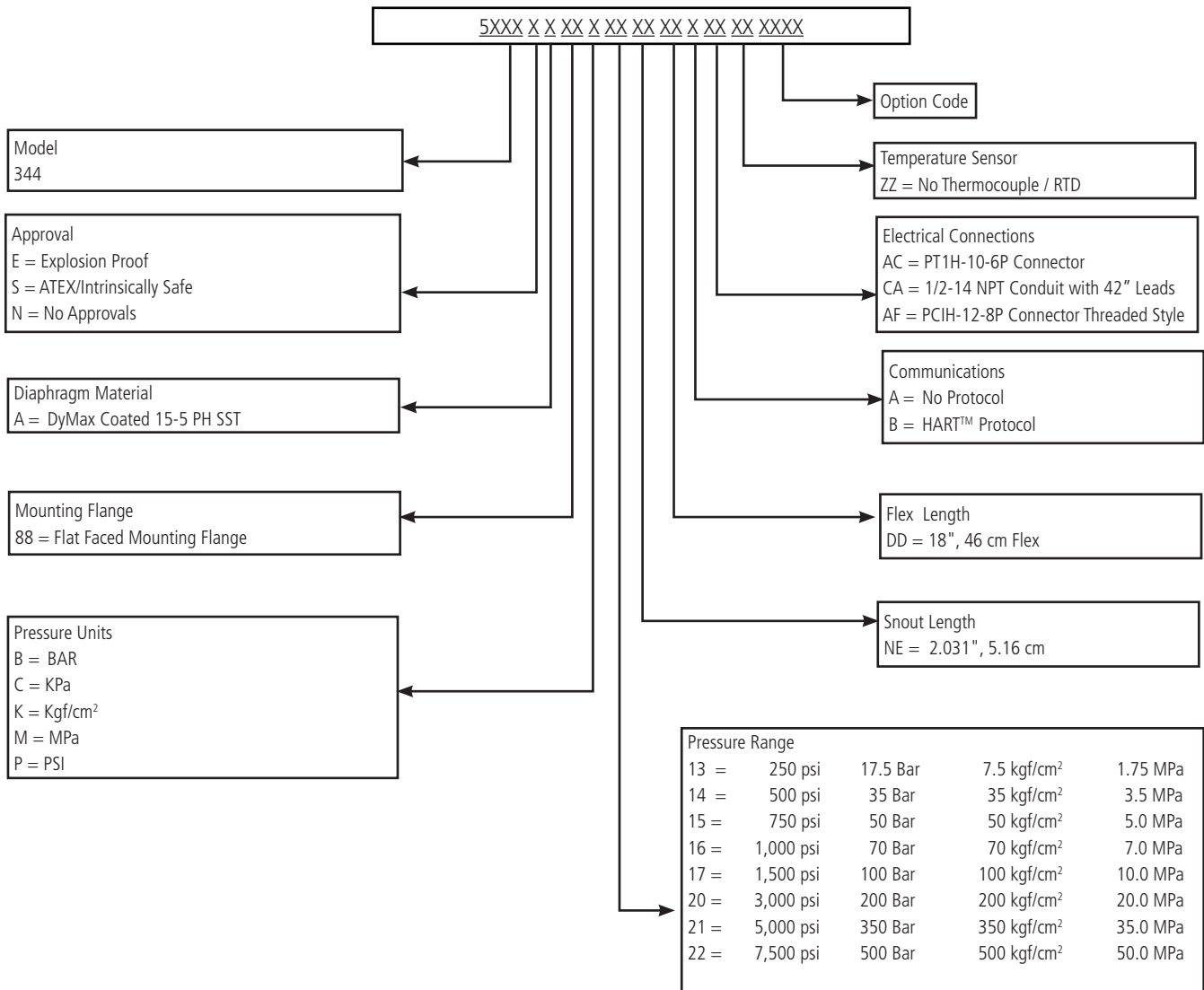
¹Other configurations are available. Please consult factory.

