

SPX-5 Series

Pressure sensors

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.

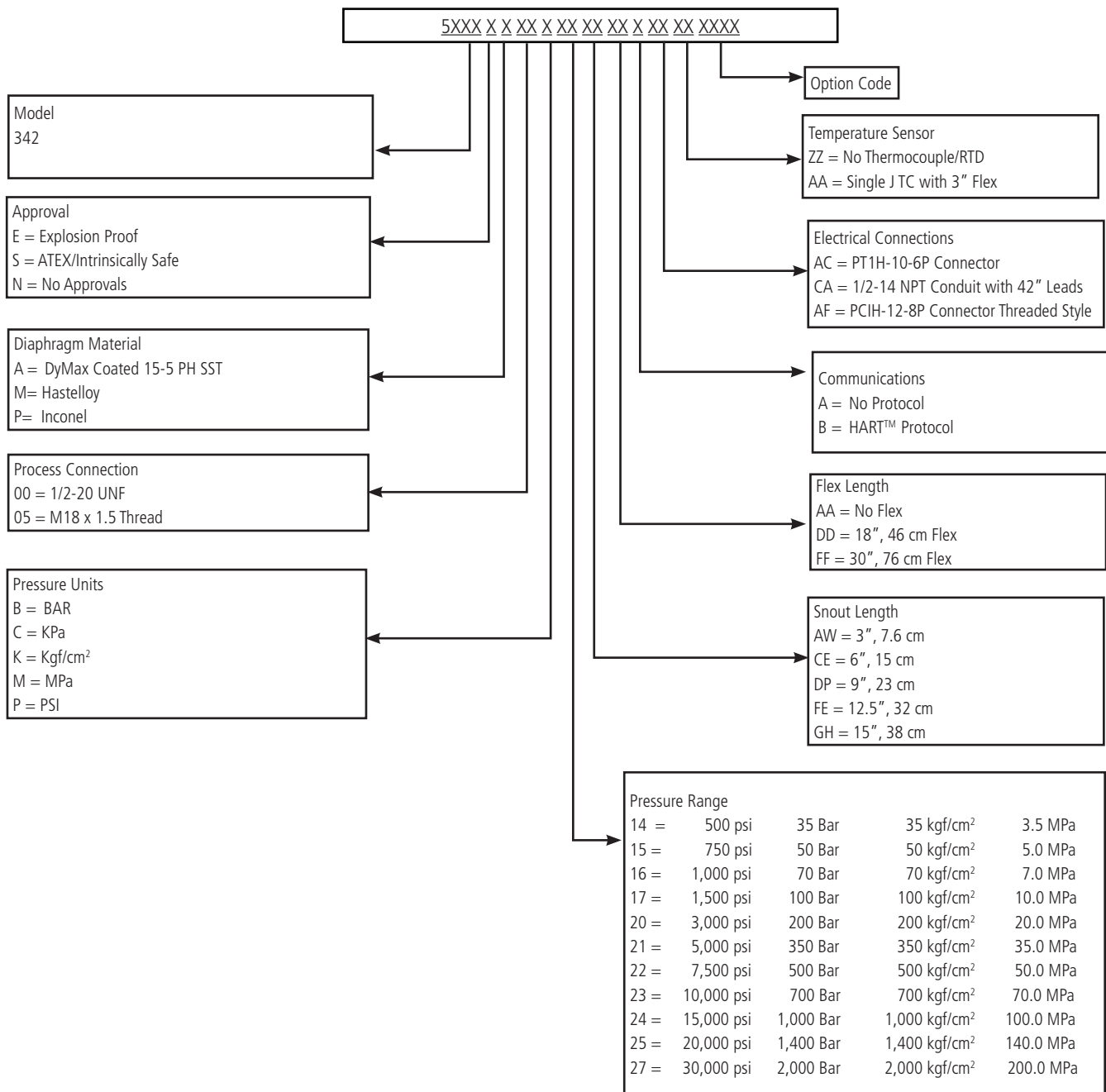
These amplified transmitters eliminate the need for external signal conditioning. All models can interface directly with distributed control systems, PLC's, computers, and similar high level control devices. Optional thermocouple or RTD configurations are available to provide melt temperature.

