

Vertex™

MERCURY FREE SENSORS

A New Standard in Durability, Environmental Safety, and Reliability



Features

- No fill material
- RoHS compliant for sustainability programs
- Robust, thicker Inconel diaphragm is coated with Dymax®
- Available with a thermocouple temperature output
- 0-1,000 to 0-10,000 PSI pressure range capability
- HART™ digital communication available

Description

Dynisco's Vertex melt pressure sensor innovation matches or exceeds the performance of the traditional sensor. The big differences are that Vertex is more robust, much faster, and significantly friendlier to the environment.

The direct measurement tip is a simple and elegant design with a more robust diaphragm. Direct measurement of the process reduces errors that are transferred by complicated internal support structures, transmission fill materials, or moving push rods. The diaphragm thickness is pressure range dependent and can be up to 7.5 times thicker than a traditional sensor. Add to these features, a diaphragm composition of Inconel 718 coated with the corrosion and abrasion resistant properties of Dymax® and experience the true definition of a robust sensor that has proven to increase the life of the sensor and significantly lowers the cost of ownership.

Vertex design innovation also extends to the speed of response of the sensor. Faster processes and controls demand faster sensing measurements. Vertex is many times faster than traditional sensors improving real time production.

Environmental regulations and community conscientiousness are driving sustainability policies and programs in large and small companies. Waste stream reduction and longer life cycles are good for the environment and the budget. There is no mercury, no NaK, no oil, no Gallium, no fill material what-so-ever. Vertex is also RoHS compliant.

Vertex sensors are designed to work with universal pressure indicators. HART digital communication is available for more extensive diagnostics and remote configuration. An optional Type J or K thermocouple is available to provide a melt temperature signal as well as a 4-20 mA temperature output. Vertex is equipped with a 1/2-20 UNF for installation in standard transducer mounting holes. An adaptor is also available to install 1/2-20 UNF units into a Button Seal application. A sealed welded shell and electrical connection are available if washdown capability is needed for food or medical applications (not available if thermocouple option TCx is selected).

Specifications

PERFORMANCE CHARACTERISTICS

Input, Excitation:	mV/V: 10-12VDC; mA; voltage 16-36VDC
Diaphragm Operating Temp. Range ¹ :	-40°F to +752°F (-40°C to +400°C)
Electronics Operating Temp. (Max):	185°F (85°C)
Zero Shift (Electronics Temp.):	0.012%/°F (0.022%/°C)
Span Shift (Electronics Temp.):	0.012%/°F (0.022%/°C)
Hex/Transition Temp. (Max):	300°F (150°C)
Zero Shift (Hex Temp.):	0.022%/°F (0.039%/°C)
Overload Pressure Rating:	1.5x FSP
Pressure Ranges (PSI)	1.0M, 1.5M, 3M, 5M, 7.5M or 10M
Pressure Units:	PSI, Bar, Kg/cm ² , MPa, KPa
Zero Balance Adjustment (±% FSO):	mV/V: na; mA: -6 to +12%, Voltage ±20%
Zero Balance Setting (±% FSO):	mV/V: 10%; mA: ±3%, Voltage ±3%
Insulation Resistance:	mV/V: 100 MΩ @50VDC;
Internal Shunt Calibration (R-Cal):	80% FSO ±1% FSO
Zero Shift (Process Temp. Change):	1.0%/100°F (2.0%/100°C)

MECHANICAL & PACKAGING

Diaphragm Wetted Parts:	Inconel 718, DyMax® coated
Mounting Torque:	250 in-lbs recommended, 500 in-lbs max
Temp. Sensor (Optional):	Type J or Type K thermocouple (available on flex units only)
Ingress Protection:	IP54 (IP67 if welded and tempera- ture sensor code is NTR)