Ordering Guide for Models SPX5343¹



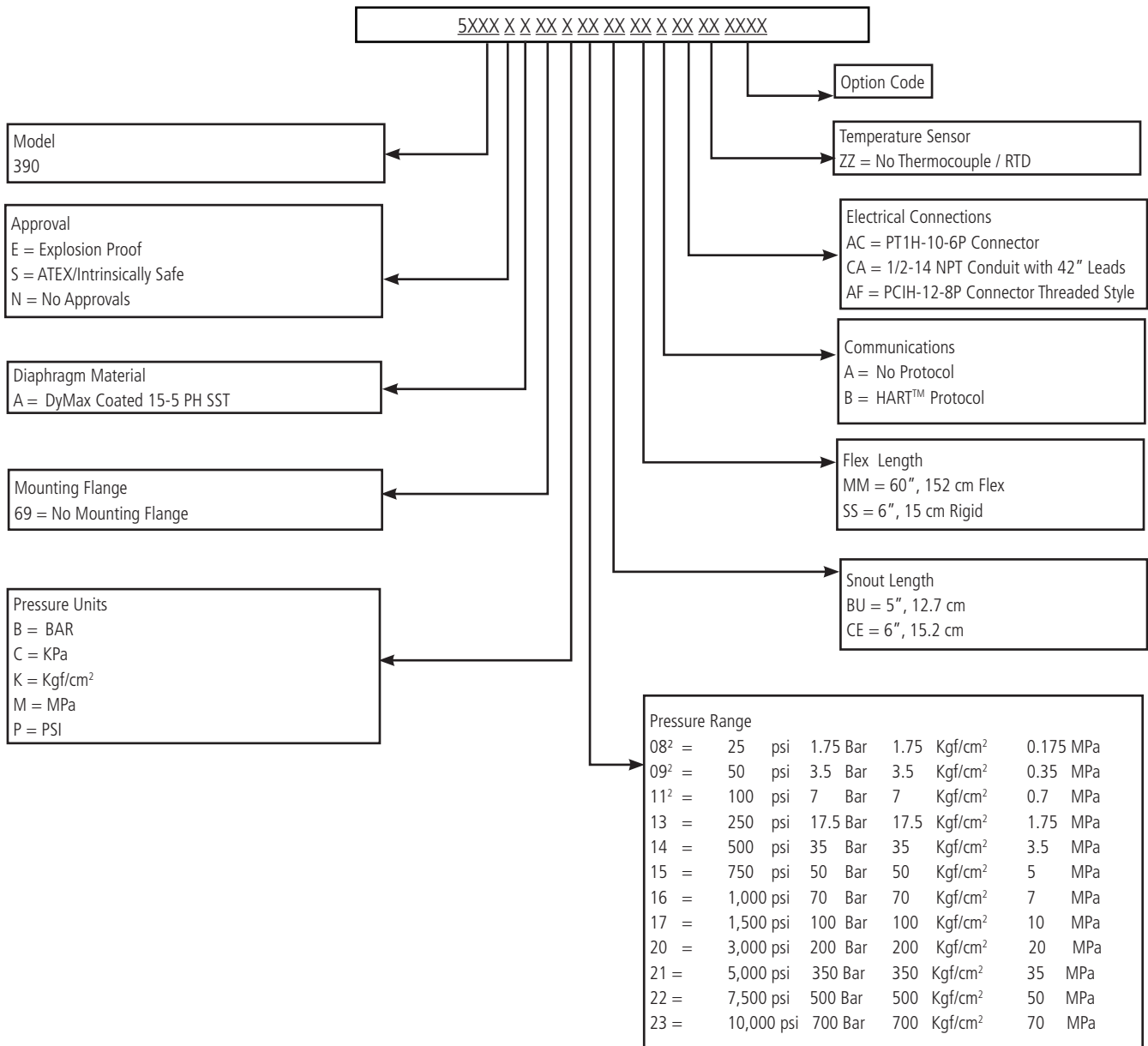
¹Other configurations are available. Please consult factory.

Ordering Guide for Models SPX5344¹



¹Other configurations are available. Please consult factory.

