

Sure Coat[®] Application Controller Installation

Introduction

This instruction sheet explains the procedures necessary to install a Sure Coat application controller onto an existing Sure Coat modular gun control system. Refer to the *Configuration* section of Part G of the *Sure Coat Modular Gun Control System* manual for setup and programming information for the application controller.

Mounting



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.



WARNING: Risk of electric shock. Disconnect and lockout input power to equipment before servicing. Failure to observe this warning may result in personal injury or death.

1. Remove the six plastic caps from the top of the central control unit.
2. Set the application controller on top of the central control unit.
3. Remove the application controller front panel.
4. Install three of the supplied screws into the three holes in the inside front of the application controller.

NOTE: Before installing the front panel, make sure that the ground wire is connected to both the cabinet and front panel.

5. Install the front panel using the screws.
6. Remove the application controller rear panel.
7. Install the remaining three supplied screws into the three holes in the inside rear of the application controller.

NOTE: Before installing the rear panel, make sure that the ground wire is connected to both the cabinet and rear panel.

8. Install the rear panel.

Input Power Wiring

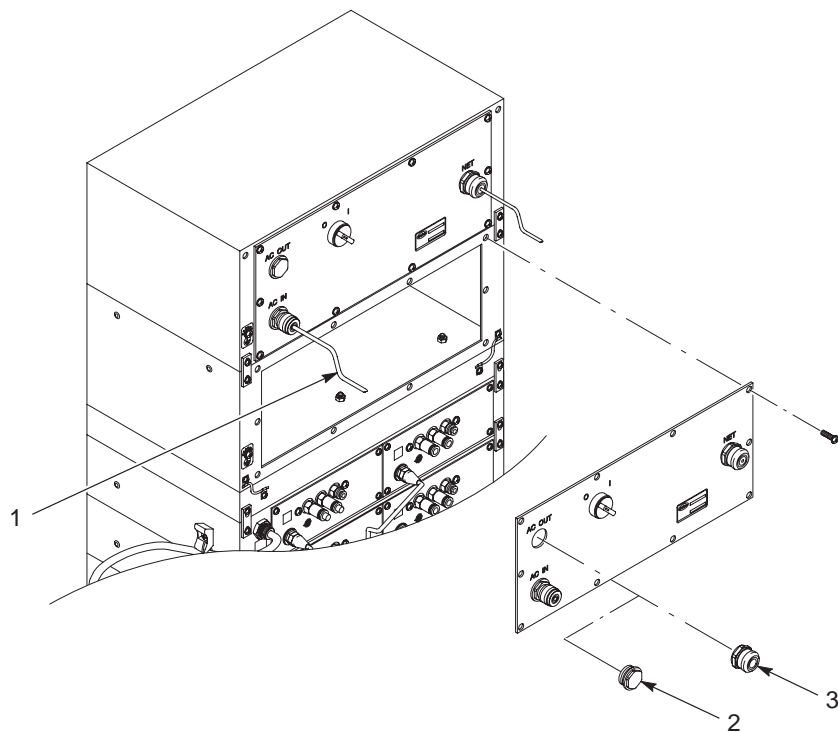
1. See Figure 1. Remove the central control unit rear panel.
2. Remove the AC OUT plug in the central control unit rear panel.

NOTE: Carefully remove the rear panel ground wire from the central control unit's chassis ground.

3. Install the supplied strain relief (3) in the AC OUT knockout.
4. Route the loose end of the application controller power cable (1) through the central control unit's AC OUT strain relief.
5. See Figure 2. Connect the power cable wiring to the central control unit's power terminal block.

NOTE: Before installing the rear panel, connect the ground wire to the central control unit's chassis ground.

6. See Figure 1. Install the central control unit rear panel.
7. Tighten the central control unit's AC OUT strain relief.