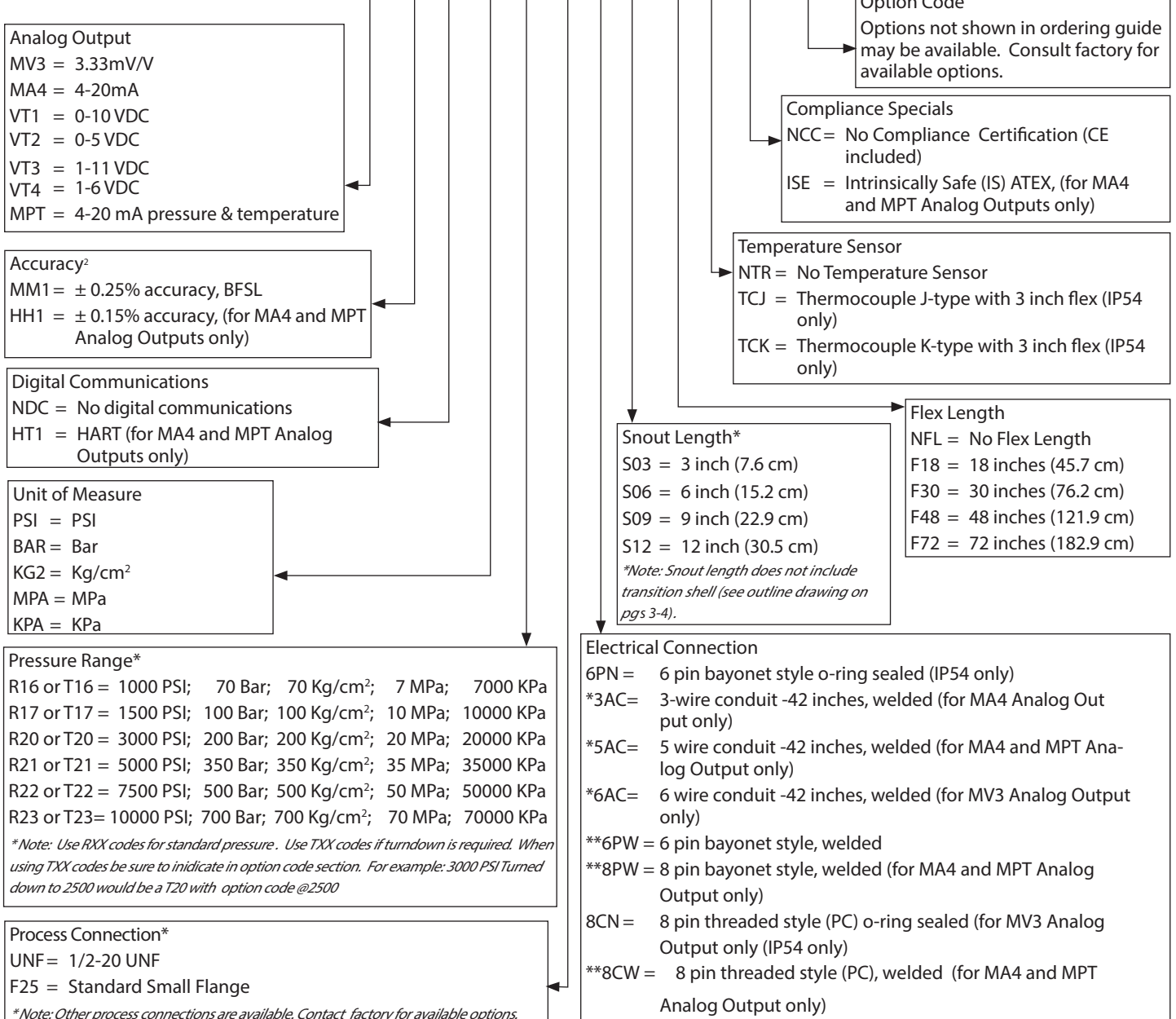
APPROVALS & CERTIFICATIONS

CE:	Directive 2004/108/EC
ISO:	ISO9001:2008 production environment
RoHS 1:	Directive 2011/95/EC
RoHS 2:	Directive 2011/65/EU
ATEX IS	Intrinsically Safe

¹Diaphragm Operating Temp. Range refers to the functional limits of the snout tip. Refer to the manual for greater detail on the operating and compensated temperature ranges of the diaphragm tip, flex and electronics.

