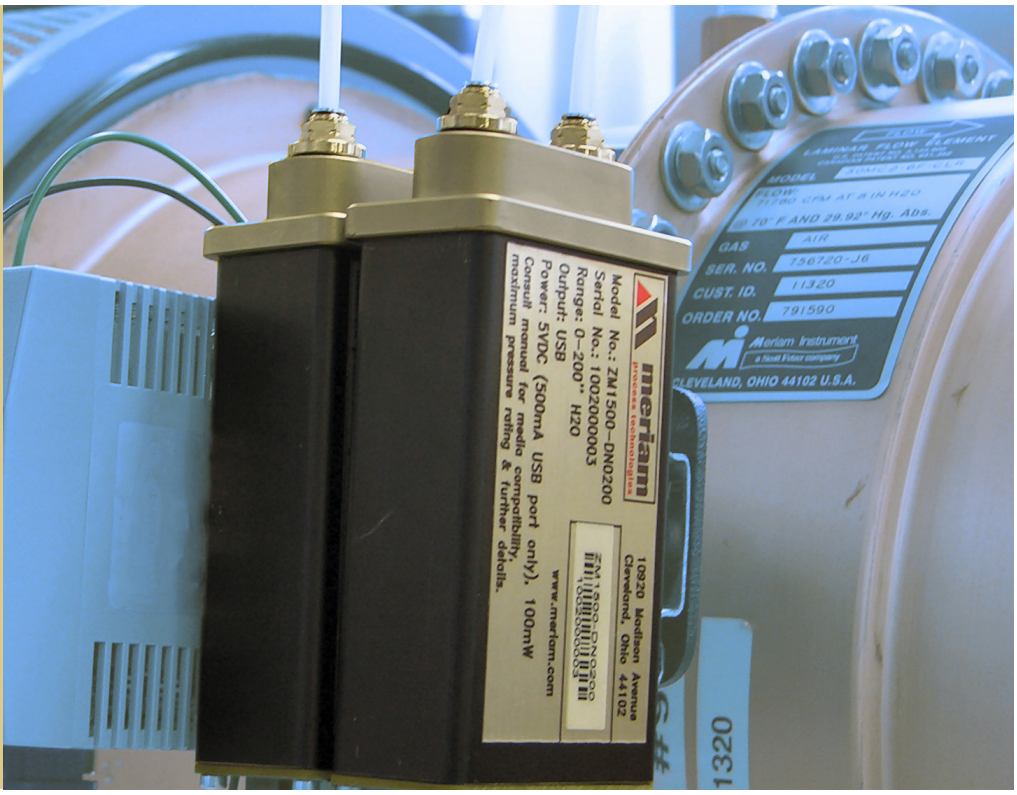
Digital
- MSP
- LabView®
- Meriam DLL
- 1 or 2 Pressure Sensors per unit
- ±0.025% F.S.

Analog
- 4-20 mA (2 or 4-wire)
- 0-5 V (4-wire)
- Switches (4-wire only)
- ±0.035% F.S.

NIST Traceable



M1500 Digital Pressure Transmitter

M1500 + Meriam = Performance you can rely on!

Meriam's compact, M1500 Analog or Digital Pressure Transmitters are ideal for pressure measurement needs from 10" H_20 to 3000 PSI Full Scale. Output options include digital (RS-232, RS-485 and USB) or analog (mA or V DC). Choose from differential (dry/dry or wet/wet), gauge, compound or absolute pressure types – see the table below for complete details.

Typical NIST traceable digital accuracy is ±0.025% of F.S. including all effects of linearity, repeatability, hysteresis and temperature from -20° to +50° C (-4° to +122° F).

Digital output options for the M1500 deliver accurate pressure measurement to compatible receiving devices. Choose RS-232 single point or RS-485 for networks up to 255 devices. M1500 connections are made via terminal block or DB-9 serial port. The USB digital communication option also powers the M1500 via high power USB ports or powered USB hubs.

Software is included for initial setup and support. Meriam Serial Protocol (MSP) or Meriam DLL can be used to send and receive information. Implementation Guides are available at www.meriam.com (see Resources / Application Notes).

