4032MPT
Modbus Differential Pressure Transmitter

Features:

- Digital differential pressure transmitter
- Modbus over Serial or Ethernet communications
- Optional PID controller with analog output
- Wide range of applicable pressures available
- cULus Class 1, Division 1, Hazardous Area Rating
- 2 year warranty on parts and labor

The 4032MPT Modbus Pressure Transmitter is an accurate and intelligent transmitter that offers precise measurement of differential pressure in a compact, robust package. As a fully digital transmitter, the product is networked using Modbus over Ethernet or a selectable RS485/232 serial line. Easy to install and operate, any Modbus master can access and control a large number of these transmitters. With a 2 year warranty, and the support of Control Microsystems' comprehensive customer support program, this transmitter is a natural choice in a wide variety of gas, water and industrial applications.

Overview:

Highly Accurate and Dependable - The 4032MPT integrates a field proven, high-performance sensor with Control Microsystems' implementation of the industry-standard Modbus communications protocol. The advanced sensor design allows the transmitter to measure process pressures with high tolerance to severe overpressure conditions and with no sensor degradation or zero-shift. The 4032MPT operates with an accuracy of +/- 0.2% of span, and a long term drift stability of less than +/- 0.05% of the upper range limit, making it a highly accurate and reliable transmitter.

Ease of Installation and Use - With the use of a compact, rugged design and high-quality 316 SS, the 4032MPT can mount directly to a process flange or a two-valve manifold for transmitter isolation and pressure venting. Rotatable topworks allow mounting in tight areas and natural orientation of the LCD indicator. Two conduit entrances provide flexibility during installation and efficient drainage for condensate. Rugged terminals offer ease of connection during field installation. The optional integrated LCD unit provides local measurement readouts and configuration capabilities for any measurement or control variable.

Flexible Communications - With Serial and 10BaseT ports the 4032MPT provides flexibility for both communications and configuration. The serial port is RS232/485 -configurable and uses Control Microsystems' native Modbus RTU protocol. This port can be used with radios, local displays or communication with other serial devices. The Ethernet port supports four Modbus protocols, three simultaneous connections and extended addressing. In addition, the Ethernet port supports a friendly IP list that enhances security through limiting IP message recognition from specific addresses or address ranges.

Applications:

As a compact, accurate pressure transmitter with built-in Serial and Ethernet ports, PID control and an analog output, the 4032MPT can be applied in a wide range of process measurment and control applications. Depending on the application, the 4032MPT can be used in a low power Serial mode or as an addressed device using Ethernet on a WAN or LAN-based system. From a certification perspective, the unit's cULus Class 1, Div 1, hazardous area rating makes it an ideal product for industrial, petrochemical and below-grade municipal applications.

Specifications

Features	
Optional Analog Output	0 - 20mA, 12 bit, sinking
Optional PID Controller	Fully configurable control of analog output relative to any measured variable
LCD Interface	Two button control, 2-line interface with 13 characters
Communications	
Serial Port	RS232/485 configurable, 1200 to 38400 baud
Serial Protocol	Modbus RTU
Ethernet Port [1]	10BaseT, terminal block connection
Ethernet Protocols [1]	Modbus/TCP, Modbus/UDP, Modbus RTU in TCP, Modbus RTU in UDP
Accuracy and Stability	
Pressure Accuracy	± 0.05% of span[2]
Stability	< ± 0.05% of URL per year over 5 years
Analog Output Accuracy (optional)	± 0.15% of Full Scale at 25°C (77°F) ± 0.25% of Full Scale over Temperature Range
Physical Specifications	
Power	9 to 30 VDC. 250mW with LAN @30VDC (60mW with RS232, 70mW with RS485 @12VDC)
Mass	7.8lb (3.5kg) without process connectors
Certifications	cULus Class 1, Div. 1 Groups B, C and D Hazardous locations cULus Class 1, Div. 2 Groups A, B, C and D Hazardous locations

1 Optional
2 Accuracy stated includes the effects of Linearity, Hysteresis, and Repeatability.

Span Limits for Differential Pressure

Span Code	Differential Pressure	
	inH_2O	**kPa**
A	0.5 to 30	0.12 to 7.5
B	3.5 to 200	0.87 to 50
C	28 to 840	7.00 to 210
	PSI	**MPa**
D	10 to 300	0.07 to 2.1
E	100 to 3000	0.70 to 21.0

