DORCIA ENGINEERING

QUICK START GUIDE

Introduction

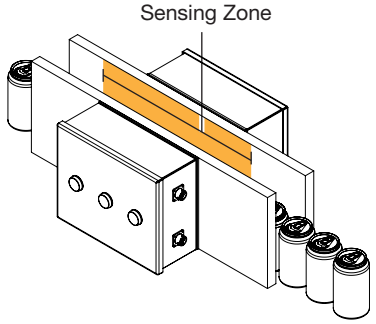
The Vent Tube Detection System (VTDS) uses patented state of the art technology to sense vent tube malfunctions that occur during the beverage filing process.

Principal of Operation

The standard Dorcia Engineering VTDS provides the filling machine owner / operator with both visual indication as well as a discrete 24 VDC output signal whenever a vent tube malfunction occurs. The system consists of two (2) Sensor Detection Assemblies (SDAs) which are mounted on opposite sides of the packaging conveyor (Figure 1). A local indicator light begins flashing and a 24 VDC signal is generated when a patented Dorcia Engineering Traceable Vent Tube passes through the sensing zone of the on-line SDAs.

A constant pulse electrical heart beat signal as well as locally mounted green indicator light inform the operator that the SDAs are functioning properly. The self-diagnostic software that's included with each system will illuminate the appropriate indicator lights (as shown in Table 1) should a vent tube pass through the sensing zone or a critical or non-critical system error occur.

Figure 1:



Installation Instructions

1. Please refer to the system dimensions (Figures 3 & 4) section of this document and note the "DO NOT DRILL" areas shown. If these areas are drilled into or modified in anyway, the SDA module will be damaged and the warranty of the system will be voided.
2. Refer to the system dimensions (Figure 3) and notice the areas marked for Mounting / Drilling.
3. Mount the SDA's directly opposite each other with the side rail surfaces facing each other as shown in Figure 1.
4. The SDA's are designed to replace existing side rails on the conveyor. Remove the existing side rails. Position each SDA allowing fewer than a 3.5 inch gap between each of the SDA sensing zones. Install each SDA by countersinking the bolts and mounting hardware (not included), to ensure a smooth surface (see Figure 2).
5. Connect the flying leads of each SDA cable to customer system or hardware as shown in Figure 4 (on page 2).
6. The discrete outputs are switched from th 24v power input via a solid state Form A relay. Output Current 1 amp max.
7. Connect the end of the cable with the pre-attached cord grip and interconnect to the appropriate user connection on the SDA's. Once power is connected to the unit the lights on the VTDs will flash briefly while the system initializes. A steady green light indicates that the system is ready for operation Please see the VTDS Installation and Operation Manual for further details.

Figure 2:

System Dimensions

Figure 3:

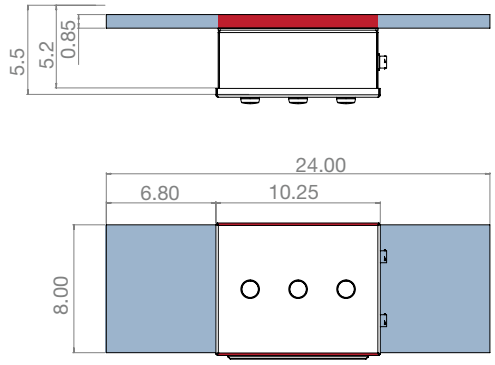
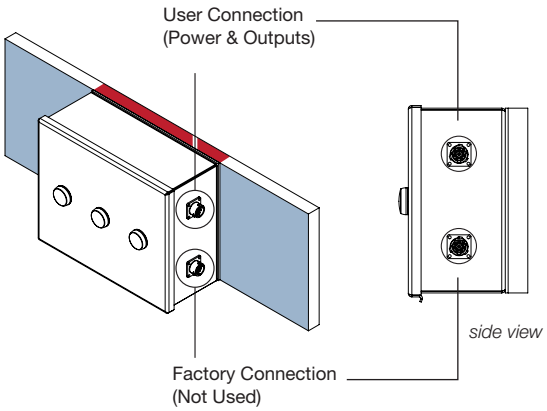


Figure 4:



Mounting Drill Area DO NOT DRILL Area

Standard System Contents
- Sensor Detection Assembly (SDA) Qty 2
- 25 ft. Multi-Conductor Cable Assembly Qty 2

Electrical

Guard against short- circuiting in external wiring.

