

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 Dynalarity™, 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.

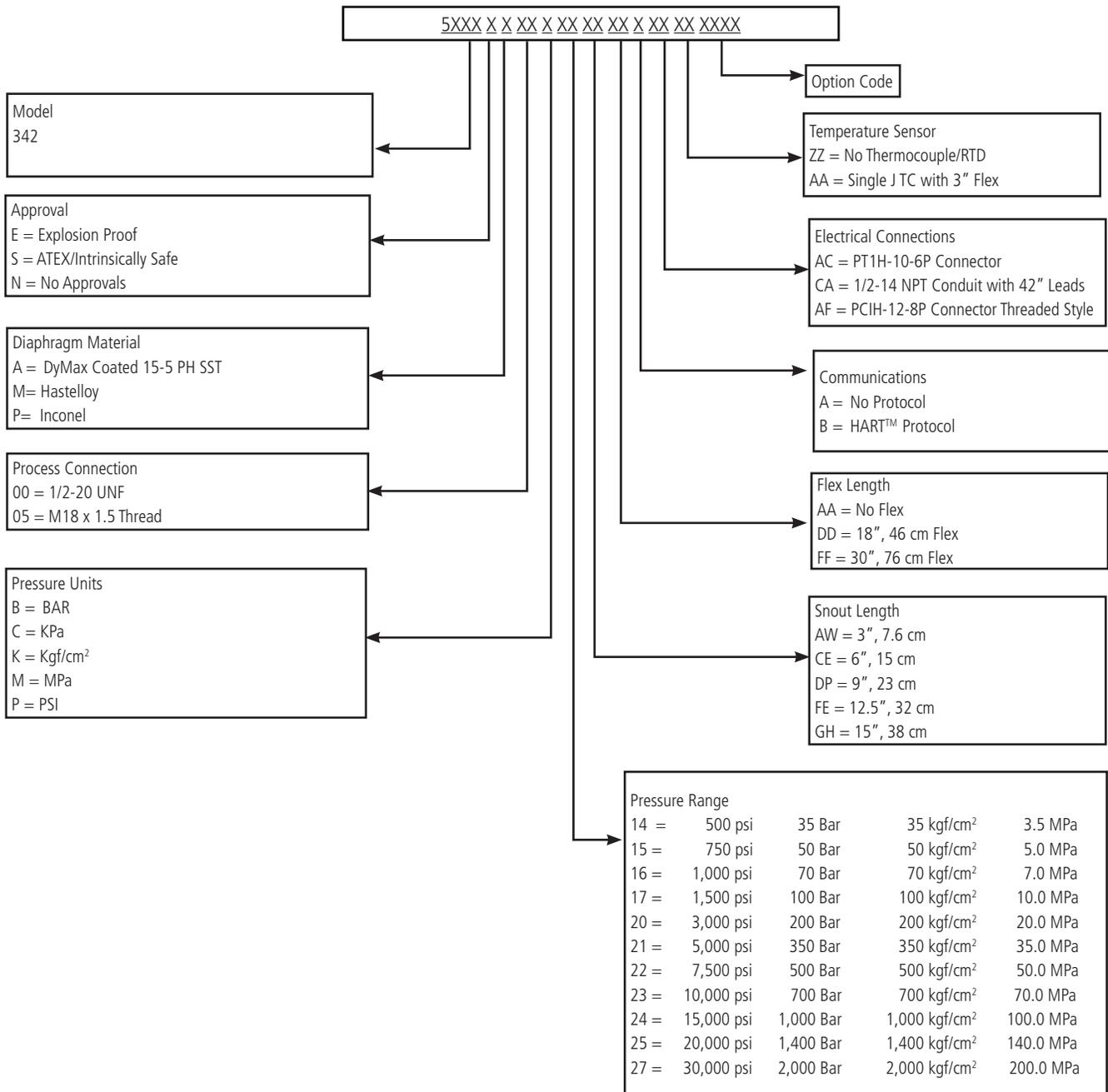
Features

- 4-20mA loop-powered output
- Improved accuracy with Dynalarity $\pm 0.2\%$ 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
- 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

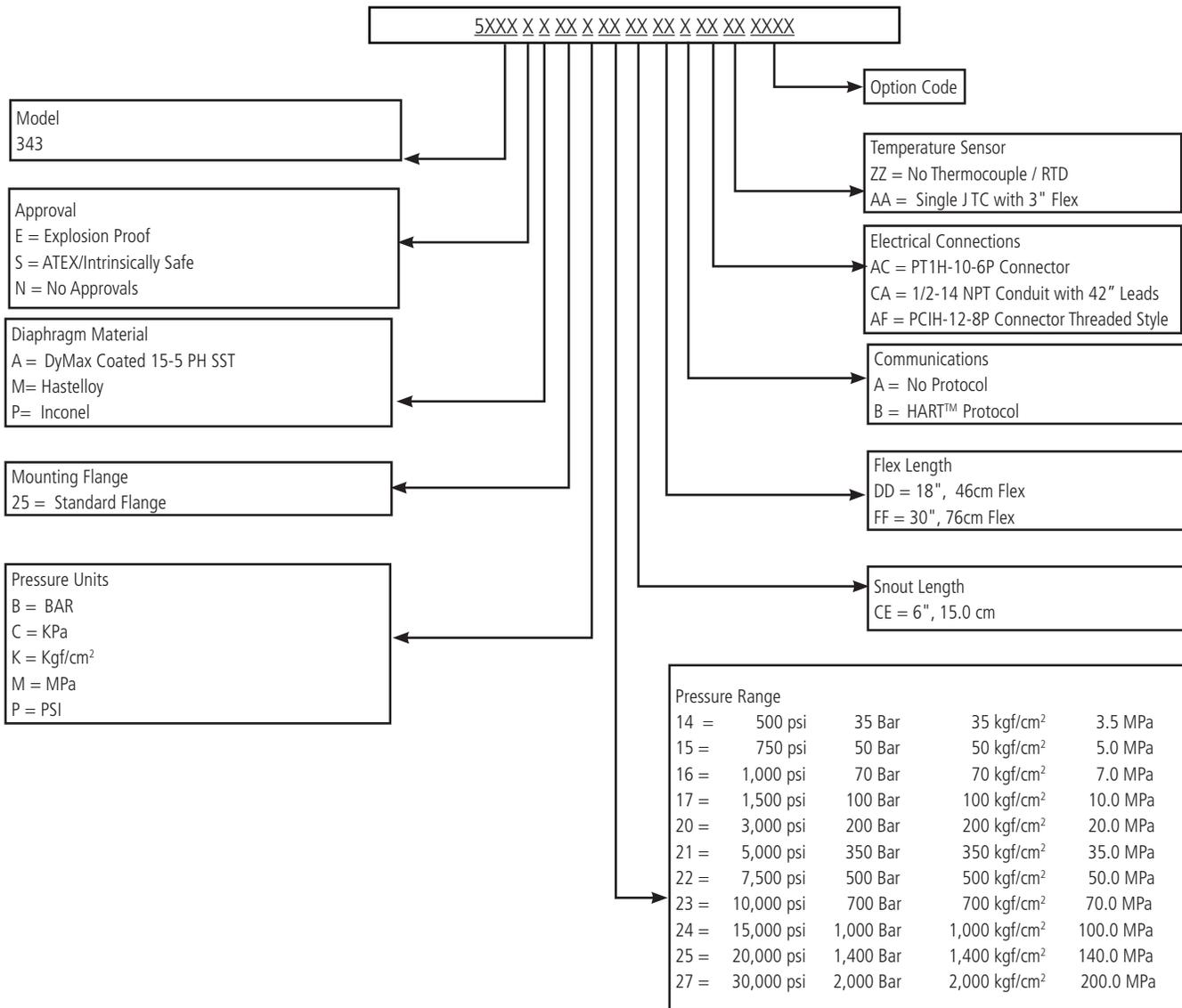
Mechanical Characteristics	
Mounting Torque	5342: 500 inch-lbf max 5343: 50 inch-lbf max 5344: 350 inch-lbf max 5390: 350 inch-lbf max 5391: 350 inch-lbf max 5392: 80 ft-lbf max
Standard Wetted Parts	DyMax coated 15-5 PH SST
Approvals & Certifications	
CE ATEX IS	
SIL 2 (pressure output) & PL'c' (relay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

