

## **SPECBOOK - BULLETIN A300, MODEL 221GCD (PRESSURE)(LEVEL) TRANSDUCER**

The (level)(pressure) of the \_\_\_\_\_ shall be sensed by a Siemens Water Technologies, Control Systems (fka Consolidated Electric) Bulletin A300, Model 221GCD Transducer. The transducer shall be a 4-20 ma DC, two-wire, 15 to 40 VDC loop-powered type with its output signal directly proportional to the measured level excursion over a factory-calibrated range of zero to \_\_\_\_\_ (feet of water)(PSIG).

### **BULLETIN A300, MODEL 221GCE (PRESSURE)(LEVEL) TRANSDUCER**

The (level)(pressure) of the \_\_\_\_\_ shall be sensed by a Siemens Water Technologies, Control Systems (fka Consolidated Electric) Bulletin A300, Model 221GCE Transducer. The Transducer shall be a three-wire type to operate from a supply voltage of 10.5 to 24 VDC and produce a 1-5 VDC instrumentation signal in direct proportion to the measured level excursion over a factory-calibrated range of zero to \_\_\_\_\_ (feet of water)(PSIG).

### **BULLETIN A300, MODEL 221GCI (PRESSURE)(LEVEL) TRANSDUCER**

The (level)(pressure) of the \_\_\_\_\_ shall be sensed by a Siemens Water Technologies, Control Systems (fka Consolidated Electric) Bulletin A300, Model 221GCI Transducer. The Transducer shall be a four-wire type to operate on 120 VAC incoming power and produce a 4-20 ma DC instrumentation signal into a 0-1,000 ohm load in direct proportion to the measured level excursion over a factory-calibrated range of zero to \_\_\_\_\_ (feet of water)(PSIG).

The transducer module shall include: 120 VAC input power transient protection & fusing, a manual mode switch & 20-turn potentiometer (to simulate the pressure/level signal for test purposes), a 0-1ma and a 0-1.99 VDC meter drive output, a 4-20ma DC powered output as well as +12 VDC & +32 VDC regulated outputs.

### **BULLETIN A300- ALL MODELS**

The transducer shall incorporate a variable-capacitance transducer element to convert the sensed pressure to a corresponding electrical value. The sensed media shall exert its pressure against an oil filled Nitrile diaphragm seal having a nickel/chrome plated carbon steel 1/4" NPT connection port (with clean-out plug) connected to the transducer's ceramic diaphragm. The diaphragm flexes minutely so as to vary its proximity to a ceramic substrate to vary the capacitance of an electrical field created between the two surfaces.

A stable, hybrid, operational amplifier assembly shall be incorporated in the transducer to excite and demodulate the sensing mechanism. The transducer shall incorporate laser-trimmed, temperature compensated, high quality components and construction to provide a precise, reliable, stable output signal directly proportional to the sensed pressure over a factory-calibrated range.

The transducer shall include easily accessible offset and span adjustments. Fine and coarse adjustments for both span and offset shall be provided, using twenty-five turn potentiometers. Span shall be adjustable from 100 percent down to 15 percent of the sensor range. Offset adjustments shall be up to 75 percent of range and shall be non-interactive with span.

### **BULLETIN A300 OPTIONS**

### **ENCLOSURE**

The described equipment shall be housed in a weatherproof fiberglass enclosure. The enclosure shall be hot compression molded from twenty-five percent glass reinforced polyester giving corrosion resistance and high strengths. The front door shall be hinged with stainless steel hinging and fasteners. It shall have molded-in tongue and groove labyrinth seals and ventilation. The transducer shall be plumbed within the enclosure to a manifold with a 3-1/2" reference pressure gauge, shutoff and bleed needle valves having 1/4" female external bulkhead pressure connections in the bottom of the enclosure.

## CONDENSATION-PROTECTIVE HEATER/THERMOSTAT

Furnish a 120 VAC powered resistor heater element and a sealed thermostat to keep the internal temperature of the enclosure above the dew point to prevent problems associated with condensation.

## 221GCD & I ONLY; 5-1/2" ANALOG INDICATING METER

Furnish a taut band, +/- two percent full scale analog meter with a 4.5" scale arc calibrated in "feet of water" to match the transducer range (or other "engineering units" as required). Mount on the front hinged door with a weatherproof clear polycarbonate cover over the meter.

## A300 I ONLY; DIGITAL INDICATING METER (LED)

Furnish a 3-1/2 digit digital panel meter with a .5" high numeric LED display calibrated in "feet and tenths of a foot", "inches of water" or other engineering units as desired. The meter shall provide a 0-1999 count range produced by a 1.999 VDC signal. Lesser values shall be produced by an attenuated signal. Mount on the front hinged door of the upper assembly with a weatherproof clear polycarbonate cover over the meter.

## A300 D ONLY; DIGITAL PANEL METER (LCD)

Furnish a 3-1/2 digit digital panel meter with a .5" high numeric LCD display calibrated in "feet and tenths of a foot", "inches of water" or other engineering units as desired. The meter shall provide a 0-1999 count range produced by a 4-20 ma DC signal. Lesser values shall be produced by an attenuated signal. Mount on the front hinged door of the upper assembly with a weatherproof clear polycarbonate cover over the meter.