Features

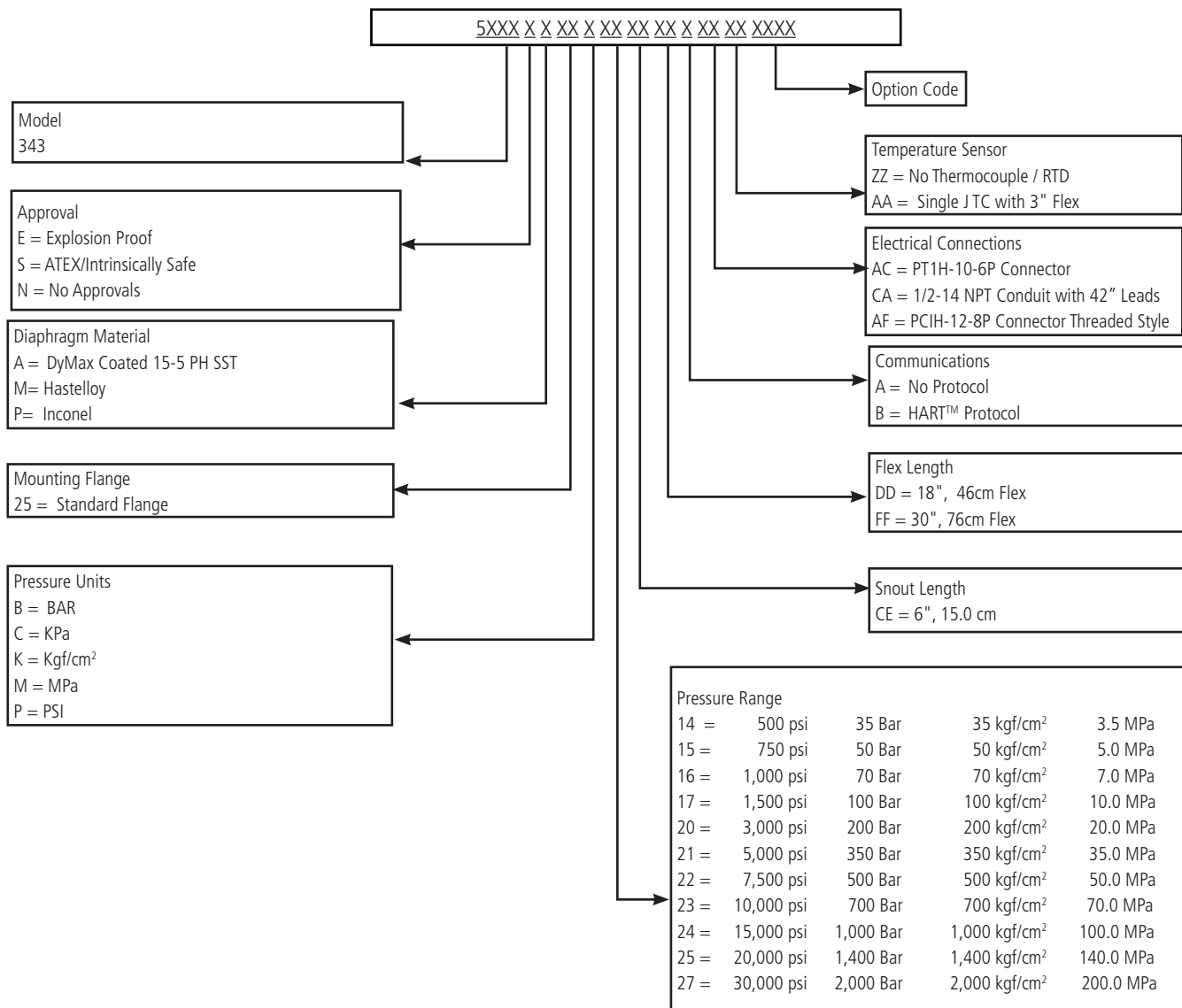
- 4-20mA loop-powered output
- Improved accuracy with Dynalarity $\pm 0.2\%$ available
- Wide selection of pressure ranges available
- Turndown 3:1
- Configurations available for use in hazardous locations
- Remotely configurable via HART™
- Precise, repeatable pressure measurements
- Output supplied 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 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.	All Models $\pm 0.20\%$
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	