Ordering Guide for Models SPX5342¹



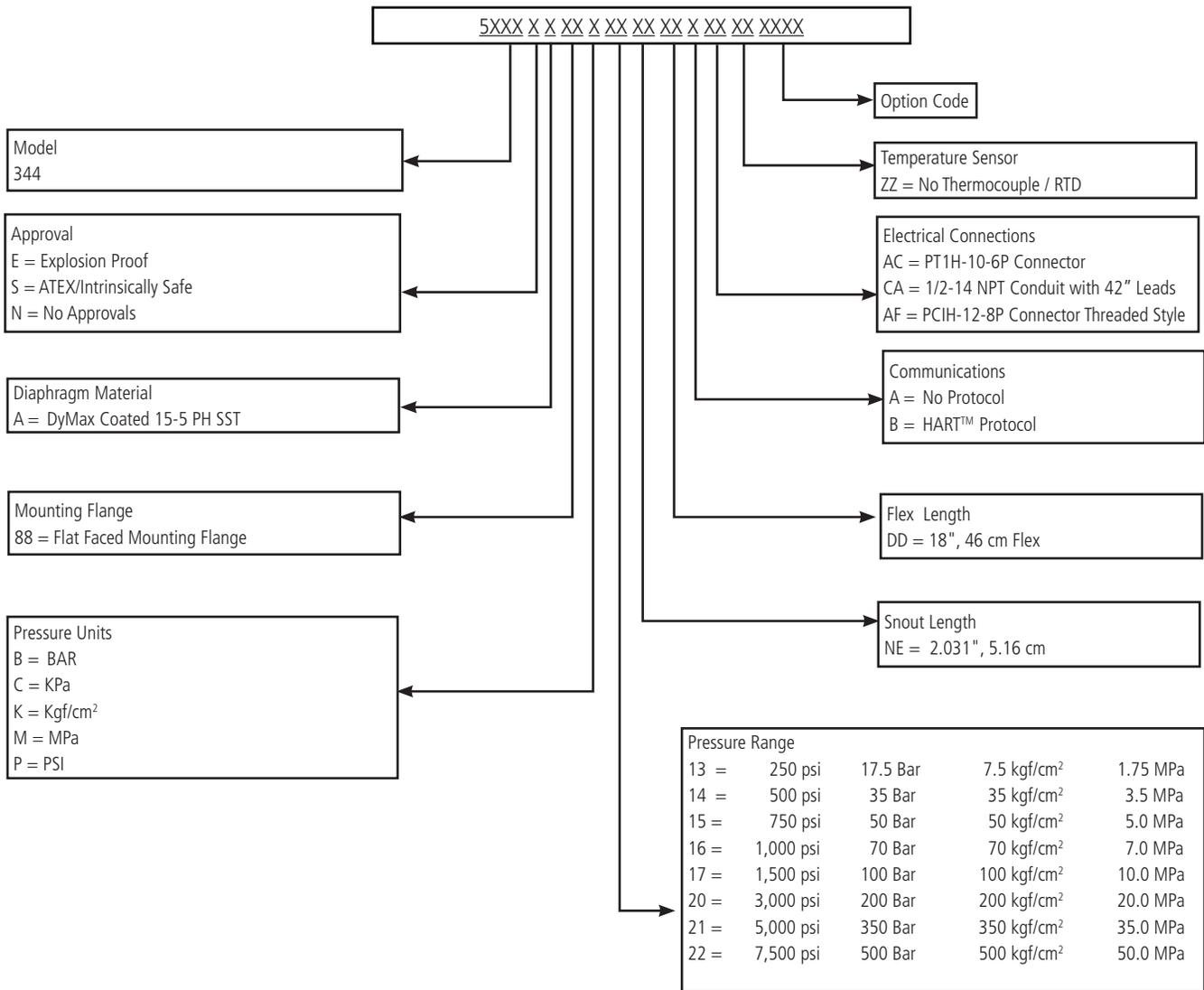
¹Other configurations are available. Please consult factory.