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Figure 1 Input Power Wiring

1. Power cable

2. Strain relief

3. Plug

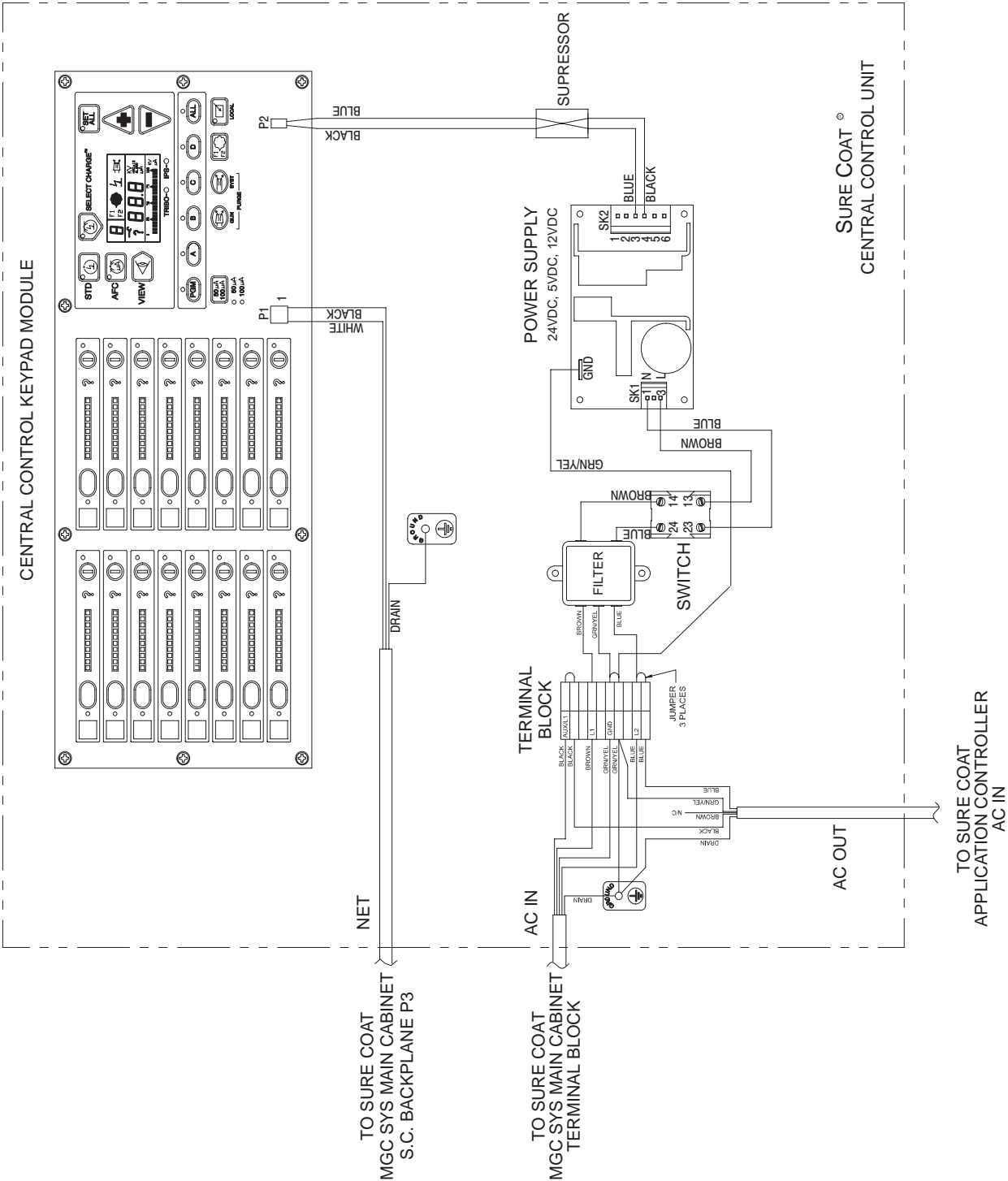


Figure 2 Central Control Unit Wiring Diagram

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Communications Wiring

Use the following procedure to connect the supplied cables to the application controller, UCS DeviceNet interface card, photo eye junction box (PEJB), and photo eyes.

NOTE: Two interface cables are included with the application controller. The first is factory-connected to the application controller, and will be routed to the UCS DeviceNet interface card. The second is shipped loose, and connects the UCS DeviceNet interface card to the PEJB.