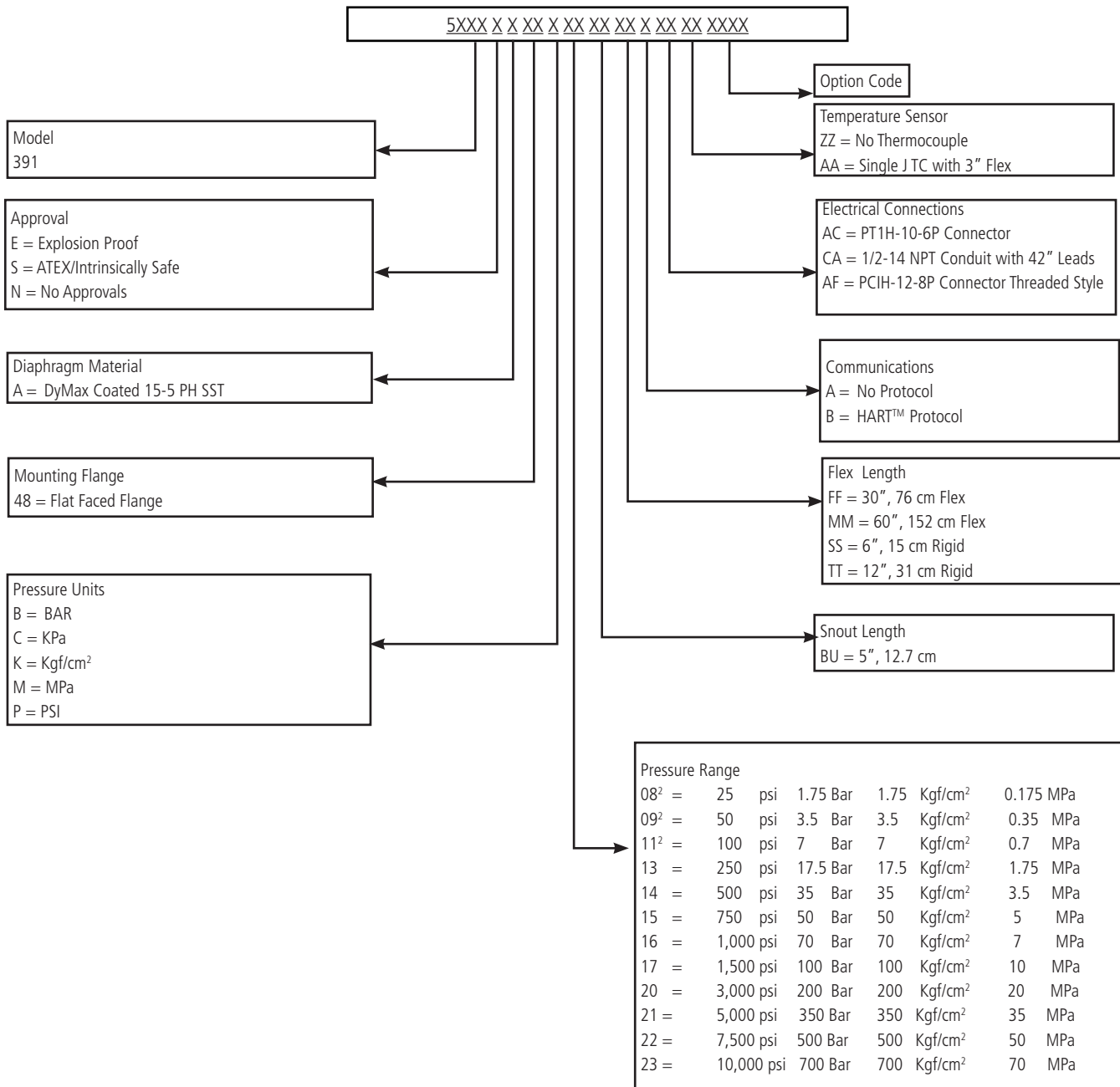
Ordering Guide for Models SPX5390¹



¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary

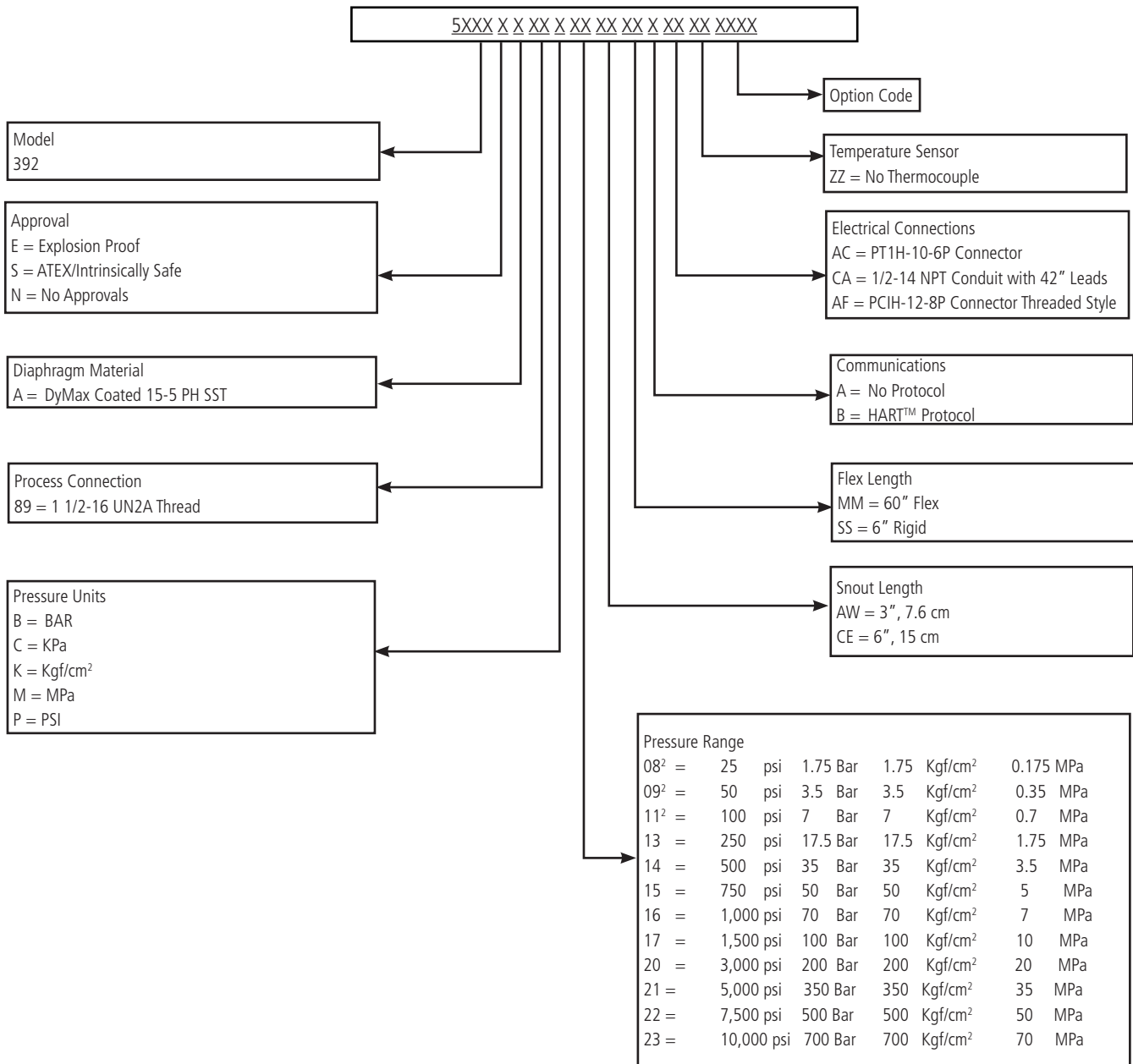
Ordering Guide for Models SPX5391¹



