

**PRODUCT INFORMATION****ENGINEERING UNIT SELECT OPTION**

The “unit select” feature is the most commonly ordered front panel option offered on the Series 9 digital pressure indicator and is probably the most simple to understand. The purpose of the option is to allow the user to read in more than one unit of measure. By depressing the designated button on the front panel, the display will change to the equivalent reading in one of the two additional units of measure which have been pre-programmed into the unit. A light bar will identify which unit of measure is currently being displayed.

However, we do receive inquiries regarding some specifics which are not quite so obvious. The list below provides a quick guide to other pertinent facts regarding the unit select option.

- A Series 9 equipped with unit select is not considered a “multi-range” instrument. Each 901 is equipped with only one sensor. The primary range designation specifies the full scale traverse parameters of the instrument, while the secondary units are simply a conversion of the primary unit.
- When ordering a 901 with the unit select option, you need only specify the primary range (along with the primary unit of measure) and the two secondary units of measure. We do not need the converted ranges for the two secondary units.
- The unit select option provides two secondary units of measure; it is not capable of more than two and it cannot be provided with only one secondary unit. For those customers who require a primary and only one secondary and cannot accept a second secondary unit, we recommend that either the primary or the secondary unit of measure be repeated as the second secondary unit.
- The secondary units are programmed at the factory and are not changeable in the field.
- RS-232 and BCD digital outputs will report the displayed value based on the unit of measure that is currently displayed. The RS-232 data string will identify the associated unit of measure as “U1,” “U2” or “U3” to correspond to the order in which the units are identified on the front panel. (Dipswitch #3 on the option board must be set to the open position for the unit designation to operate.) The BCD signal will designate the “U” number via a hi/lo pin activation code, accessed through pins 34 and 41 in the rear “D” connector. (Refer to the Series 9 manual, sections 5.2 and 5.3, for more information.) Neither output will identify the actual unit of measure by name, such as PSI or In.Hg.

Analog outputs are not affected by changes in the displayed unit of measure, as they are proportional to the instrument span and are not specific to any unit of measure.

There are several applications in which the unit select feature can prove extremely useful. They include:

- **Compound Ranges:** Since most compound dial gauges read in PSI on the pressure side and In.Hg on the vacuum side, many users require a digital indicator capable of the same. In this application, a 901 with a primary range in PSI can provide a secondary unit in In.Hg to allow the user to manually change the unit of measure when working in the vacuum side.
- **Reduce Resolution:** One of the secondary units can be programmed to reduce the resolution of the indicator to eliminate the least significant digit. For example, a 0-100 PSI indicator will display in 5 full digits, with the hundredths place digit being least significant. By specifying one of the secondary units as "PSI x 10," the display (including the decimal point) will shift over one place to the right, eliminating the hundredths place digit.
- **Master Gauge:** In any application where the 901 will be used as a master gauge, the unit select option can allow the user to calibrate gauges of different units of measure without the need for manual conversion calculations.
- **Load, Tensile and Torque Testing:** In applications where the 901 will be scaled in non-pressure units of measure such as "Lbs. Force," "Ft. Lbs." etc., (usually based on a function of other specifications of the system in which the indicator is incorporated, such as piston/ram diameter, torque arm length, etc.), the unit select option will allow the user to return to a unit of pressure measurement to monitor the actual system pressure.