Ordering Guide for Models SPX5343¹



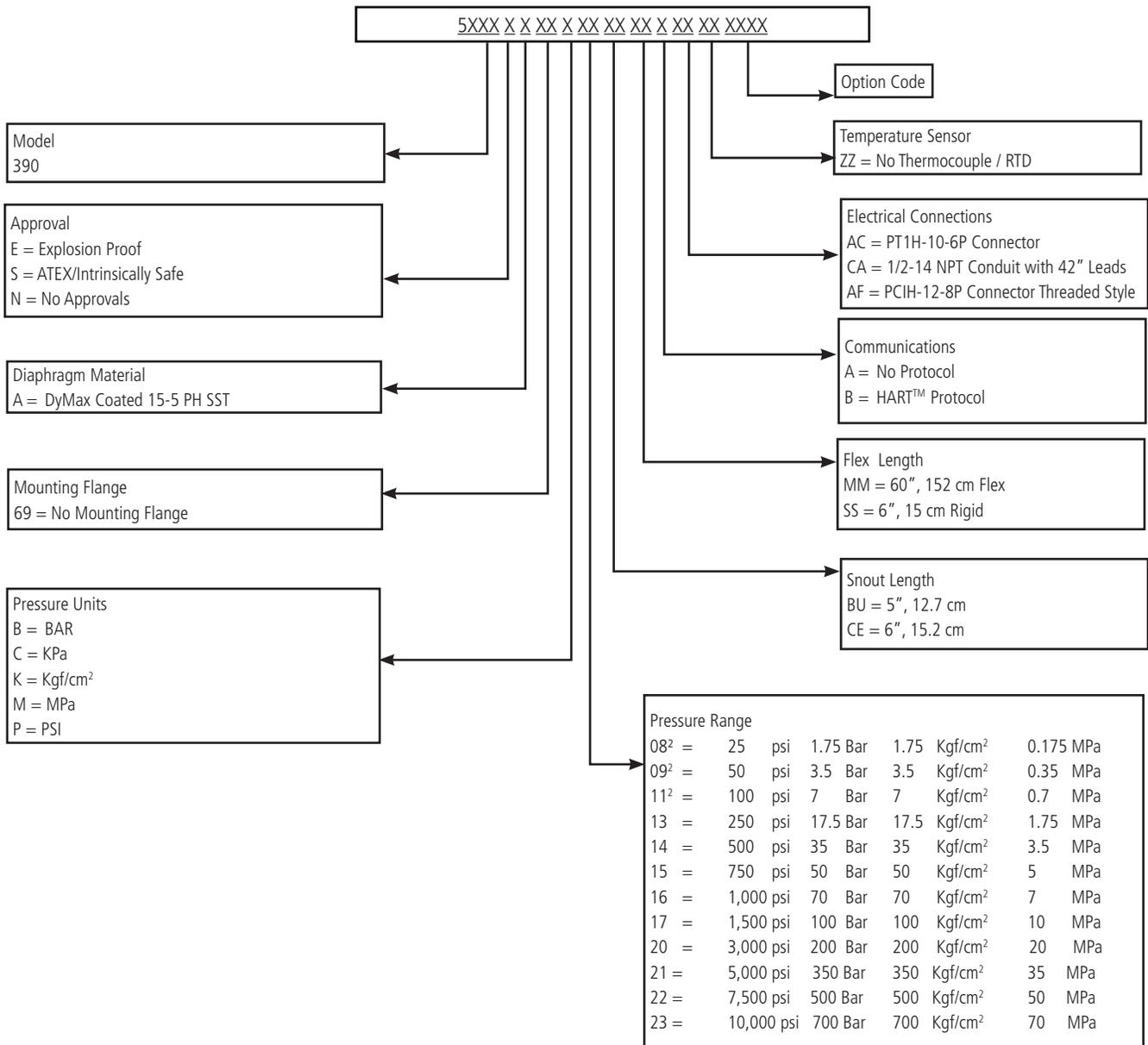
¹Other configurations are available. Please consult factory.

Ordering Guide for Models SPX5344¹



¹Other configurations are available. Please consult factory.