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.

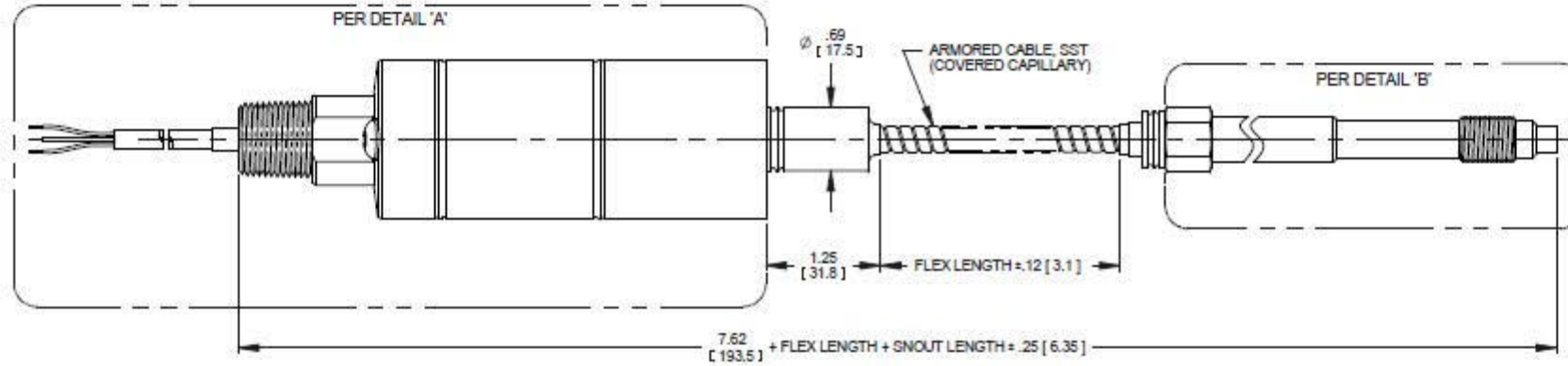
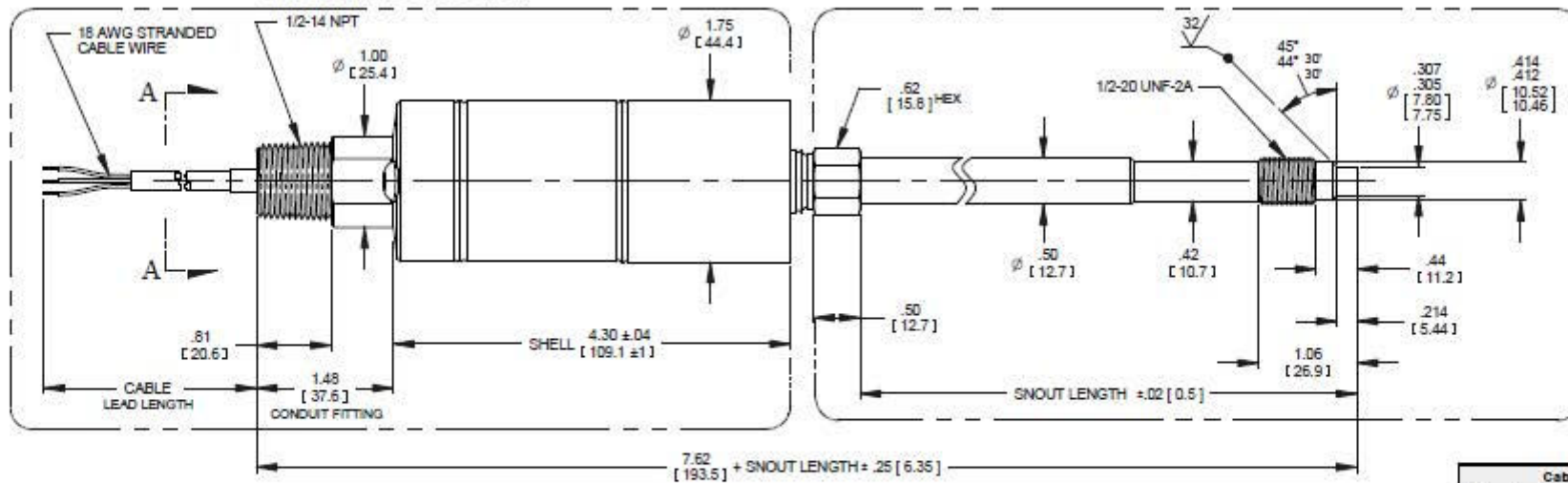
²Pressure ranges below 250 psi are supplied with rigid capillary

