

Specification for Model DS III Transmitters

Mechanical Specification

The transmitter shall be based on a micro-machined silicon sensor design. The sensor shall be compensated for the effects of varying ambient temperature.

The transmitter shall provide 0.1% of span accuracy, exhibit zero drift less than 0.25% of URL in 5 years and have no measurable span drift. Turndown capacity of the transmitter shall be 100:1 with ranges from 0.4 in H₂O to 5800 Psig.

The transmitter pressure capsule shall have a standard construction of 316 stainless steel (diaphragm and wetted parts). The pressure capsule shall be field-replaceable without the need for re-calibration or exchanging EEPROMS.

The transmitter pressure sensor shall be protected from the effects of pressure swings and spikes up to the maximum working pressure (body rating) of the pressure capsule.

The transmitter enclosure shall be epoxy-polyester coated with a NEMA 4X rating. The enclosure shall be rotatable through 120 degrees on the capsule assembly in a traditional mounting style.

Change of transmitter configuration parameters shall be possible in Class I, Division 1, Group A-D hazardous areas through integral, non-intrusive, magnetic pushbuttons. These transmitter pushbuttons shall provide for configuring parameters such as zero, full scale and damping. These pushbuttons shall be standard on every unit.

The transmitter shall carry a combined FM/CSA approval for use in Class I, Division 1, Group A-D hazardous areas for intrinsically safe, explosion proof and non-incendive applications .

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Electrical Specification

The transmitter shall be a two-wire loop powered device which signals on the 4-20 mA standard and provides smart communications using the HART protocol.

The transmitter shall be capable of providing linear or square root output with pressure requiring only a change of configuration.

The transmitter shall have an optional LCD display for indicating the pressure in real engineering units. The display shall be rotatable in 90 degree increments.

The transmitter shall have the ability to electronically compensate for the effects of mounting position on the sensor. Furthermore, the transmitter shall be able to force the loop current to various values to aid in loop setup and testing.

The transmitter shall have on-line diagnostics and registers to detect and store various parameters such as min / max electronics temperature, min / max pressure capsule temperature and min / max process pressure to help diagnose process problems. The transmitter shall also have dual timer registers that allow the transmitter to signal when a settable time has elapsed for preventative maintenance or calibration.