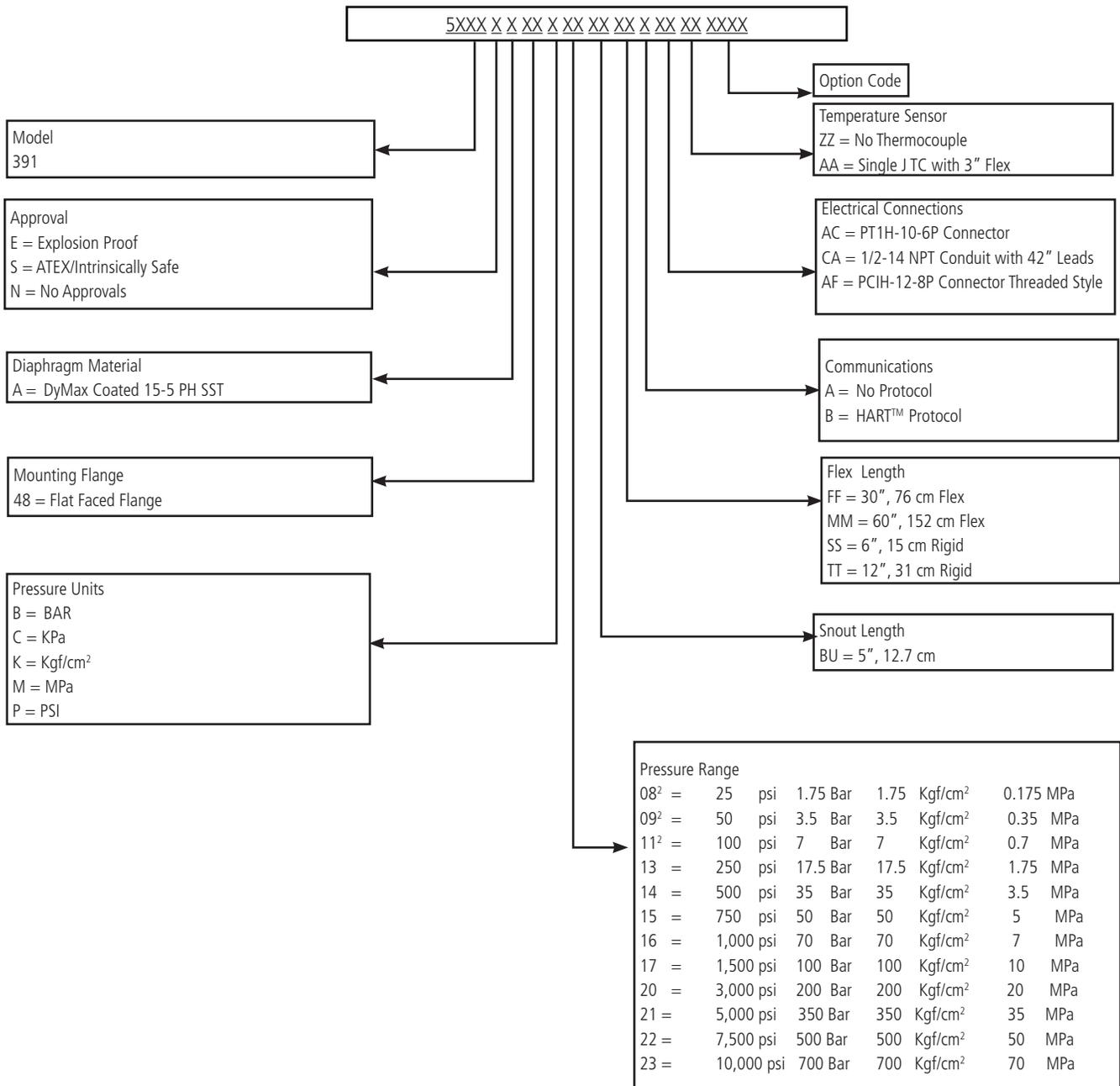
Ordering Guide for Models SPX5390¹



¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary

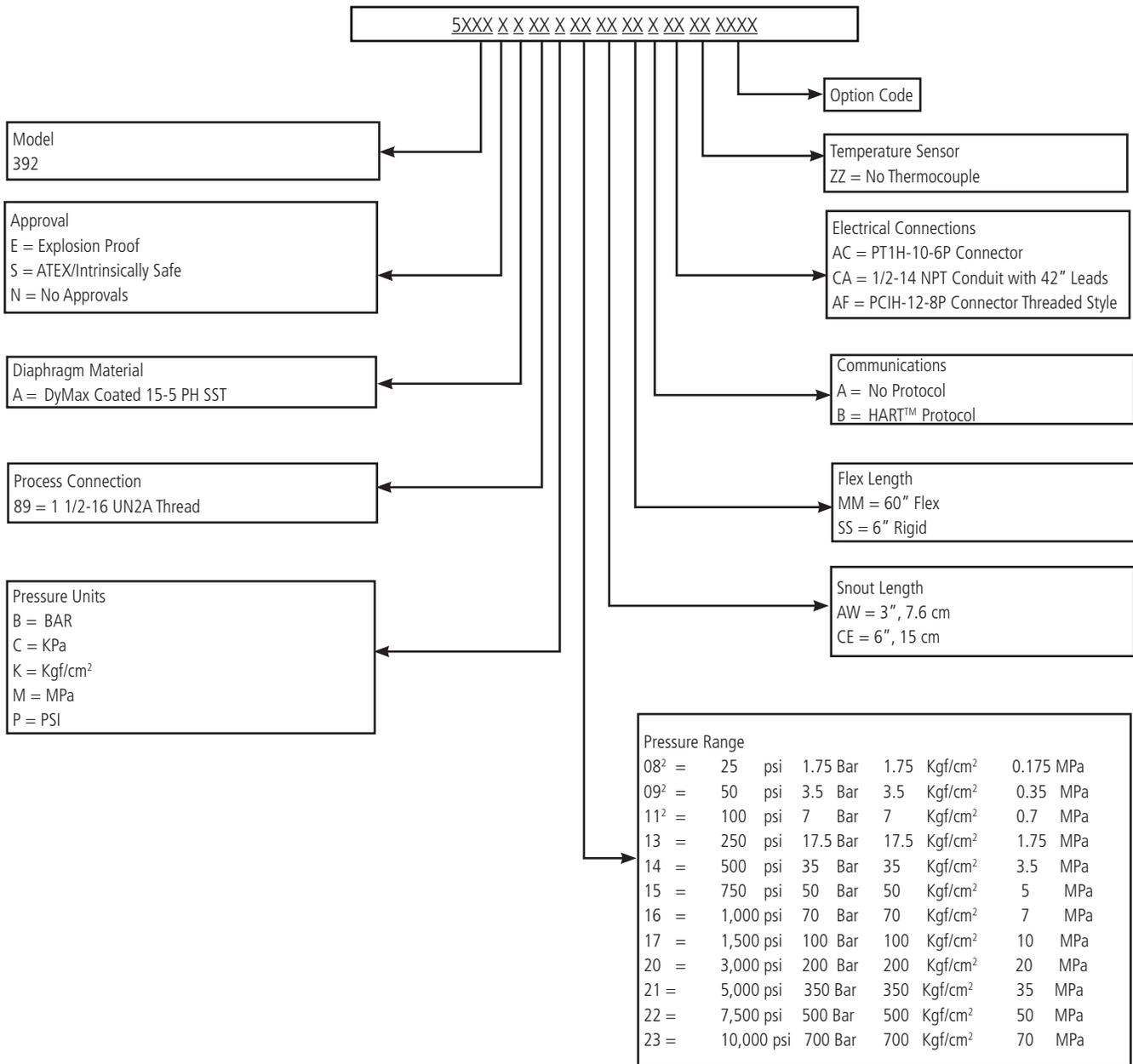
Ordering Guide for Models SPX5391¹



¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary

Ordering Guide for Models SPX5392¹



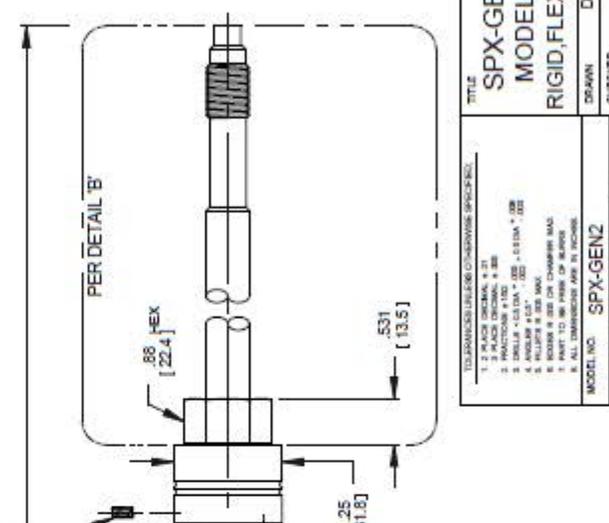
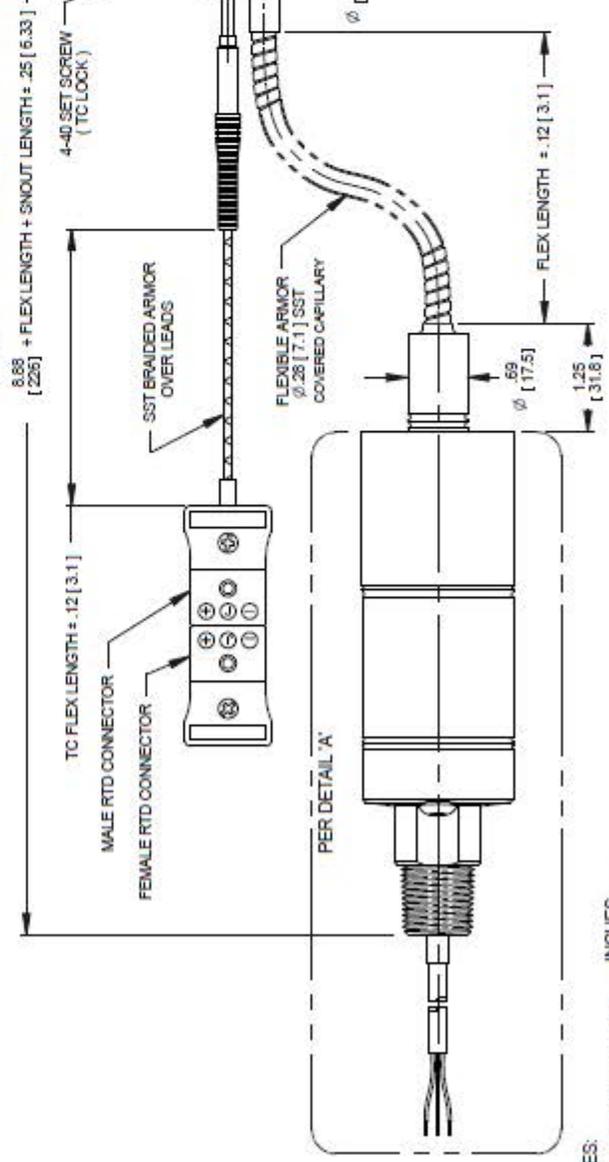
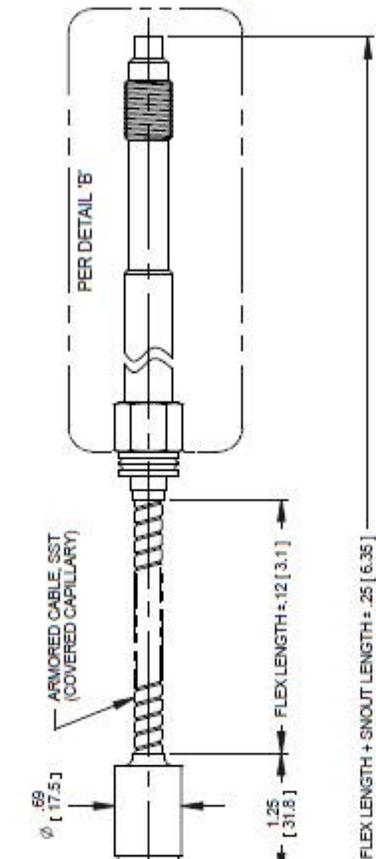
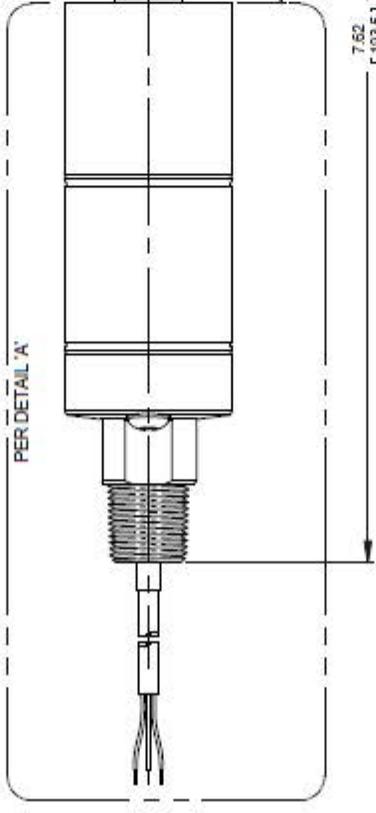
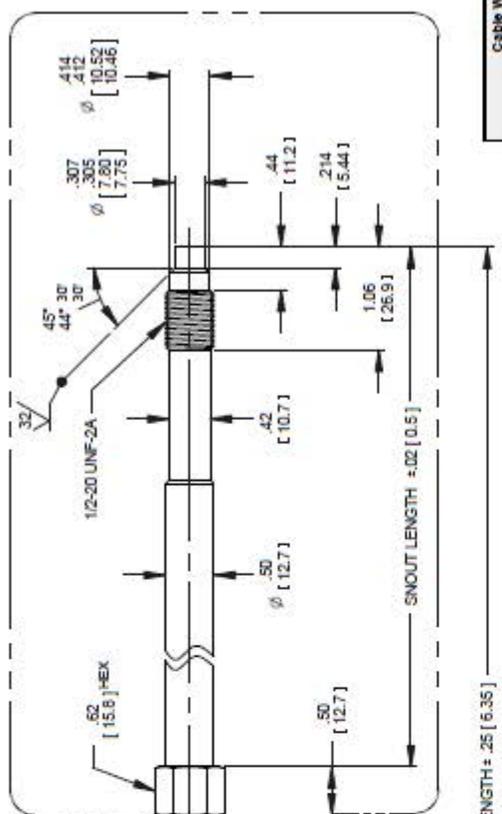
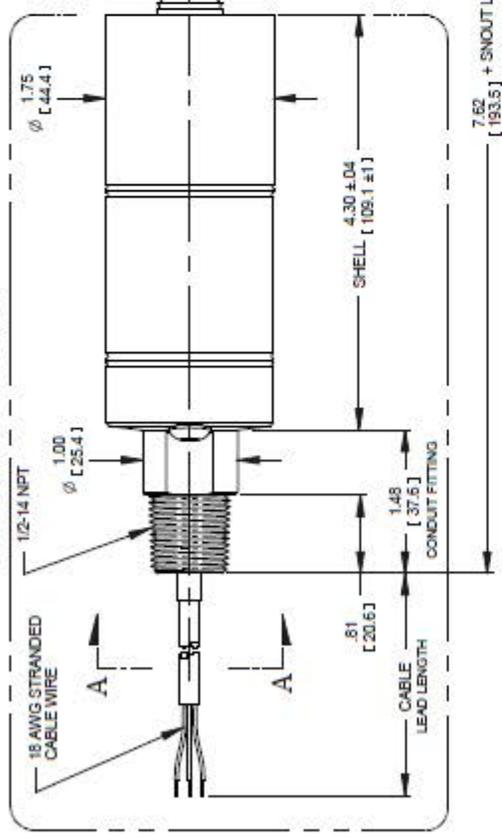
¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary

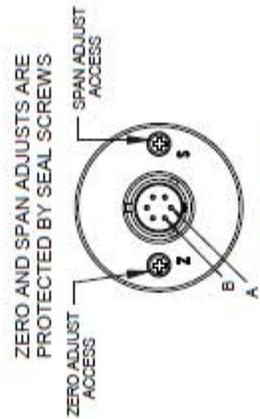
REV	ECO	BY	APP	DATE
C	47068	TP	LEB	11/18/16

000616

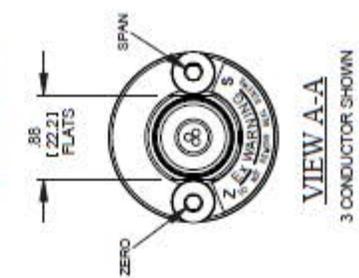
DETAIL 'A'
ELECTRICAL HOUSING, CONDUIT



Color	Function
RED	POWER + / SIG +
BLACK	POWER - / SIG -
GREEN	GROUND
ORANGE	REAR +
BLUE	REAR -



VIEW A-A



VIEW A-A
3 CONDUCTOR SHOWN

REV	C
DATE	01/31/11
