

# Rhino<sup>®</sup> SD2/XD2 DeviceNet I/O Modules

## Description

See Figure 1. The DeviceNet I/O module connects to the electrical components on a Rhino<sup>®</sup> SD2/XD2 bulk unloader through 12-mm micro connector interface cables (3). The DeviceNet station (1) has eight discrete inputs and outputs. The inputs are bus-powered and the outputs are auxiliary-powered. Refer to the *Inputs and Outputs* section for a description of each input and output.

Each I/O channel Status LED (7) indicates the following:

- Off = Off
- Green = On
- Red = Short Circuit

The DeviceNet station Module Status LED (5) indicates the following:

- Green = Working Properly
- Red = Short Circuit

The DeviceNet station has bus line (4) and auxiliary power (2) connectors for connecting the Nordson controller DeviceNet cables.

The node address can be set by opening the cover (6) to adjust the rotary switches. Refer to the system documentation for the proper node settings.

Three DeviceNet modules are available:

- **Type-D:** For bulk unloaders that use ISO-style pneumatic control valve bases; Interface cables have straight connectors; Includes interface cables for low and empty drum level sensors
- **Type-G:** For bulk unloaders that use ISO-style pneumatic control valve bases; Interface cables have straight connectors; Includes interface cable for empty drum level sensor
- **Type-F:** For bulk unloaders that use automotive-style pneumatic control valve bases; Air solenoid valve interface cables have 90-degree connectors; Remaining cables have straight-end connectors; Includes interface cables for low and empty drum level sensors

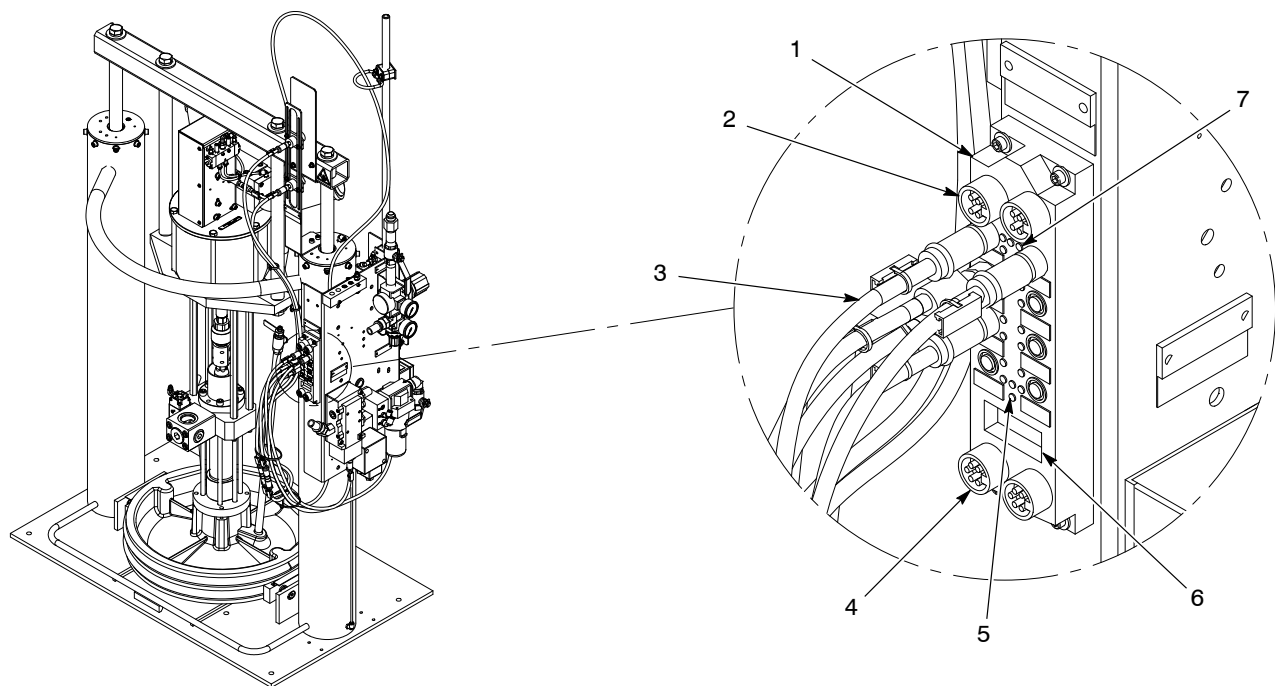


Figure 1 Typical Rhino SD2/XD2 DeviceNet Module

## Inputs and Outputs

Refer to Table 1 for a description of each input and output.

Refer to the applicable module document for more information.

Table 1 DeviceNet Inputs/Outputs

| Input                                  | Description                                                                                                                                                        |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material Purge Push Button             | When pressed, enables inactive air motor on a crossover unloader system to be cycled for a container change or material purge                                      |
| Container Level Empty Proximity Sensor | Sends a signal to system controller to disable air motor when follower plate reaches bottom of material container                                                  |
| Container Level Low Proximity Sensor   | Sends a signal to system controller when follower plate reaches a predetermined low level in material container                                                    |
| Pump Stroke Proximity Switch*          | Monitors pump strokes, cycles, and runaway conditions                                                                                                              |
| Air Pressure Switch*                   | Indicates supply air is flowing to air motor and pump is active                                                                                                    |
| Material Filter Switch*                | Indicates filter back pressure is too high and filter element needs replaced                                                                                       |
| Output                                 | Description                                                                                                                                                        |
| Air Motor Control Valve                | Controls supply air to air motor                                                                                                                                   |
| Light Tower*                           | Activates when a fault occurs                                                                                                                                      |
| Depressurization Air Solenoid Valve*   | Activates depressurization valve on the bulk unloader; vents pump output pressure and system header pressure through follower plate and back to material container |
| *: Optional equipment                  |                                                                                                                                                                    |

## Label Locations

See Figures 2, 3, and 4 for the DeviceNet label location.

