

## Signal Loop and Pressure Input Connections

### ■ Pressure (Pneumatic) Input

The D/P Module is designed to generate a 4-20 milliamp electrical signal in direct proportion to pressure inputs. It is intended for clean, dry air or gas pressure media. Tube fittings, if supplied, are for 1/4 inch (O.D.) tubing.

### "S" - High pressure input

### "E" - Low pressure input

(Vents to atmosphere if no external connection is required - use supplied vent plug.)

### Signal Connections (4-20 mA Current Loop)

Screw clamp terminals are provided for positive (+) and negative or common (-) sides of the signal loop.

As is typical of two-wire transmitters, all electrical power is supplied through the signal loop wiring. Refer to the following diagram for proper wiring of the 4-20 mA loop circuit:

### Power Requirement

The D/P Module requires a source of DC power for operation. Minimum excitation voltage must be no less than 14 Vdc. Any receiver installed on the signal loop (meters, data loggers, controllers, etc.) must be taken into account when determining the required power supply voltage to be used. The internal resistance of each device added together represents the total "load" residing on the signal loop circuit.

$$\text{Load Capacity} = \frac{(\text{Supply Voltage} - 12 \text{ Volts})}{(\text{ohms}) \cdot .02}$$

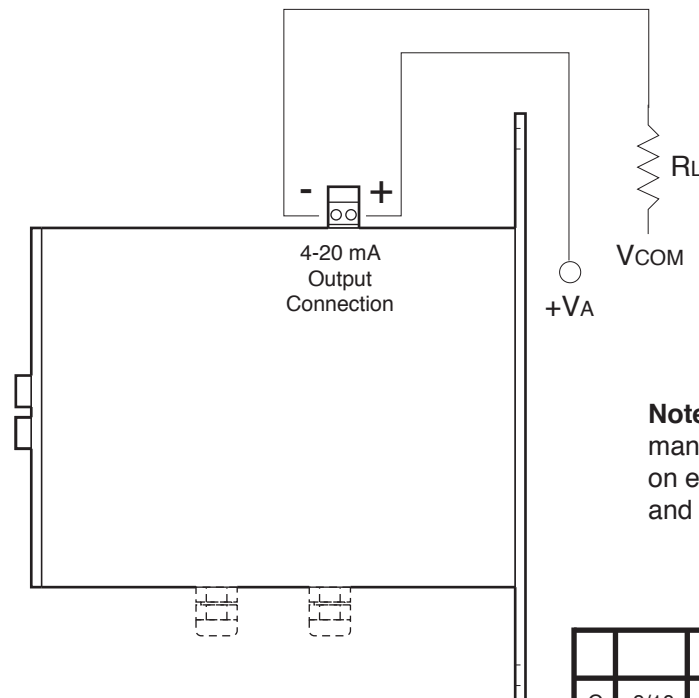
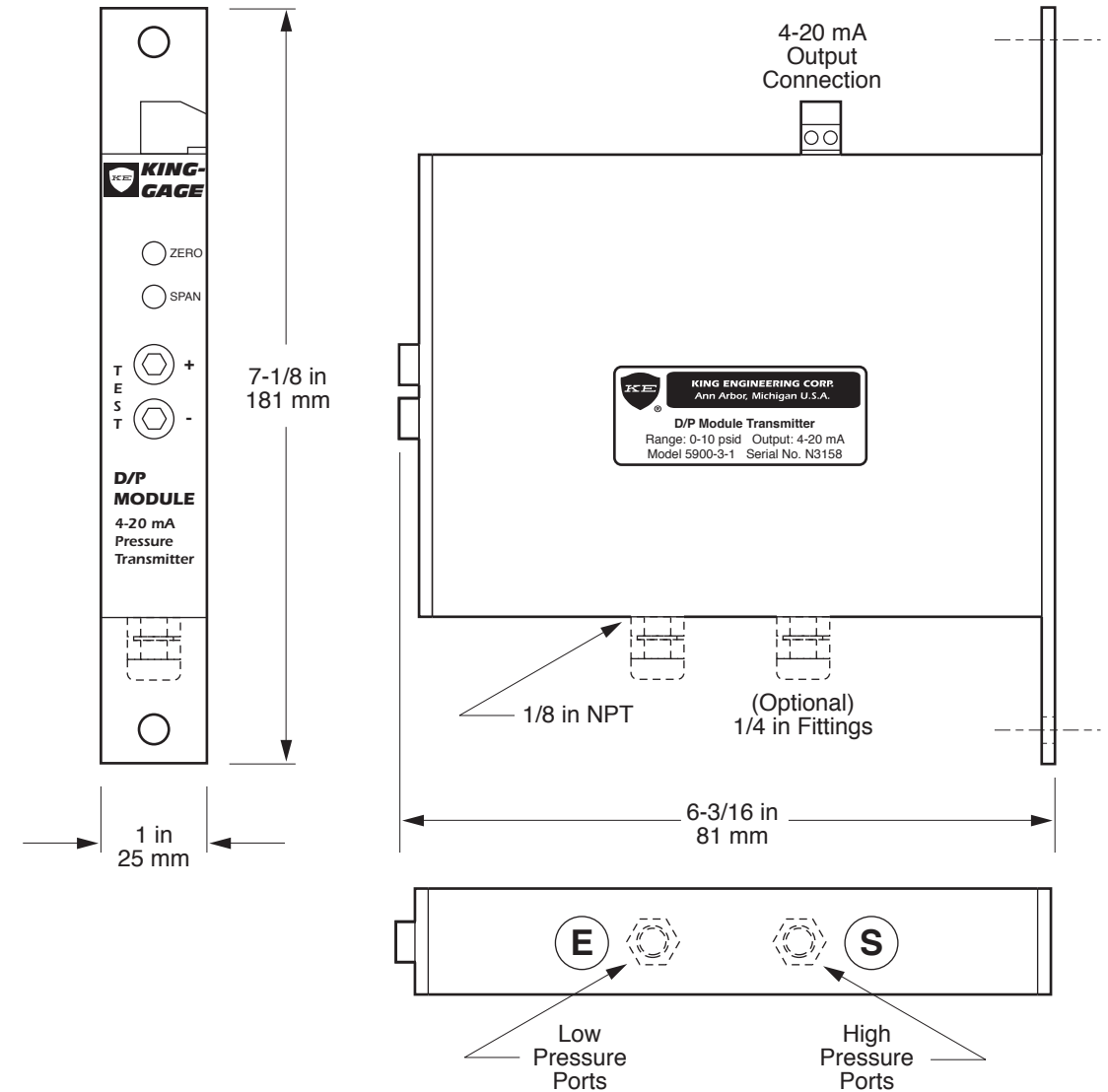
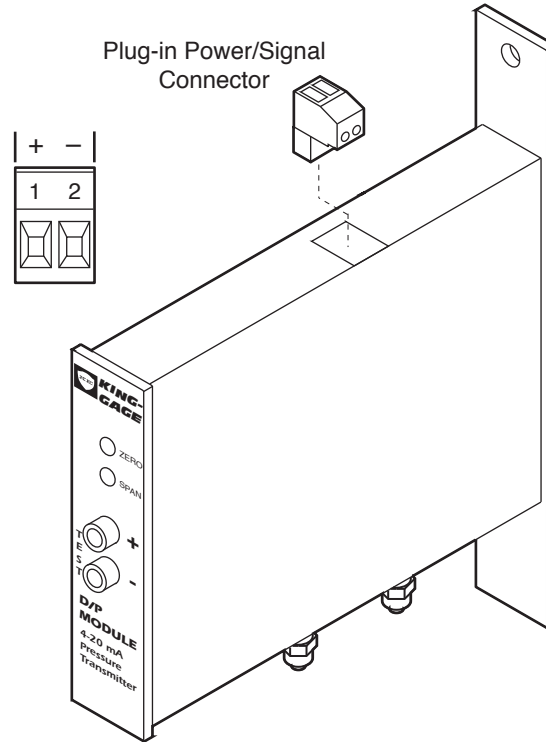
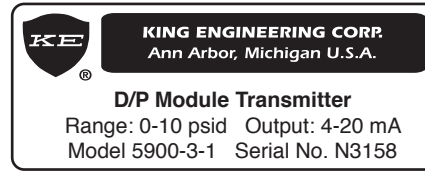
### Load Capacity at Supplied Voltage