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

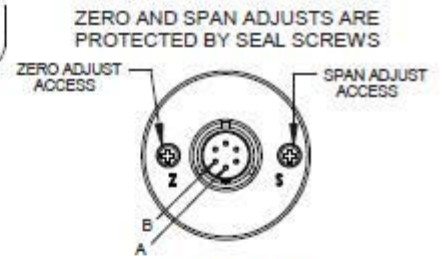
000616

DETAIL 'A'
ELECTRICAL HOUSING, CONDUIT

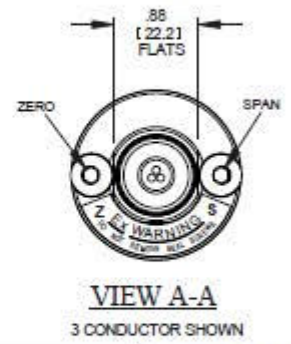
DETAIL 'B'
1/2 - 20 PROCESS CONNECTION



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

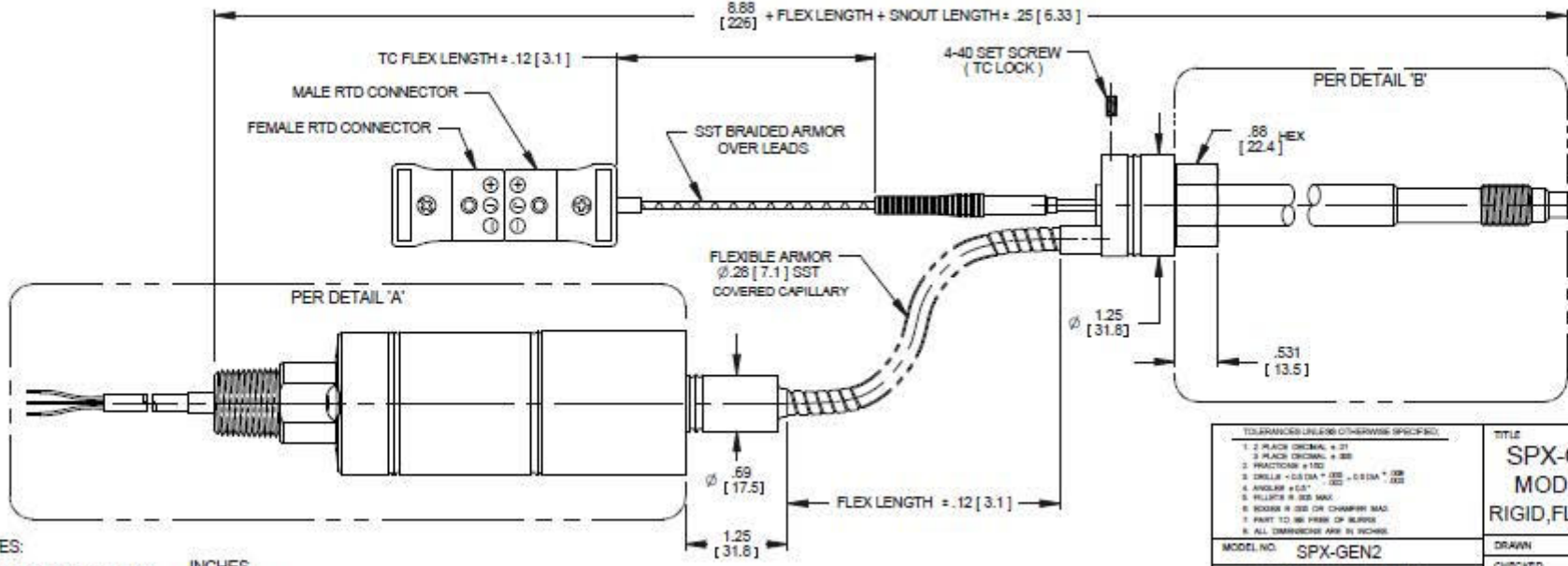


VIEW A-A



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 = 1/32	
4. DRILLS = 0.015A * (SEE - 0.015A * .002)	
5. HOLE IN 1/2 DIA. = .002	
6. ANGLES = 45°	
7. HOLE IN 1/2 DIA. = .002	
8. RADIUS R 1/2 DIA. OR CHAMFER 1/2 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