## Type-D DeviceNet Module Cable Labels

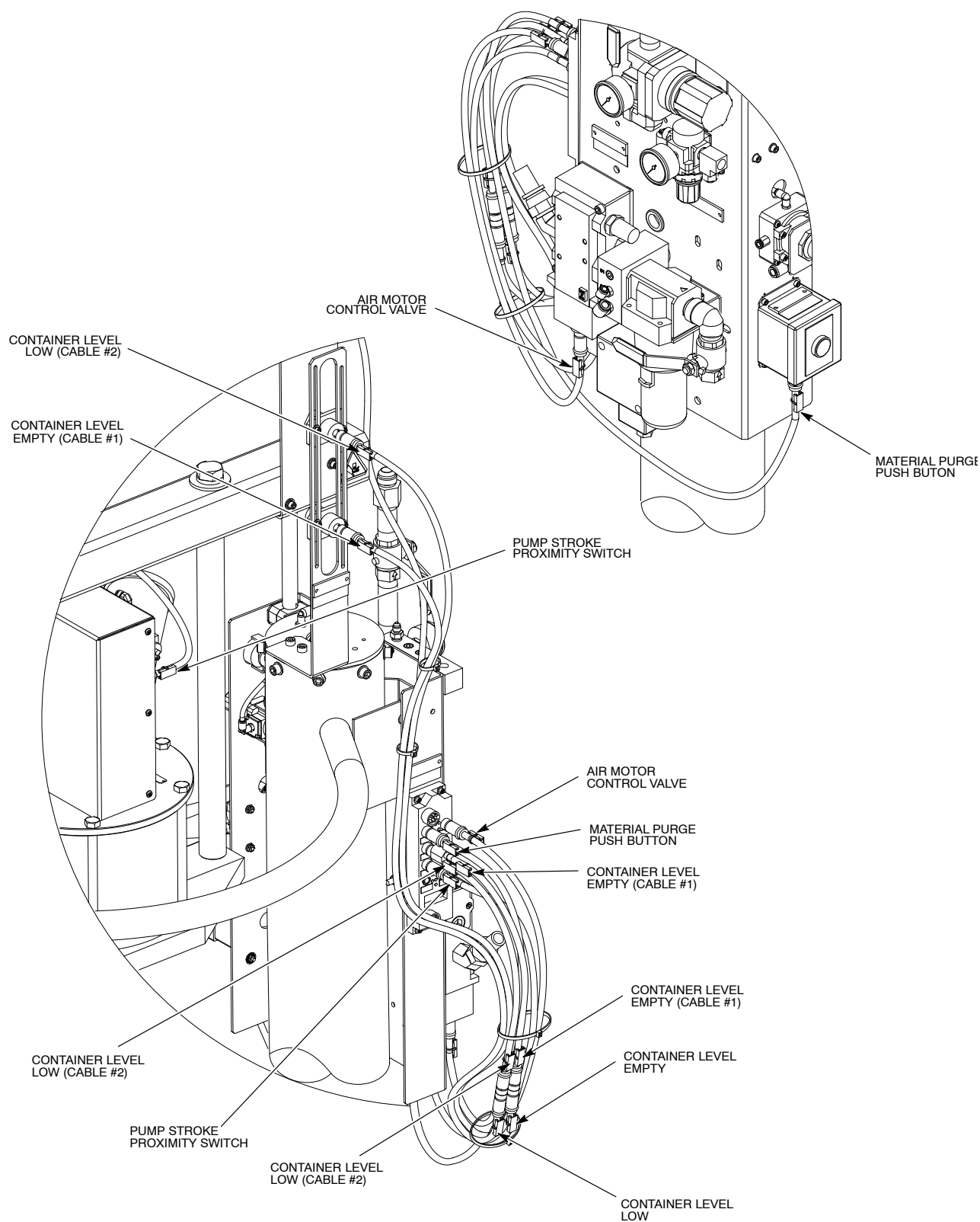


Figure 2 Type-D DeviceNet Module Cable Labels

## Type-F DeviceNet Module Cable Labels

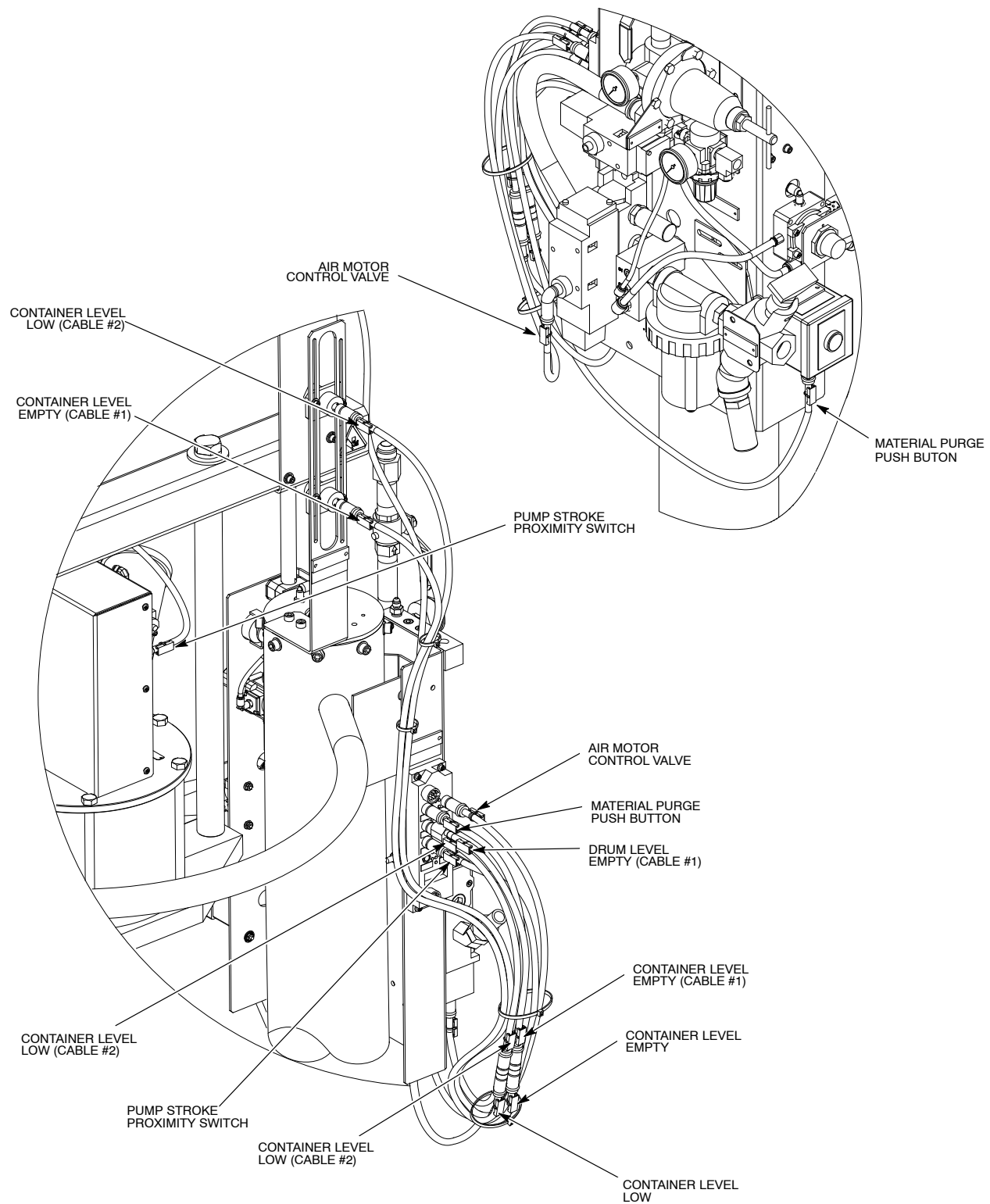


Figure 3 Type-F DeviceNet Module Cable Labels

## Type-G DeviceNet Module Cable Labels

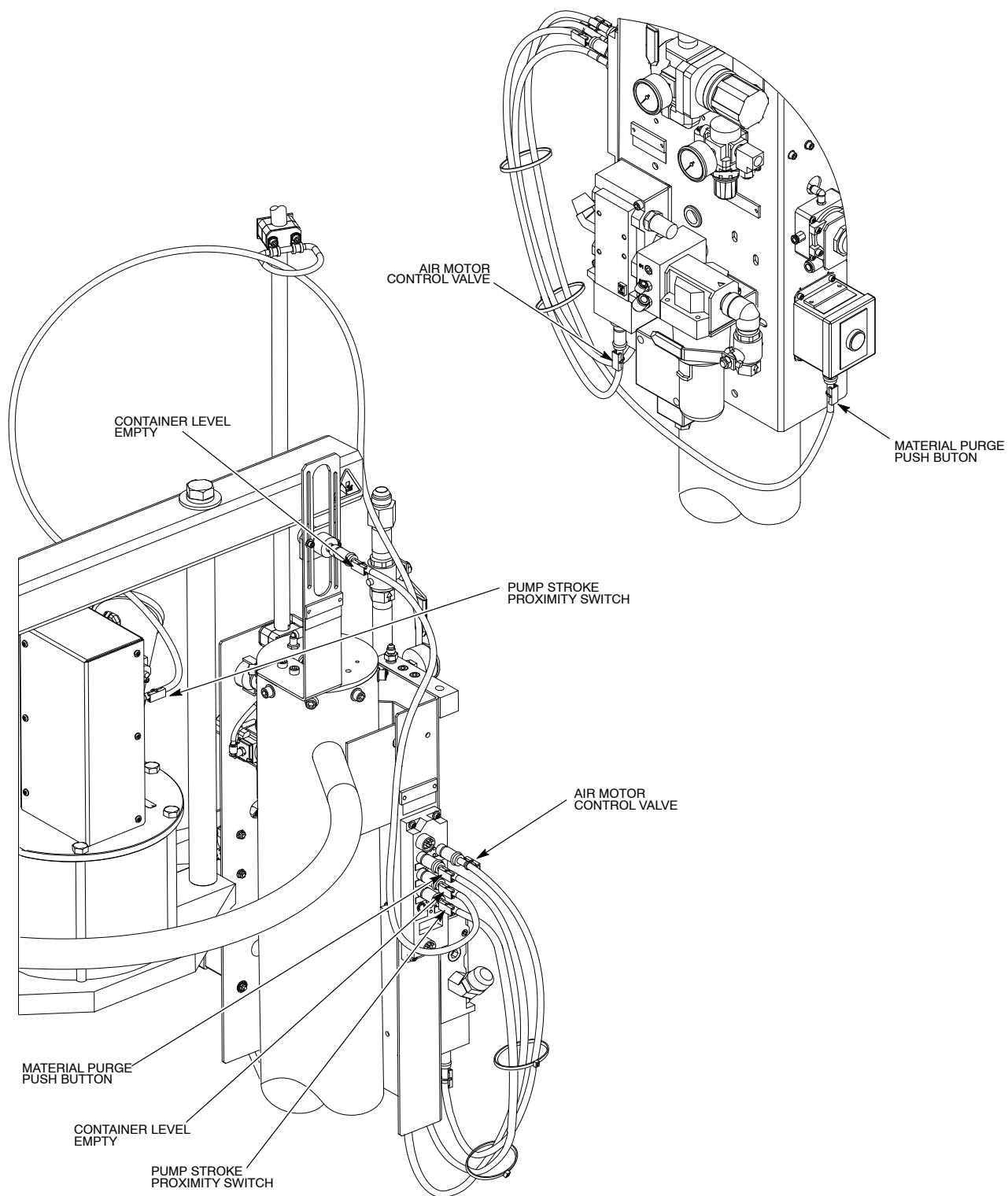


Figure 4 Type-G DeviceNet Module Cable Labels

DeviceNet Station

See Figure 5.