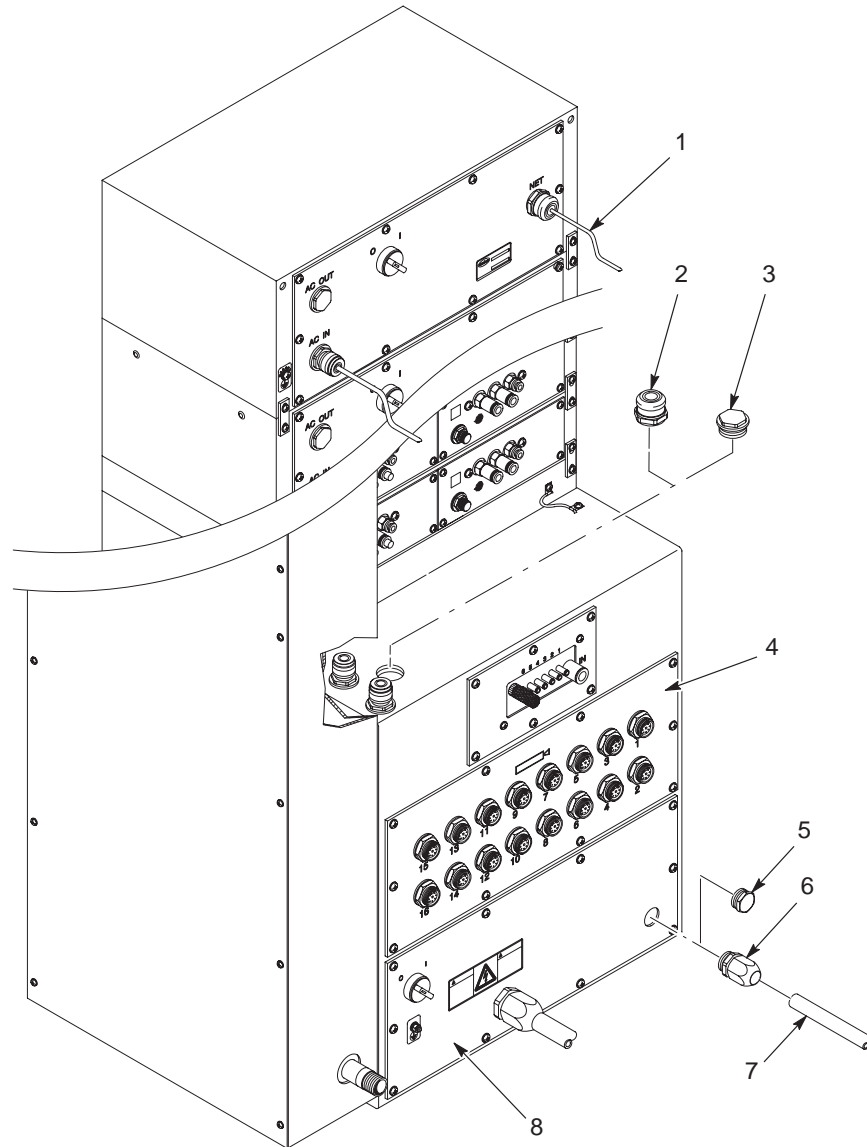
Application Controller to Interface Card

Use the following procedure to connect the application controller's interface cable to the UCS DeviceNet interface card.

Routing the Interface Cable

1. See [Figure 3](#). Remove the gun receptacle panel (4).
2. Remove the plug (3) from the top of the main control cabinet.
3. Install the supplied DeviceNet strain relief (2) into the main control cabinet knockout.
4. Route the end of the DeviceNet interface cable (1) through the main control cabinet knockout and through the main control cabinet subpanel.

NOTE: There are two grommeted holes in the main control cabinet subpanel. Route the interface cable through the one on the right.



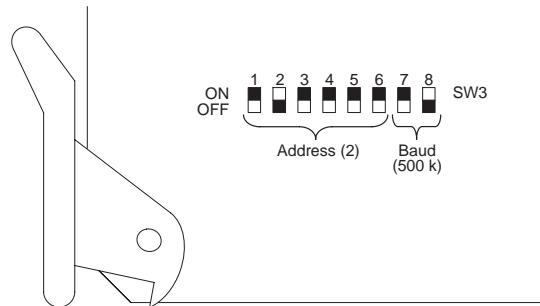
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Figure 3 Application Controller Communications

- | | | |
|----------------------------------|-------------------------|---------------------|
| 1. DeviceNet interface cable | 4. Gun receptacle panel | 7. Flexible conduit |
| 2. DeviceNet cable strain relief | 5. Plug | 8. Main I/O panel |
| 3. Plug | 6. Strain relief | |

Installing the UCS DeviceNet Interface Card

1. Remove the UCS DeviceNet interface card from its packaging. Handle the card by its edges, avoiding contact with the components on the card.
2. See Figure 4. Check the address setting switches on the interface card for proper selection.