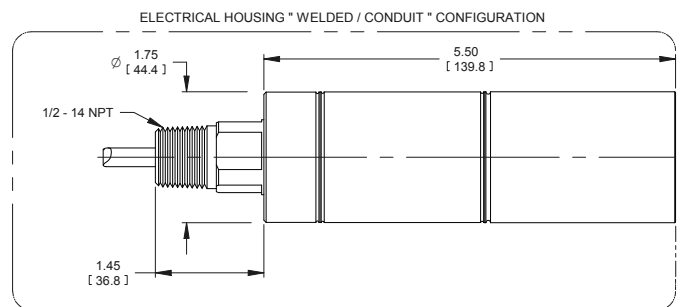
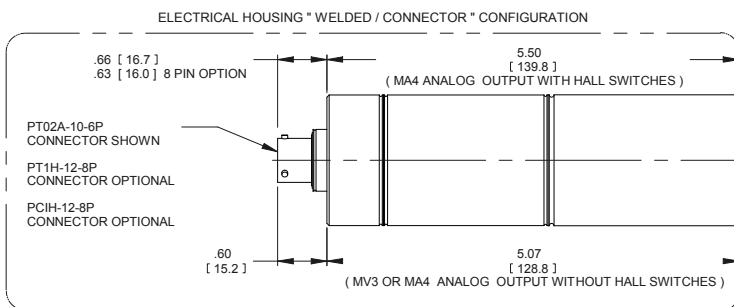
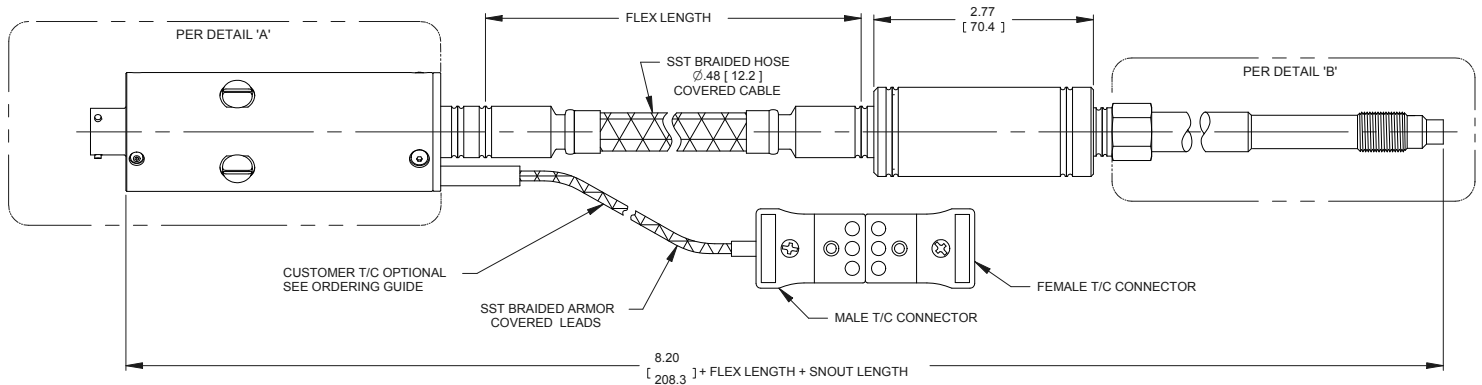
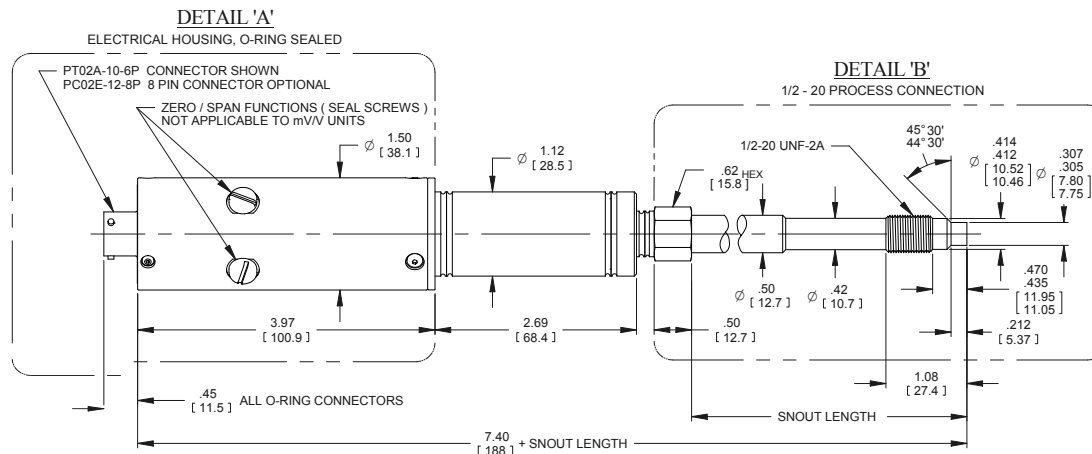
Ordering Guide