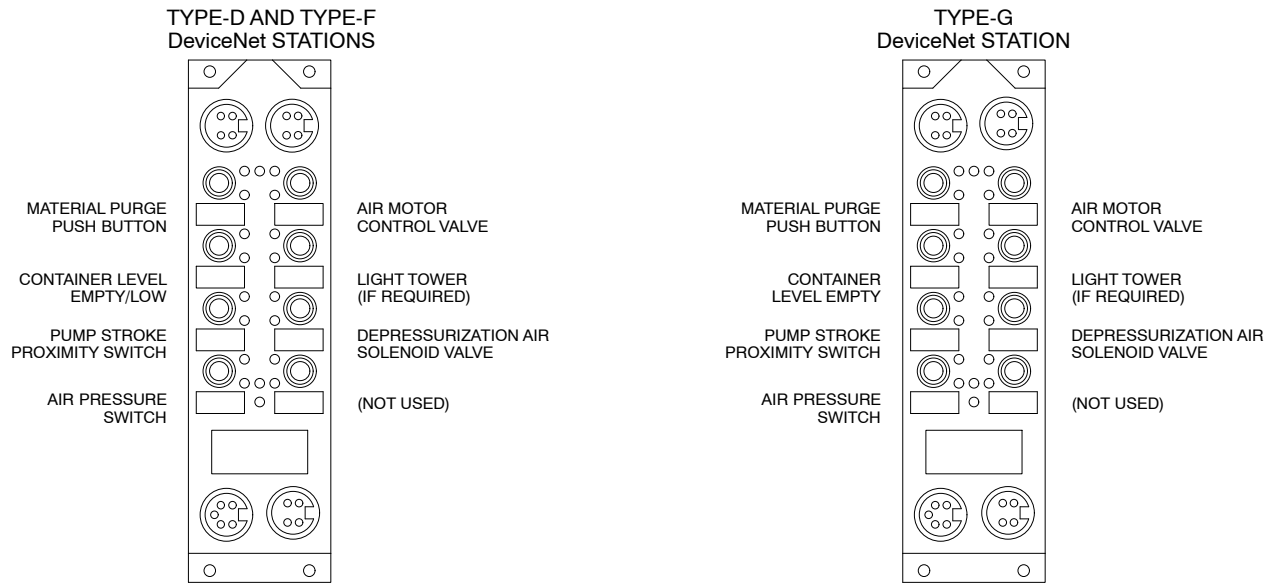


Figure 5 DeviceNet Station Labels

Parts

To order parts, contact Nordson customer support at (800) 433-9319 or contact a local Nordson representative.

## Type-D DeviceNet Module

See Figure 6 and refer to the following parts list.