SCALE	NONE
SHEET	1 OF 1

DATE	11/29/10
DATE	01/31/11
DATE	01/31/11
DATE	01/31/11

DATE	11/29/10
DATE	01/31/11
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DATE	11/29/10
DATE	01/31/11
DATE	01/31/11
DATE	01/31/11

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

RECEPTS MAY BE OBTAINED FROM THE FOLLOWING SOURCES:
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Dynisco
DYNISCO, INC.
10000 W. 10TH AVENUE, DENVER, CO 80231
TEL: 303.751.1000
WWW.DYNISCO.COM

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

MODEL NO. SPX-GEN2
DO NOT SCALE DRAWING
MATERIAL

1. 2 PLACE ORDER + 21
2. PLACE ORDER + 26
3. ORDER + 10.00A * 0.02 + 0.100A * 0.02
4. ORDER + 10.00A * 0.02 + 0.100A * 0.02
5. ORDER + 10.00A * 0.02 + 0.100A * 0.02
6. ORDER + 10.00A * 0.02 + 0.100A * 0.02
7. ORDER + 10.00A * 0.02 + 0.100A * 0.02
8. ORDER + 10.00A * 0.02 + 0.100A * 0.02
9. ORDER + 10.00A * 0.02 + 0.100A * 0.02
10. ORDER + 10.00A * 0.02 + 0.100A * 0.02

