

# DOUBLE SHEET DETECTION

## DS150

Dual Probe Double Sheet Detector

### A COMPLETE SYSTEM REQUIRES:

Control: DS150 (Qty 1)  
Probe: P15, P70 or P1000 series (Qty 2)  
Cable: CBL101 series (Qty 2)  
Bracket: Dependent on selected probe

### FEATURES:

- Dual probe
- Detects ferrous metals (Steel & Tinplate) and non-ferrous metals (Stainless Steel & Aluminum), Brass, etc.
- Provides flexibility for broad range of thickness applications and metals
- Thickness ranging: .05mm-6.35mm (.002"-.250")
- Basic and affordable option
- Automatically adjusts signal based on material type
- Multi-gage double detection without calibration changes
- Push button calibration

### ABOUT DS150

Prime Controls' DS150 is our basic detector for ferrous and non-ferrous metals. The DS150 provides a secure level of machine protection from double sheets in a basic and affordable package. The transmitter to receiver sensing field can extend beyond an opening of 75 mm (3.00"). It will monitor most ferrous and nonferrous metals over a thickness range of .05mm to 6.35mm (.002"-.250"). It detects double metal sheets over several gages without calibration changes or memory recall. The detector de-energizes the form "C" contact relay in less than .005 seconds when a double sheet is sensed or when power is lost.



Setup is as easy as placing a single sheet between the probes and pressing the calibrate button so that the unit learns what a single sheet is. Then following the same procedure with a double (or thicker) sheet to define the value for establishing a reject threshold.

The DS150 is able to easily detect a variety of metals because of its ability to automatically recognize and intelligently change its sensing signal based on the material type that it is sensing.

Should trouble arise, this smart detector immediately analyzes the problem and provides a blinking light sequence that prompts the operator to action. The DS150 operates on 120 Volts AC or 240 Volts AC @ 50-60 Hz power.

*DC power version also available.*

# PRODUCT SPECIFICATIONS

**POWER INPUT:** Jumper select 120 volts AC nominal or 240 volts AC nominal, 50-60 Hz, 300 m A. operating load

**OUTPUTS:** SPDT contact relay

**MAX LOAD:** 10 Amps @ 240 V ac, 8 Amps @ 24 V dc, 1/2 HP @ 240 V ac

**OUTPUT FAIL SAFE:** Contact goes to double condition when power is lost.

**FAULT DETECTION:** Green flashing indicates bad transmitter, Amber flashing indicates bad receiver, both flashing indicates a bad calibration

**PROBE FREQUENCY:** Auto adjust 60 Hz to 25 K Hz

**PROBE TYPES:** P15, P70 and P1000 series

**CABLE TYPES:** CBL101 series  
*Various cables lengths available*

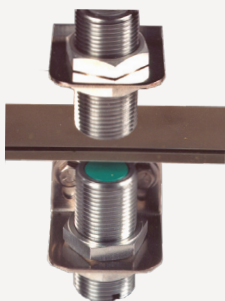
**METAL SENSITIVITY:** .05mm-6.35mm (.002"-.250")

**PROBE SEPERATION:** Dependent on metal, thickness and probe model. 0.1mm-75mm (.004"-3") steel up to 1mm(.040") thick

**CALIBRATION:** Push-button switch on single and double sheet sample

**INDICATORS:** Green for single, amber for double, green flashing for bad transmitter and amber flashing for bad receiver

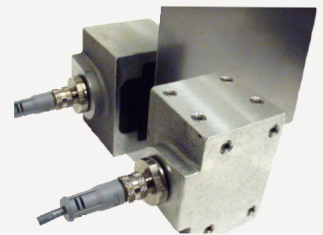
**THEORY OF OPERATION:** Inductive or Eddy Current energy restricts the signal from transmitter to receiver as the metal thickness increases. The DS150 automatically uses the best method for specific metal types based on calibration sampling.



**P70 Probe Family (2 required)**  
Best on Ferrous metals  
Use with all metals with thickness 1.5mm or less



**P15 Probe Family (2 required)**  
Best on Non-Ferrous metals  
Max. dual probe separation to 75mm  
Max. thickness 1.5mm



**P1000 Probe Family (2 required)**  
100x50x50mm  
Use with all metal, up to 6mm thick  
Max. dual probe separation extends to 75mm at 1mm thickness