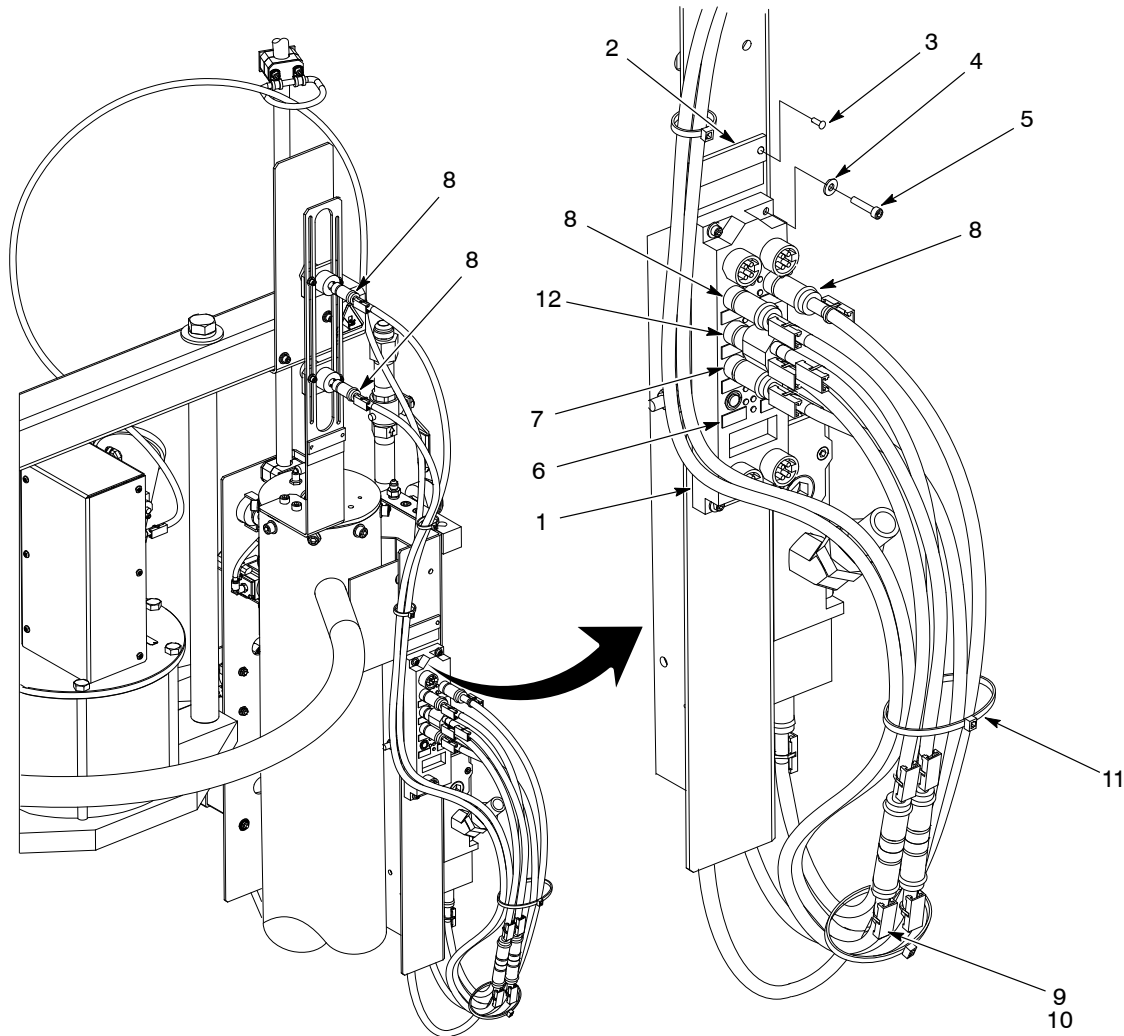


Figure 6 Type-D DeviceNet Module Parts

| Item | Part    | Description                                | Quantity | Note |
|------|---------|--------------------------------------------|----------|------|
| —    | 1071336 | MODULE, DeviceNet, empty/low, ISO valves   | 1        |      |
| 1    | 1611995 | • MODULE, I/O, 4 x 2, input DC 7 output DC | 1        |      |
| 2    | -----   | • PLATE, DeviceNet I/O module              | 1        |      |
| 3    | -----   | • SCREW, drive, 4 x 0.312                  | 2        |      |
| 4    | -----   | • WASHER, flat, 0.188 x 0.375 x 0.40       | 4        |      |
| 5    | -----   | • SCREW, socket, 8-32 x 0.75               | 4        |      |
| 6    | -----   | • KIT, label, module, DeviceNet            | 1        | A    |
| 7    | 1045884 | • CABLE, 4-pin, MICRO DC, 18 AWG, 4 m      | 1        |      |
| 8    | 1046023 | • CABLE ASSEMBLY, 4-conductor, 1 m, 18 AWG | 4        |      |
| 9    | -----   | • KIT, label, cable, DeviceNet             | 1        | A    |
| 10   | 939110  | • STRAP, cable, 0.875 diameter             | 14       |      |
| 11   | 324289  | • STRAP, cable, 0.06-4                     | 4        |      |
| 12   | 1045886 | • CABLE, Y, 4-pin, MICRO DC, 18 AWG, 0.3 m | 1        |      |

NOTE A: Refer to the *Label Locations* section on page 2 for location of labels.

## Type-F DeviceNet Module

See Figure 7 and the following parts list.

