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TRANSMITTER WITH IMPROVED COMPENSATION

ABSTRACT OF THE DISCLOSURE

A circuit (58) for compensating variables in a measurement transmitter (2). Within the transmitter, a sensor (54) senses a primary process variable such as differential pressure and a converter (56) digitizes the sensed process variable. The sensor (54) senses pressures within a span of pressures values. A memory (68) inside the transmitter stores at least two membership functions. The memory (68) also stores a set of compensation formulas, each formula corresponding to a membership function. A selection circuit (64) in the transmitter (2) selects those membership functions which have a non-zero value at the digitized PV and a correction circuit (66) provides at least one correction value calculated from a compensation formula corresponding to a selected membership function. A weighting circuit (70) multiplies each correction value by its corresponding selected membership function, and combines the multiplicands to provide a compensated PV. The compensated PV is coupled to a control circuit (6) connecting the transmitter (2) to a control system (4).

This Sheet Has Been Replaced