1. 2 PLACE ORDER + 21
2. PLACE ORDER + 26
3. ORDER + 10.00A * 0.02 + 0.100A * 0.02
4. ORDER + 10.00A * 0.02 + 0.100A * 0.02
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6. ORDER + 10.00A * 0.02 + 0.100A * 0.02
7. ORDER + 10.00A * 0.02 + 0.100A * 0.02
8. ORDER + 10.00A * 0.02 + 0.100A * 0.02
9. ORDER + 10.00A * 0.02 + 0.100A * 0.02
10. ORDER + 10.00A * 0.02 + 0.100A * 0.02

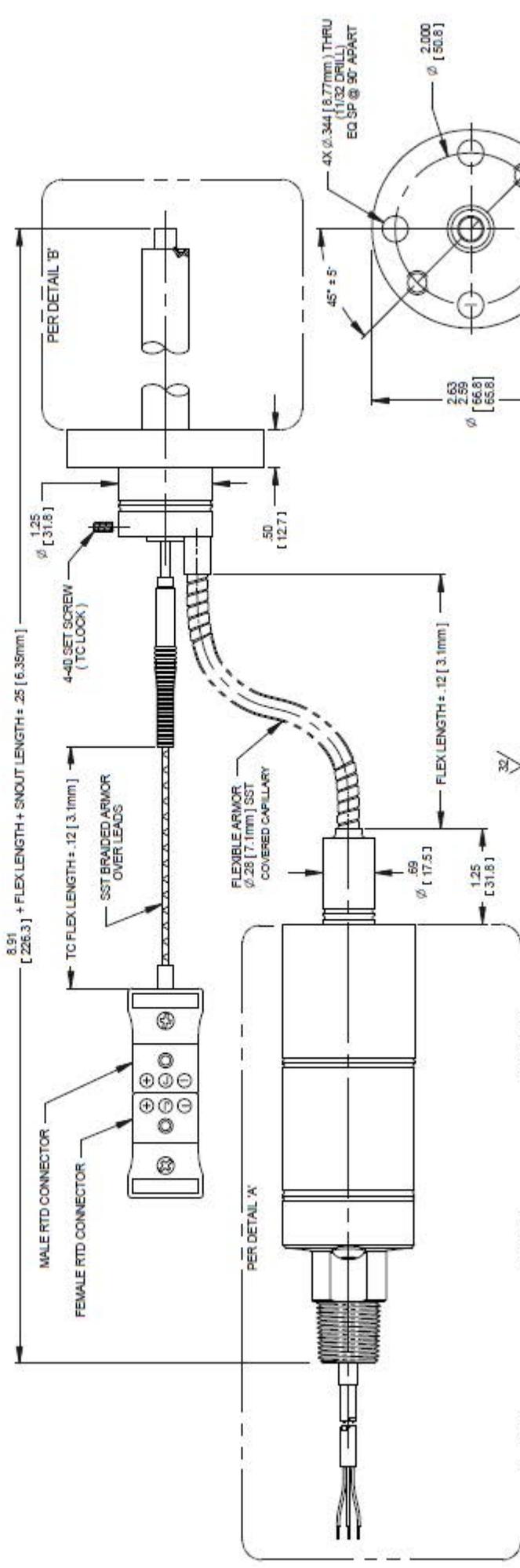
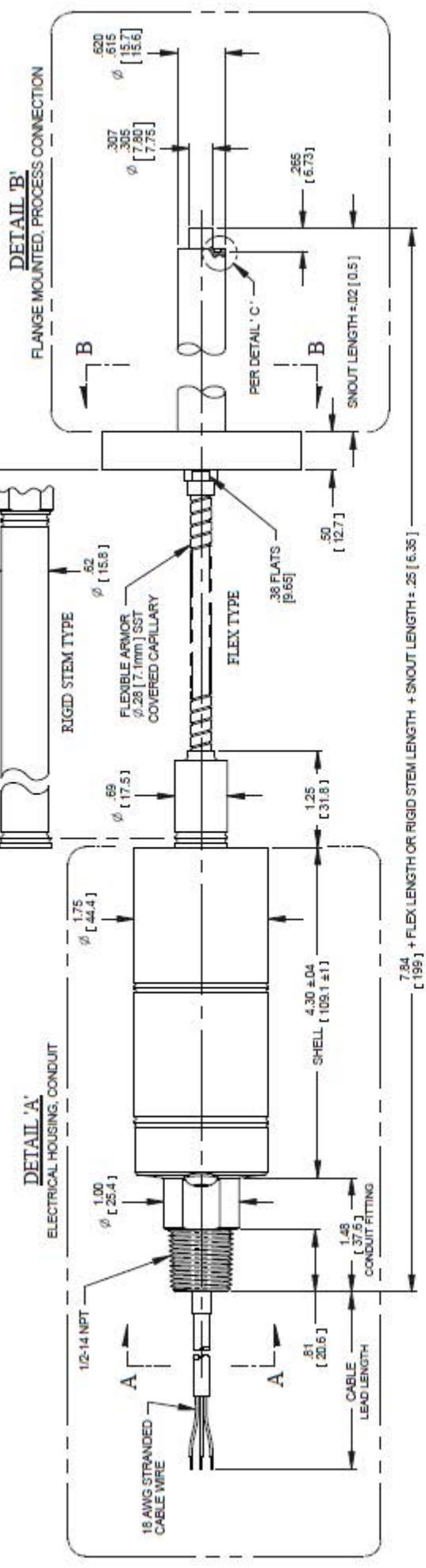
1. 2 PLACE ORDER + 21
2. PLACE ORDER + 26
3. ORDER + 10.00A * 0.02 + 0.100A * 0.02
4. ORDER + 10.00A * 0.02 + 0.100A * 0.02
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10. ORDER + 10.00A * 0.02 + 0.100A * 0.02

1. 2 PLACE ORDER + 21
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4. ORDER + 10.00A * 0.02 + 0.100A * 0.02
5. ORDER + 10.00A * 0.02 + 0.100A * 0.02
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9. ORDER + 10.00A * 0.02 + 0.100A * 0.02
10. ORDER + 10.00A * 0.02 + 0.100A * 0.02

1. 2 PLACE ORDER + 21
2. PLACE ORDER + 26
3. ORDER + 10.00A * 0.02 + 0.100A * 0.02
4. ORDER + 10.00A * 0.02 + 0.100A * 0.02
5. ORDER + 10.00A * 0.02 + 0.100A * 0.02
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8. ORDER + 10.00A * 0.02 + 0.100A * 0.02
9. ORDER + 10.00A * 0.02 + 0.100A * 0.02
10. ORDER + 10.00A * 0.02 + 0.100A * 0.02

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	Roal +
BLUE	Roal -

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

TELEPHONE LINE USE ONLY (CONFORMING TO SPECIFIC REGS.)