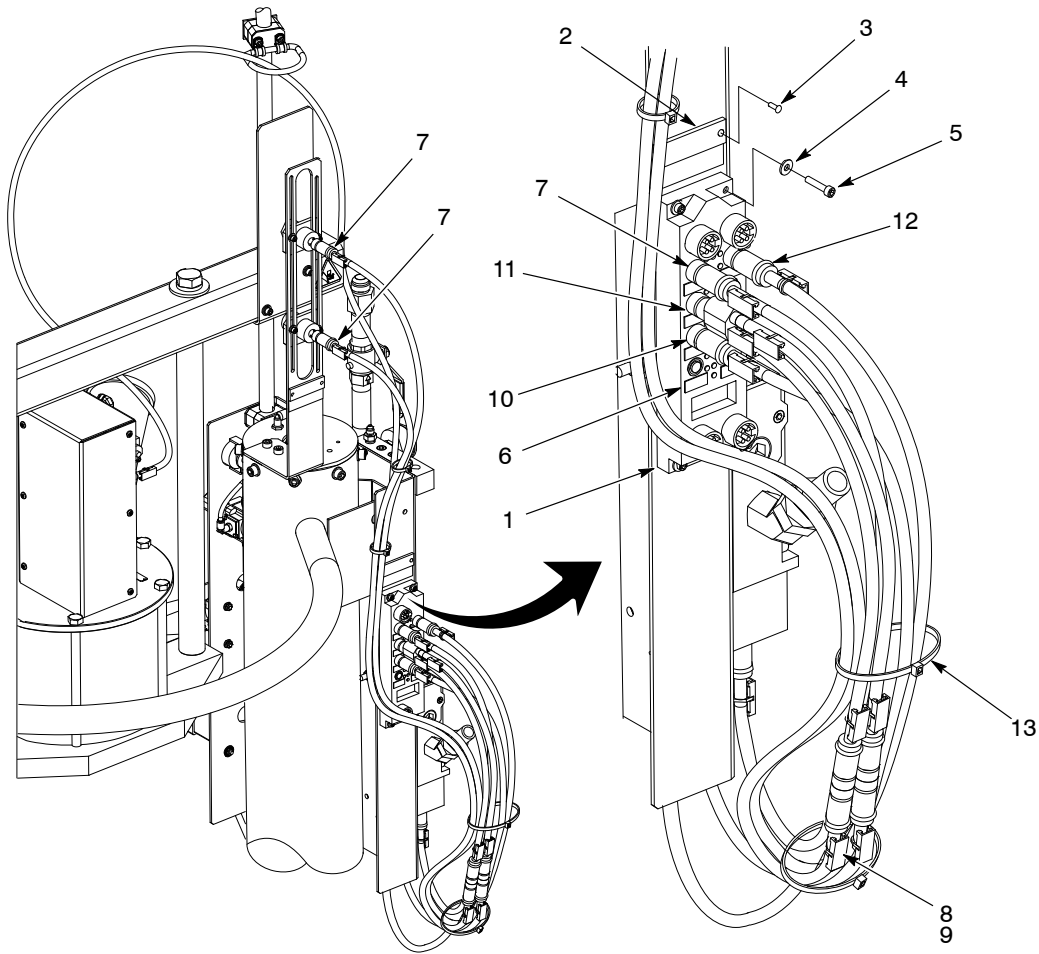


Figure 7 Type-F DeviceNet Module Parts

| Item | Part    | Description                                      | Quantity | Note |
|------|---------|--------------------------------------------------|----------|------|
| —    | -----   | MODULE, DeviceNet, empty/low, automotive valves  | 1        |      |
| 1    | 1611995 | • MODULE, I/O, 4 x 2, input DC 7 output DC       | 1        |      |
| 2    | -----   | • PLATE, DeviceNet I/O module                    | 1        |      |
| 3    | -----   | • SCREW, drive, 4 x 0.312                        | 2        |      |
| 4    | -----   | • WASHER, flat, 0.188 x 0.375 x 0.40             | 4        |      |
| 5    | -----   | • SCREW, socket, 8-32 x 0.75                     | 4        |      |
| 6    | -----   | • KIT, label, module, DeviceNet                  | 1        | A    |
