



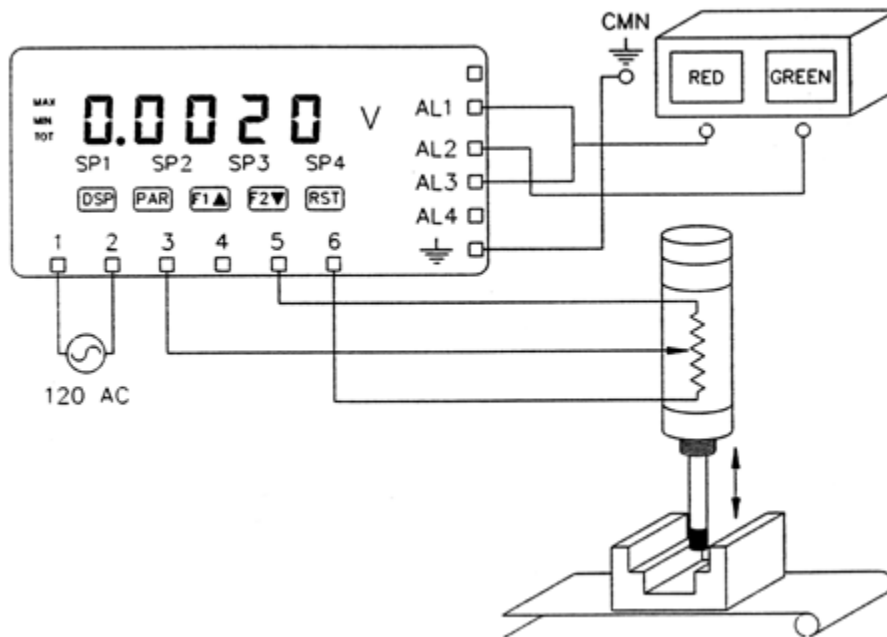
# Technical Bulletins

## DPM Application Example - Parts Gauging

### *Go/No Go Parts Verification without PLC*

**Desired Result:** Parts verification to determine good parts versus bad parts.

The DPM/PFC combination is used to verify dimensions on parts. The alarm outputs are connected to green and red colored indicators that turn on to notify the user if the part is within specification or not. The alarm outputs could also be used to signal other operations, such as divert the bad part for further inspection. The DPM/PFC combination can achieve repeatability to +/- 0.001" per inch of stroke. A representative diagram is shown below:



### **Example:**

This example sets the nominal value to read zero. The LCL (Lower Control Limit) is set to -0.010", the UCL (Upper Control Limit) is set to +0.010", and Full scale is set to 1" (assuming 1" stroke length). Calibrate the DPM using the four calibration points, LCL, Nom, UCL, and Full Scale. Standard parts can be used to calibrate the DPM, one part at the LCL, one at nominal, and one at the UCL. The reset button on the DPM can be programmed to re-zero the display when pressed. This allows the user to check the nominal part between shifts. If it does not read zero, the reset button can be pressed to reset the zero point. (The zero can be off due to mechanical wear of fixturing, cycle wear of the internal probe, etc. Fixturing design can be a major factor in accuracy and repeatability. Proper fixturing must be in place to ensure that correct readings are attainable.)

AL1 (Alarm 1) is programmed to be normally closed, and set to actuate at -0.010" (the UCL). AL2 is programmed to be normally open, and set to actuate at -0.010" (the UCL). AL3 is programmed to be normally open, and to actuate at +0.010" (the LCL). If the part is above the UCL (part is too big), the red indicator turns on; if the part is within specification (between the UCL and the LCL), the green indicator turns on; and if the part is below the LCL (part is too small), both red and green indicators will come on. Additional circuitry can be added so the green indicator goes off beyond the LCL, leaving only the red indicator on.

**Equipment:**

Model Number	Description
Bimba PFC-091-LP	One inch stroke Position Feedback Cylinder with Plug Connector and low friction option.
Bimba DPM	Model DPM programmable set point controller
IDEC SLC30N-0101-DW2F	2 Color Red/Green Annunciator Display

*Prices shown above are valid for the date this bulletin was issued and may change without notice.*

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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