

A NEW APPROACH TO DOUBLE METAL DETECTION

Fluximity

DS71-DS74
Single Probe, Non-Contact Double Sheet
Detector for Ferrous Metals

A COMPLETE SYSTEM REQUIRES:

Control: DS71-DS74 (Qty 1)
Probe: PN18 (Qty 1)
Cable: CBL110-2 (Qty 1), CBL104-3 (Qty1)
or CBL113-2 (Qty 1)
Bracket: BR18SR (Qty 2) *optional*

FEATURES:

- Single, non-contact probe
- Detects ferrous metals (Steel & Tinplate)
- Thickness ranging: .050mm-2.5mm (.002"-.100")
- Housed in 18mm threaded aluminum housing
- Ideal for applications where space is limited
- Utilizes external magnet as operating signal to measure metal thickness
- Perfect for magnetic conveyors transferring metal blanks from process to process
- Push button calibration
- External calibration (DS73, DS74 units)

ABOUT THE FLUXIMITY

The Fluximity detector is a unique double metal detection system that utilizes an external magnet as the operating signal to measure metal thickness. For example it is ideal to use the magnetic field of a magnetic conveyor that transports metal blanks from process to process. If no magnet is available, one can be positioned so that the blank is in contact, while the Fluximity sensor is in position approximately 12mm away to monitor the strength.



There are four Fluximity controllers (DS71–DS74). The Fluximity system includes a microprocessor based control module in an 18mm threaded aluminum housing. The Controller is connected to a magnetic detection sensor through an 8mm receptacle on the face of the Controller. An additional four-pin 12mm connector at the rear end provides connections for power, ground, two separate metal present and double outputs. The Model DS71 provides current sourcing outputs (PNP), while the DS72 provides current sinking outputs (NPN). The Model DS73 and DS74 are the same as the DS71 and DS72, but also have an input line for external calibration. Status and setup controls on the face include a green power indicator, a multi-function/multi-color LED indicator and a push button switch.

The Fluximity requires power that ranges from 12 to 24 DC volts at 140mA. The probe is a passive receiver sensor. It requires the operating signal from an external magnetic source. Ferrous metal from .050mm-2.5mm (.002"-.100") is detectable, if the external magnetic strength is greater than 10% of the magnetic flux necessary to saturate a single blank or sheet.

PRODUCT SPECIFICATIONS

POWER INPUT: V in = 12 to 24 Volts DC, 140mA

OUTPUTS: Model DS71 & DS73: 1 Double Output, 1 Single Output, both PNP current sourcing Vin

Model DS72 & DS74: 1 Double Output, 1 Single Output, both NPN current sinking

MAX LOAD: PNP: 24 Volts, 100mA max.
NPN: 100 mA max

OUTPUT FAIL SAFE: Power Lost
Output goes to Off condition. (PNP) (DS71, DS73)
Output goes to Open condition (NPN) (DS72, DS74)

FAULT DETECTION: Flashing indicators sequence code to identify a problem Outputs go to fail safe condition

PROBE FREQUENCY: Optimized for steel or tinplate

PROBE TYPES: PN18

CABLE TYPES: CBL110-2, CBL 104-3, CBL113-2
Other cables lengths available

METAL SENSITIVITY: .050mm-2.5mm (.002"-.100")

PROBE SEPERATION: 12mm (.5") or less
**Dependent on magnet strength and probe distance*

CALIBRATION: Push-button switch with single sheet or double sheet sample
External line: DS73 source supply current to calibration line, DS74 sink current to common from calibration line

INDICATORS: Green power, Multi Color = red for double, amber slow flash waiting for second, fast flash calibration not acceptable

THEORY OF OPERATION: Background magnetic flux field is measured by the PN18 sensor as metal blocks or absorbs the field in foreground. The thickness is proportional to the flux absorbed. Maximum thickness is limited by the background magnet and the gap from the probe to the magnet.