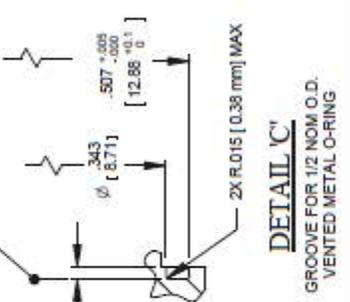
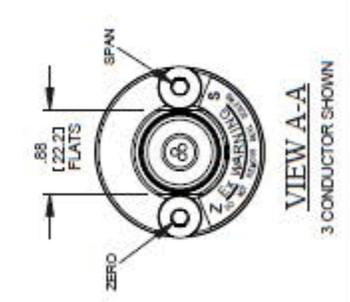
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- 3 PLACE REVISIONS + 21
- 3 PLACE ORIGINAL + 21
- 3 PLACE REVISIONS + 21
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- 3 PLACE REVISIONS + 21
- 3 PLACE ORIGINAL + 21
- 3 PLACE REVISIONS + 21

MODEL NO. SPX-GEN2
 DRAWN DRG DATE 11/29/10
 CHECKED DATE
 APPROVED M.U.L. DATE 01/31/11
 FINISH

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

SCALE: NONE SHEET 1 OF 1

Dynisco
 COMPANY NO. 00000000000000000000
 SIZE C 000618
 REV C



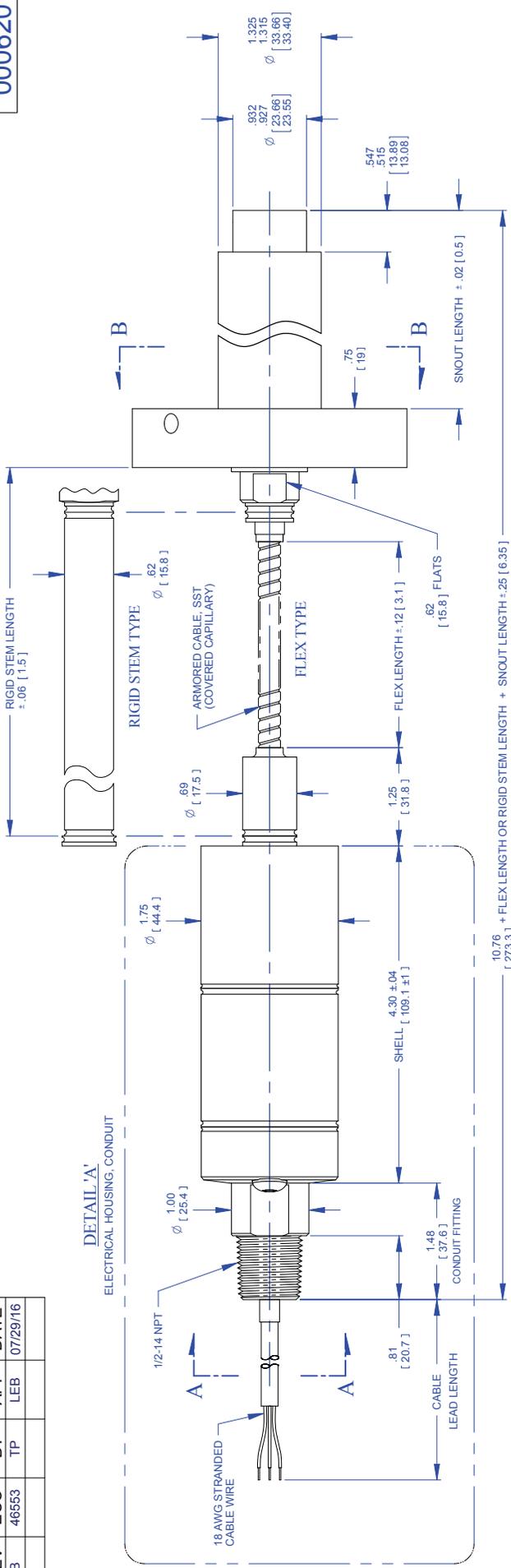
DETAIL C
 GROOVE FOR 1/2 NOM O.D.
 VENTED METAL O-RING

VIEW A-A
 3 CONDUCTOR SHOWN

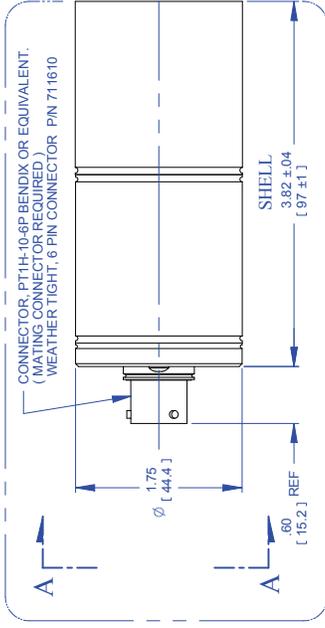
REV	ECO	BY	APP	DATE
B	46563	TP	LEB	07/29/16

000620

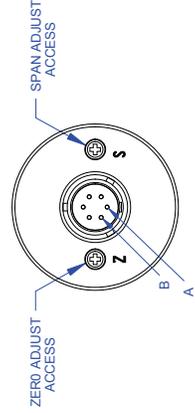
DETAIL 'A'
ELECTRICAL HOUSING, CONDUIT



ELECTRICAL HOUSING, CONNECTOR CONFIGURATION

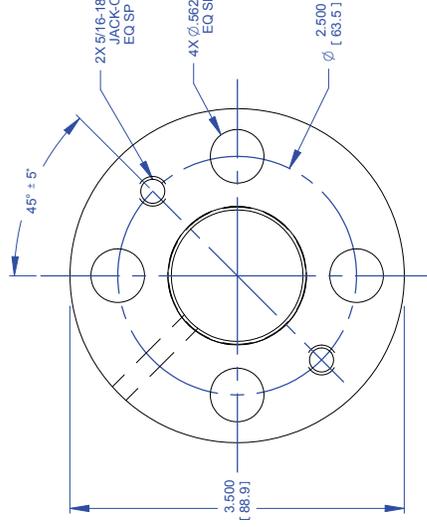


ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS

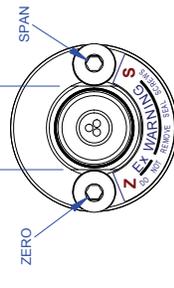


VIEW A-A

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



VIEW B-B
FLANGE



VIEW A-A

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

1. DIMENSIONS UNLESS OTHERWISE SPECIFIED:

- 1.2 PLACE DECIMAL 1.01
- 3 PLACE DECIMAL 1.005
- DRILLS 0.0001" MAX
- DRILLS 0.0001" MAX
- ANGLES 0.05° MAX
- EDGES R .005 OR CHAMFER MAX
- ALL DIMENSIONS ARE IN INCHES
- 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			
FINISH			

