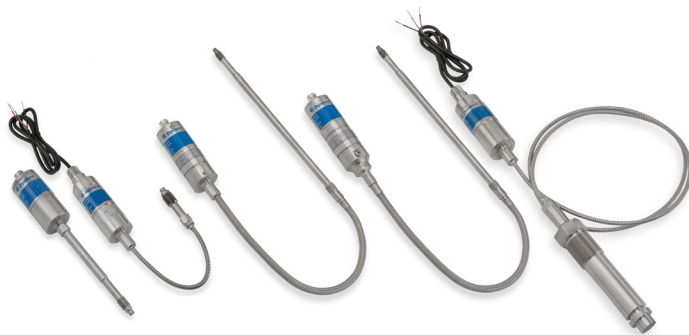


## Dynisco SPX-T (3-Series)

GENERAL PURPOSE SMART PRESSURE SENSORS  
FOR HAZARDOUS LOCATIONS



### Description

The SPX-T (3-Series) is a smart 4-20mA pressure transmitter that includes Temperature Compensation and DynaLarity™, a Dynisco innovation. The SPX-T delivers the best spec performance in the line. Temperature Compensation is based on an RTD measurement that compensates for temperature variations which reduces temperature-related drift and increases accuracy. No need to re-zero for temperature changes after installation. DynaLarity uses an advanced algorithm that will linearize offsets due to process effects on the sensor. Combined Temperature Compensation and DynaLarity reduces temperature-related drift by as much as 80% and improves accuracy by more than 60% over other sensors. Process temperature output is available (RTD or 4-20mA). HART communication is standard. The SPX 3-Series is an all-welded construction 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

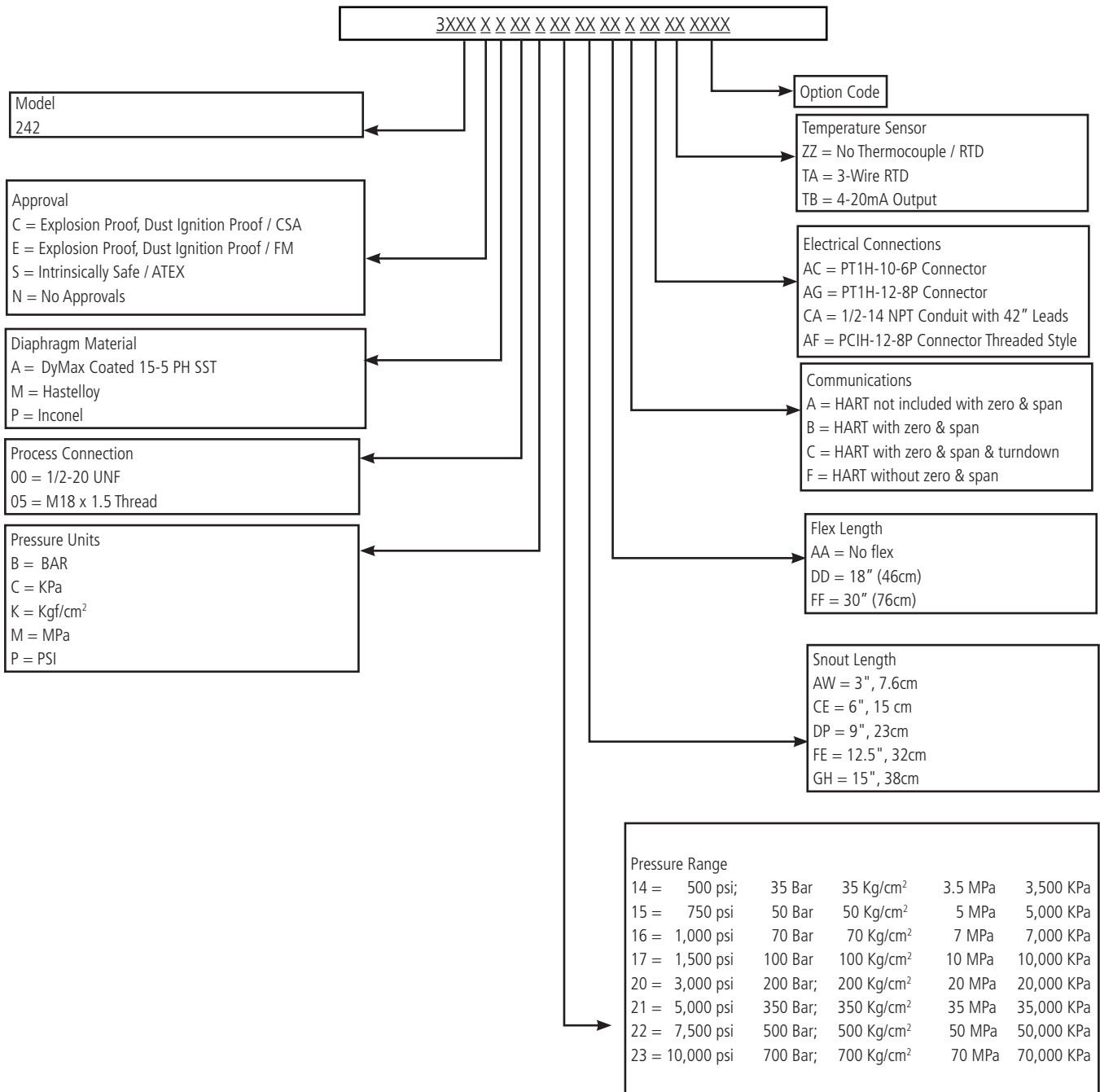
### Features

- 4-20mA loop-powered output
- +/- 0.15% accuracy available
- Reduced temperature drift by 80% over non compensated units
- Temperature output available (RTD or 4-20mA)
- 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 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 SPX-T (3- Series)	
Output	4 - 20 mA, with optional HART™
Input Voltage	16 - 36 Vdc (Std); 16 - 30 Vdc (ATEX IS)
Accuracy	<p>32XX:   ± 0.25% for pressure ranges ≥ 3,000 psi                  ± 0.5% for pressure ranges = 1,500 psi                  ± 0.75% for pressure ranges &lt; 1,500 psi</p> <p>33XX:   ± 0.15% for pressure ranges ≥ 3,000 psi                  ± 0.25% for pressure ranges = 1,500 psi                  ± 0.5% for pressure ranges &lt; 1,500 psi</p> <p><small>Accuracy is defined as the combined error expressed as a percentage of full scale output with the specifications of: Electronics ambient temperature; Snout compensated temperature range; 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></p>
Repeatability	±0.1%
Rangeability	6:1 Turndown
Over Pressure	1.5 x FSO
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)
Electronics Compensated Temperature Range	70 to 185°F (20 to 85°C)
Snout Compensated Temperature Range	70 to 572°F (20 to 300°C)
Snout Operating Temperature	Models: 3242, 3243, 3342, 3343: 32 to 752°F (0 to 400°C) Models: 3290, 3291, 3390, 3391: 32 to 600°F (0 to 315°C)