Analog output models are also available. Output accuracy is typically ±0.035% of F.S. The user may configure the M1500 for 0 – 5 VDC or 4 – 20 mA output. Two SPST opto switches are included. Analog units are configured using a USB Mini A Connector and the included Meriam Setup Utility. The utility supports initial configuration, zeroing, recalibration and other functions.

For wider pressure range requirements, model M1502 with digital output incorporates two pressure sensors. Most combinations of AI or CI type pressure sensors are supported. See the table below for available ranges. M1502 is available with RS-232, RS-485 or USB digital outputs - not available with analog output. A single software command returns both pressure readings. The M1502 reduces purchase price and installation costs when multiple pressure measurements are needed.

Field Recalibration: All M1500 transmitters can be recalibrated in the field using suitable reference standards and the Meriam setup utility.

Applications

- Lab data acquisition
- Test and monitoring applications
- Barometric pressure reference
- Production skids
- Pneumatic / hydraulic go, no go testing
- Pressure leak testing
- Process control applications
- Plant instrumentation
- OEM applications
- Laminar Flow Systems
- Wet / wet differential monitoring and control
- Head type flow metering:
  (Orifice plate, Venturi, Accutube, Wedge)
- Clean room pressure monitoring

Standard Accessories

P/N Z9A000003PN06 Support Disk including:
- Meriam Setup Utility
- Meriam Serial Protocol Implementation Guide
- USB Device Drivers & Installation Instructions
- LabVIEW® VI's
- Meriam DLL

Optional Accessories

P/N Z9P273 Analog Starter Kit, 6 ft. USB cable for configuration through PC software

P/N ZA900447-00052 DB-9 connector cable, 6 ft., female by male

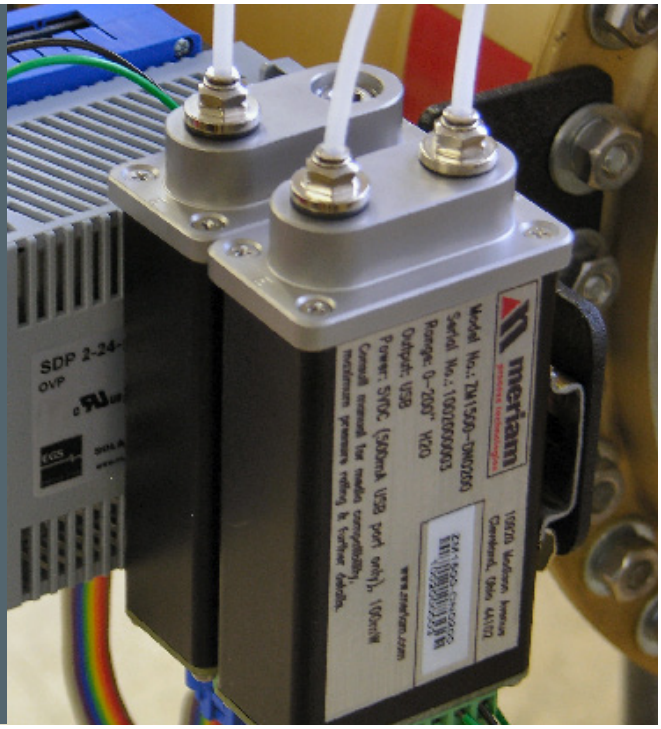
P/N Z7621 RS-485 to RS-232 interface adapter, DIN rail mounted

P/N Z7621-1 RS-485 to RS-232 interface adapter, PC port mounted and powered

LabVIEW® is a registered trademark of National Instruments.

Viton® is a registered trademark of DuPont.

Easy DIN Rail Mounting



SPECIFICATIONS:
BEST IN CLASS ACCURACY

Pressure

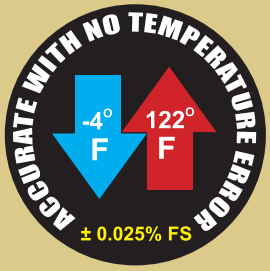
NIST Traceable Accuracy

- Digital: ±0.025% of Full Scale including all affects of linearity, repeatability, hysteresis and temperature
- Analog: ±0.035% of Full Scale including all affects of linearity, repeatability, hysteresis and temperature

Temperature Spec.: Accuracy statements include all affects of temperature from
20º to +50º C (-4º to +122º F)

