

DOUBLE SHEET DETECTION

DS1510

Dual Probe Double Sheet Detector

A COMPLETE SYSTEM REQUIRES:

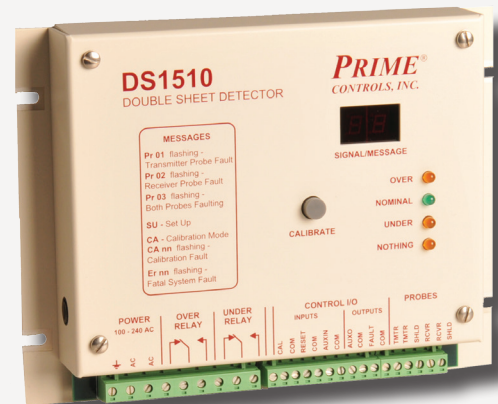
Control: DS1510 (Qty 1)
Probe: P15, P70 or P1000 series (Qty 2)
Cable: CBL101 series (Qty 2)
Bracket: Dependent on selected probe

FEATURES:

- Automatic & remote calibration
- 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")
- Automatically adjust signal based on material type
- Two selectable calibration memories
- Two-digit display
- Over/Under output

ABOUT DS1510

Prime Controls' versatile DS1510 Double Sheet Detector is packed with additional features and the next step up in our line of Double Sheet controls. Eliminating the need to perform repetitive calibration adjustments or to recall value stored in memory, the DS1510 unit automatically calibrates when triggered by the absence of metal between the sensing probes for a period of time – referred to as the calibration trigger delay. The delay, adjustable from 6 seconds to 25 minutes, is commonly set to expire in the time required to change a pallet or coil of metal.



When the delay expires, the DS1510 enters a “standby calibrate” state and remains in that state indefinitely or until metal enters the gap between the probes. It will calibrate on that metal's thickness. During the period of “standby calibrate” a special “Fault” output is on. This transistor output is optionally used to make the operator aware that the detector is about to calibrate on the next metal detected.

The DS1510 is not limited to double sheet detection. It is used in some applications where metal thickness monitoring is required. As a double sheet detector the DS1510 can discriminate single, double and no-metal conditions. As a coil thickness or weld splice monitor it can detect under, over (weld) and nothing present conditions. Only the calibrated single sheet or normal thickness is allowed to pass. The DS1510 offers special features to accommodate the detection of weld splices in secondary coil stock where the nominal thickness varies widely within a coil. The unit can be configured to track and adjust to the changing nominal thickness. Changes in thickness due to welds occur very rapidly compared to the shifts in stock thickness and are thus seen as “over” or “under” conditions.

PRODUCT SPECIFICATIONS

POWER INPUT: 100 to 240 VAC, 50/60 Hz, 300 mA operating load

OUTPUTS: 2 SPDT contact relay (over, under)

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

OUTPUT FAIL SAFE: Defaults to reject with power off or fault

OUTPUT RESPONSE: * < .030, .100, .500, 1 second

FAULT DETECTION: Error codes are shown on two-digit display

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 SEPARATION: 12mm-75mm (0.5"-3") or more. Max varies with metal, thickness & probe separation. Max range is realized with P1000 transmitter & receiver probes.

CALIBRATION: *Auto calibration after absence of metal for a time between 6 seconds to 24 minutes. Push-button switch used to change time interval or manually initiate calibration.

*Two sample calibration - manually place two samples between probes, push calibration button.

REJECT THRESHOLD: *25% over single thickness with auto calibration. 50% between two sample calibration

INDICATORS: Green for nominal, amber for over, under and nothing detected

THEORY OF OPERATION: Inductive or Eddy Current in metal impedes signal from transmitter to receiver. Impedance changes as metal thickness changes.

DISPLAY INDICATION: Two-digit LED, alphanumeric, .5" high. Displays setup, calibration mode, operating probe signal strength and fault codes.

**Some features are turned on and off through dip switches located under front cover.*