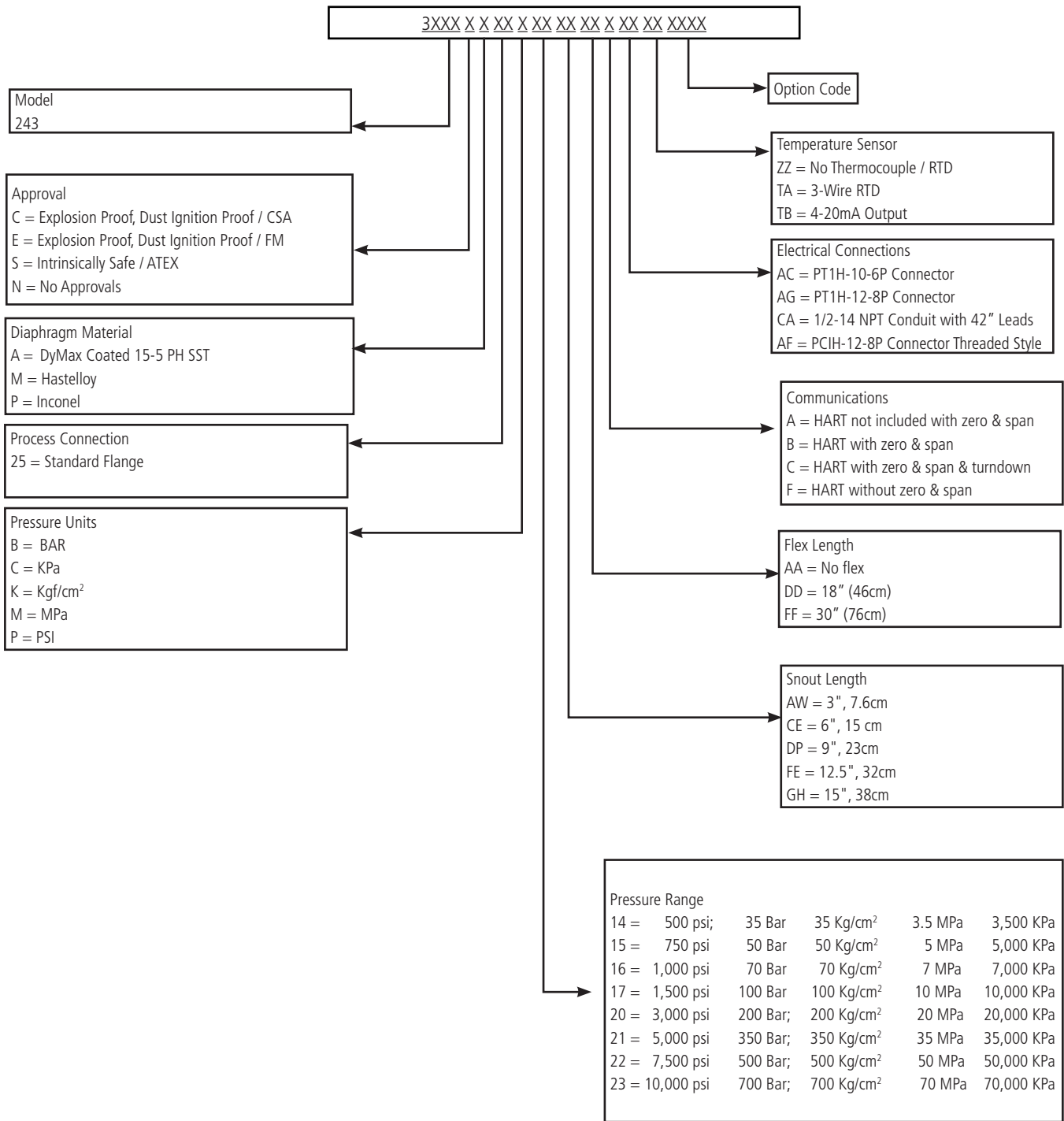
Mechanical Characteristics	
Mounting Torque	3242: 500 inch-lbf max 3243: 50 inch-lbf max 3342: 500 inch-lbf max 3343: 50 inch-lbf max 3290: 350 inch-lbf max 3291: 350 inch-lbf max 3390: 350 inch-lbf max 3391: 350 inch-lbf max
Standard Wetted Parts	DyMax coated 15-5 PH SST
Approvals & Certifications	
ATEX/IECEX Intrinsically Safe	
SIL 2 (pressure output) & PL'c' (relay output)	
FM & CSA Explosion Proof	
Additional Approvals are Available	

## Ordering Guide for Models SPX3242<sup>1</sup>



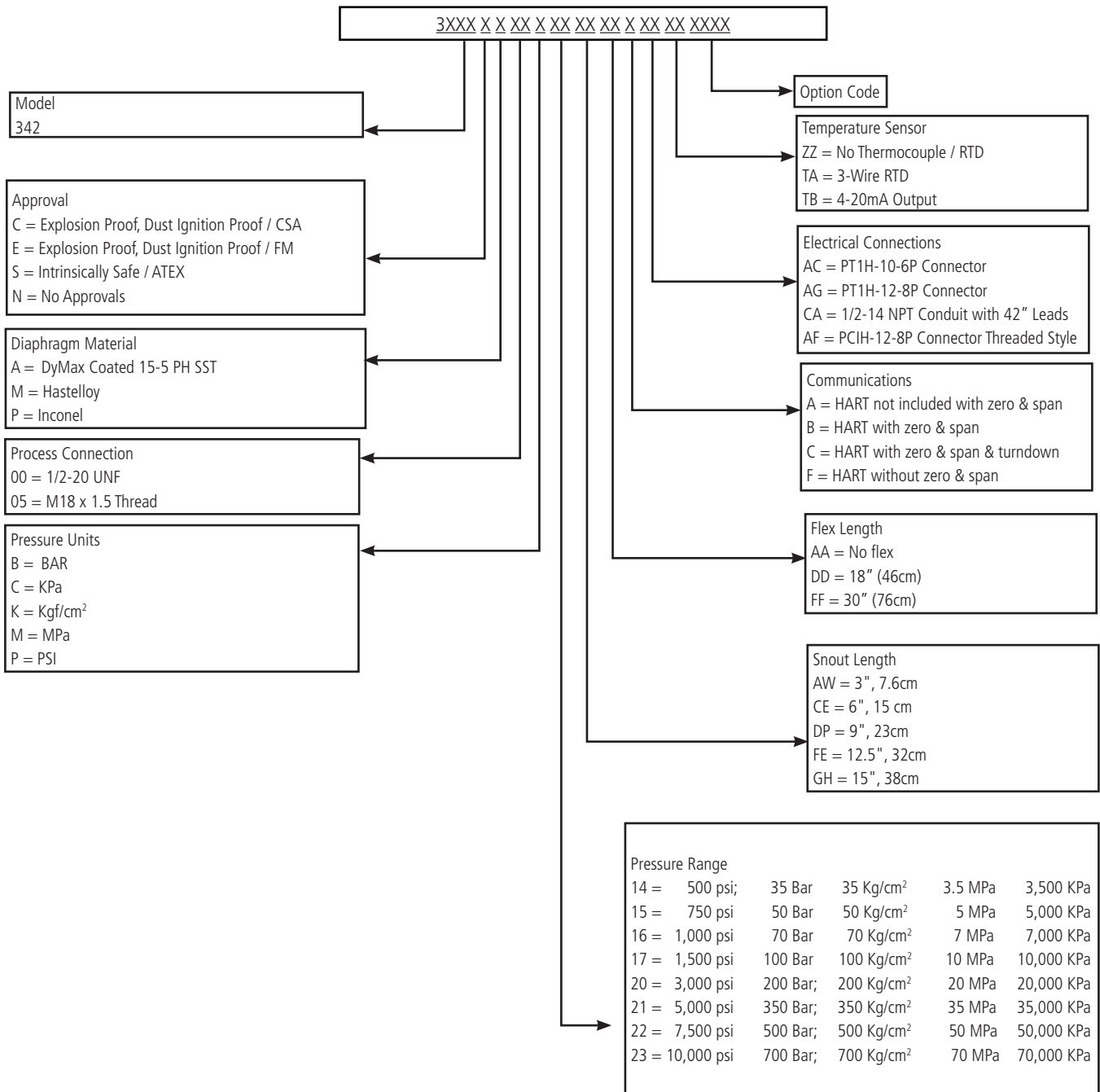
<sup>1</sup> Other configurations are available. Please consult factory.