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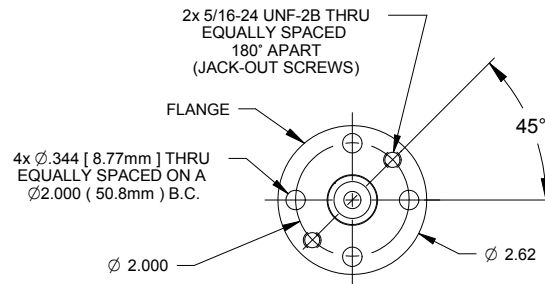
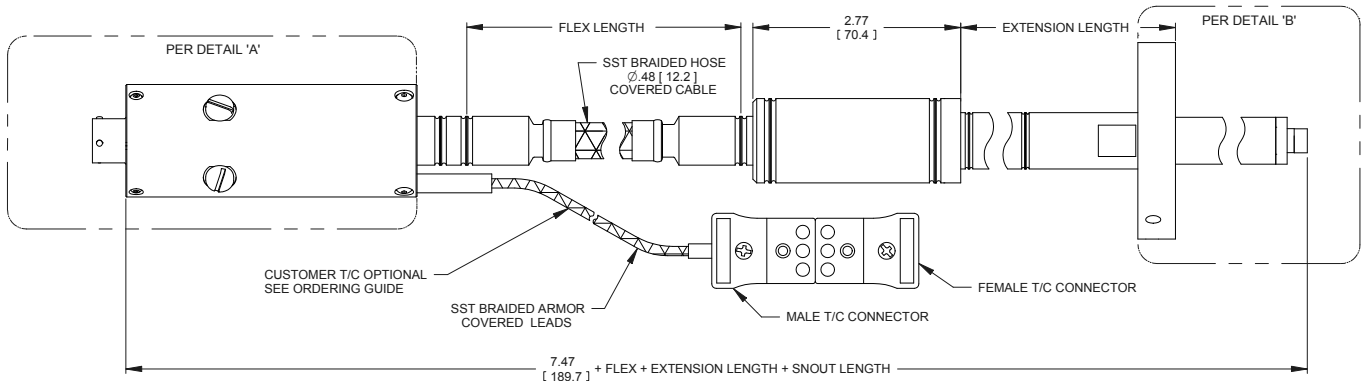
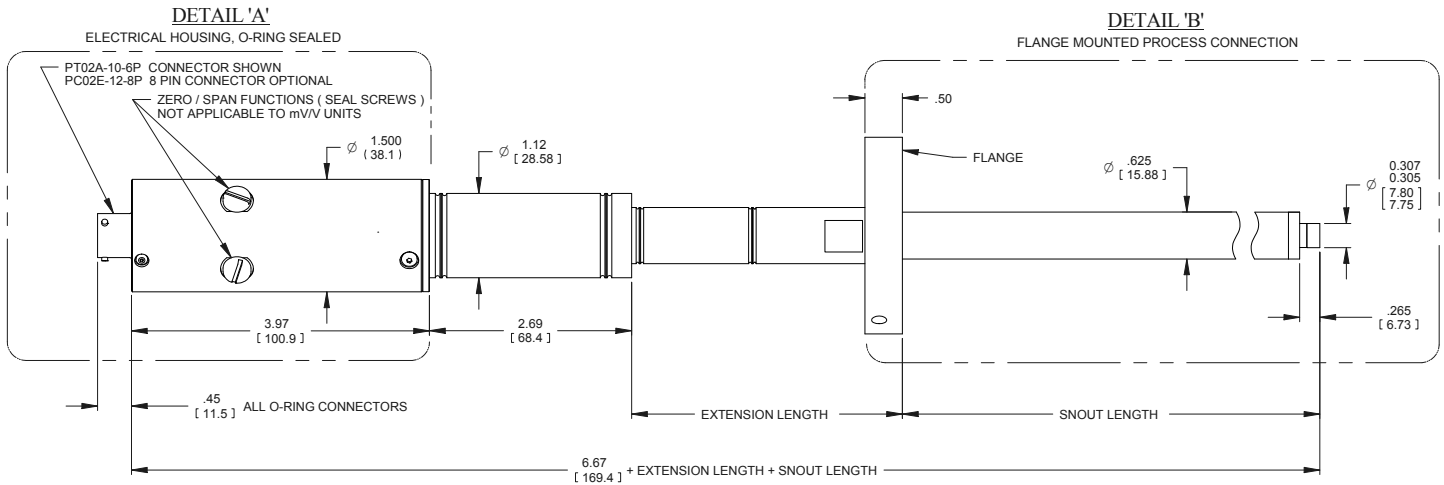
²Accuracy Defined as the combined error expressed as a percentage of full scale output. Combined error includes linearity (BFSL), hysteresis, and repeatability at ambient temperature, as defined in ISA-S37

