

## Dynisco SPX Industrial (2280/2281) Series

SMART GENERAL PURPOSE PRESSURE SENSORS



### Description

The Dynisco SPX228X is an all welded construction smart industrial 4-20mA pressure transmitter designed for use in hazardous locations. Models are available in PSIG, PSIA, and PSIS. Optional pressure fittings and electrical terminations are available.

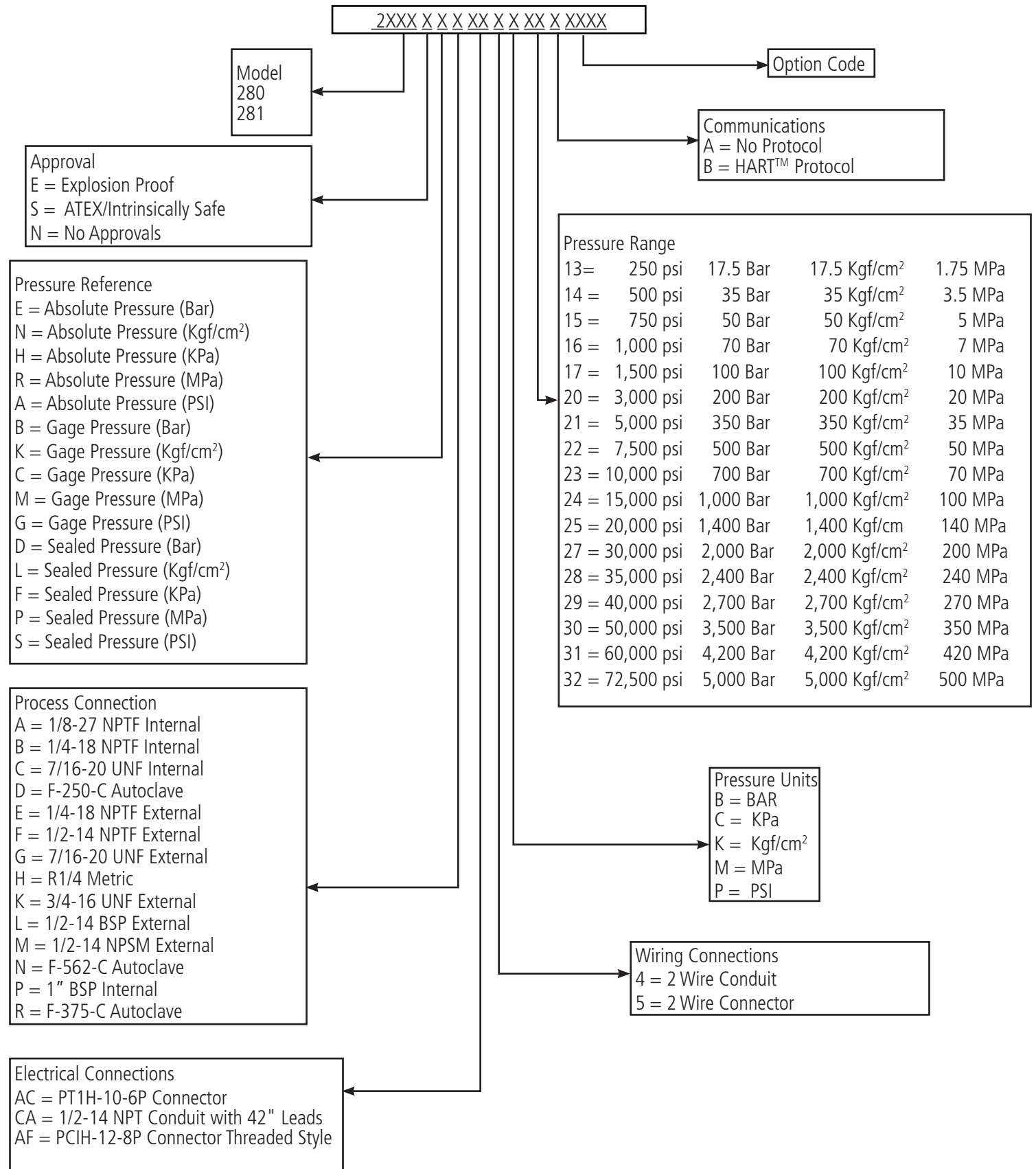
### Features

- 4-20mA loop-powered output
- +/- 0.25% accuracy 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 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 SPX2280 & SPX2281	
<b>Output</b>	4 - 20 mA, with optional HART™
<b>Input Voltage</b>	16 - 36 Vdc (Std); 16 - 30 Vdc (ATEX IS)
<b>Accuracy</b> <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 &lt;= 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>	2280 ± 0.5% 2281 ± 0.25%
<b>Repeatability</b>	±0.1%
<b>Rangeability</b>	3:1 Turndown
<b>Over Pressure</b>	1.5 x FSO; 250 - 30,000 psi 1.2 x FSO; 35,000-72,500 psi
<b>Zero Balance Adjustment Range</b>	±5% FSO Maximum
<b>Load Resistance</b>	500 Ω @ 24 Vdc, 1,000 Ω @ 36 Vdc
<b>Electronics Ambient Temperature</b>	70°F (20°C)