## Ordering Guide for Models SPX3243<sup>1</sup>



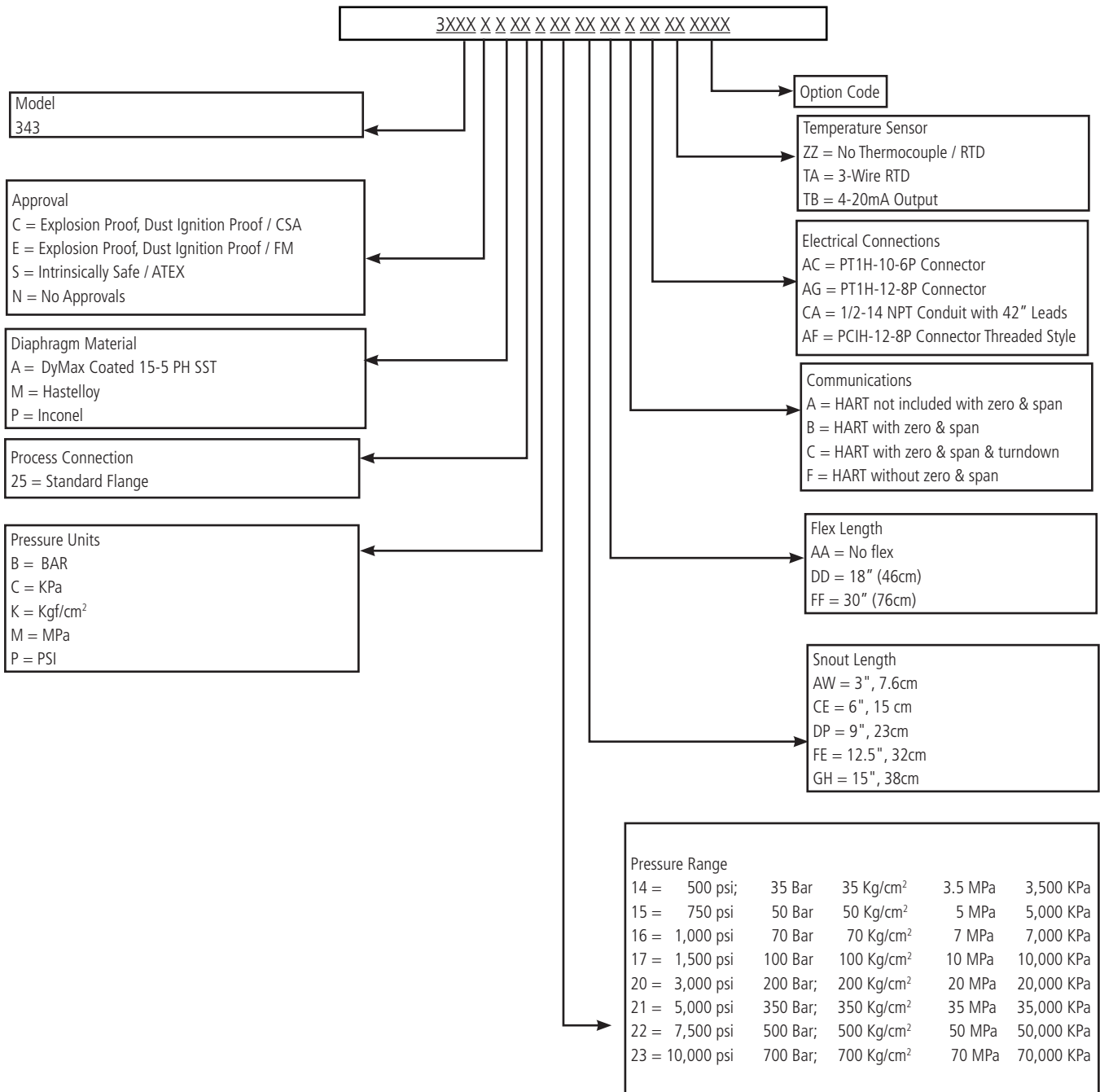
<sup>1</sup> Other configurations are available. Please consult factory.