Pressure Measurement Update Rate:
M1500: 14 readings per second, maximum
M1502: 7 readings per second, maximum
(consult factory for faster update rates)

Engineering Units: 32 selectable pressure units plus two user units



Limits

DN sensors: 2x range when pressurized on P1 (HI) side only, 150 PSI when applied simultaneously to P1 (HI) & P2 (LO) sides

DI sensors: 3x range when pressurized on P1 (HI) side only, 3x range or 150 PSI (whichever is less) on P2 (LO) side only, 1000 PSI when applied simultaneously to P1 (HI) & P2 (LO) sides

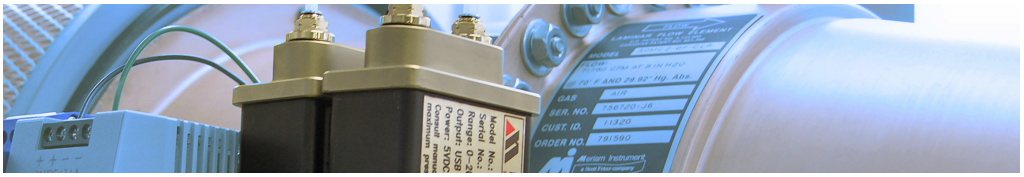
GI, CI & AI sensors: 2x range

Media Compatibility

DN sensors: Non-isolated for clean, dry, non-corrosive gases only (Brass, 316L SS, Viton®, Silicon gel)

DI sensors: Isolated for fluids compatible with 316L SS and Viton®

GI, CI, AI sensors: Isolated for fluids compatible with 316L SS



experience matters

With 100 years of pressure measurement experience Meriam is the clear choice. We set the standard for high accuracy over the largest operating temperature range.

One or Two Pressure Sensors in Each Unit

M1500-"Sensor Code with Range" shown below -or-

M1502-"Sensor Code with Range" - "Sensor Code with Range" (AI and CI Only)

Sensor	Application	Available Pressure Ranges	Wetted Parts
DNxxxx	Differential, Nonisolated	0010, 0028, 0200, 0415, 2000" H_2O	Brass, 316L SS, Silicon, Viton®
DIxxxx	Differential, Isolated	0001, 0005, 0015, 0030, 0100, 0300, 0500 PSID	316L SS, Viton®
GIxxxx	Gauge, Isolated	0015, 0030, 0050, 0100, 0300, 0500, 1000, 3000 PSIG	316L SS
CIxxxx	Compound, Isolated	(-14.7 to) 0015, 0030, 0050, 0100, 0300, 0500, 1000, 3000 PSIG	316L SS
AIxxxx	Absolute, Isolated	0017, 0038, 0100, 1000 PSIA	316L SS

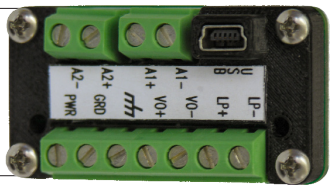
Examples: **M1500-DN0415 = M1500, Differential Non-isolated, 0 - 415" H2O full scale measurement**
M1500-GI1000 = M1500, Gauge Isolated, 0 - 1000 PSIG full scale measurement
M1500-CI0100 = M1500, Compound Isolated, -14.7 to +100 PSIG full scale measurement
M1502-AI0017-CI0100, Dual Pressure Model

EPI / THE EMBEDDED PRESSURE INSTRUMENT

The EPI™ is a fully compensated instrument capable of measuring applied pressures and providing an accurate and fully characterized digital output. The Meriam M1500 Pressure Transmitter, as well as other pressure products from Meriam, are powered by the EPI™. This ensures you are getting a highly-accurate device capable of ±0.025% FS including all effects of linearity, hysteresis, repeatability and temperature over specified operating temperature range. NIST traceable certification is standard. The EPI™ provides true 14 samples per second data rate of accurate pressure readings.