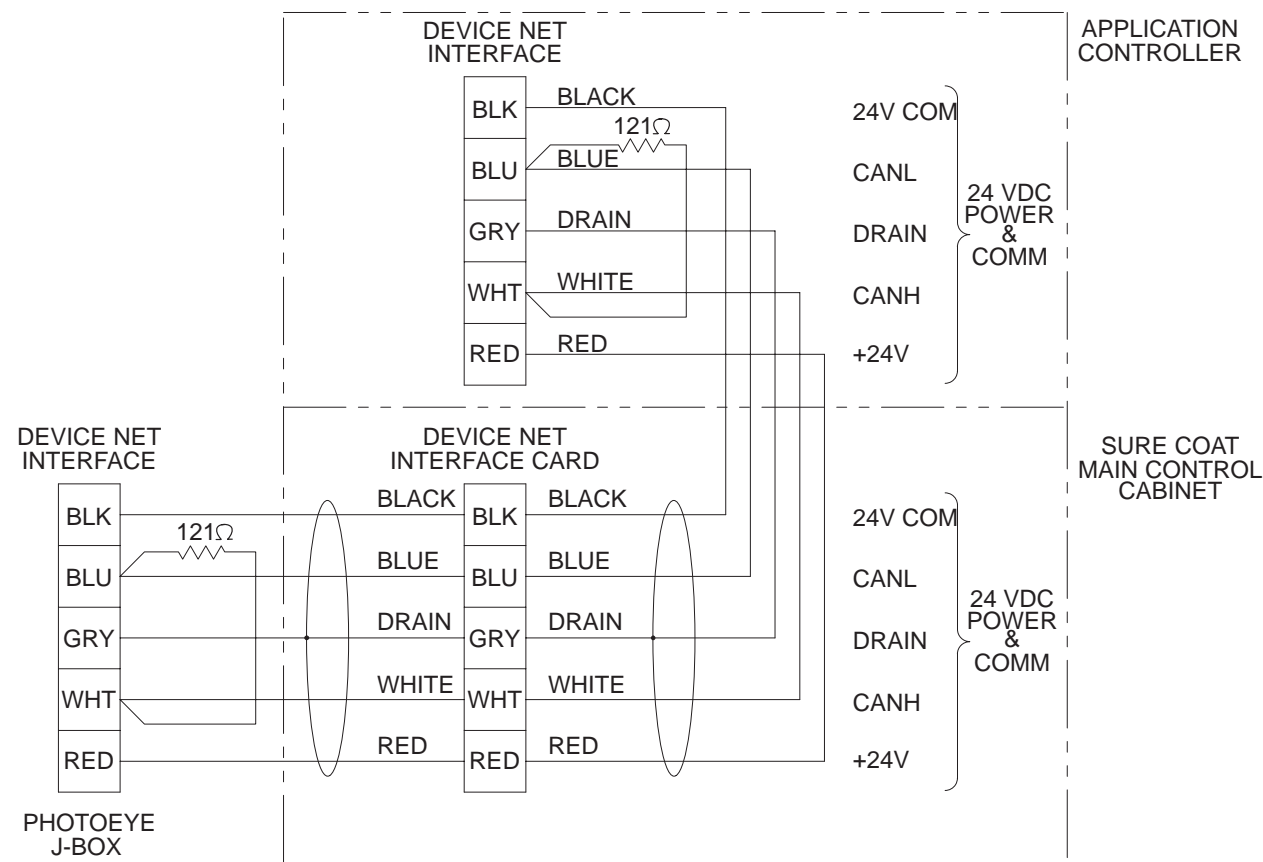
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Figure 4 SW3 Settings

NOTE: If another interface card is installed in slot 9, remove the card and disconnect the card's solenoid wires.

3. Install the UCS DeviceNet interface card into slot 9 of the card rack.
4. See [Figure 5](#). Connect the interface cable to the card. Refer to the *Installation* section in Part C of the *Sure Coat Modular Gun Control System* manual for instructions.
5. Tighten the strain relief on the top of the main control cabinet.
6. Coil any unused interface cable and place it in the main pneumatic cabinet.
7. Install the gun receptacle panel.

DeviceNet Interface Schematic



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Figure 5 DeviceNet Interface Schematic

Interface Card to PEJB

Routing the Interface Cable

1. See [Figure 3](#). Remove the main I/O panel (8).
2. Remove the plug (5) at the back of the main I/O panel and replace it with the supplied strain relief (6).

NOTE: The ground wire is attached to the interface cable.

3. Route the interface cable and ground wire through the main I/O panel strain relief and through the main control cabinet subpanel.
4. See [Figure 5](#). Connect the interface cable wires to the corresponding terminals on the UCS DeviceNet interface card.
5. Install the supplied ring-tong terminals onto the ends of the supplied ground wire.
6. Connect one end of the ground wire to the ground stud on the inside of the main control cabinet.

NOTE: The ground stud is located on the inside left wall.