## Ordering Guide for Models SPX3342<sup>1</sup>



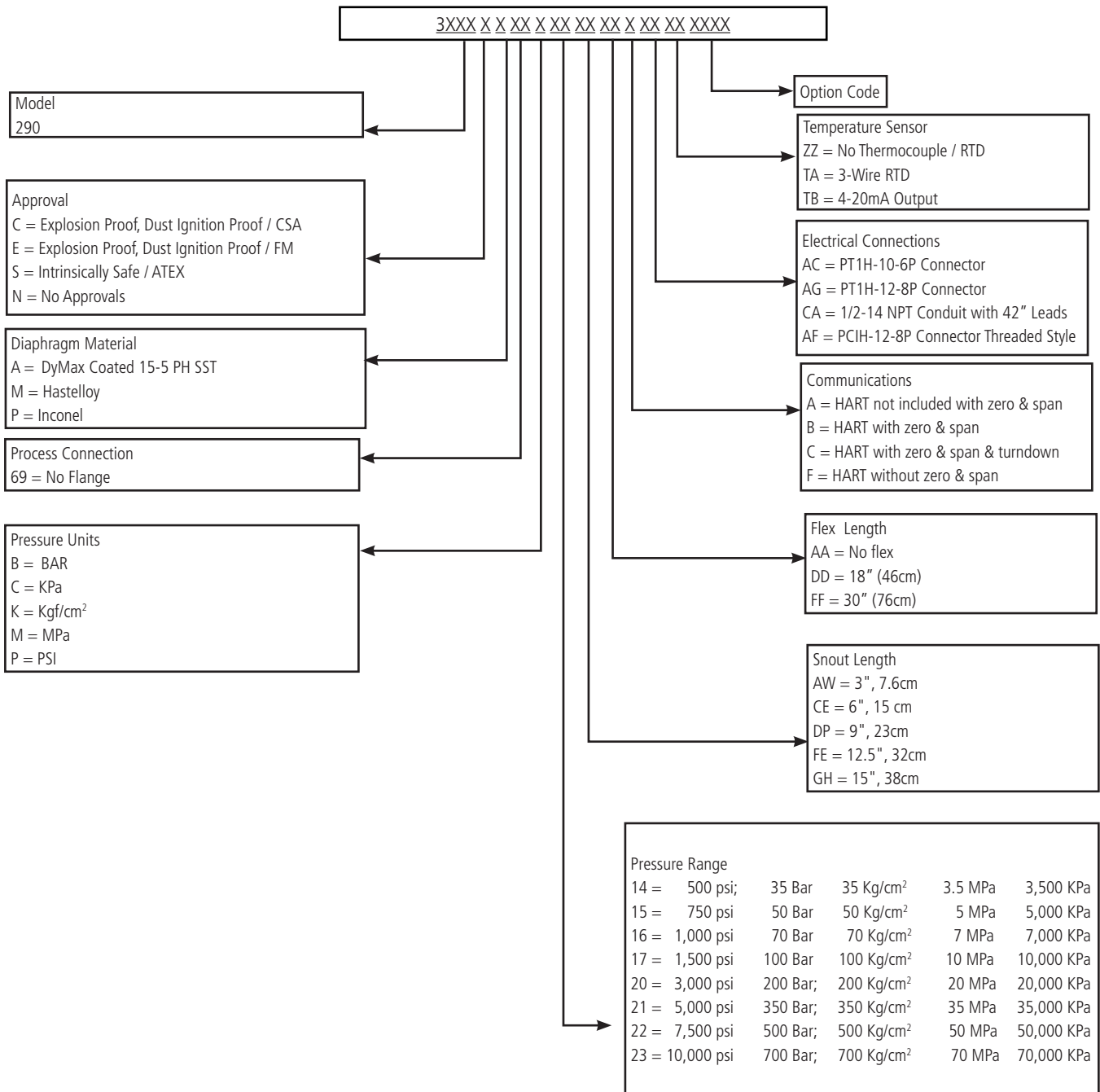
<sup>1</sup> Other configurations are available. Please consult factory.

## Ordering Guide for Models SPX3343<sup>1</sup>



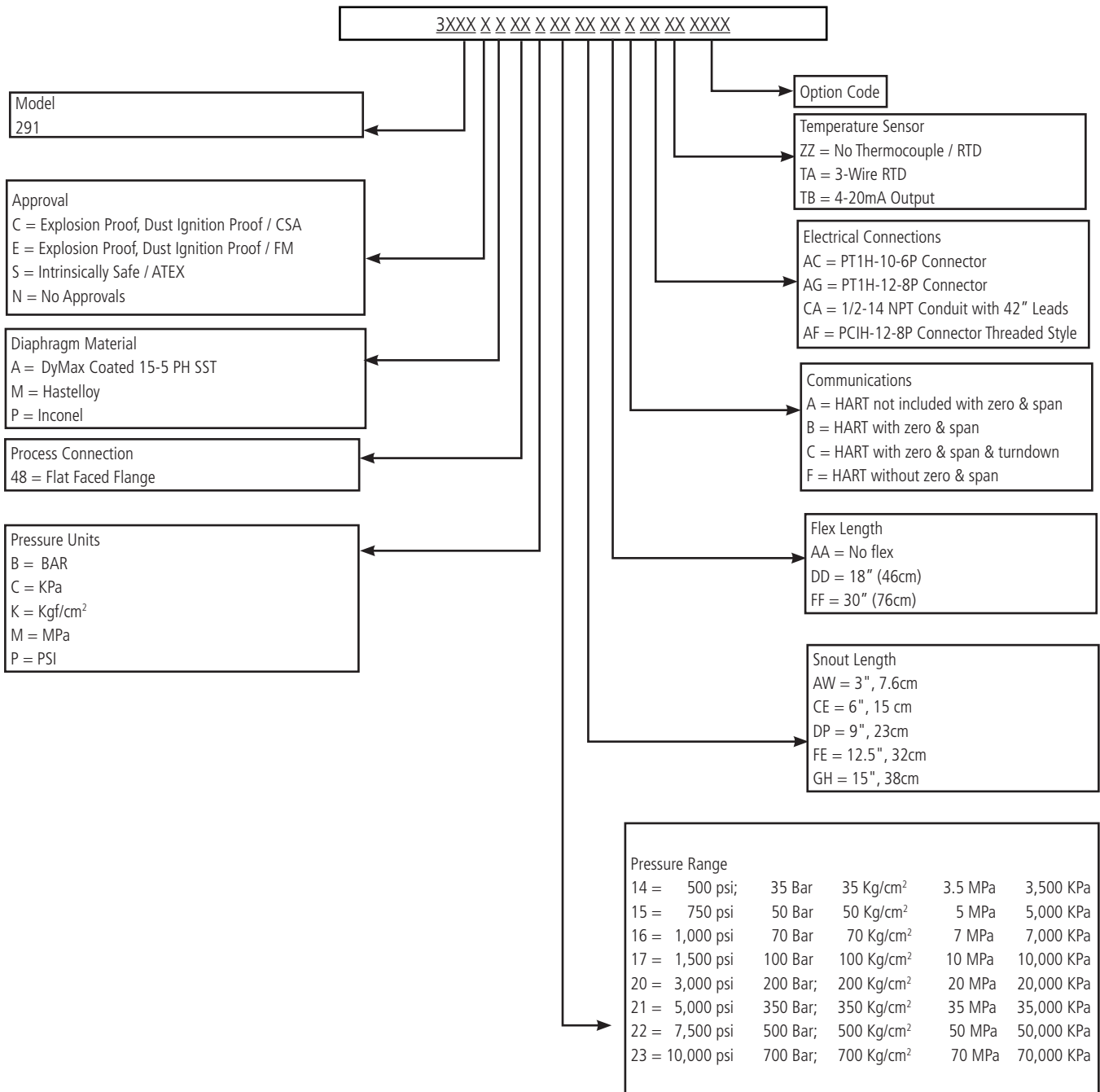
<sup>1</sup> Other configurations are available. Please consult factory.