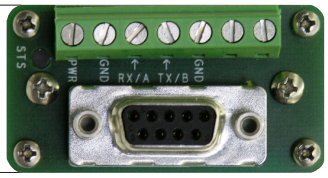
M1500 CONNECTION OPTIONS

A



Analog connector

RS



RS-232 / RS-485 communication connectors

U

USB type B connector

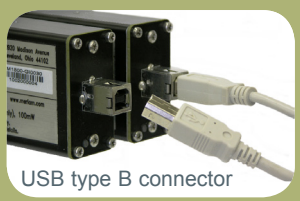
Output Options

Digital (use Meriam Serial Protocol or LabView®)

RS-232: 19200 baud (adjustable), 8 data bits, 1 stop bit, no parity

RS-485: half duplex, 3-wire TR-1, TR-0, signal ground, 19200 baud (adjustable), 1 start bit, 1 stop bit, no parity. Multi-drop addressing for up to 255 devices (MSP).

USB: USB 2.0



USB type B connector

Easy rear panel access

Analog

4 – 20 mA: 2-wire loop powered, 4-wire systems.

0 – 5 VDC Analog: 4-wire, 1 – 5 VDC is user configurable

Two SPST opto switches, 80V DC, 100 mA maximum, 4-wire systems only

Connections

Pressure: 1/8" NPT (female)

Electrical / Communications / Output:

Power: 7 position terminal block; 1.3 mm diameter holes for 16 – 25 gauge solid or stranded wire

RS-232: DB-9 (female) Serial Connector or 7 position terminal block

RS-485: 7 position terminal block

USB: USB type B female connector

Analog: Terminal blocks with USB Mini -A Connector for configuration and recalibration

Power Requirements

RS-232, RS-485: 8 – 36 VDC, 20 mA minimum

USB: high power (500 mA) USB port or USB hub (PC USB ports and USB hubs with power adapters are typically high power)

mA, 2-wire: 20 – 36 VDC, 50 mA minimum

mA, 4-wire: 8 – 36 VDC, 50 mA minimum

V, 4-wire: 8 – 36 VDC, 50 mA minimum

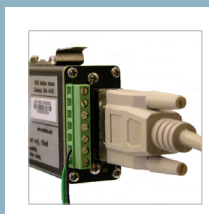
Power Consumption

RS-232: 110 mW (maximum)

RS-485: 110 mW (maximum)

Convenient Panel Mounting

Physical properties and operating specifications



Enclosure - Analog Out: 4.725” L x 2.125” W x 1.25” H
Digital Out: 4.625 ”L x 2.125” W x 1.25” H
IP40, aluminum case, 316LSS pressure manifold

Weight: 10.5 oz for DN, GI, CI or AI pressure types, 16 oz for DI type, analog output adds 1 oz.

Mounting: Panel and DIN rail mounting hardware are standard

Temperature Limits
Operating: -4 to 122°F (-20 to 50°C)
Storage: -40 to 185°F (-40 to 85°C)

Humidity Limits: 5 – 95% RH

Shock, Operating: 30 g, halve-sine, 11mSec pulse (tested in accordance with EC-60068-2-27)

Vibration Sinusoidal, Operating: 2g peak acceleration at 5-500 Hz (tested in accordance with IEC-60068-2-6**)**

Vibration Random, Operating: 6g rms acceleration at 5 to 2000 Hz (tested in accordance with IEC-60068-2-64)

Certification: CE

Firmware Features
Programming features supported through Meriam Serial Protocol (MSP): pressure zero, reset factory zero, sensor damping, pressure units select, analog output span set (Upper Sensor Value, Lower Sensor Value), tare on / off, field recalibration, PROD (precision right of decimal), AROD (accuracy right of decimal), Get/Set baud rate.

The following information commands are available through Meriam Serial Protocol (MSP): serial number, pressure module class and type, firmware version, LSL (lower sensor limit), USL (upper sensor limit), instrument temperature, primary and secondary variable value, primary and secondary min/max.

The following programming features are available via LabVIEW® VI’s: pressure zero, sensor damping, pressure units select, PROD (precision right of decimal), AROD (accuracy right of decimal), Get / Set baud rate.

The following information commands are supported via LabVIEW® VI’s: model, s/n, description, tag no., asset no., firmware version, primary (and secondary if applicable) variable value(s), primary (and secondary if applicable) min/max value(s), instrument temperature.

Field Recalibration: All M1500 transmitters can be recalibrated in the field using suitable reference standards and the utility sent with the product.

meriam
Since 1911