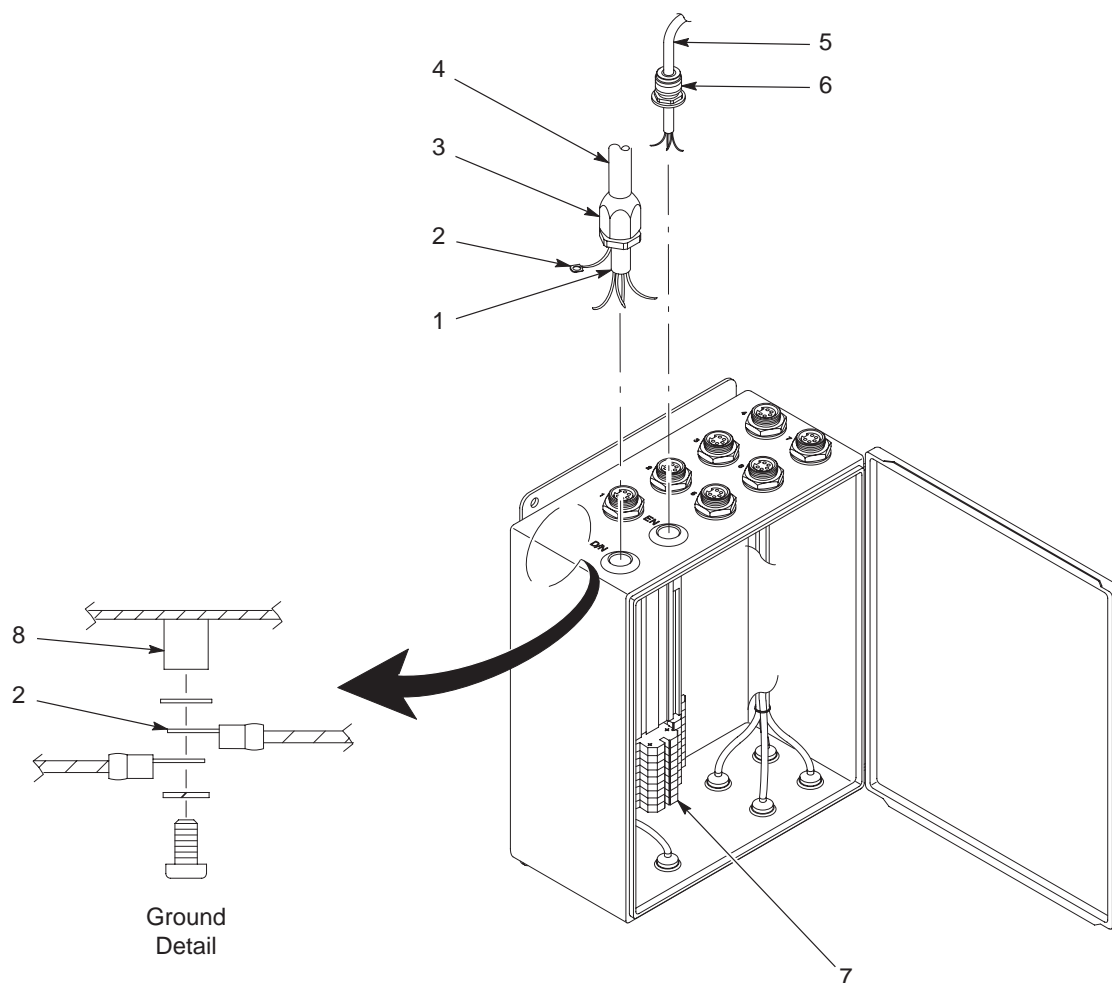
7. See [Figure 3](#). Route the interface cable and ground wire through the supplied flexible conduit (7).
8. Install the end of the flexible conduit into the main I/O panel strain relief. Tighten the strain relief.
9. Install the main I/O panel.

Connecting the PEJB

1. See [Figure 6](#). Mount the PEJB to the booth base or other appropriate location.
2. Install the strain relief (3) into the D/N knockout.
3. Route the interface cable (1), ground wire (2), and flexible conduit (4) through the strain relief.
4. Tighten the strain relief.
5. Connect the ground wire to the ground standoff (8) on the top of the PEJB cabinet.

NOTE: There are already red and black wires and a resistor in several of the terminals. Install the appropriate interface cable wires in addition to the wires that are already in these terminals.

6. See [Figure 7](#). Connect the interface cable wiring to the input module and terminal block.
7. Verify the settings of the address and baud switches on the DeviceNet module. Change the settings as needed.



