CTC AppNotes
A series of technical documents written by members of the CTC community

Using Dual Output LPs with Dual Output Switchboxes

Executive Summary

Many situations in industrial applications ma require that a machine have the ability to be both remotely monitored on a constant basis and accessible in some way for dynamic data to be taken as well. One way that CTC offers this capability is through the use of Dual output LP sensors combined with the CTC DSB1000 series or SB142 series switchboxes.

Figure 1: Dual output switchbox—sb142 series

Figure 2: Dual output LP 400 series sensor LP404-1R1-1B

Continuous Monitoring and Dynamic signals.

Continuous monitoring using 4-20 mA signals directly proportional to vibration, scaled for output based on a low pass value and a high pass value can be a valuable tool for preventive maintenance professionals., enabling an alarm or triggering a shutdown should vibration exceed a certain preset level. Dynamic vibration signals enable analysis of machine defects so corrective actions can be taken. By having both signals in one sensor body preventive maintenance professionals can perform analysis after an alarm and potentially save thousands of dollars in downtime.

Figure 3: Dual output modular switchbox—DSB1000 series

Use in the field

The easiest setup of the dual output sensors in the field involves the use of a dual output switchbox or a dual output switch module. The four conductors can be brought directly from the sensor (red wire is the active LP signal, black wire is the shared common, white wire is the dynamic vibration and bare wire is the ground/drain) into the four position plugs provided with the SB142 or DSB1000. Once these four wires are connected the outputs to the Monitoring system can be connected.

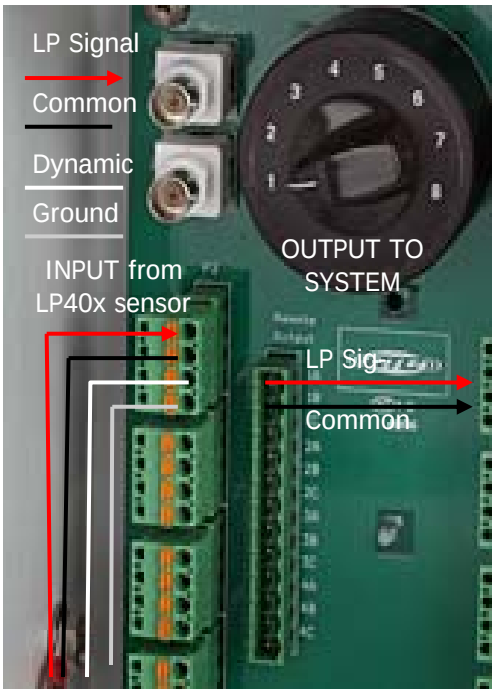

Figure 4: simplified wiring.

Connecting to the PLC is simply a matter of outputting the 4-20 mA signal. Connect the signal wire for the monitoring system to the output from the red wire on the sensor (pin A) and the common wire to the output from the black wire (pin B). (See figure 4) The same procedure can be used for both the SB142 and the DSB 1000 series boxes.

If you have any questions or for further information please contact CTC directly via email at dgripe@ctconline.com or jsmith@ctconline.com or feel free to call 1-800-999-5290 in the US and Canada or +1-585-924-5900 internationally.