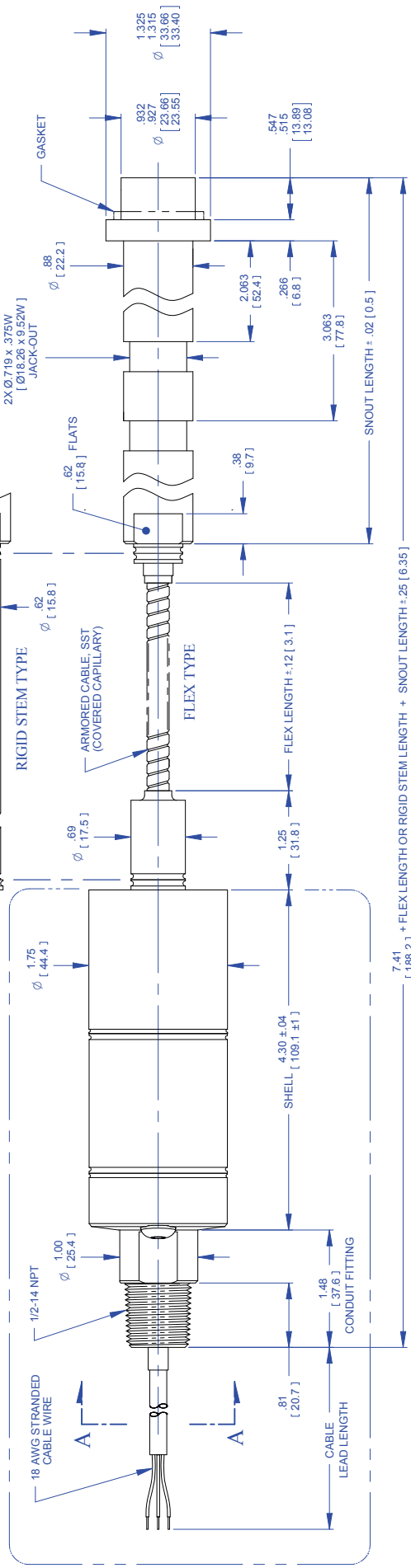
MODEL NO.	SPX-GEN2	DRAWN	DRG	DATE	11/29/10
CHECKED		DATE			
APPROVED	MJL	DATE	01/31/11		
MATERIAL		FINISH			

COPYRIGHT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DYNISCO AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION.		
FORM FAVORITE PRINTING, INC.		
SIZE	DWG. NO.	REV.
C	000616	C
SCALE: NONE SHEET 1 OF 1		

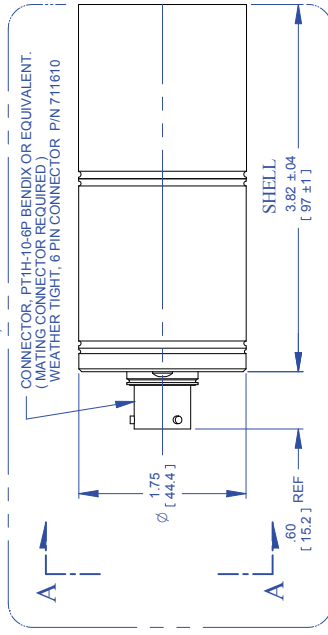
REV	ECO	BY	APP	DATE
B	46553	TP	LEB	07/29/16

000622

DETAIL A
ELECTRICAL HOUSING, CONDUIT

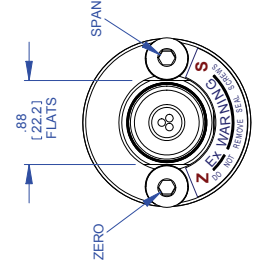


ELECTRICAL HOUSING, CONNECTOR CONFIGURATION



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

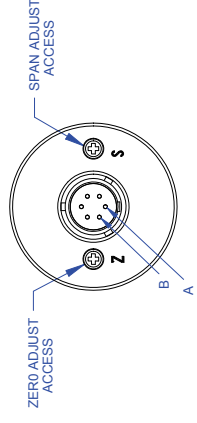
ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



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. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY
 4. DRILLS = ØSDM ± .005 -0.010A + .008
 5. ANGLES = 10° ± .005 MAX
 6. EDGES R .005 OR CHAMFER MAX
 7. FINISHES ARE IN INCHES
 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.