<b>Operating Temperature</b>	-20 to 185°F (-29 to 85°C)
<b>Compenstated Temperature Range</b>	0 to 150°F (-18 to 65°C)
<b>Span Shift (Temp Change)</b>	All Models: 0.02% F.S./°F max (0.04% F.S./°C max)
<b>Zero Shift (Temp Change)</b>	All Models: 0.01% F.S./°F max (0.02% F.S./°C max)
<b>Burst Pressure</b>	250 psi: 10 X FSO 500 - 3,000 psi: 5 X FSO 5,000 - 10,000 psi: 3 X FSO 15,000 - 30,000 psi: 2.5 X FSO 40, 000 - 72,500 psi: 1.5 X FS

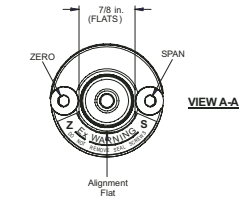
Mechanical Characteristics	
<b>Standard Wetted Parts</b>	15-5 PH & 17-4 PH SST
Approvals & Certifications	
ATEX/IECEX Intrinsically Safe	
SIL 2 (pressure output) & PL'c' (relay output)	
FM & CSA Explosion Proof	
Additional Approvals are Available	

## Ordering Guide for Models SPX2280 & SPX2281<sup>1</sup>



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

# Drawing SPX2280

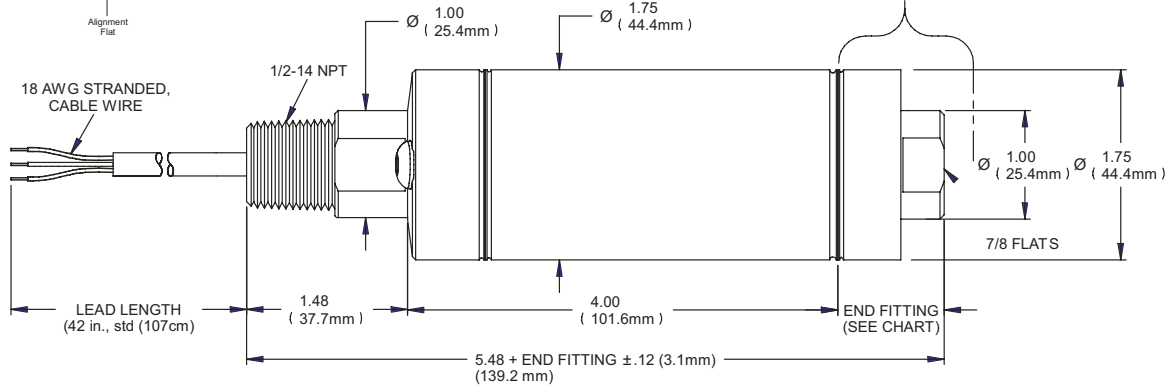


Cable Wiring		
Color	Function	
RED	E+	
BLACK	E-	
GREEN	GROUND	
ORANGE	Rel +	
BLUE	Rel -	

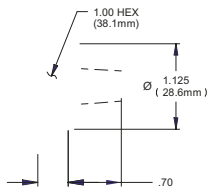
- A Ftg = 5 - 20,000 PSIG
- B Ftg = 5 - 20,000 PSIG
- C Ftg = 5 - 10,000 PSIG
- D Ftg = 5 - 60,000 PSIG
- Where; -R Ftg = 5 - 60,000 PSIG