## Ordering Guide for Models SPX3290<sup>1</sup>



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

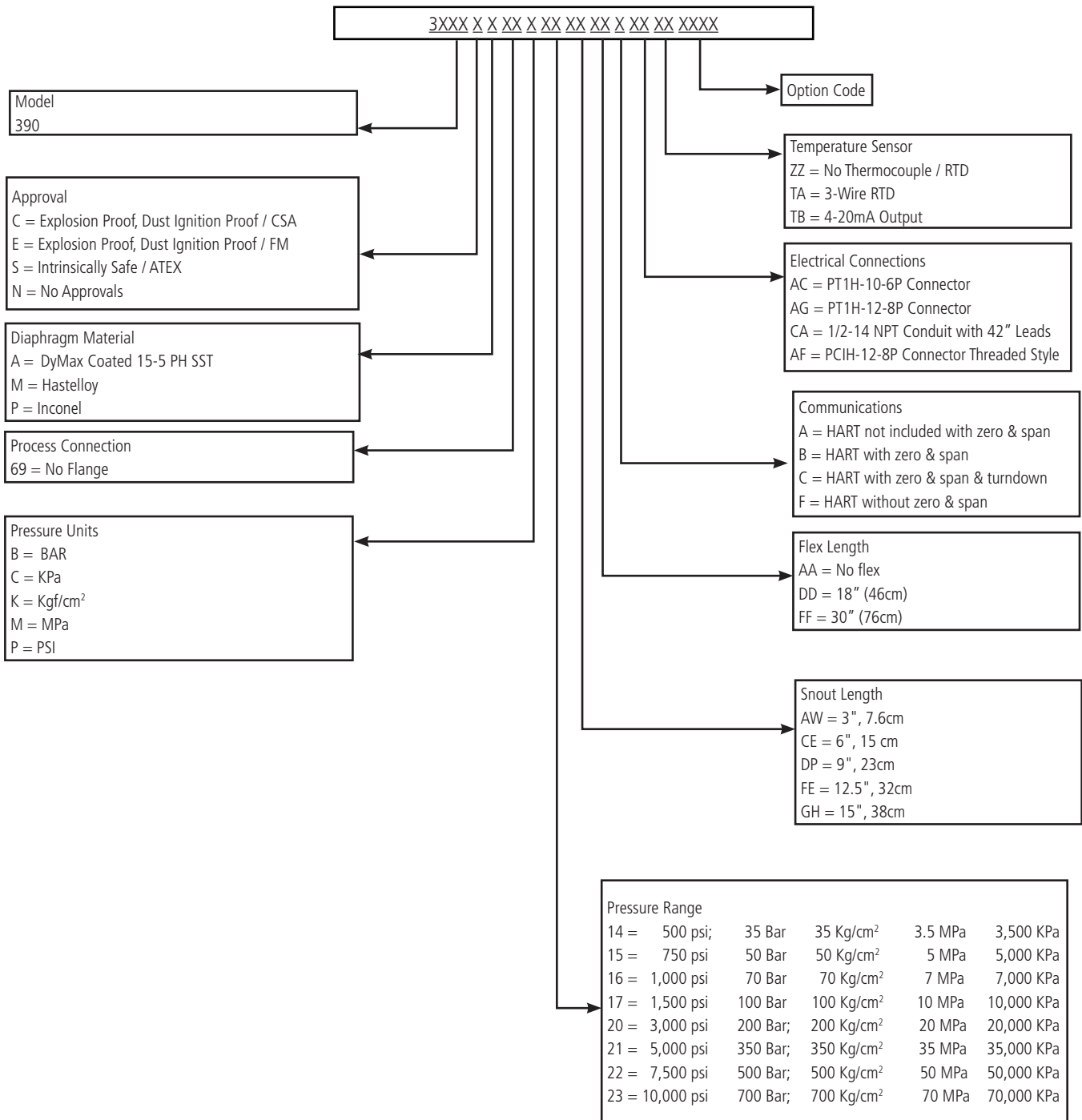
## Ordering Guide for Models SPX3291<sup>1</sup>



