

## Digital/Bar-graph setpoint gauge for pressure, temperature, vibration and other variables

### Three universal input models

**1-Point w/4-20mA output: DSG-1611DUPS**

**2-Point 4-20mA PID controller: DSG-1682DUPS**

**2-Point: DSG-1692DUS**

### 2-Point models can be used as Differential gauges

**Universal inputs accept type J/K thermocouple and 0-5vdc/0-25mA**

**16-character x 8-line display with analog bar-graph display**

**Adjustable setpoints**

**RS-485 serial communications**

**Standard 4-1/2" round, weather-resistant case**

The Altronic DSG-1611DUPS, DSG-1692DUS, and DSG-1682DUPS are advanced digital/bar-graph setpoint gauges for monitoring, displaying and protecting either one or two process variables. The DSG-1611 is a universal one-point model which replaces the former DSG-1301/1601 series. The DSG-1682DUPS and DSG-1692DUS are two-point versions.

These universal models can be connected to either type J or K thermocouples, 0-5 volts or 0-25mA (scalable) input signals. In the DSG-1692, this choice is made independently for each of the two monitored points. In addition, all versions have a RS-485 serial port with ModBus communications protocol with 5 selectable baud rates: 9,600, 19,200, 38,400, 57,600, and 115,200. This versatility makes the DSG gauges universal panel products, thus reducing spare parts requirements to a minimum. Power requirement is 12-36Vdc, 0.25A maximum.

A unique feature of the DSG gauges is the high resolution 16 character x 8 line digital readout/bar-graph display which gives

the operator an immediate indication of the reading as a percent of (user-selectable) transducer span or span between high/low setpoints, as well as a reference to direction and amplitude of a rapid change in reading. The display also indicates the units and annunciates an alarm by number (1st or 2nd setpoint) and type (high or low).

The front panel of the microprocessor-based gauge has a sealed membrane keypad for easy selection and adjustment of the units, transducer range and setpoints. There are two (one on the DSG-1682DUPS) solid-state, form C (N.O. and N.C.) output switches. Each output can be assigned both high and low setpoint values which are retained indefinitely. The precision nature of the output switch allows these gauges to be used as control devices.

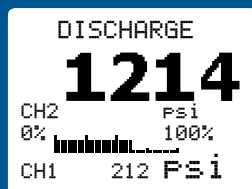
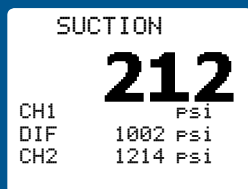
**DSG-1611DUPS:** The single-point model has both 4-20mA proportional output and RS-485 serial communications. It replaces all prior models of the DSG-1301 and 1601 and can be programmed for both a low and high output for each of the two output switches.

**DSG-1682DUPS:** The dual-channel DSG-1682DUPS is a single-loop PID controller that accepts up to two (2) type J or K thermocouples or 0-5 volt/0-25mA transducer input signals. This sophisticated instrument/controller is designed to offer the following modes of operation:

- 4-20mA output loop vs. the channel 1 input OR channel 2 -channel 1 (differential)

- Direct or inverse PID output based on the input of channel 1 or in a "mapping" mode that allows the channel 1 PID setpoint to be modified by the monitored input of channel 2.

**DSG-1692DUS:** In the standard dual-point model, each channel is independently assigned for type J or K thermocouple, 0-5 volts or 0-25mA input signals. This allows the device to be used for one temperature and one pressure or two of either type. In addition, the device can be set up with a differential setpoint between the two monitored points.



## Specifications

**POWER REQUIREMENT** ..... 12–36 Vdc, 0.25 A max.

**INPUT SIGNAL**..... Type J or K Thermocouple, 0–5 Vdc, 0–25 mA (scalable), Altronic vibration transmitter

**INSTRUMENT DISPLAY:**

TYPE ..... 16 character x 8 line display/40-segment bar-graph

UNITS DISPLAYED..... psi, psig, psia, KPa, bar, mbar, inH2O, inHg, mmH2O, mmHg, kg/cm<sup>2</sup>, Torr, °F, °C, and °K, in/s, mm/s, cm/s, G's, m/s<sup>2</sup>, ft/s<sup>2</sup>, Volts, mV, %

RANGE ..... -9999 to 99999 max.

**INSTRUMENT ACCURACY** ..... ±0.5%, ±1 digit

**DISPLAY UPDATE RATE** ..... 5 per second

**OUTPUT SWITCHES** ..... 2 solid state, form C (N.O. and N.C.) 200 Vdc, 200 mA continuous (1 on DSG-1682DUPS)

**4–20mA OUTPUT**..... DSG-1611DUPS and DSG-1682DUPS

**SERIAL OUTPUT** ..... RS-485 ModBus RTU

**AMBIENT TEMP RANGE** ..... -40° F. to +175° F. / -40° C. to +80° C.

## Pressure and Temperature Transducers

**POWER REQUIREMENT:**

691201/691204 ..... 5 Vdc, 20 mA max.