| 7    | 1046023 | • CABLE ASSEMBLY, 4-conductor, 1 m, 18 AWG       | 3        |      |
| 8    | -----   | • KIT, label, cable, DeviceNet                   | 1        | A    |
| 9    | 939110  | • STRAP, cable, 0.875 diameter                   | 14       |      |
| 10   | 1045884 | • CABLE, 4-pin, micro DC, 18 AWG, 4 m            | 1        |      |
| 11   | 1045886 | • CABLE, Y, 4-pin, micro DC, 18 AWG, 0.3 m       | 1        |      |
| 12   | 1045885 | • CABLE, 90 degree, 4-pin, micro DC, 18 AWG, 1 m | 1        |      |
| 13   | 324289  | • STRAP, cable, 0.06–4                           | 4        |      |

NOTE A: Refer to the *Label Locations* section for location of labels.

## Type-G DeviceNet Module

See Figure 8 and refer to the following parts list.

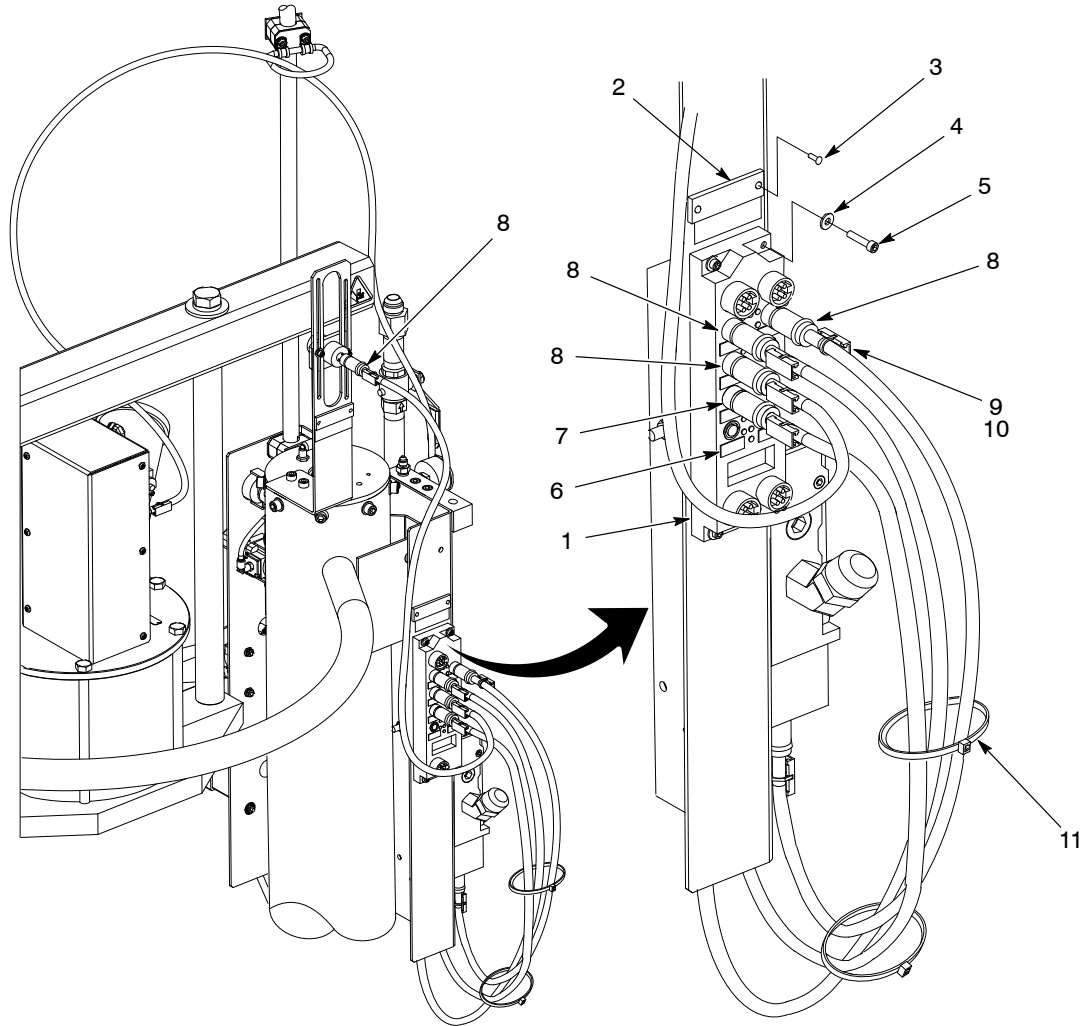
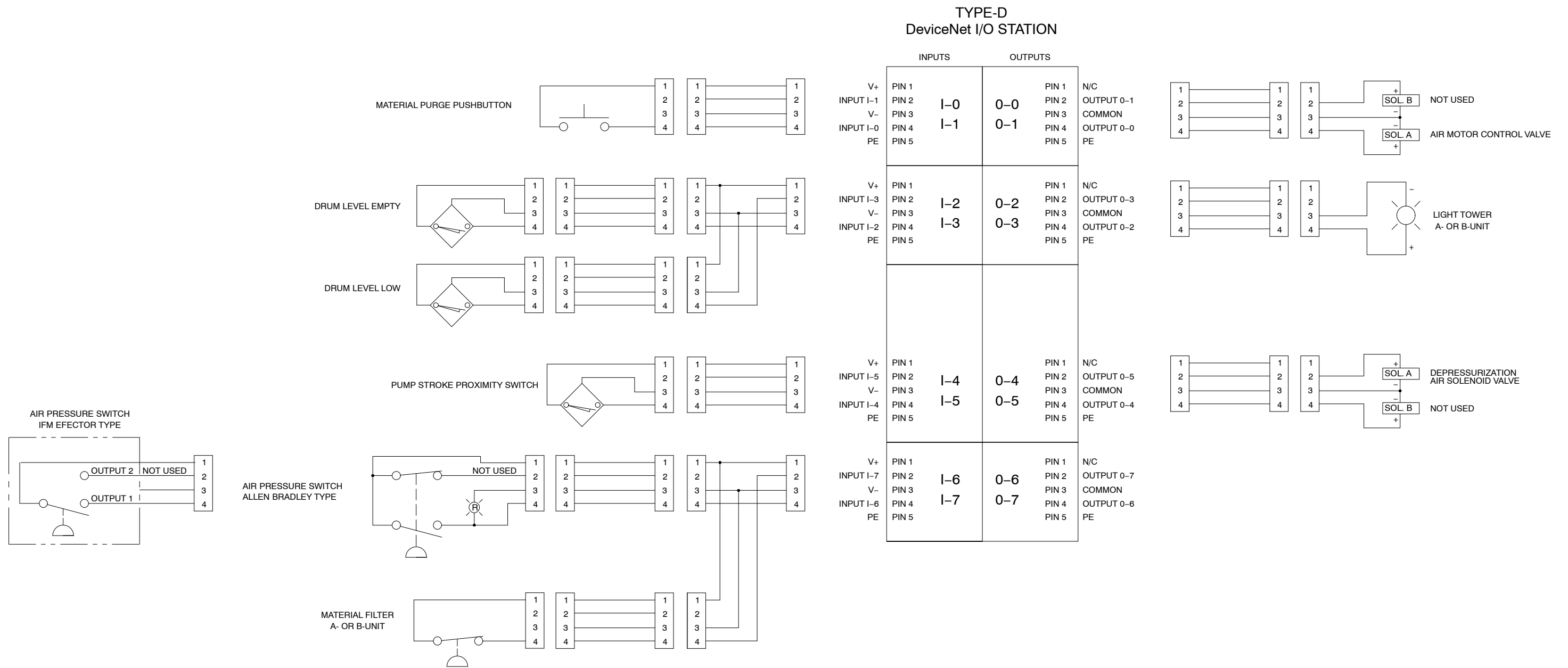


