VERSA**BUILT** ROBOTICS

VersaDoor Door Sensor Manual
for the VBX-160

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VersaDoor Sensor Overview

VersaDoor Design

VersaDoor is designed to be a simple, low-cost and easy to install door opener that can be adapted to a wide range of CNC machines. The VersaDoor uses common, low-cost pneumatic cylinders to actuate the door.

Optional Sensor Kit

The open or closed position of the door can be detected using the optional door sensor kit. VersaDoor air cylinders have magnetic pistons, thereby enabling the addition of sensors to detect piston position. Two proximity sensors indicate the fully open or closed door position.

VersaDoor Sensor Kit Components

Each VersaDoor Sensor Kit includes the following:

1. 2x sensors
   - PNP sourcing solid state switches
   - 5-30 VDC
   - Green Indicator Light
2. 2x cylinder sensor mount clamping bands
   - Strap wraps around air cylinder body
   - Strap connects like belt, with sensor secured with screw and nut
3. Cable to connect to Digital Inputs
   - M8 3-pin to 4-pin Y-Cable plus M8 4-pin cable (5-meters)
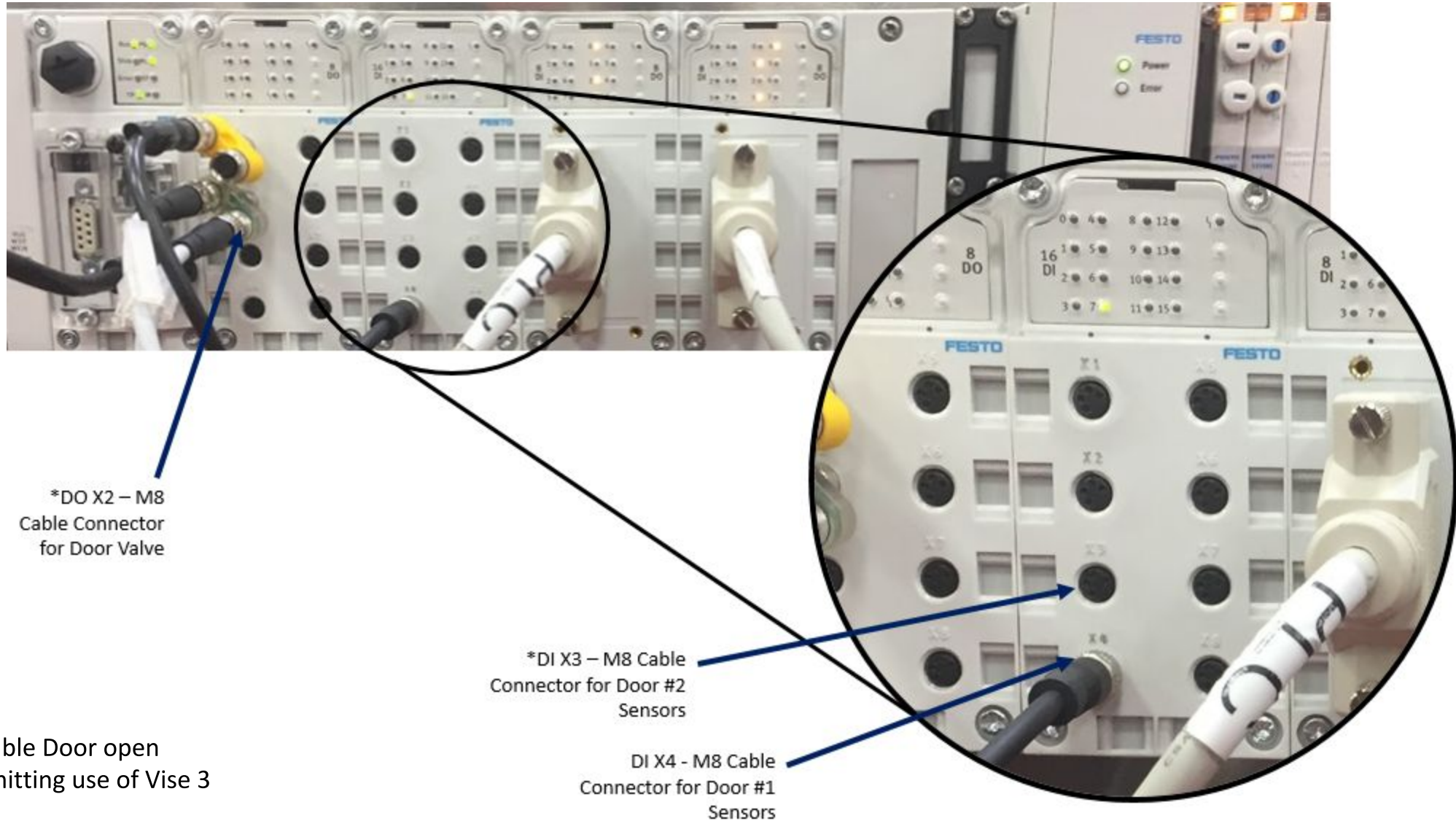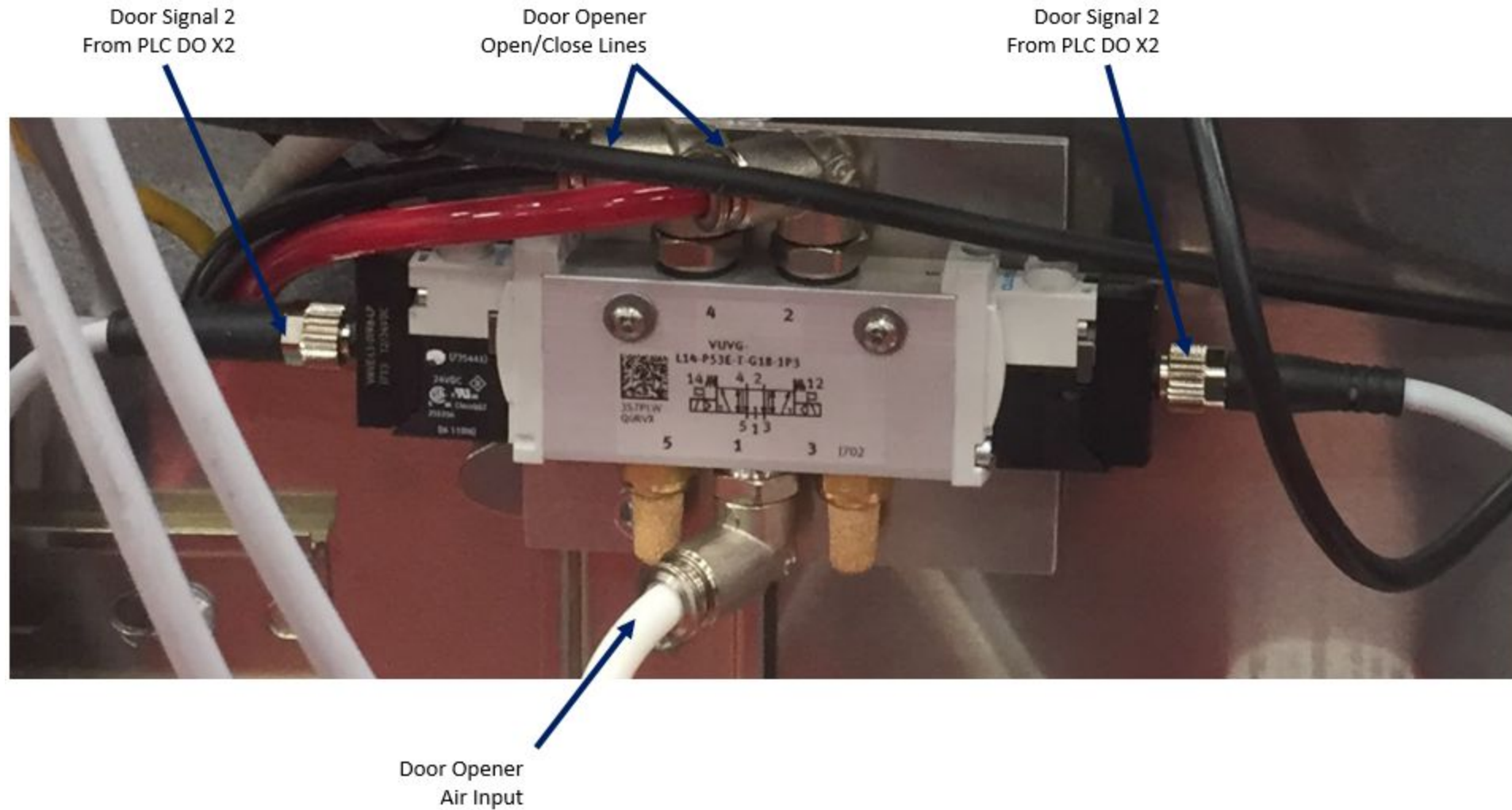   - M8 cable end for connecting to PLC I/O Panel (mounted with robot controller)