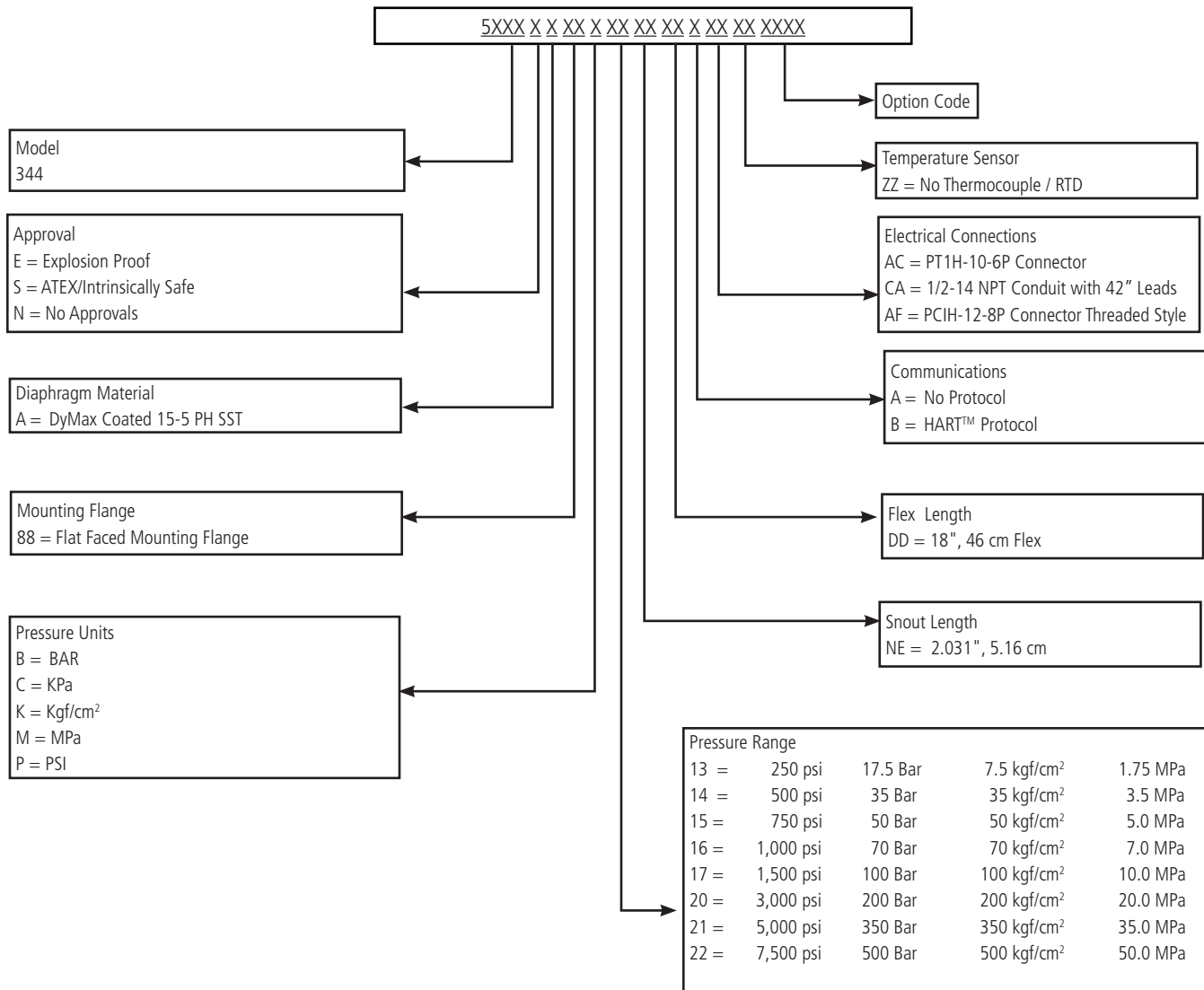
Ordering Guide for Models SPX5342¹¹Other configurations are available. Please consult factory.