Figure 8 Type-G DeviceNet Module Parts

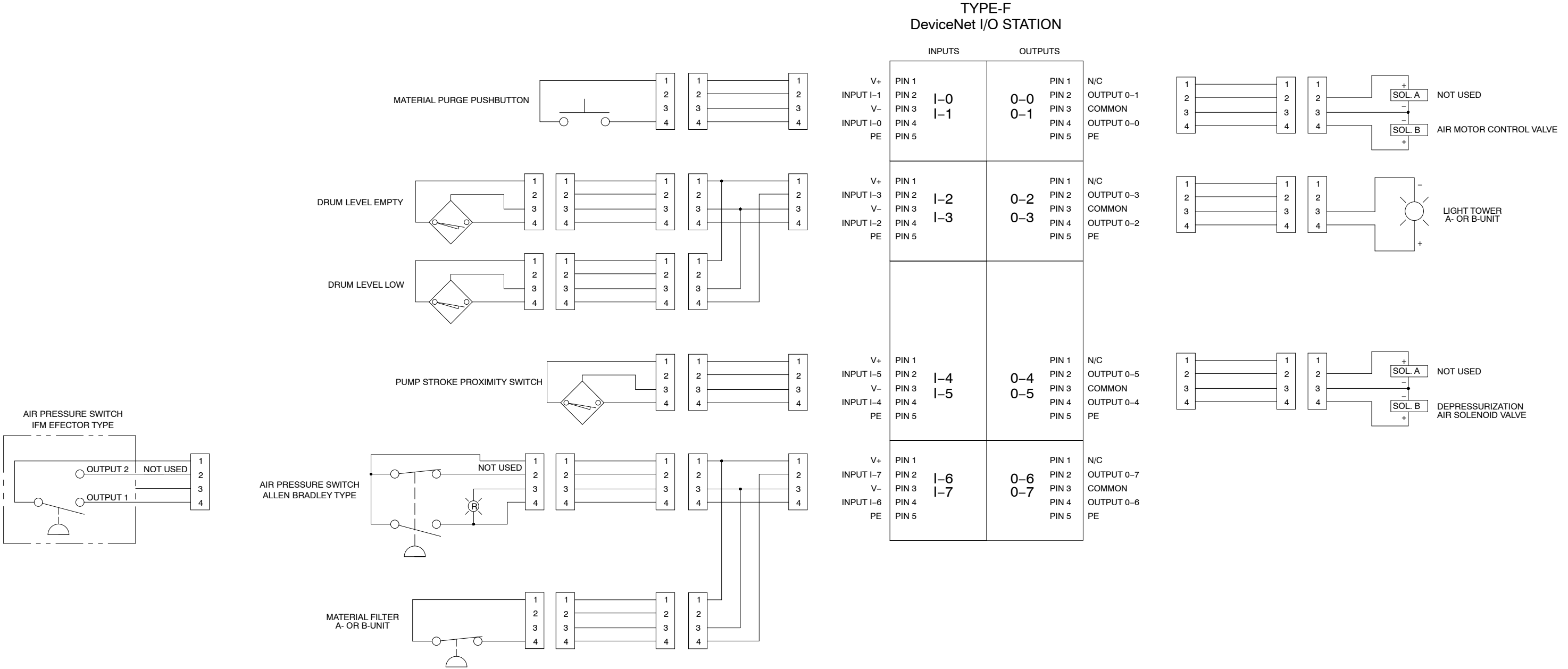
| Item                                                                        | Part    | Description                                 | Quantity | Note |
|-----------------------------------------------------------------------------|---------|---------------------------------------------|----------|------|
| —                                                                           | -----   | MODULE, DeviceNet, empty, ISO valves        | 1        |      |
| 1                                                                           | 1611995 | • MODULE, I/O, 4 x 2, input DC 7 output DC  | 1        |      |
| 2                                                                           | -----   | • PLATE, DeviceNet I/O module               | 1        |      |
| 3                                                                           | -----   | • SCREW, drive, 4 x 0.312                   | 2        |      |
| 4                                                                           | 983010  | • WASHER, flat, 0.188 x 0.375 x 0.40        | 4        |      |
| 5                                                                           | 981056  | • SCREW, socket, 8-32 x 0.75                | 4        |      |
| 6                                                                           | -----   | • KIT, label, module, DeviceNet             | 1        | A    |
| 7                                                                           | 1045884 | • CABLE, 4-pin, micro DC, 18 AWG, 4 m       | 1        |      |
| 8                                                                           | 1046023 | • CABLE, assembly, 4-conductor, 1 m, 18 AWG | 3        |      |
| 9                                                                           | -----   | • KIT, label, cable, DeviceNet              | 1        | A    |
| 10                                                                          | 939110  | • STRAP, cable, 0.875 diameter              | 14       |      |
| 11                                                                          | 324289  | • STRAP, cable, 0.06–4                      | 4        |      |
| NOTE A: Refer to the <i>Label Locations</i> section for location of labels. |         |                                             |          |      |

