



Technical Bulletins

Bimba Electronic Controller Error Specification

This applies to Models:

120AC0-10DC

120AC4-20MA

12/24DC0-10DC

12/24DC4-20MA

The error specification for the Bimba Electronic Controller is defined by:

$$\pm \text{Error} = (0.02 + 0.001 * t) \text{ Volts}$$

Where t is the \pm variation of temperature in degrees Fahrenheit from the midpoint of the operational temperature range. If degrees Celsius is preferred, use $(0.02 + 0.002 * t)$ volts.

To determine the error in displacement:

$$\text{Inches} = ((\text{stroke in inches}) / (10 \text{ volts})) * (\text{Error})$$

$$\text{mm} = ((\text{stroke in mm}) / (10 \text{ volts})) * (\text{Error})$$

For example:

Calculate the error in displacement for a 10 inch stroke Position Feedback Cylinder where the controller is used in an area that has a \pm 10 degrees F temperature fluctuation.

$$\pm \text{Error} = (0.02 + (0.001 * 10)) = \pm 0.030 \text{ V}$$

$$\pm \text{Inches} = ((10 \text{ inches}) / (10 \text{ volts})) * (0.030 \text{ V}) = \pm 0.030 \text{ inches}$$

This results in a \pm 0.003 inch per inch of stroke repeatability specification for a \pm 10 degree F temperature range.

The Bimba controller Model DPM series should be used for higher accuracy application requirements. The DPM models yield a \pm 0.001 inch per inch of stroke repeatability.

The information presented is in Bimba's best engineering opinion and should be used for reference only. Recommendations derived should be verified under actual operating conditions. Bimba reserves the right to change specifications without prior notice

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