Ordering Guide for Models SPX5343¹



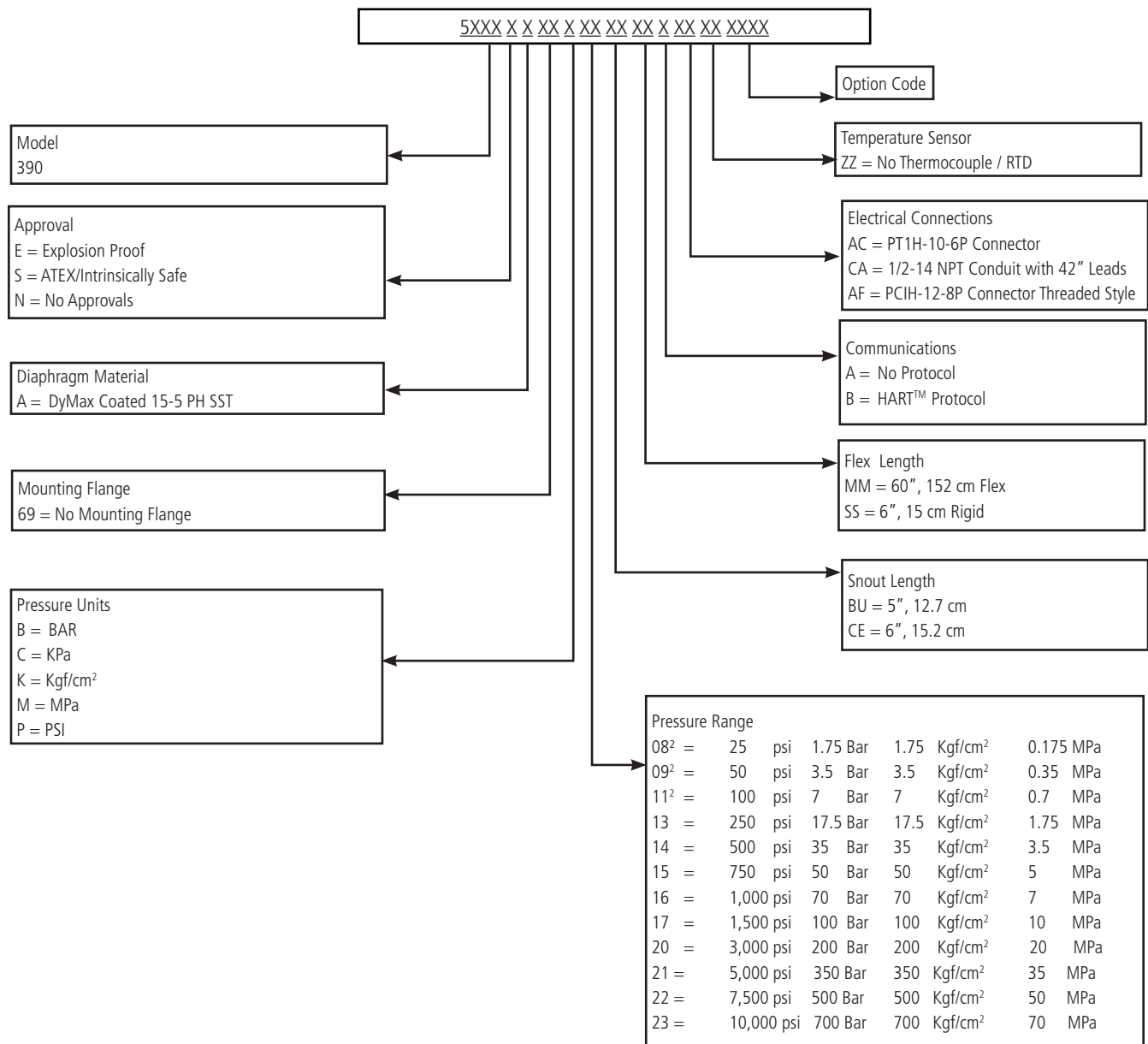
¹Other configurations are available. Please consult factory.