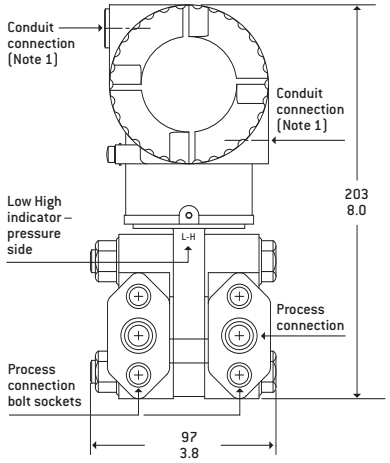
Model Code

4032-DPEA22A110 represents a sample code for a 4032 with Ethernet

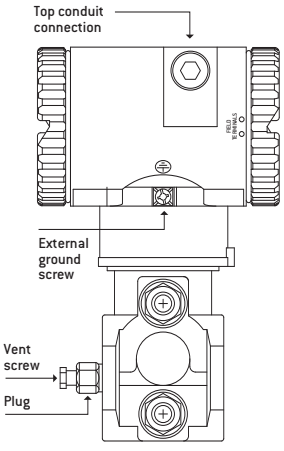
Model	Product Description			
4032-DP	Differential Pressure Transmitter with Modbus RTU protocol			
Code	**Select: Output Signal**			
DM	Digital - Modbus Protocol, Jumper selectable RS232 or RS485, removable screw-type terminal block			
EA	Digital - (1) RS485/232 with Modbus Protocol, (1) 10 BaseT Ethernet with Modbus/TCP protocol, 1 Analog Output			
Code	**Process Cover**	**Sensor Material**	**Sensor Fill Fluid**	**Bolts**
22	316SS	316SS	Silicone	CS-B7
Code	**Select: Differential Pressure Span Limit**			
	inH_2O		**KPa**	
A	0.5 to 30		0.12 to 7.5 kPa	
B	3.5 to 200		0.87 to 50	
C	28 to 840		7 to 210	
	MPa		**PSI**	
D	0.07 to 2.1		10 to 300	
E	0.7 to 21		100 to 3000	
Code	**Select: Process Connector Type**			
0	1/4" NPT, Threaded in Process Cover, includes SS Vents and Screws			
1	1/2" NPT, Flange Adapter c/w CS Grade B7 bolts			
Code	**Select: Transmitter Housing Material**		**Conduit Entry Sizes**	
1	Epoxy-coated Aluminium		1/2 -14 NPT	
3	316 SS		1/2 -14 NPT	
Code	**Select: Approvals**			
0	Not Required			
U	cULus Explosion proof. Class 1, Div. 1 & Class 1, Div. 2, Groups A, B, C and D. Approved for Hazardous locations.			
Code	**Select: Options**			
	DIGITAL INDICATOR - Select One Only			
-L	Digital Indicator with Push Buttons and Ex-proof Window Cover (Black Epoxy)			
-L1	Digital Indicator with Push Buttons and Ex-proof Window Cover (Stainless Steel)			
	UPGRADE TO STAINLESS STEEL PROCESS COVER BOLTS AND NUTS (Replaces CS-B7) - Select One Only			
-B1	316 SS Process Cover Bolts and Nuts			
-B2	17-4 SS Process Cover Bolts and Nuts			
-N	Monel Vents and screws - NACE Standard MR-01-75			

Dimensions

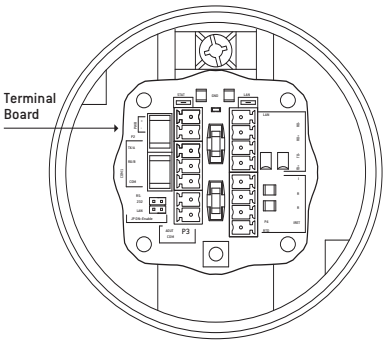
mm
in



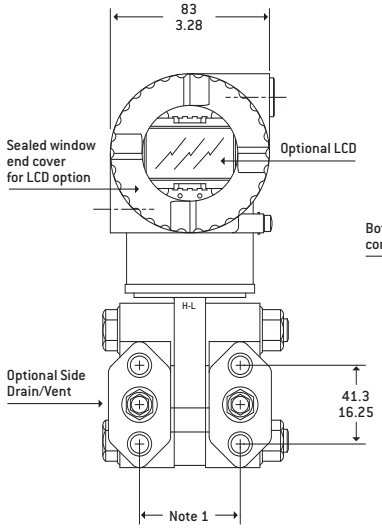
Terminal Connections View
Cover Installed



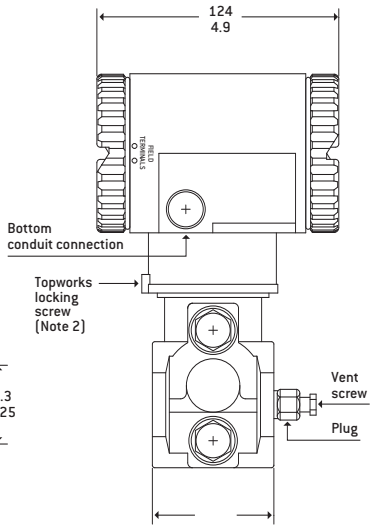
Right View



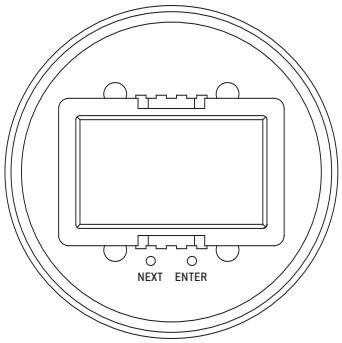
Terminal Connections View
Cover Removed



LCD Display View
Cover Installed



Left View



LCD Display View
Cover Removed

1. Conduit connection 1/2 NPT or PG 13.5, both sides; unused connection is sealed with supplied metal plug.
2. Locking screw - Topworks can be rotated in any position within one turn counterclockwise of the fully tightened position.
3. Process Cover end plugs are substituted for vent screws when optional