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Figure 6 Photo Eye Junction Box Installation

- | | | |
|------------------------------|--------------------------|--------------------|
| 1. DeviceNet interface cable | 4. Flexible conduit | 7. Input module |
| 2. Ground wire | 5. Encoder cable | 8. Ground standoff |
| 3. DeviceNet strain relief | 6. Encoder strain relief | |

Note: Three PEJBs are available. The fifteen eye PEJB is illustrated.

Encoder to PEJB

1. See Figure 6. Install the supplied strain relief (6) into the EN knockout.
2. Route the encoder cable (5) through the EN strain relief. Tighten the strain relief.
3. See [Figure 7](#). Connect the encoder wiring to the input module and terminal block.

Encoder to PEJB (contd)

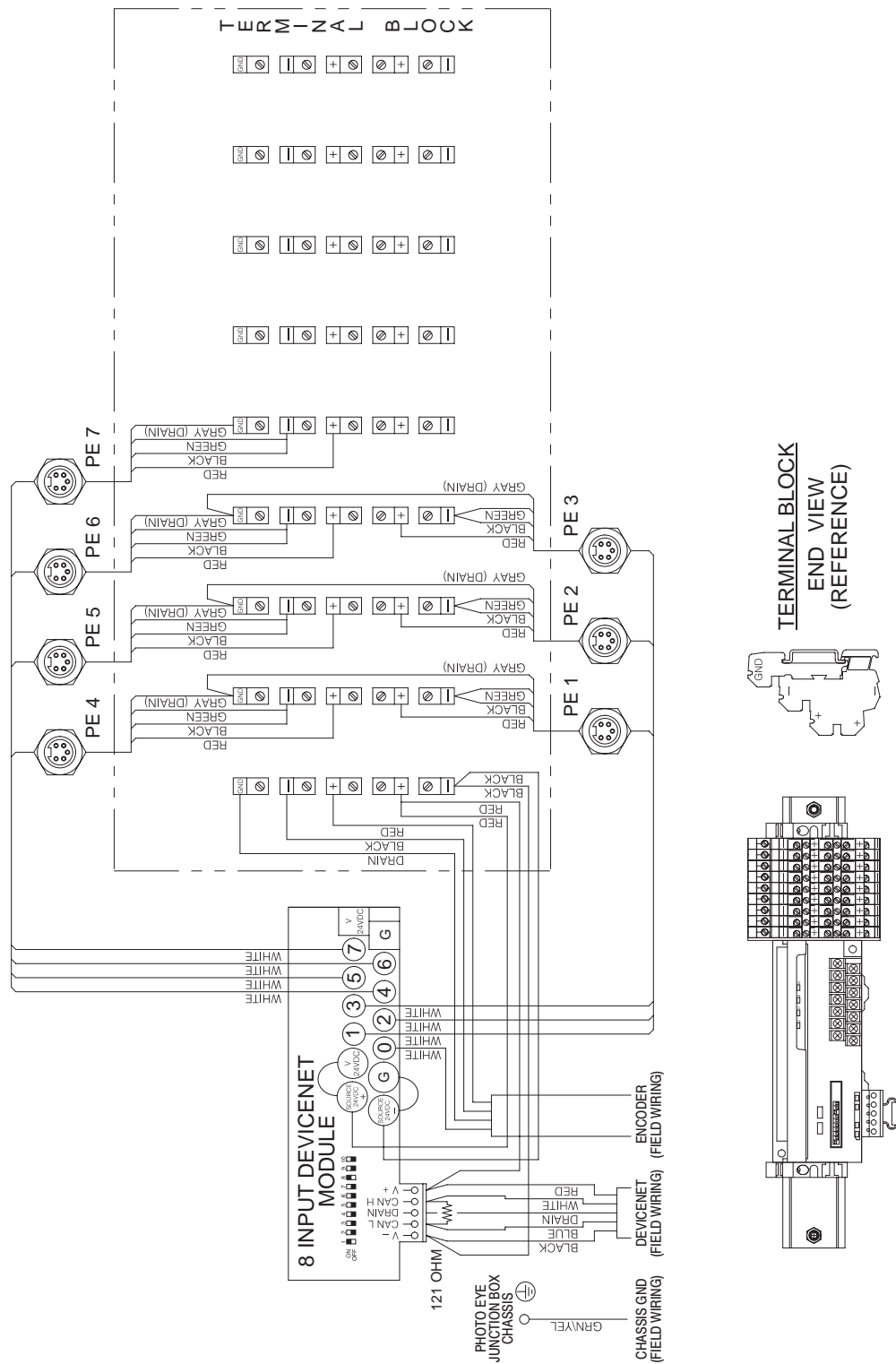


Figure 7 Photo Eye Junction Box Wiring Diagram

Note: Seven eye photo eye junction box shown. Communication wiring connections are the same for all PEJBs.

