

Prodigy[®] Color-on-Demand[®] System Generation III

Customer Product Manual
Part 1084829A02

Issued 10/10

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Prodigy® Color-on-Demand® System Installation

Introduction

This manual covers system installation. For detailed information on system operation, maintenance, troubleshooting, and repair, refer to the following manuals.

System Manuals

Manual Part Number	Title/Contents
1081751	Color-on-Demand System Operator Card: Operation and color changing
1066483	Color-on-Demand Controller: Controller setup, system testing, controller and panel parts, wiring and pneumatic diagrams, schematics
1081747	Color-on-Demand Pump Control Panel: Pump manifold/circuit board configuration, troubleshooting, panel parts, wiring and pneumatic diagrams, schematics
1066584	Color-on-Demand Manifold and Dump Valve: Repair and parts
1077434	Manual Spray Gun: Installation, troubleshooting, repair, parts
1102106	Manual Spray System: controller, gun pump panel, system
1081071	Manual Gun System Troubleshooting: Basic gun and pump troubleshooting
1081195	HDLV Pump and controls: Troubleshooting, repair, and parts

Single Gun System

Part No.	Description	Quantity
1084743	SYSTEM, Color-on-Demand, manual, single, Prodigy Generation III	
1054451	• KIT, controller, manual, Prodigy	1
1084554	• KIT, controller interface, Prodigy color change	1
1077058	• GUN, manual, 95 kV, Generation II, Prodigy	1
-----	• CONTROLLER, single pump, Prodigy wall mount	1
1080507	• KIT, ship-with, Prodigy II, wall mount system	1
1067148	• KIT, ship-with, Color-on-Demand, Prodigy	1

Dual Gun System

Part No.	Description	Quantity
1084744	SYSTEM, Color-on-Demand, manual, dual, Prodigy Generation III	
1054451	• KIT, controller, manual, Prodigy	2
1084554	• KIT, controller interface, Prodigy color change	2
1077058	• GUN, manual, 95 kV, Prodigy	2
-----	• CONTROLLER, dual pump, Prodigy wall mount	1
1080507	• KIT, ship-with, Prodigy wall mount	2
1067148	• KIT, ship-with, Color-on-Demand, Prodigy	2

System Components

The Prodigy Color-on-Demand system has been carefully tested, inspected, and packaged prior to shipping. Upon receipt, inspect the shipping materials and components for visible damage. Report any visible damage immediately to the shipper and to your Nordson representative.

The Prodigy Color-on-Demand System consists of the components shown in Figure 1.

The system pump stand is shipped bolted to a pallet. The spray guns, controllers, and installation kits are shipped on another pallet.