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

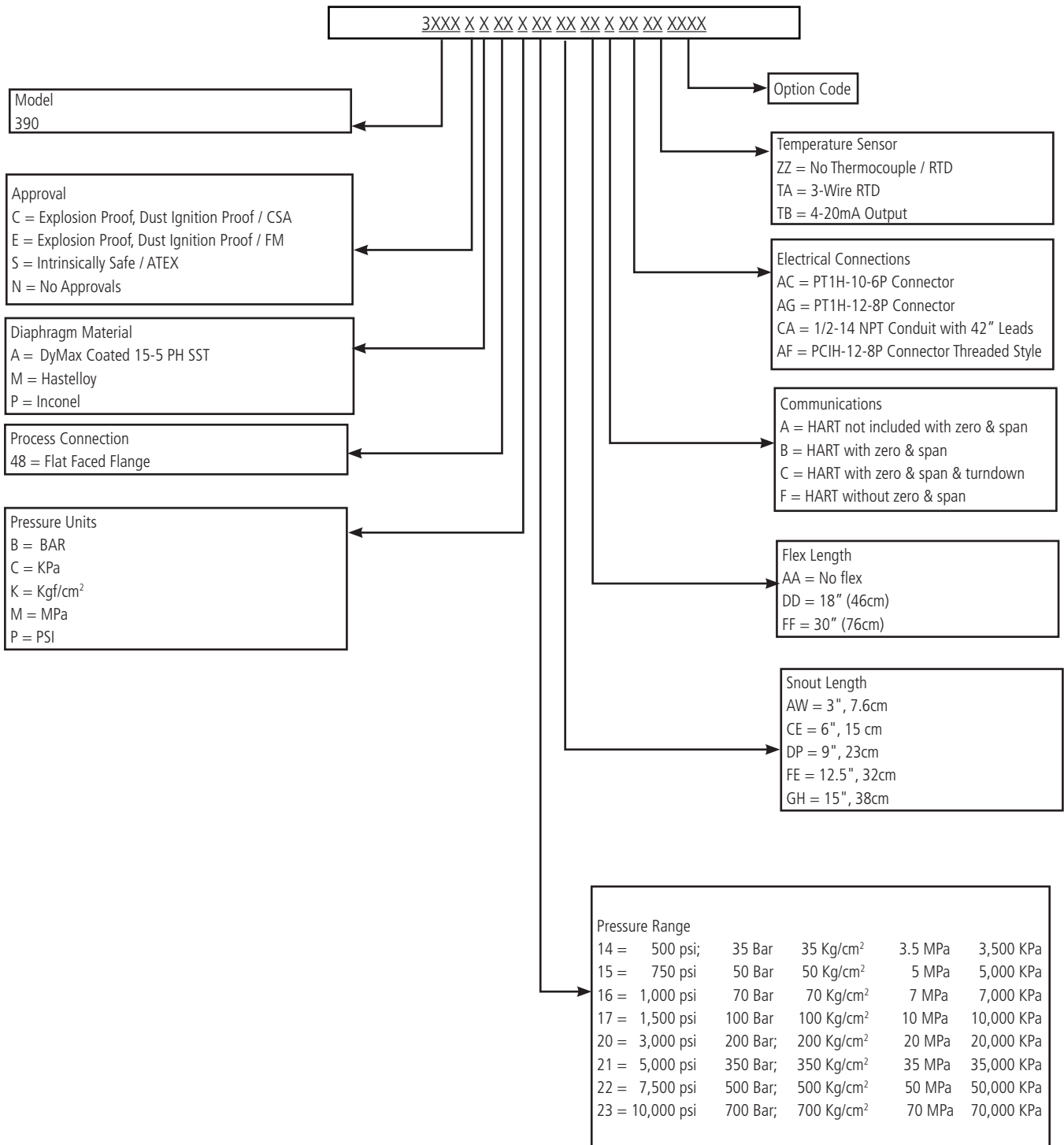


## Ordering Guide for Models SPX3390<sup>1</sup>



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

## Ordering Guide for Models SPX3391<sup>1</sup>



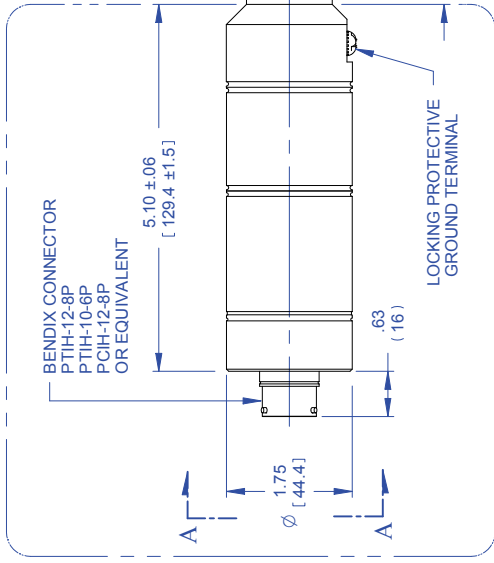
<sup>1</sup> Other configurations are available. Please consult factory.

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

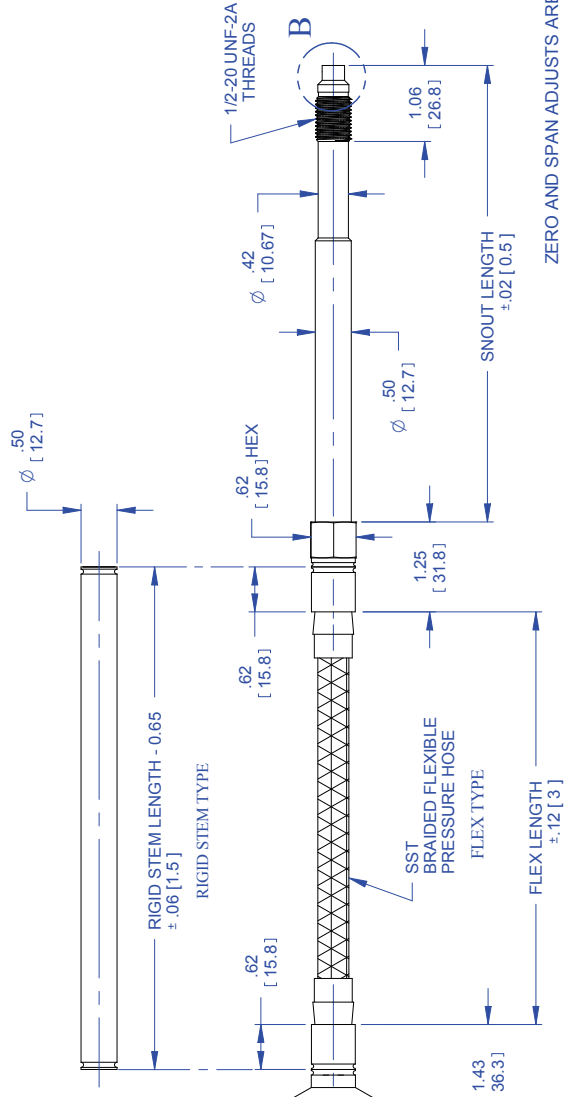
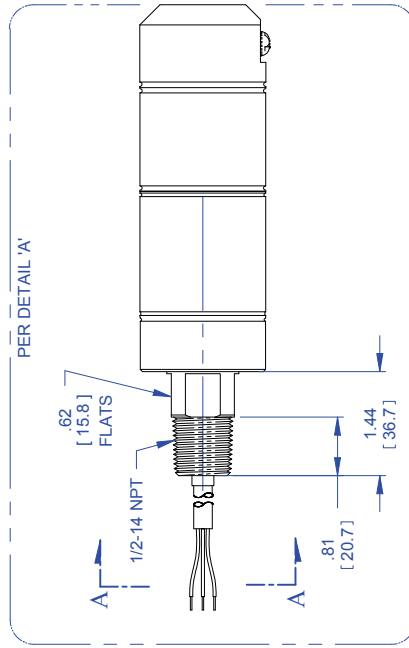
642001

DETAIL 'A'

ELECTRICAL HOUSING, CONNECTOR



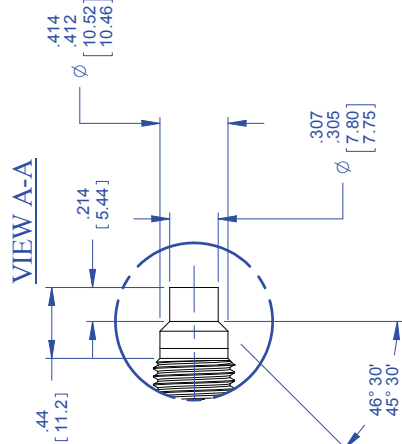
ELECTRICAL HOUSING, CONDUIT  
PER DETAIL 'A'



ZERO AND SPAN ADJUSTERS ARE PROTECTED BY SEAL SCREWS



DETAIL 'B'



NOTES:

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

1. TO CHANGE UNLESS OTHERWISE SPECIFIED:  
 2. UNLESS OTHERWISE SPECIFIED:  
 3. PLACE DECIMAL 3.05  
 4. ANGLES ± 10° MAX  
 5. EDGES R .005 OR CHAMFER MAX  
 6. ALL DIMENSIONS ARE IN INCHES

DETAIL 'B'

TITLE  
 SPX-T 3342  
 OUTLINE DWG

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FORGE INNOVATION TRANSLINK, VA	
SIZE	DWG. NO.
C	642001
REV	C

MODEL NO.	SPX-T
DRAWN	DRG
DATE	01/30/07
CHECKED	MIL
DATE	05/27/08
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FINISH	63
MATERIAL	

