

Model HDPU

Hole Detection Processing Unit

Overview

The SCAN-A-LINE™ Hole Detection Processing Unit – Model HDPU is specifically designed for hole detection applications. It contains a video comparator which monitors the SYNC pulses generated by the emitter signal processing circuitry from a **Weld Hole Detection 10XHD-Series**, **High-Speed Weld Hole Detection 10XHS-Series** or **Small Hole Detection SHD-4000-Series** sensor, to produce two outputs.

The first output signals a hole detection, which lights the red DETECT lamp on the front panel. It also closes a normally-open (NO) relay contact closure to signal a hole detection event. Both contact closure and lamp illumination are customer variable from 0.5 seconds to 10.0 seconds via an internal potentiometer dial labeled TIME. The second output, the FAIL-SAFE circuitry, monitors the sensor functions (such as sensor power, sensor timing or SYNC, and cabling malfunctions) to ensure proper sensor operation. When sensor SYNC is lost, the **Model HDPU** opens the FAIL-SAFE relay contact and extinguishes the green FAIL-SAFE lamp until the sensor SYNC is reestablished.

Also available is a pair of ENABLE contacts that can be connected to an external through-beam sensor or switch. These contacts allow the automatic enabling or disabling of the **Model HDPU** hole detection circuitry when no strip is present. An open contact would mean that no strip is present and a closed contact would represent a strip present on the line.

Configurations

- **Level 1: Supports ONE (1) sensor.**
- **Level 2: Supports TWO (2) sensors.**

Operational Modes

The **Model HDPU** provides five, jumper-selectable, modes of operation. These modes are:

- Mode One:** Detects ONE (1) hole with emitter completely covered by strip.
- Mode Two:** Detects ONE (1) hole with ONE (1) edge of emitter not covered by strip.
- Mode Three:** Detects TWO (2) holes with emitter completely covered by strip.
- Mode Four:** Detects TWO (2) holes with ONE (1) edge of emitter not covered by strip.
- Mode Five:** Detects ANY light from the emitter.



Model HDPU Level 1

Features

- **Sensor Compatibility:** Weld Hole Detection 10XHD-Series Sensors, High-Speed Weld Hole Detection 10XHS-Series Sensors or Small Hole Detection SHD-4000-Series Sensors.
- **Two Relay Outputs:** FAIL-SAFE & DETECT Relay Closure Time is operator adjustable from 0.05 seconds up to 10.0 seconds.
- **ENABLE** contacts to connect external switch to disable detection when no strip is present.
- **Power Supply** (± 12 VDC regulated for sensors and 5VDC regulated for logic circuits) and signal routing for up to two SCAN-A-LINE™ sensors.
- **Model HDPU Enclosure Dimensions:** 12" [305mm] wide x 14" [356mm] tall x 6" [152mm] deep.

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