



Hysteresis specifications are often combined with other phenomena such as repeatability, reproducibility, linearity, and dead band as part of the overall product specifications. However, some elements in a data acquisition system, sensors as an example, may have a denounce individual hysteresis behavior that should be considered in determining a total system error budget.

The fundamental phenomenon of hysteresis is the inability of a unit to provide the same output for the same input after the input has had a traversal from upscale to downscale or downscale to upscale with all other errors zero.

For example, consider a pressure sensor with output  $V_{out-x}$  for an input pressure of  $P_x$ . If the input pressure  $P_x$  increases upscale to some new pressure then returns downscale to pressure  $P_x$  again, the output may not be  $V_{out-x}$  as before, but some different output,  $V_{out-z}$ . The difference between  $V_{out-x}$  and  $V_{out-z}$  is the hysteresis error usually expressed as a percent of full-scale output.

Dataforth recognizes the impact of hysteresis in determining overall system error budgets and includes hysteresis in their signal conditioning modules specifications. All Dataforth modules are 100% sampled tested to guarantee conformity to published specifications.



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