## Fitting - R (and Fittings A thru D)

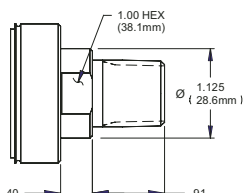
(PRESSURE LISTED ABOVE)



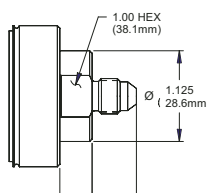
**Fitting - E**  
(5-10,000 PSIG)



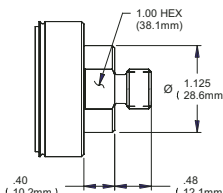
**Fitting - F**  
(5-10,000 PSIG)



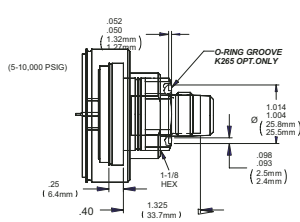
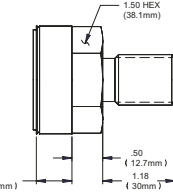
**Fitting - G**  
(5-7,500 PSIG)



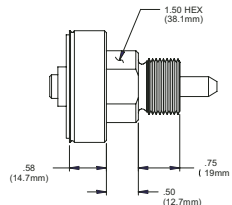
**Fitting - H**  
(5-10,000 PSIG)



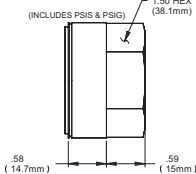
**Fitting - L**  
(1,000- 40,000 PSIG)



**Fitting - M**  
(1,000- 60,000 PSIG)

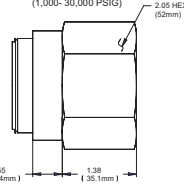


**Fitting - N**  
(1,000- 60,000 PSIG)



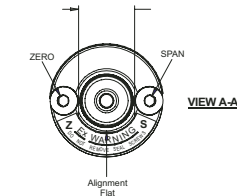
**Fitting - K**  
(INCLUDES PSIS & PSIG)

**Fitting - P**  
(1,000- 30,000 PSIG)



Pressure Fitting Quick Reference		
Suffix	DESCRIPTION	TYPE
-- A	1/8-27 NPTF	INT. Thread
-- B	1/4-18 NPTF	
-- C	MS33649-4	
-- D	F-250-C	Conduit ftg
-- E	1/4-18 NPTF	
-- F	1/2-14 NPTF	EXT. Thread
-- G	MS33656-4	
-- H	R 1/4	
-- K	3/4-16 UNF	EXT. Thread
-- L	1/2-14 BSP	
-- M	1/2-14 NPSM	INT. Thread
-- N	F-562-C	
-- P	1" BSP	
-- R	F-375-C	