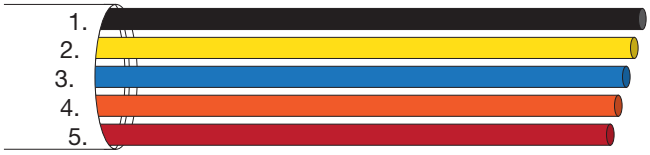
Use appropriate circuit protection devices.

Unused pins should not be connected.

Double check all wiring before turning on the power supply.

Do not connect either 'Neutral' or 'Line' of 110/220VAC to the SDA's zero voltage (0V) 24 VDC Power or to any of the other available pins.

Figure 4:

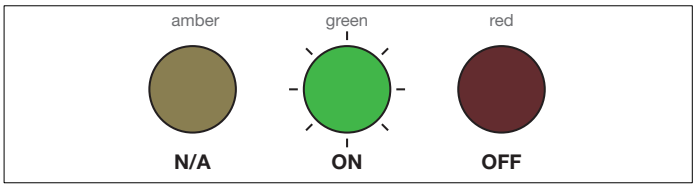


Wiring Color Description
1.Black = (+V) 24 VDC Power
2.Yellow = Zero voltage (0V) 24 VDC Power
3.Blue = Earth GND
4.Orange = Detection (24V Output)
5.Red = Heartbeat (24V Output)

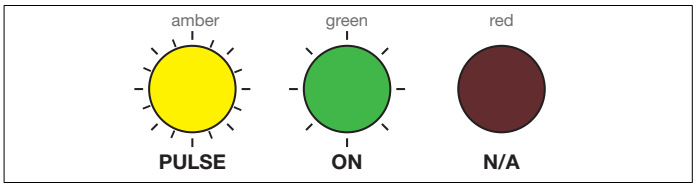
System Power Requirements

Input Voltage	24VDC
Permissible Range	18VDC to 30VDC with < 10% ripple
Max Current Consumption without Outputs	<300mA @ 24VDC 500MA
Reverse Polarity Protection	Yes
Overvoltage Protection	Yes

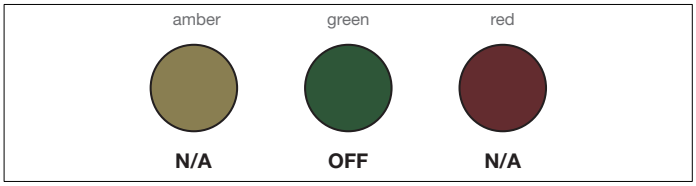
Operating & Display Functions / Troubleshooting



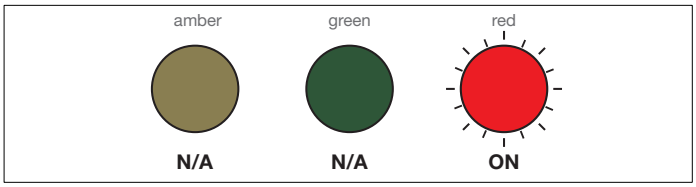
Unit is "ON" & Operational



Traceable Vent Tube Detected



Unit is "OFF"
1. No Power to Unit
2. Incorrect Power Connections to Unit
3. Overvoltage to Unit >30VDC
4. Undervoltage to Unit <18VDC



Unit is sensing an Error
Contact Dorcia Engineering on the 24/7 service line 630.632.0955

CAUTION

Install SDAs at a minimum distance of 3ft. from any known strong EMI, magnetic and / or static sources, i.e. VFDs, motors, solenoids, etc.

Specifications and informationherein are subject to change without notice.
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