20 Vdc	24 Vdc	28 Vdc	32 Vdc	36 Vdc	40 Vdc
400 ohms	600 ohms	800 ohms	1000 ohms	1200 ohms	1400 ohms

KING-GAGE® LP2 tank processors and LevelBAR indicators provide 24 Vdc excitation to power the signal loop circuit. (If the application requirement exceeds 600 ohms, an external power supply of appropriate voltage will be required.)

### Signal Cabling

The 4-20 mA signal loop needs to be run using twisted pair (two conductor) cable. "Noise" or EMI (electromagnetic interference) does not generally create a problem since it is common to both wires in the pair and essentially cancels itself out. In most applications, non-shielded twisted pair instrumentation cable (20-22 AWG) will be suitable for the signal loop between the D/P Module and receiver.



**Note:** Refer to instruction manual EX-1710-1 for details on electrical signal connections and power requirements.

## Transmitter Installation

The 5900 D/P Module is intended for control consoles or instrument enclosures. This compact surface mounting unit requires no additional manifold or cage assembly. **IMPORTANT!** – The transmitter is designed for clean, dry and oil-free air or gas pressure input only. Moisture and/or other contaminants may lead to rapid deterioration of the internal electronics.

## INSTALLATION INSTRUCTIONS

### KING-GAGE Differential Pressure Transmitter (Model 5900 D/P Module)

			DATE	09/20/10
C	9/10	Revised load capacity		
B	5/03	Revised w/ new format	DRAWN BY	J. Gawlas
A	10/89	Released	APPROVED	



DWG. NO.	REV.
K-1090-1-5900	C
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