MECHANICAL DIMENSIONS

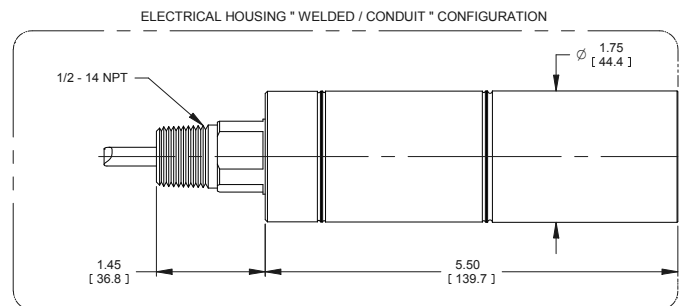
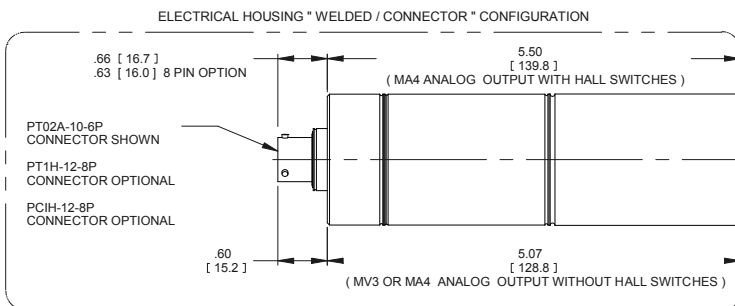


- NOTES:
1. DIMENSIONS ARE IN INCHES [MILLIMETERS]
 2. DIMENSIONS ARE NOMINAL AND FOR REFERENCE ONLY.
 3. NOT ALL CONFIGURATIONS & OPTIONS ARE SHOWN, CONSULT FACTORY.

