# Holland Safety Equipment part: Sash High proximity sensor

HSE part number: A/SASHPROXY

The sash high sensor is mounted in a fume hood sash track and wired to the back of any fume hood monitor. When the sash goes above the sensor, the fume hood enters an alarm condition.

In digital fume hood monitors and controls (AFA 1000 family), the display will alternate between "SASH HIGH" and the face velocity. The Labconco Guardian 500 has an amber light that illuminates during sash high conditions.

The sash high alarm may be muted by pressing the ENTER button on the monitor or controller. There is a repeat timer, so the alarm will resound after five minutes. This time can be adjusted up to 30 minutes.
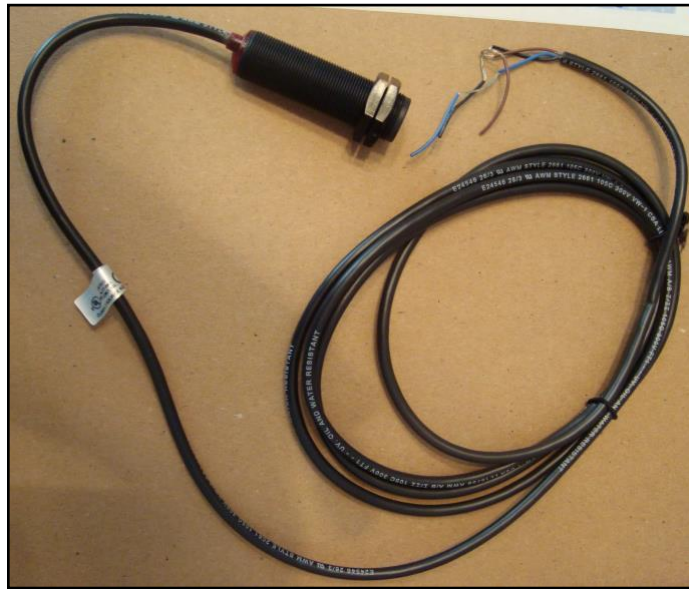
872CP DC Cable Style
12, 18, 30mm

872CP DC Micro QD Style
12, 18, 30mm

Specifications

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Load Current	≤200mA
Leakage Current	≤10µA
Operating Voltage	10–30V DC
Voltage Drop	≤1.6V
Repeatability	5%
Hysteresis	≤10% Typical
Transient Noise Protection	Incorporated
Reverse Polarity Protection	Incorporated
Short Circuit Protection	Incorporated
Overload Protection	Incorporated
False Pulse Protection	Incorporated
Approvals	UL listed, c-UL certified and CE marked for all applicable directives
Enclosure	NEMA 1, 2, 3, 4, 4X, 6P, 12, 13 IP67 (IEC 529) Plastic barrel
Connection	Cable: 2m (6.5ft) length 3-conductor PVC Quick-Disconnect: 4-pin micro style
LED	Red: Output Energized, 360° visibility
Operating Temperature	−25°C to +70°C (−13°F to +158°F)
Shock	30g, 11ms
Vibration	55Hz, 1mm amplitude, 3 planes

Features

- 3-wire operation
- 3-conductor connection
- 10–30V DC
- Normally open or normally closed output
- Transient noise, short circuit and reverse polarity protection
- Cable and micro quick-disconnect models
- UL recognized and CE marked for all applicable directives

Correction Factors

Target Material	Correction Factor
Steel	1.0
Stainless Steel	0.7–0.8
Brass	0.4–0.5
Aluminum	0.3–0.4
Copper	0.3–0.4

Each input is a digital input that activates when open or closed (set in the Configuration menu), it takes the power supply voltage (+ terminal) and switches it back into the AFA on the SW terminal.

On input 3, the additional terminal is a Ground (0V) in case a proximity switch is used that required a supply voltage. The following sketch shows how the inputs are loosely connected, there are other EMC components but it shows the logic:
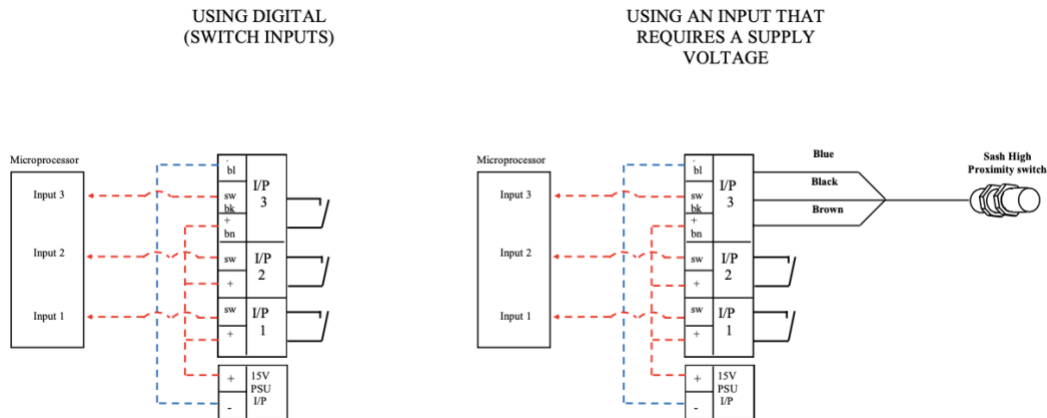
When using a sash proximity sensor, the main thing to check it is the correct configuration; there are two types and the output of either can be normally open or normally closed so there are four combinations of sensors on the market.

1. **PNP:** Use this type. It has 0V, & +V supply, and when it detects metal it switches the +V out to the monitor.
2. **NPN**: This type doesn't work. It also has 0V, & +V supply, but switches 0V out when it sees metal.
3. **Normally Open:** Output activates when metal is detected
4. **Normally Closed:** Output is active until metal is detected

The correct version is PNP, Normally Open. PNP, Normally closed can be used but the sash high input then has to be set to open contact on activation (default is normally open, close contact on activation).

Another consideration is the supply voltage. Most proximity sensors will operate over a decent voltage range, e.g. 10 to 30VDC. The supply from the monitor is 15VDC. If the proximity is a fixed voltage type then it needs to be 15VDC; 24VDC won't work.

Finally, each different proximity sensor detects different metals or limited metals at varying distances. The one TEL/HSE provides detects steel around 5mm and aluminum around 3mm.