Electrical cable connections

- Single Door Openers:
  - Connect the M8 4-pin cable to the bottom Digital Input connection
- Double Door Openers:
  - Connect 2x M8 4-pin cables to the bottom 2 Digital Input connections, taking one of the reserved slots for Vise 3 sensors

*DO X2 – M8 Cable Connector for Door Valve

*DI X3 – M8 Cable Connector for Door #2 Sensors

DI X4 - M8 Cable Connector for Door #1 Sensors

*Note: Double Door open requires omitting use of Vise 3 sensors

VersaDoor Sensor - Electrical Connections

Door Signal 2
From PLC DO X2

Door Opener
Open/Close Lines

Door Signal 2
From PLC DO X2

Door Opener
Air Input

Required Tools and Supplies

Tools

- 7mm Wrench
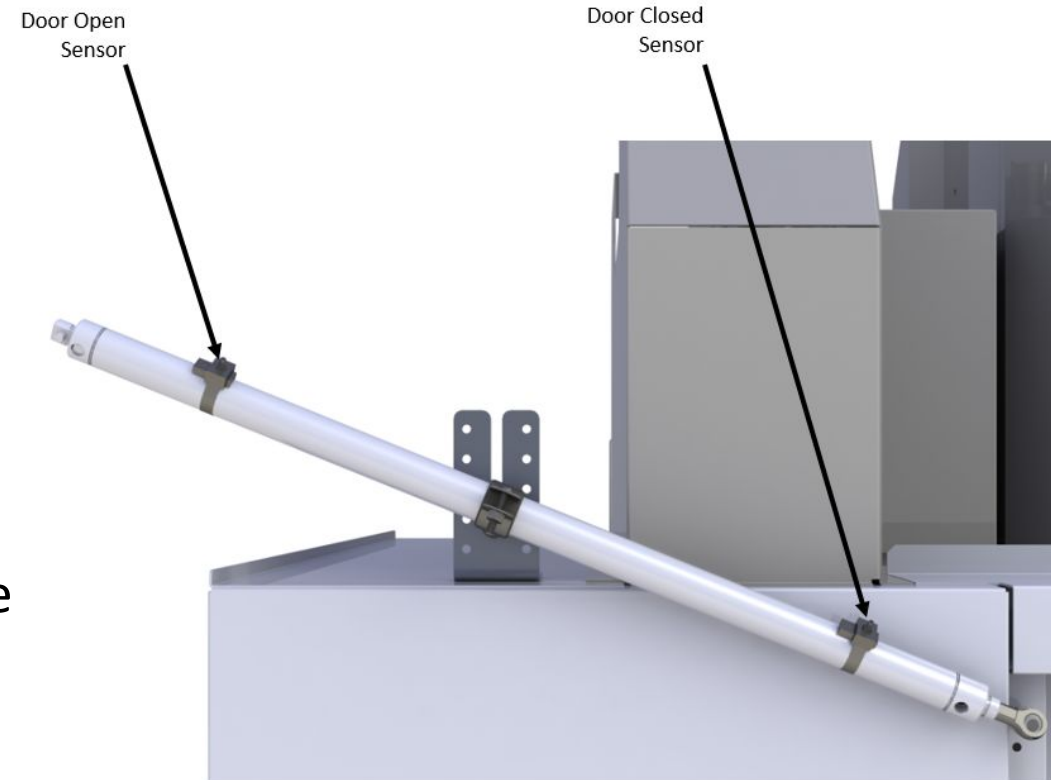- 2mm Hex Key

Supplies

- Zip-ties

VersaDoor Sensor Kit - Installation & Testing

After mounting VersaDoor to CNC:

1. Lightly secure sensors to air cylinder with clamping bands
2. Position 2 sensors at the ends of the cylinder, for detecting door open and door closed positions
3. With VersaDoor fully installed, open the CNC door, then adjust the Door Open Sensor until the Green LED is illuminated and secure the sensor in place
4. Close the CNC door, then adjust the Door Closed Sensor until the Green LED is illuminated and secure the sensor in place
5. Test multiple open/close cycles to make certain the sensors are secure and illuminating at open and close

Door Open Sensor

Door Closed Sensor

VersaDoor Sensor Kit

For further information or questions, please visit www.versabuilt.com or contact us at

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