MECHANICAL DIMENSIONS



STD. FLANGE " F25 " SHOWN



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ELECTRICAL CONNECTIONS

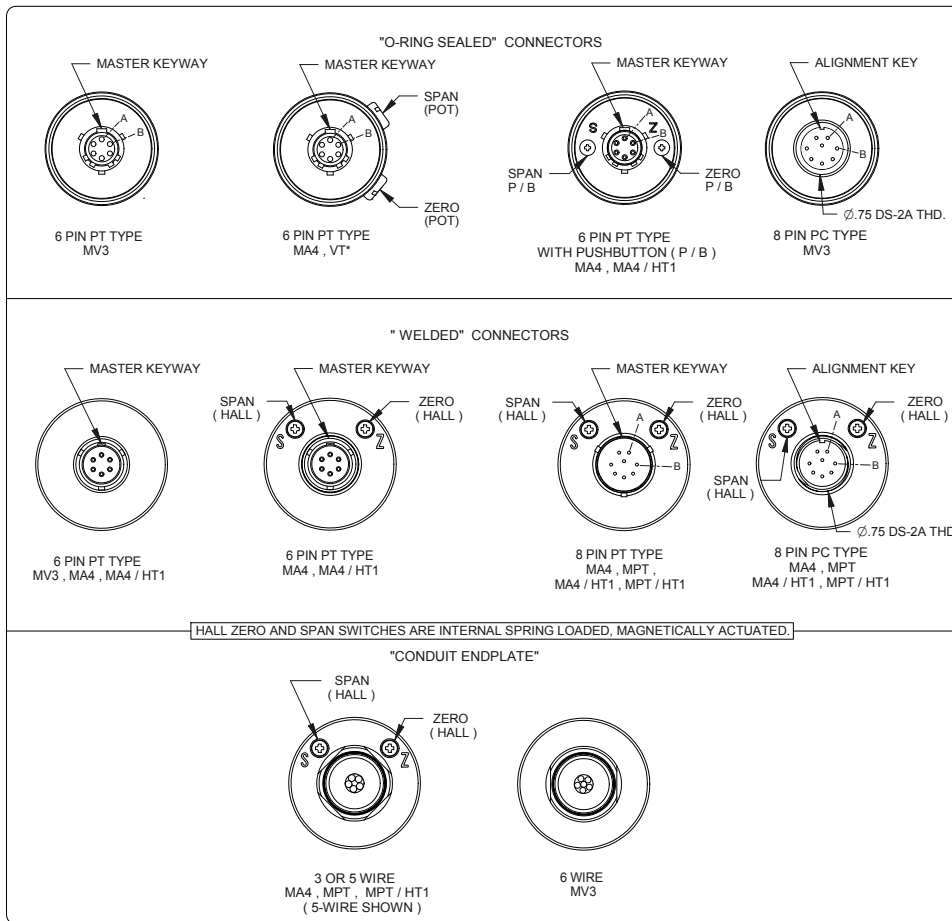
CONNECTOR OPTIONS	
6 PIN PT	BENDIX PT02-10-6P OR EQUIVALENT MATING CONNECTOR PT06-10-6S
8 PIN PC	BENDIX PC02-12-8P OR EQUIVALENT MATING CONNECTOR PC02-12-8S
8 PIN PT	BENDIX PT02-12-8P OR EQUIVALENT MATING CONNECTOR PT06A-12-8S

ANALOG OUTPUT MA4, MPT		CONNECTION TYPE		
SIGNAL	TERMINAL DESCRIPTION	¹ CONDUIT-LEAD OR DYNISCO CABLE WIRE COLOR	6-PIN	8-PIN
PRIMARY 4-20mA	PWR+/SIG+	RED	A	A
	PWR-/SIG-	BLACK	B	B
	CASE	GREEN	-	-
OPTIONAL RCAL	RCAL+	ORANGE	F	E
	RCAL-	BLUE	E	D
OPTIONAL SECONDARY 4-20mA	PWR+/SIG+	ORANGE	N/A	G
	PWR-/SIG-	BLUE	N/A	H

¹UNITS THAT HAVE CONDUIT LEADS ARE AVAILABLE WITH OPTIONAL RCAL OR TEMPERATURE 4-20mA SIGNAL, NOT BOTH.

ANALOG OUTPUT MV3		CONNECTION TYPE		
SIGNAL	TERMINAL DESCRIPTION	CONDUIT-LEAD OR DYNISCO CABLE WIRE COLOR	6-PIN	8-PIN
PRIMARY OUTPUT	SIG+	RED	A	B
	SIG-	BLACK	B	D
SUPPLY	PWR+	WHITE	C	A
	PWR-	GREEN	D	C
RCAL	RCAL+	ORANGE	F	F
	RCAL-	BLUE	E	E
N/A	-	-	-	G
	-	-	-	H

ANALOG OUTPUT VT*		CONNECTION TYPE	
SIGNAL	TERMINAL DESCRIPTION	DYNISCO CABLE WIRE COLOR	6-PIN
PRIMARY OUTPUT	SIG+	RED	A
	SIG-	BLACK	B
SUPPLY	PWR+	WHITE	C
	PWR-	GREEN	D
RCAL	RCAL+	ORANGE	F
	RCAL-	BLUE	E



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