Ordering Guide for Models SPX5344¹



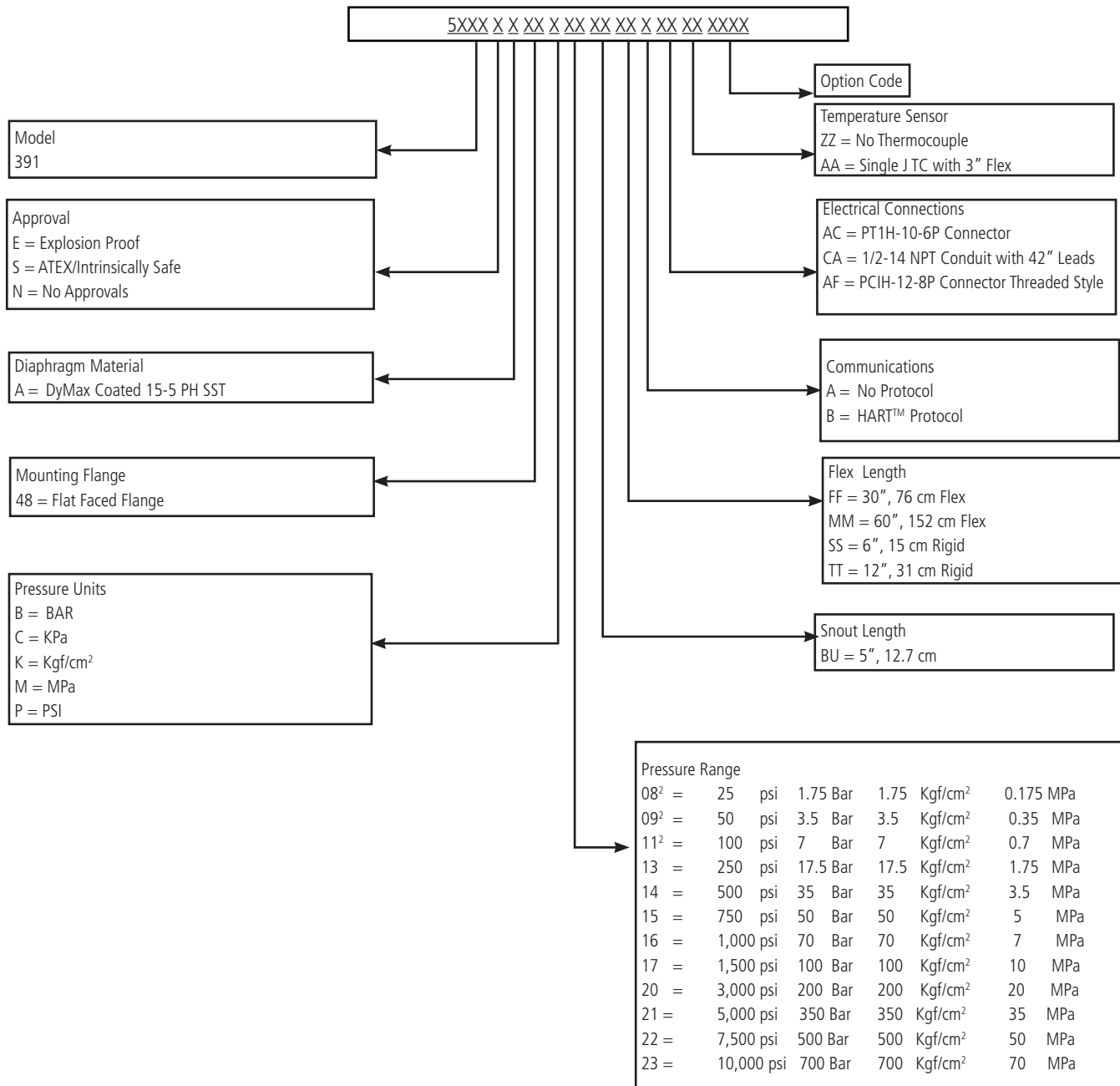
¹Other configurations are available. Please consult factory.