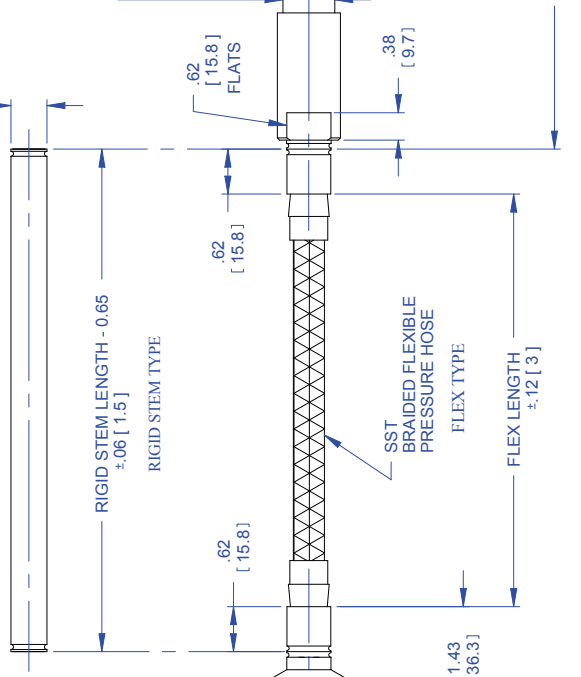
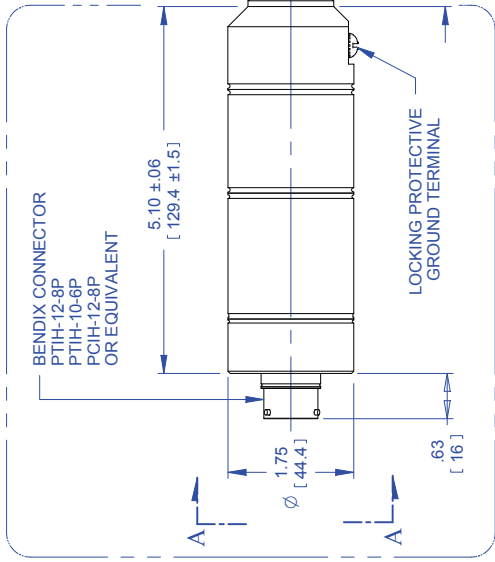
DO NOT SCALE DRAWING
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SIGNAL	TERMINAL DESCRIPTION	CONDUIT-LEAD WIRE COLOR	6-PIN	8-PIN
PRIMARY 4-20mA	PWR+/SIG+	RED	A	A
	PWR-/SIG-	BLACK	B	B
	CASE	GREEN	-	-
	OPTIONS			
RCAL ONLY	RCAL+	ORANGE	F	E
	RCAL-	BLUE	E	D
RCAL WITH SECONDARY 4-20mA ONLY	RCAL+	ORANGE	-	D
	RCAL-	BLUE	-	D
	2ND PWR+/SIG+	VIOLET	-	G
	2ND PWR-/SIG-	YELLOW	-	H
SECONDARY 4-20mA ONLY	2ND PWR+/SIG+	VIOLET	-	H
	2ND PWR-/SIG-	YELLOW	-	H
DUAL RTD ONLY	RTD (-)	WHITE	-	D
	RTD (+)	GREY	-	E
	RTD (+)	BROWN	-	F

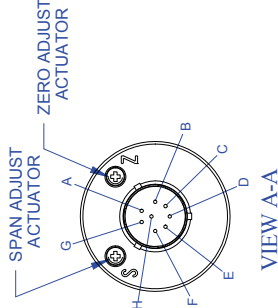
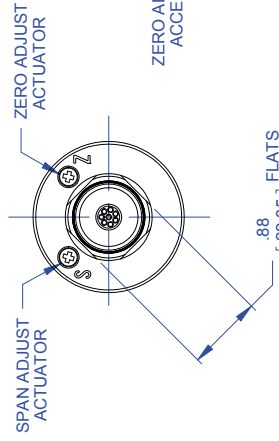
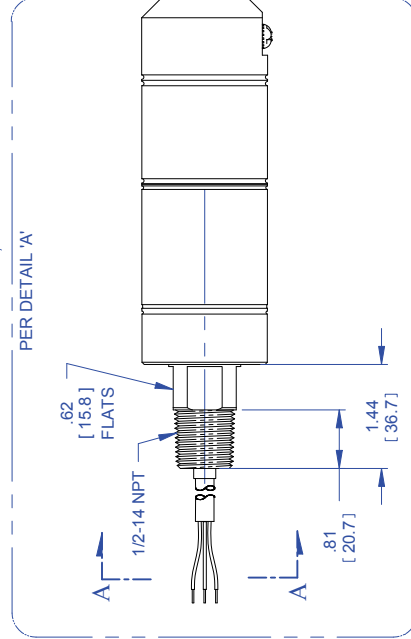


DETAIL 'A'

ELECTRICAL HOUSING, CONNECTOR



ELECTRICAL HOUSING, CONDUIT



SIGNAL	TERMINAL DESCRIPTION	CONDUIT-LEAD WIRE COLOR	6-PIN 8-PIN
PRIMARY 4-20mA	PWR+/SIG+	RED	A A
	PWR-/SIG-	BLACK	B B
	CASE	GREEN	- -
OPTIONS			
RCAL ONLY	RCAL+	ORANGE	F E
	RCAL-	BLUE	E D
RCAL WITH SECONDARY 4-20mA ONLY	RCAL+	ORANGE	- E
	RCAL-	BLUE	- D
SECONDARY 4-20mA ONLY	2ND PWR+/SIG+	VIOLET	- G
	2ND PWR-/SIG-	YELLOW	- H
DUAL RTD ONLY	2ND PWR+/SIG+	VIOLET	- G
	2ND PWR-/SIG-	YELLOW	- H
DUAL RTD ONLY	RTD (-)	WHITE	- D
	RTD (+)	GREY	- E
DUAL RTD ONLY	RTD (+)	BROWN	- F
	RTD (-)	BROWN	- F

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

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TITLE  
SPX-T 3390  
OUTLINE DWG

DRAWN MUL DATE 05/01/08  
CHECKED MUL DATE 05/20/08  
APPROVED MUL DATE 05/20/08  
FINISH 63

MODEL NO. SPX-T  
DO NOT SCALE DRAWING  
MATERIAL

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Dynisco  
FORCE MAJEURE TRAINING, VA

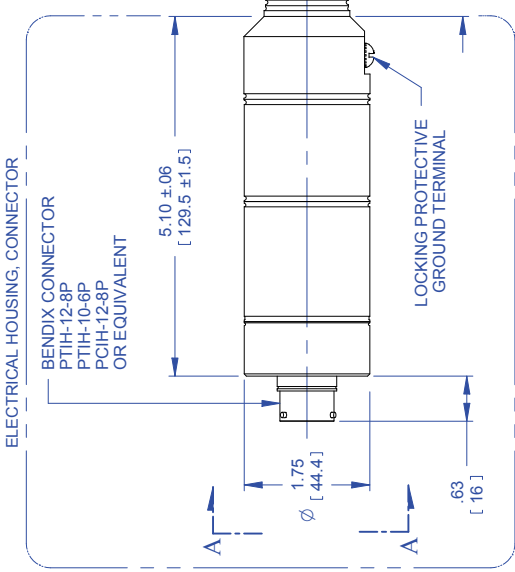
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SCALE NONE SHEET 1 OF 1