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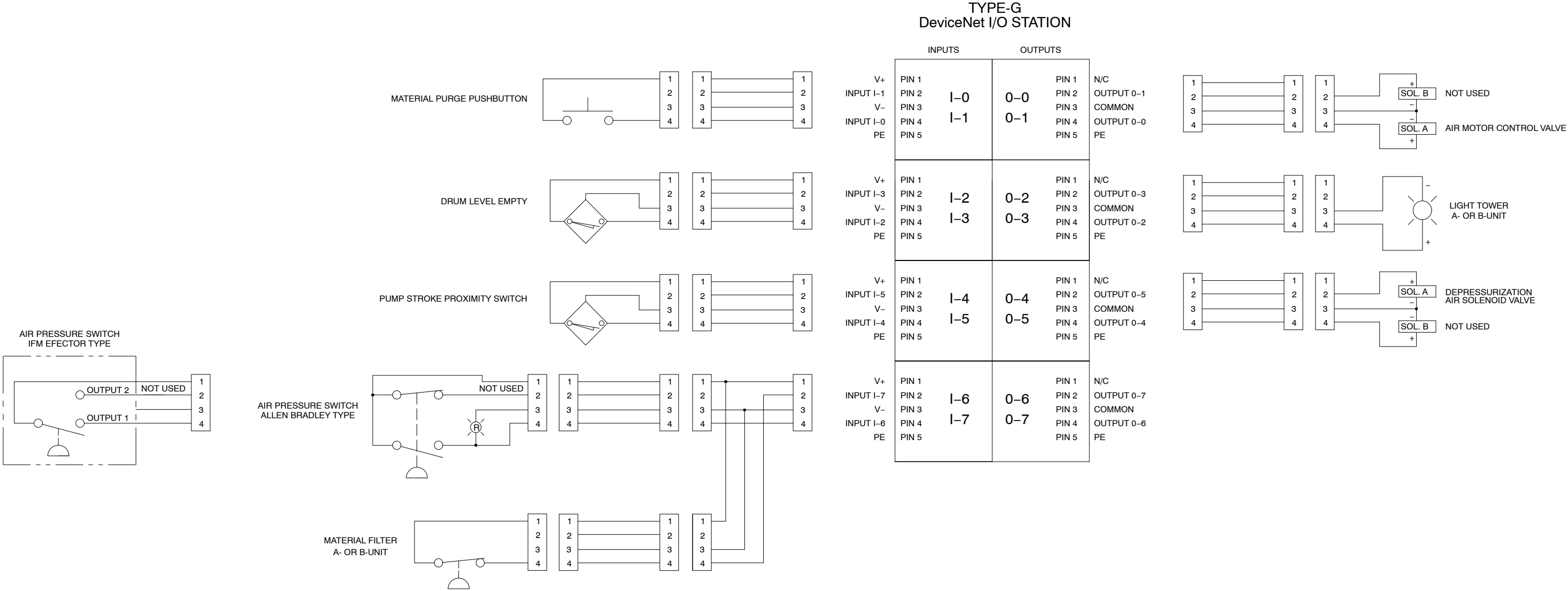
Schematics



Rhino SD2/XD2 Type-D DeviceNet I/O Module Schematic



Rhino SD2/XD2 Type-F DeviceNet I/O Module Schematic



Rhino SD2/XD2 Type-G DeviceNet I/O Module Schematic

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