Ordering Guide for Models SPX5390¹

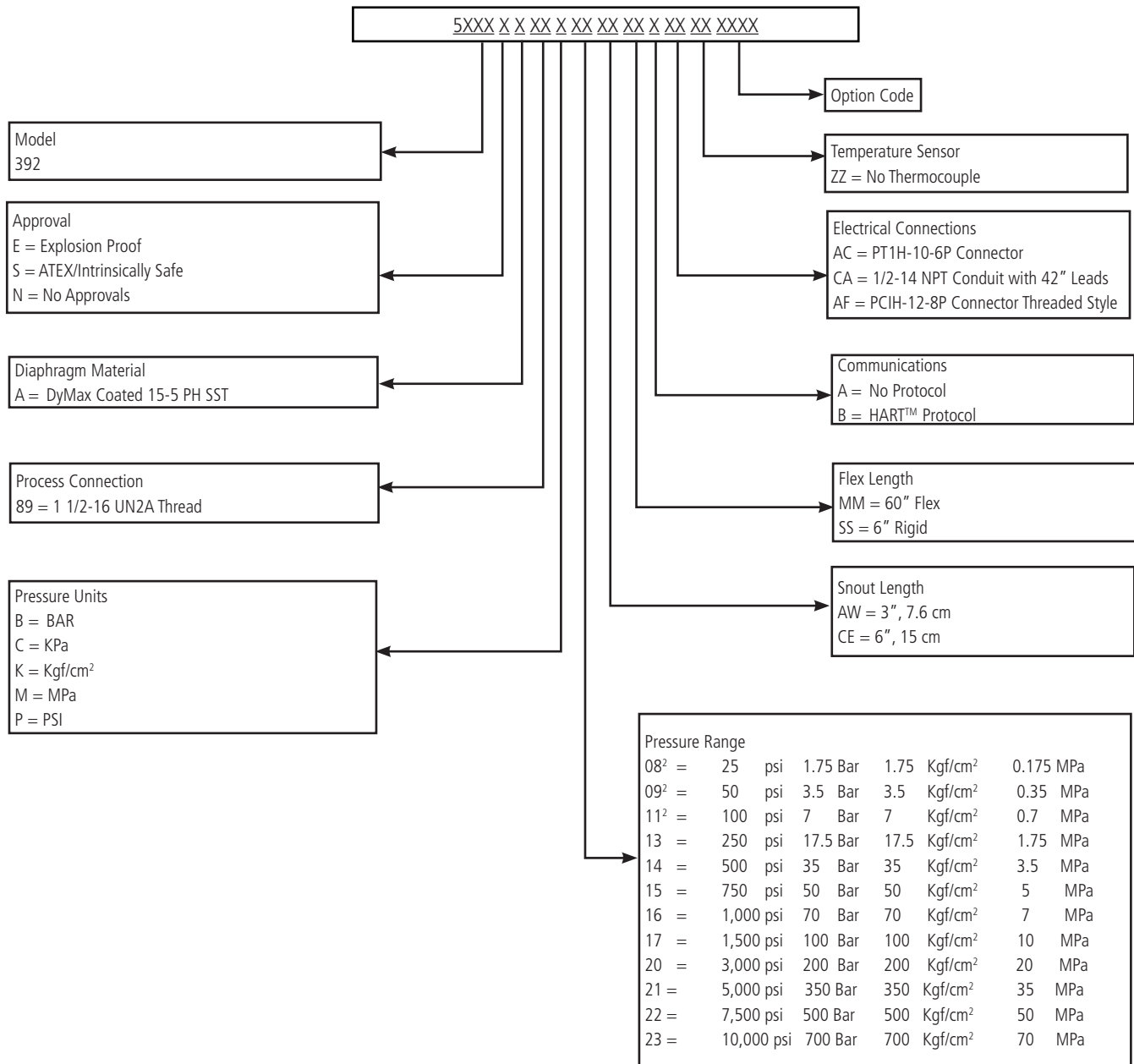


¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary

Ordering Guide for Models SPX5391¹¹Other 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.

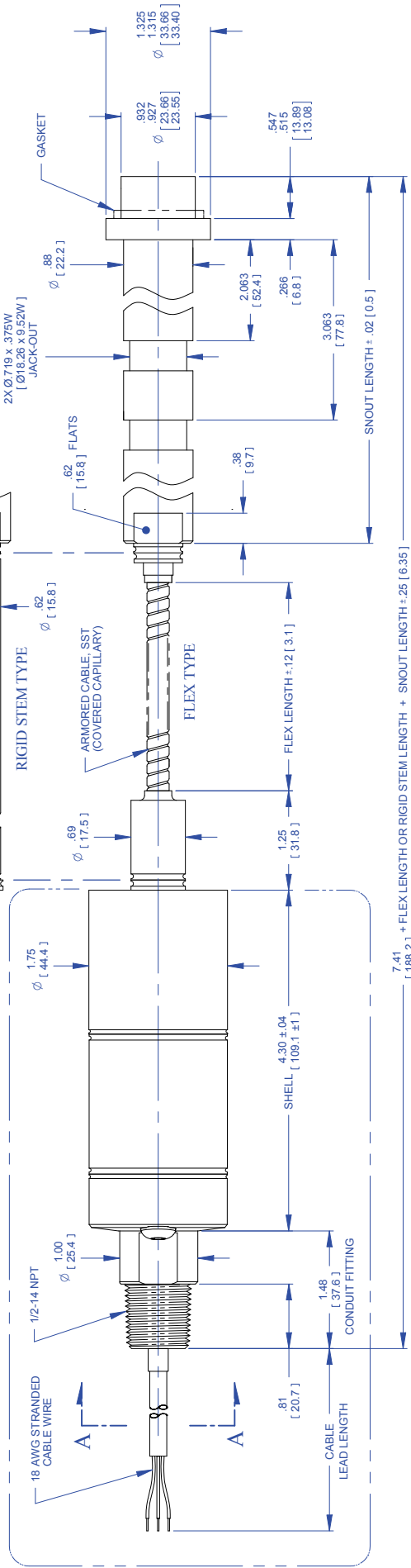
²Pressure ranges below 250 psi are supplied with rigid capillary