Photo Eyes to PEJB

This procedure describes connecting the sensor cable to the two types of photo eyes that are typically used on Nordson systems (ATC: orange housing; SICK: blue housing). The differences in the procedures for the two types of photo eyes are identified but refer to your photo eye manufacturer's instructions for specific connection instructions.

1. See [Figures 8](#) and [9](#). Mount the photo eyes (5) as appropriate.
2. Plug the photo eye cable (4) into the appropriate numbered connector on the PEJB.
3. Route the photo eye cable to the appropriate photo eye.
4. Note the length of the wires on the unterminated end of the photo eye cable and cut the unterminated end of the photo eye cable to the desired length.
5. Remove the screw (1) and the photo eye cover (2).
6. Strip the cable cover so the wires are long enough to reach the photo eye terminals and the cable can be secured properly in the strain relief (3). Strip the wire insulation for connection to the terminals.
7. Route the cable through the strain relief. Tighten the strain relief.
8. Connect the cable wiring to the photo eye terminal block (5) as shown in the wiring diagram.
9. **ATC Photo Eye Only (orange housing):** Set the photo eye mode switch (6) to DARK.

The LED is off when it is aligned with the reflector and is not blocked.

SICK Photo Eye Only (blue housing):

- a. Turn the On Delay and Off Delay adjustments fully counterclockwise.
 - b. Adjust the Sense dial for part detection.
 - c. The LED is on when it is aligned with the reflector and is not blocked.
10. Install the photo eye cover and tighten the screw.

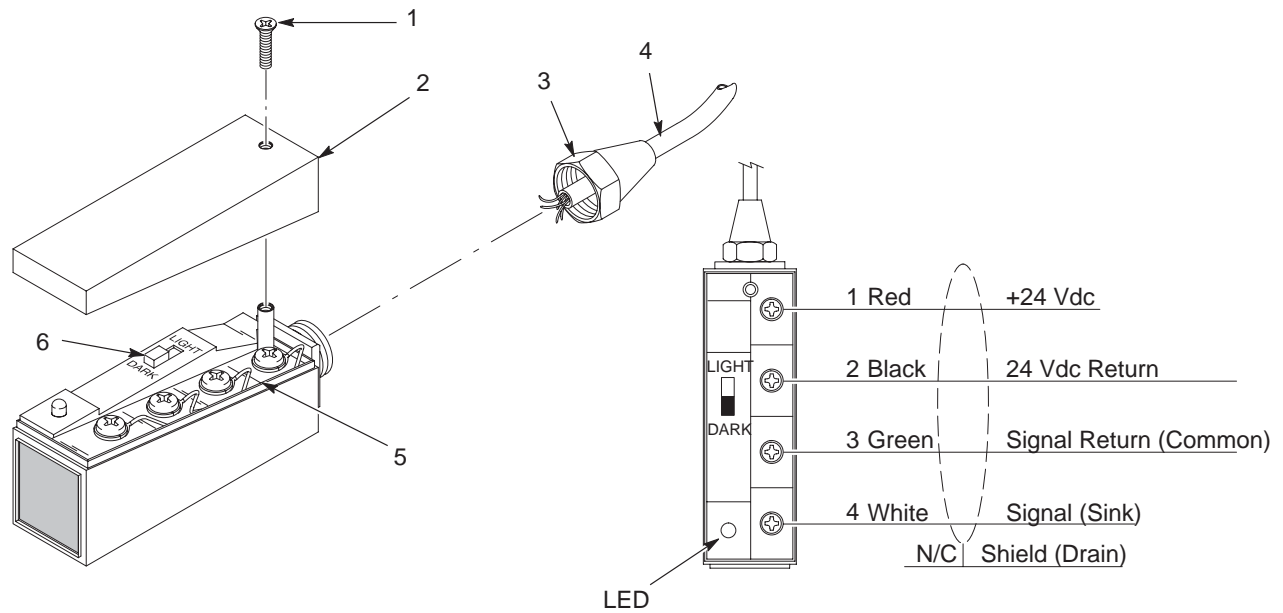


Figure 8 ATC Photo Eye Connection

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|----------|------------------|-------------------|
| 1. Screw | 3. Strain relief | 5. Terminal block |
| 2. Cover | 4. Cable | 6. Mode switch |