MODEL NO	SPX-GEN2
DO NOT SCALE DRAWING	
MATERIAL	

SIZE	C
DWG. NO.	000622
REV	B



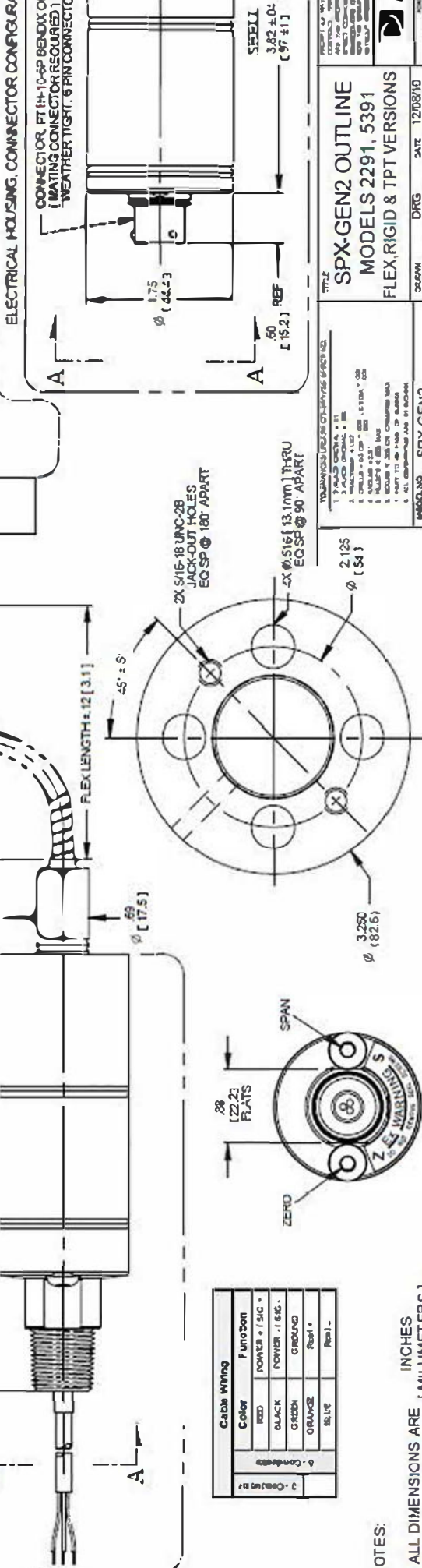
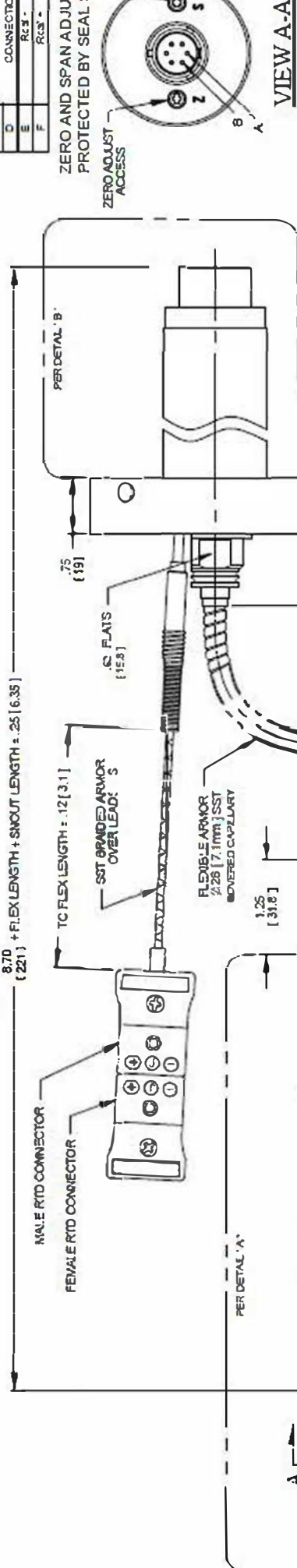
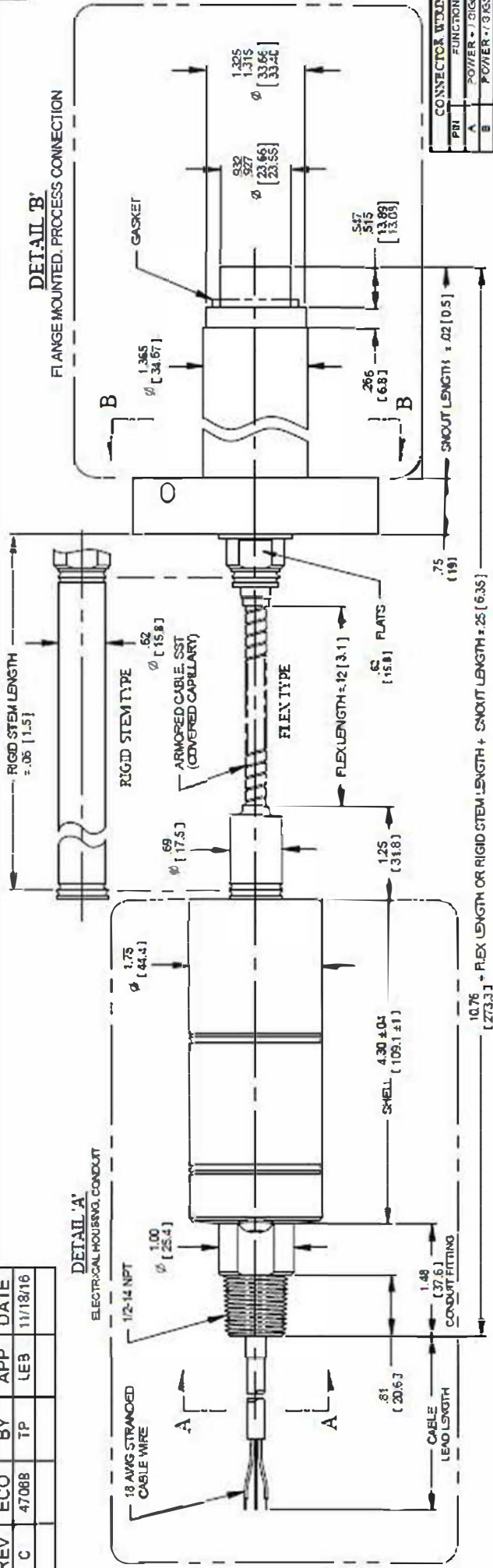
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DYNISCO AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.