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

000622

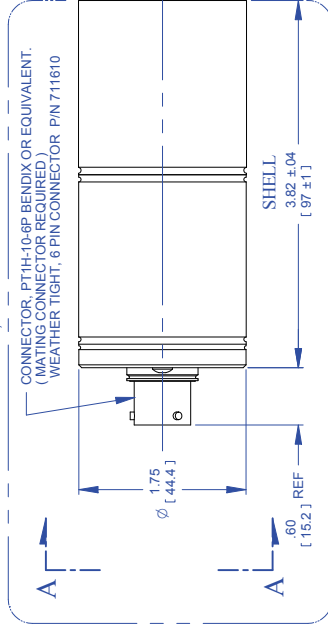
DETAIL 'A'

ELECTRICAL HOUSING, CONDUIT



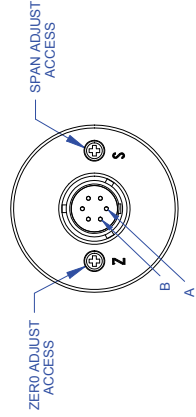
ELECTRICAL HOUSING, CONNECTOR CONFIGURATION

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

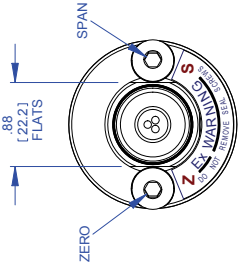


ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS

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



VIEW A-A



VIEW A-A

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

NOTES:

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

TOLERANCES UNLESS OTHERWISE SPECIFIED:

1. 2 PLACE DECIMAL ± .01
2. 3 PLACE DECIMAL ± .005
3. DRILLS ± .005 DIA. ± .005
4. DRILLS ± .005 DIA. ± .005
5. ANGLES ± .05° MAX
6. EDGES R .005 OR CHAMFER MAX
7. PARTS ARE TO BE DIMENSIONED IN INCHES
8. ALL DIMENSIONS ARE IN INCHES

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

MODEL NO	SPX-GEN2
DRAWN	DRG
CHECKED	MUL
APPROVED	DATE
FINISH	DATE

DATE	12/08/10
DATE	01/31/11
DATE	01/31/11
DATE	01/31/11

SIZE	C
REV	B

SCALE: NONE SHEET 1 OF 1



FORGE PARKWAY, FRANKLIN, MA

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REV	ECO	BY	APP	DATE	000652	
A	46553	TP	LEB	07/29/16	R	

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. 3 PLACE DECIMAL ± .005
2. FRACTIONS ± 1/32
3. DRILLS < 0.5 DIA. ± .002 > 0.5 DIA. ± .003
4. ANGLES ± 0.5°
5. SURF FINISH 125 MAX
6. EDGES R .006 OR CHAMFER MAX
7. PART TO BE FREE OF BURRS
8. ALL DIMENSIONS ARE IN INCHES.

GUARDIAN SERIES CONNECTORS

DRAWN	TP	DATE	7/27/16
CHECKED		DATE	
APPROVED	LEB	DATE	7/27/16
FINISH	63		

DO NOT SCALE DRAWING

MATERIAL X

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SIZE	DWG. NO.	REV
B	000652	A

SCALE NONE SHEET 1 OF 1



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