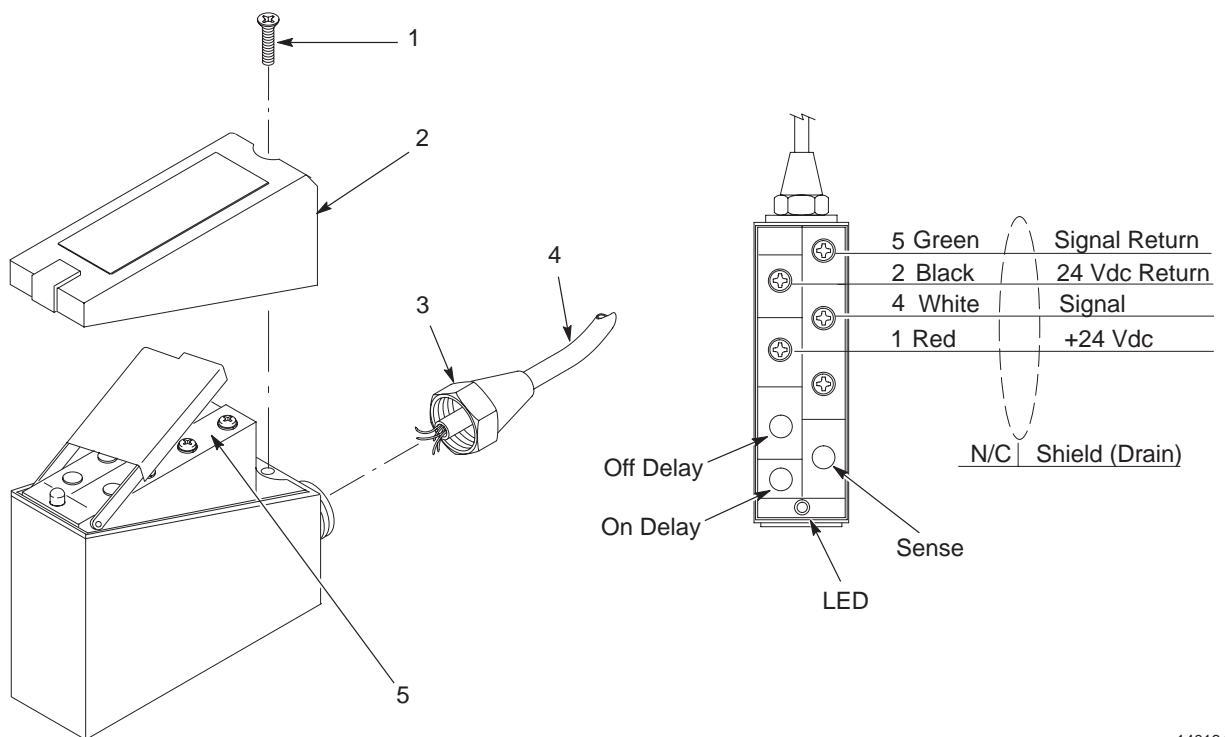


Figure 9 SICK Photo Eye Connection

- | | | |
|----------|------------------|-------------------|
| 1. Screw | 3. Strain relief | 5. Terminal block |
| 2. Cover | 4. Cable | |

Parts

The following chart lists the hardware included with the application controller installation kit. Use this list to order replacement parts for the kit. Refer to the *Parts* section in Part G of the *Sure Coat Modular Gun Control System* manual for more parts information.

Part	Description	Quantity
341620	MODULE, controller, DeviceNet, packaged	1
-----	• MODULE, controller, DeviceNet	1
933005	• CONNECTOR, cord	2
939122	• SEAL, conduit fitting, 1/2 in.	2
984526	• NUT, lock, 1/2-in. conduit	2
303098	• BRACKET, support, number 1	2
334799	• SCREW, pan head, recessed, M5 x 10, with integral lock washer bezel	4
173124	• SCREW, pan head, cross, with seal, M6 x 8 mm	4
341626	• PCA, UCS DeviceNet, packaged	1
326138	• CABLE, 4 conductor, 2-22, 2-24, DeviceNet interface, 24 ft	1
143009	• CONDUIT, carflex, liquid tight, 1/2-in. OD, 20 ft long	1
931149	• WIRE, vinyl, 18 awg, green with yellow, 24 ft long	1
933071	• TERMINAL, ring tong, insulated, 22-18, 10	2
143010	• FITTING, carflex, liquid tight, 1/2 in.	2
170730	PHOTOCELL, retroreflective	AR
347230	CABLE, input, 5 wire, 6 m, male	AR
183764	ENCODER, 24 PPR, with cable connector	AR
145091	CABLE, shielded, 4-conductor, 22 gauge	AR
AR: As Required		

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