

# ***USING DUAL OUTPUT LPs WITH DUAL OUTPUT SWITCH BOXES***



**WHEN RELIABILITY MATTERS  
CONNECT TO CONFIDENCE**



Many situations in industrial applications may 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, which can be combined with:

- ▶ CTC DSB1000 Series Modular Switch Box
- ▶ CTC SB142 Series Switch Box
- ▶ JB120 Series Enclosure
- ▶ JB220 Series Enclosure



**LP404-XXX-1B**  
*Dual Output Sensor*



**SB142**  
*1-8 Channel Switch Box,  
Dual Output*



**DSB1000**  
*4-8 Channel Modular Switch  
Box, Dual Output*

## **JB120 AND JB220 SERIES ENCLOSURES**

CTC offers premium JB120 and JB220 Series enclosures which can be used with Dual Output Sensors. JB Series enclosures are fully-featured vibration switch boxes, designed to have field input cabling installed behind the board. A flip-down panel allows the user to wire connections on location.

The JB Series enclosures also feature an IEPE bias indicator light built into the box itself, which can be used to indicate errors in the field wiring or the sensor.



**JB120**  
*iBOX, Dual Channel Sensor Input*

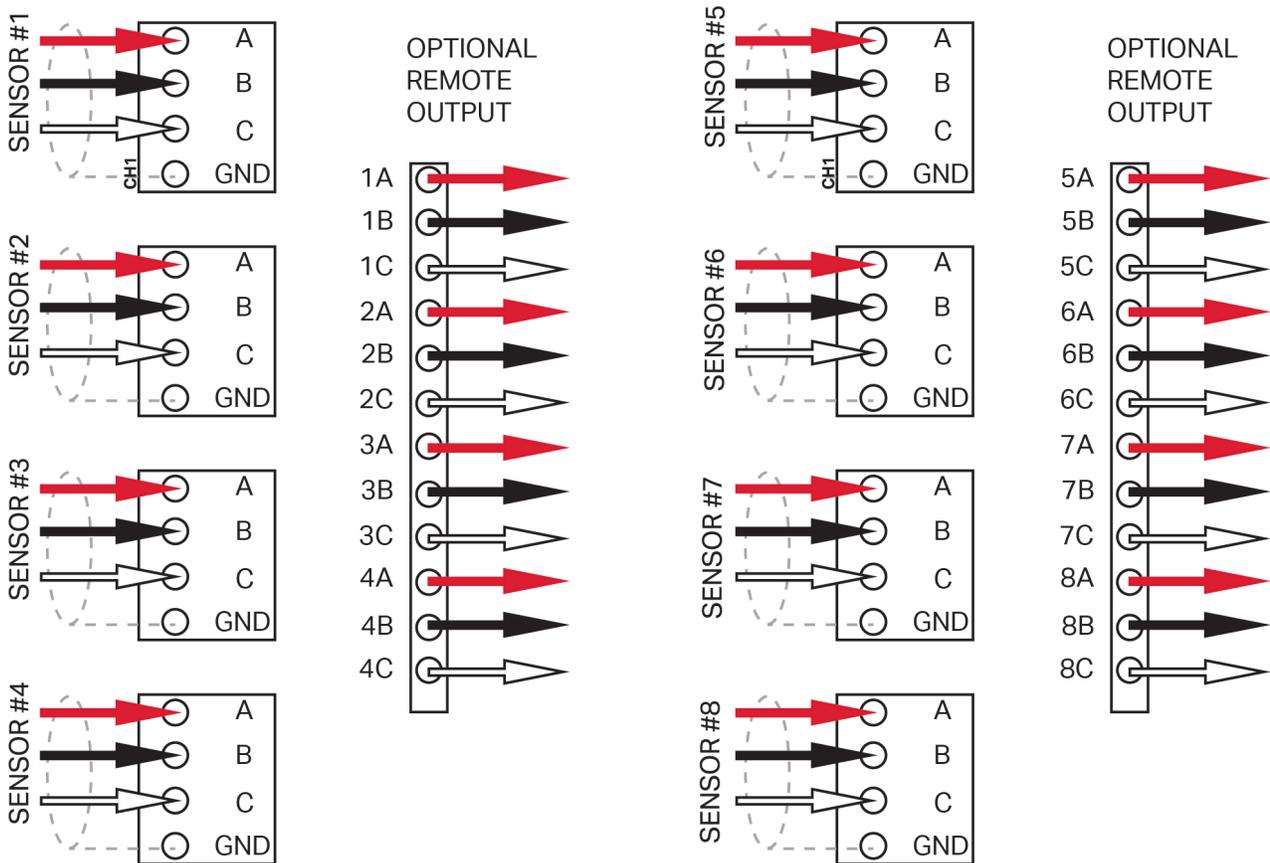


**JB220**  
*iBOX, Dual Channel Sensor Input*

## 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 predictive maintenance professionals. Vibration analysts are able to set an alarm which triggers 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, predictive maintenance professionals can perform analysis after an alarm and potentially save thousands of dollars in downtime.



**Sensor Inputs:**  
**RED** = LP Signal  
**BLACK** = Common  
**WHITE** = Dynamic Signal  
**GREY** = Shield (Ground)

**SB142**  
**Wiring Diagram**

## **USE IN THE FIELD**

The easiest setup of the Dual Output Sensors in the field involves the use of a Dual Output Switch Box, or a Dual Output Modular Switch Box.

The four conductors can be brought directly from the sensor (the red wire is the active Loop Power signal; the black wire is the shared common; the white 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.

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). The same procedure can be used for both the SB142 and the DSB1000 Series Boxes.



CTC is the world leader in the design and manufacture of industrial accelerometers, piezo velocity transducers, 4-20 mA vibration sensors, and proximity probes as well as all related mounting hardware, cabling, and junction boxes. Our products enable efficient vibration monitoring for predictive maintenance in a wide variety of industries. Industries served include cement, mining, petrochemical, food & beverage, auto, steel, wind, paper & pulp, power generation, water & wastewater treatment, pharmaceutical, hospitals, bottling, and more. Our mission is to offer the widest variety of accelerometers and vibration hardware products, which are compatible with data collectors and online monitoring systems, as well as the tools for installation.



The CTC product line features vibration analysis hardware for heavy industry.

All CTC products are backed by our unconditional, lifetime warranty. If any CTC product should ever fail, we will repair or replace it at no charge.



The PRO line offers the industry's most reliable proximity probe sets.

All PRO products are backed by a lifetime warranty on materials and workmanship. PRO will repair or replace any of our products as long as the product was not subjected to misuse, neglect, natural disasters, improper installation, or modification.

All stock products may be returned for a 25% restocking fee if returned in new and unused condition within 90 days of shipment. Built-to-order and private-label products qualify for a 50% refund if returned in new and unused condition within 90 days of shipment. Custom products are quoted and built specifically to the requirements of the customer, which may include completely custom product design or private-labeled versions of standard products for OEM customers. Custom products are non-cancellable, non-returnable, and non-refundable.