SIZE	SIZE	REV
C	C	B
000620	000620	000620

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SCALE: NONE SHEET 1 OF 1

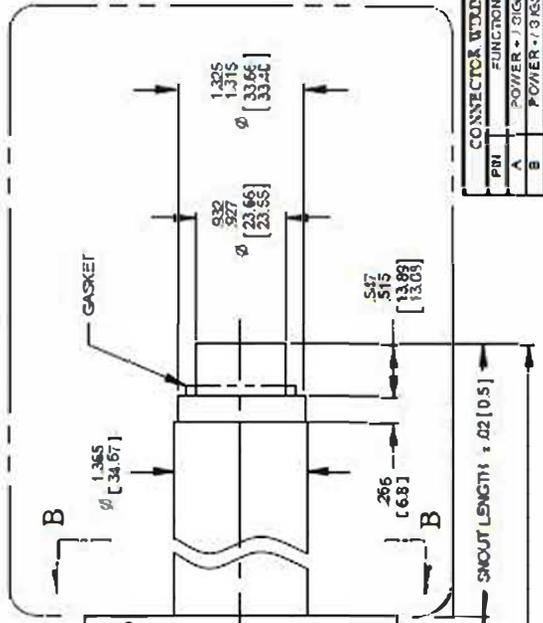
NOTES:

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

REV	ECO	BY	APP	DATE
C	47088	TP	LEB	11/18/16

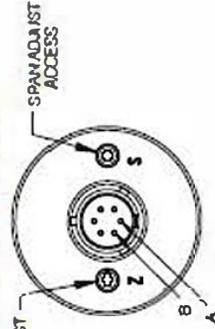
000623

DETAIL 'B'
FLANGE MOUNTED, PROCESS CONNECTION

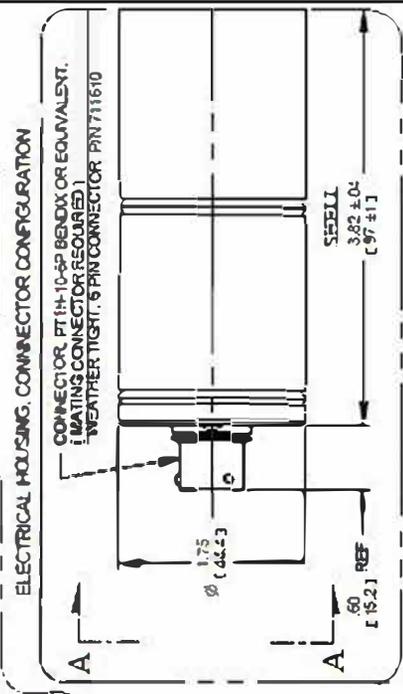


CONDUCTOR WINDING	FUNCTION
A	POWER - 1 SIGNAL -
B	POWER - 2 SIGNAL -
C	NO
D	CONNECTION
E	RC'3 -
F	RC'3 -

ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



VIEW A-A



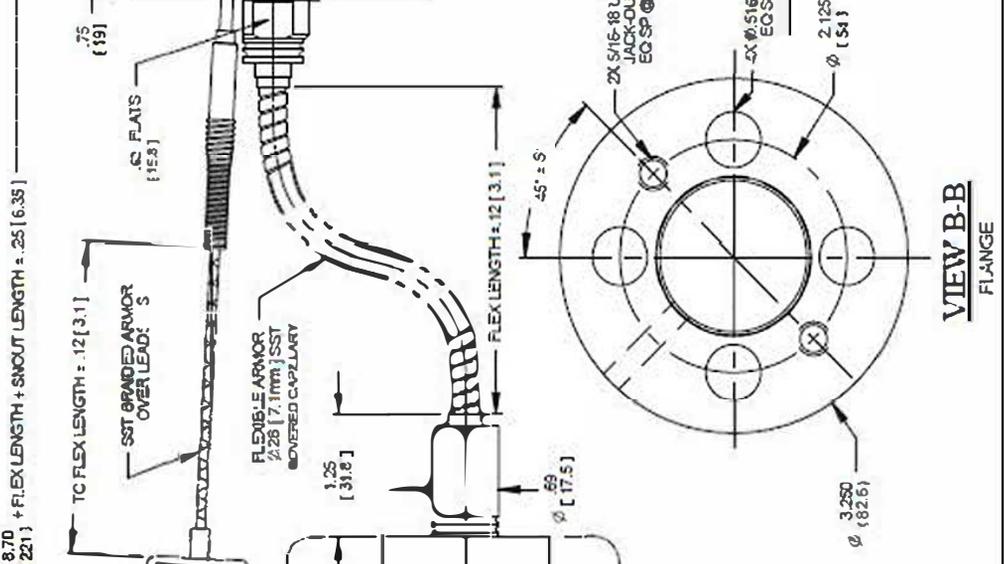
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DATE	01/31/11
APPROVED	MLB
DRAWN	MLB
DATE	12/08/10
DRG	SPX-GEN2
MODEL NO	SPX-GEN2
SCALE	NONE
SHEET	1 OF 1

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

UNAPPROVED UNLESS OTHERWISE SPECIFIED:
1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
2. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE PART.
3. ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE PART.
4. ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE PART.
5. ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE PART.

DO NOT SCALE DRAWING
MATERIAL

VIEW B-B
FLANGE



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

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

VIEW A-A

3 CONDUCTOR SHOWN

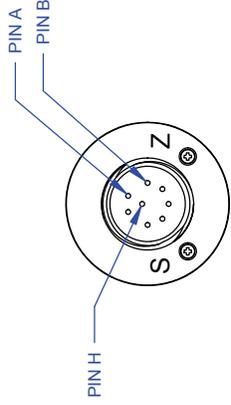
VIEW B-B

FLANGE

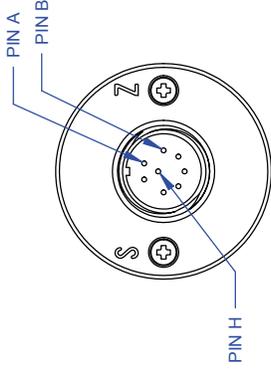


REV	ECO	BY	APP	DATE
A	46553	TP	LEB	07/29/16 R

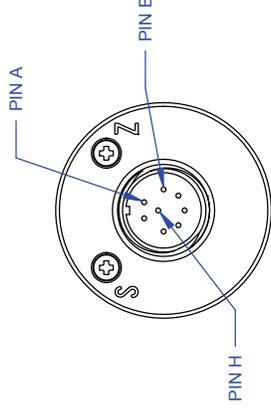
000652



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
 7. 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	DATE	DATE
FINISH	FINISH	DATE	DATE
		63	

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SIZE		REV	
B		A	
DWG. NO.		REV	
000652		A	
SCALE		SHEET	
NONE		1 OF 1	

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Refer to www.dynisco.com for access to Operator Manual and other support documentation.
PN: DSSPX5SERIES
REV: 1116
ECO: 47068



Product Safety
Functional
Safety
www.tuv.com
ID: 0560000000



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