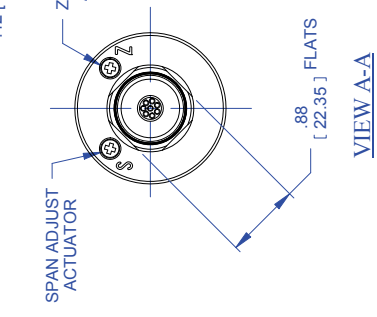
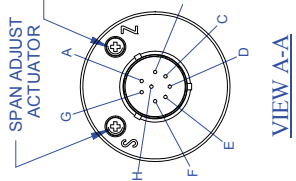
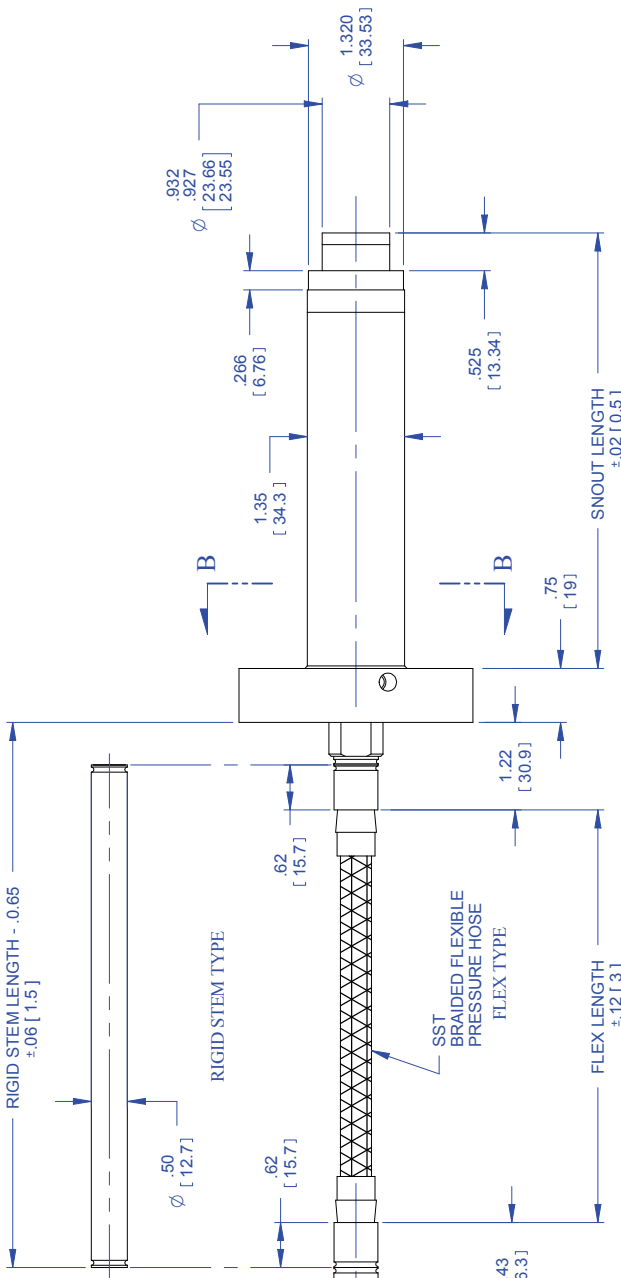
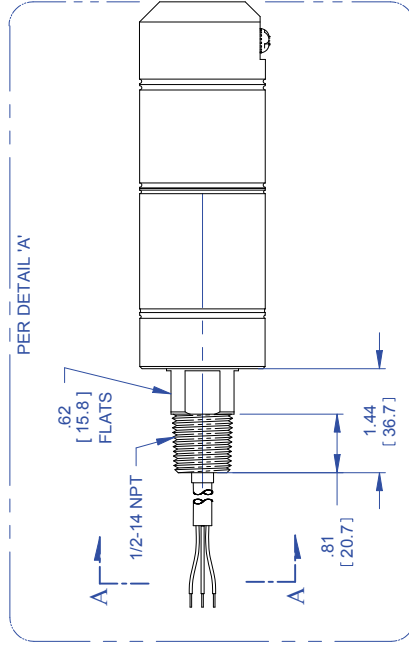
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691001

DETAIL 'A'



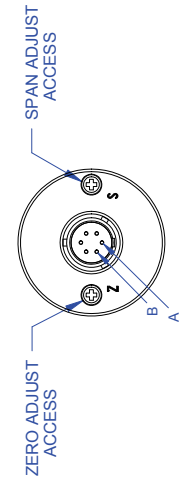
PER DETAIL 'A'



SIGNAL	TERMINAL DESCRIPTION	CONDUIT-LEAD WIRE COLOR	6-PIN 8-PIN
PRIMARY 4-20mA	PWR+/SIG+	RED	A A
	PWR-/SIG-	BLACK	B B
	CASE	GREEN	- -
OPTIONS			
RCAL ONLY	RCAL+	ORANGE	F E
	RCAL-	BLUE	E D
RCAL WITH SECONDARY 4-20mA ONLY	RCAL+	ORANGE	- E
	RCAL-	BLUE	- D
	2ND PWR+/SIG+	VIOLET	- G
	2ND PWR-/SIG-	YELLOW	- H
SECONDARY 4-20mA ONLY	2ND PWR+/SIG+	VIOLET	- G
	2ND PWR-/SIG-	YELLOW	- H
DUAL RTD ONLY	RTD (-)	WHITE	- D
	RTD (+)	GREY	- E
	RTD (+)	BROWN	- F

2x 5/16-18 UNC-2B THREAD 180° APART ON Ø2.125 [Ø54]

VIEW B-B MOUNTING FLANGE "S1"



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

1. UNLESS OTHERWISE SPECIFIED:  
 1. 1/2 FLAT BEVEL ±.05  
 2. 3 FLAT BEVEL ±.05  
 3. 3.00 ±.005  
 4. ANGLES ±.05° MAX  
 5. EDGE R .005 OR CHAMFER MAX  
 6. ALL DIMENSIONS ARE IN INCHES  
 7. ALL DIMENSIONS ARE TO UNLESS OTHERWISE SPECIFIED

MODEL NO. **SPX-T**

DO NOT SCALE DRAWING

DATE 01/30/07

DATE 5/27/08

DATE 5/27/08

FINISH 63

SCALE NONE

SHEET 1 OF 1

TITLE

**SPX-T 3391**

**OUTLINE DWG**

DRAWN DRC DATE 01/30/07

CHECKED DATE 5/27/08

APPROVED M/JL DATE 5/27/08

FINISH 63

SCALE NONE

SHEET 1 OF 1

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**Dynisco**

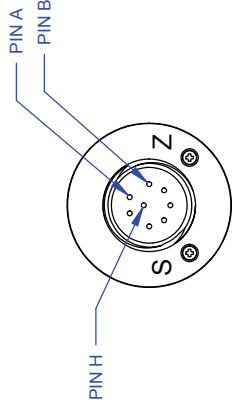
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SIZE DIVG. NO.

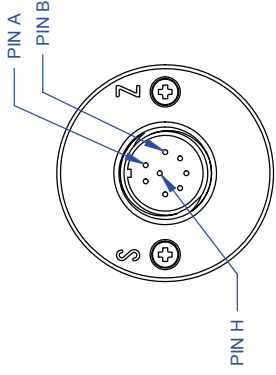
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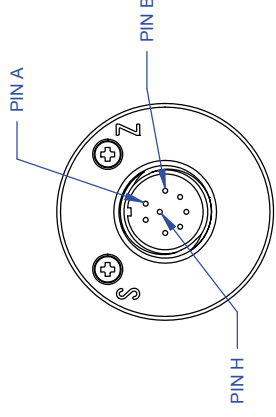
000652



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	

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SIZE	DWG. NO.	REV
B	000652	A
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: DSSPX3SERIES  
REV: 1116  
ECO: 47068



Product Safety  
Functional  
Safety  
[www.tuv.com](http://www.tuv.com)  
ID: 0560000000



# Dynisco

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

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## Dynisco Europe, GmbH

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Jiading, 201801 China Fax +86 21 34074025