FORCE PARKWAY, FRANKLIN, MA

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

000623

DETAIL 'B'
FLANGE MOUNTED, PROCESS CONNECTION



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

MODEL NO	SPX-GEN2
DATE	12/08/10
APPROVED	MLB
DATE	01/31/11
SCALE	NONE
SHEET	1 OF 1

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



VIEW A-A
3 CONDUCTOR SHOWN

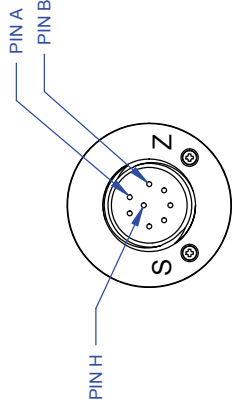
VIEW B-B
FLANGE

DO NOT SCALE DRAWING

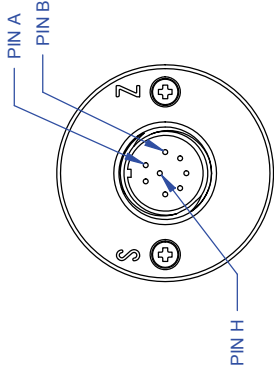
UNAPPROVED DIMENSIONS OF PREVIOUS EDITIONS:
1. JACK-OUT HOLES
2. JACK-OUT HOLES
3. JACK-OUT HOLES
4. JACK-OUT HOLES
5. JACK-OUT HOLES
6. JACK-OUT HOLES
7. JACK-OUT HOLES
8. JACK-OUT HOLES
9. JACK-OUT HOLES
10. JACK-OUT HOLES

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

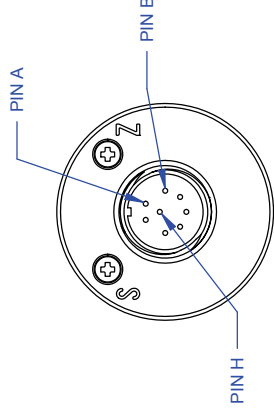
000652



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. 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
 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			

EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DYNISCO. ANY REPRODUCTION, REPRODUCTION OR USE AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.



FORGE PARKWAY, FRANKLIN, MA 01901
 1/31/2016/MS

©2016. Dynisco reserves the right to make changes without notice.
Refer to www.dynisco.com for access to Operator Manual and other support documentation.
PN: DSSPX5SERIES
REV: 1116
ECO: 47068



Dynisco

www.dynisco.com

Dynisco

38 Forge Parkway
Franklin, MA 02038
USA

Hotline 1-800-Dynisco
www.dynisco.com
Phone +1 508 541 9400
Fax +1 508 541 6206
Email infoinst@dynisco.com

Dynisco Europe, GmbH

Pfaffemstr. 21 Phone +49 7131 297 0
74078 Hellbronn Fax +49 7131 297 166
Germany Email dyniscoeurope@dynisco.com

Dynisco Shanghai

Building 7A, No. 568 Phone +86 21 34074072-819
Longpan Rd Malu Toll Free +86 400 728 9117
Jiading, 201801 China Fax +86 21 34074025