691202/691203 ..... 5 Vdc, 1 mA max.

691212/691213 ..... 5 Vdc, 5 mA max.

**ACCURACY:**

691201/691204 -20° C. to 100° C. .... ±2% of span  
101° C. to 120° C. .... ±3% of span

691202/691203 ..... ±3° F. / ±2° C.

691212/691213 ..... ±6° F. / ±4° C.

**AMBIENT TEMP RANGE** ..... -40° F. to +175° F. / -40° C. to +80° C.

## To Order

### DIGITAL/BAR-GRAPH SETPOINT GAUGE:

1-Pt Universal Input w/4-20mA output ..... DSG-1611DUPS

2-Pt Universal Input, 4-20mA PID controller .... DSG-1682DUPS

2-Pt Universal Input ..... DSG-1692DUS

### PRESSURE TRANSDUCERS:

0–15 psig / 0–680 KPa ..... 691201-15

0–50 psig / 0–2040 KPa ..... 691201-50

0–100 psig / 0–680 KPa ..... 691201-100

0–300 psig / 0–2040 KPa ..... 691201-300

0–500 psig / 0–3400 KPa ..... 691201-500

0–1000 psig / 0–6800 KPa ..... 691201-1000

0–2000 psig / 0–136 bar ..... 691201-2000

0–5000 psig / 0–340 bar ..... 691201-5000

0–50 psia / 0–340 KPa ..... 691204-50

0–100 psia / 0–680 KPa ..... 691204-100

0–300 psia / 0–2040 KPa ..... 691204-300

0–500 psia / 0–3400 KPa ..... 691204-500

### TEMPERATURE TRANSDUCERS:

Range: +5° F. to 300° F. / -15° C. to 150° C.

1.75" length ..... 691202-300

5.75" length ..... 691203-300

Range: -40° F. to 450° F. / -40° C. to 230° C.

1.75" length ..... 691212-450

5.75" length ..... 691213-450

### TRANSDUCER CABLES:

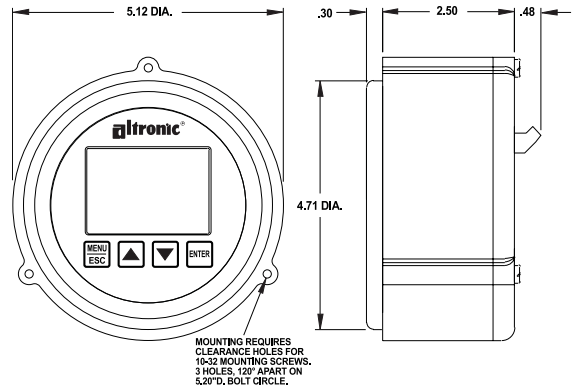
5 ft. length ..... 693008-5

25 ft. length ..... 693008-25

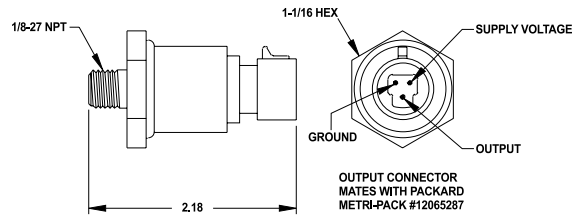
50 ft. length ..... 693008-50

**Certified Class I, Division 2, Groups C and D Hazardous Areas  
For Division 1 Applications use Ex-Proof Housing: 690013-1**

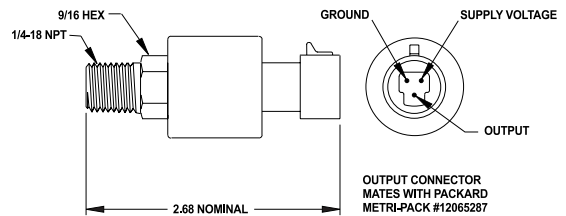
## Dimensions



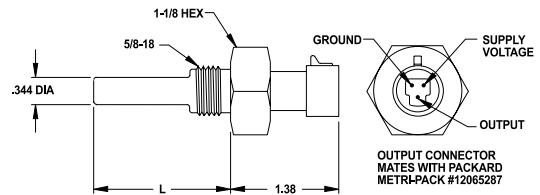
## Transducers 691201 Series



## 691204 Series



## 691202-300, 691203-300 691212-450, 691213-450



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