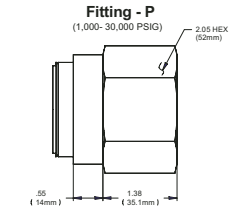
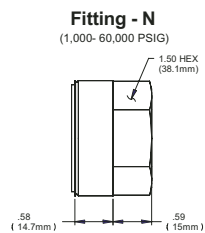
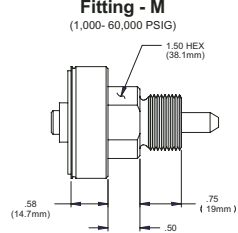
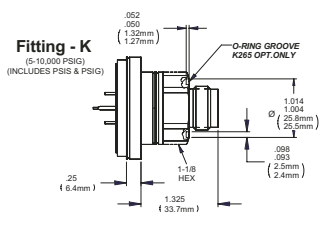
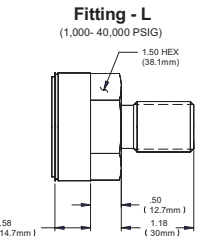
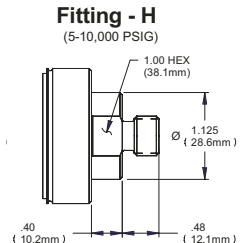
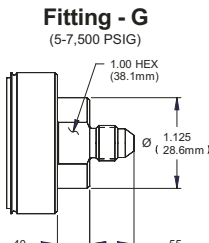
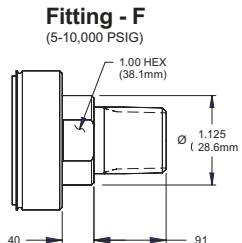
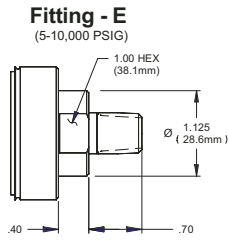
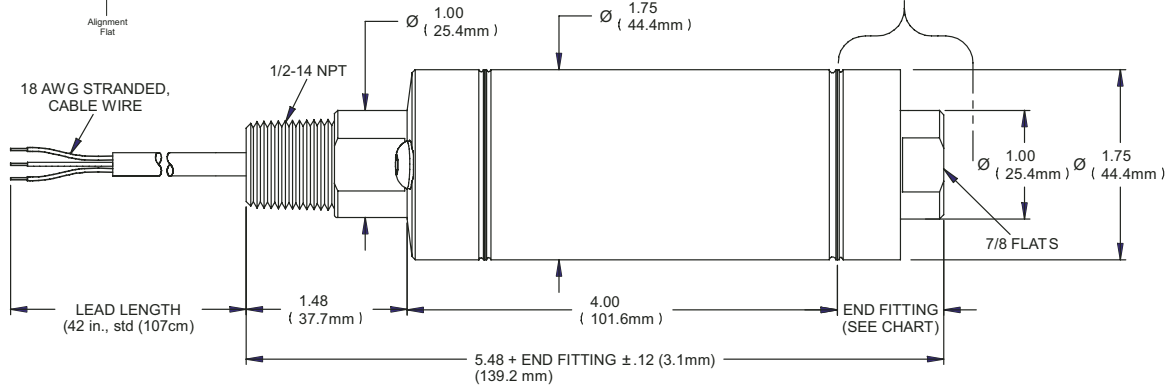
# Drawing SPX2281



3 - Conductor	RED	E+
	BLACK	E-
5 - Conductor	GREEN	GROUND
	ORANGE	Real +
	BLUE	Real -

-A Ftg = 5 - 20,000 PSIG  
 -B Ftg = 5 - 20,000 PSIG  
 -C Ftg = 5 - 10,000 PSIG  
 -D Ftg = 5 - 60,000 PSIG  
 Where: -R Ftg = 5 - 60,000 PSIG

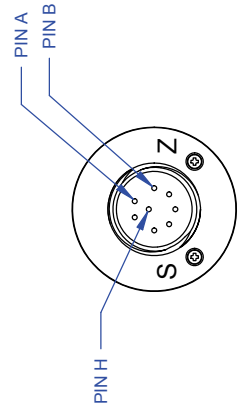
## Fitting - R (and Fittings A thru D) (PRESSURE LISTED ABOVE)



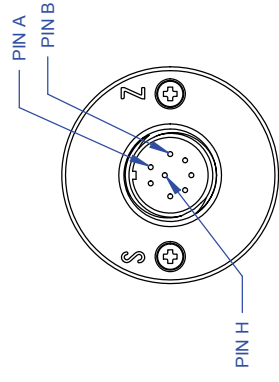
Pressure Fitting Quick Reference		
Suffix	DESCRIPTION	TYPE
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-- C	MS33649-4	
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-- M	1/2-14 NPSM	
-- N	F-562-C	INT. Thread
-- P	1" BSP	
-- R	F-375-C	

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

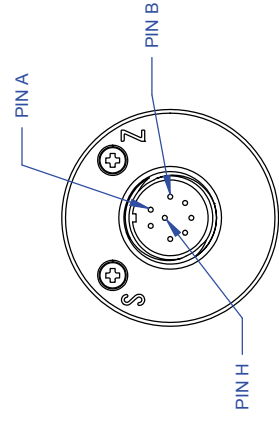
000652



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. 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	✓

SIZE		REV	
B		A	
DWG. NO.		REV	
000652			
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: DSSPX228081SERIES  
REV: 0716  
ECO: 46503



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