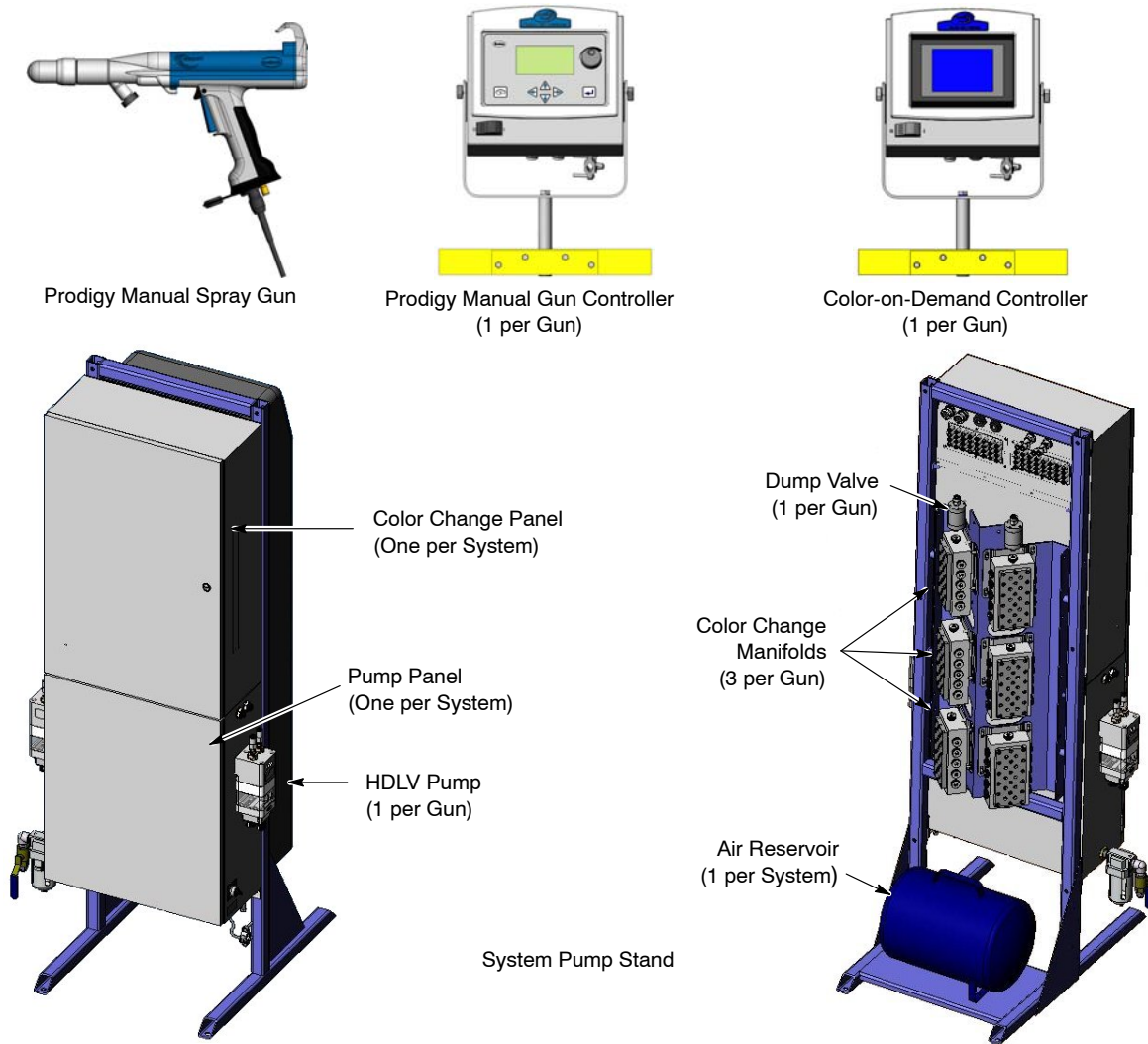


Figure 1 System Components

Installation



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

Specifications

Electrical	100–240 V, 50/60 Hz, 275 VA max. 1 PH
Air Input Max	6.2–7.6 bar (90–110 psi)
Weight *	125 kg (275 lbs)
Remote Control Input	24 V, 25 mA max
* Weight of stand with control panels, color change manifolds, cover, and accumulator tank mounted.	

System Pump Stand Installation

The System Pump Stand must be located as close to the powder feed hoppers as possible, since the maximum suction tubing length is 3 meters (9 ft, 9 inches) from the manifold inlet ports to the pump adapters on the feed hoppers.



WARNING: The stand weighs 125 kg (275 lbs). Use approved lifting equipment to remove the stand from the shipping pallet and move it to its installation location.

Unbolt the stand from the shipping pallet and secure two nylon lifting straps to the horizontal bar at the top of the stand. Secure the straps to the forks of a forklift or a crane hook. Lift the stand off the pallet and move it to the chosen location.

Bolt the stand securely to the floor with the lag bolts included in the installation kits.

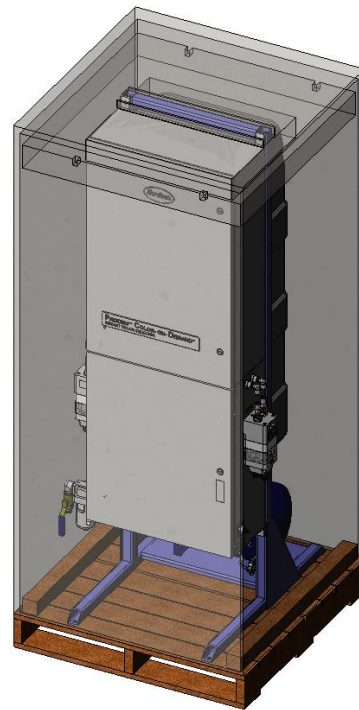


Figure 2 Packaged System Pump Stand

Controller Installation

Install the Manual Gun Controller and Color-On-Demand Controller on a wall, panel, or platform rail before making any connections. Both controllers must be accessible to the operator at all times.

Both controllers are shipped with the same mounting hardware.

NOTE: Both Gun 1 controller and Gun 2 controller must be set for the “Gun No: 1” network address. Refer to the Prodigy Manual Spray Gun Controller manual for more information.

Pump Stand Mounting

The panel stand is shipped with a controller support arm. It can be bolted to the side of the stand with the included M8 x 30 bolts and washers. Use the U-brackets and M6 fasteners to mount the controllers to the arm; color controller above and gun controller below.

Wall or Panel Mounting

Use the U-bracket and 6M fasteners to mount the controllers to a wall or panel.

Rail Mounting

Use the Rail Mount hardware to mount the controllers to a platform rail. The bracket will fit any 2 inch wide rail or bar.

Grounding

Connect the ground strap to the controller ground stud and clamp it to a true earth ground.

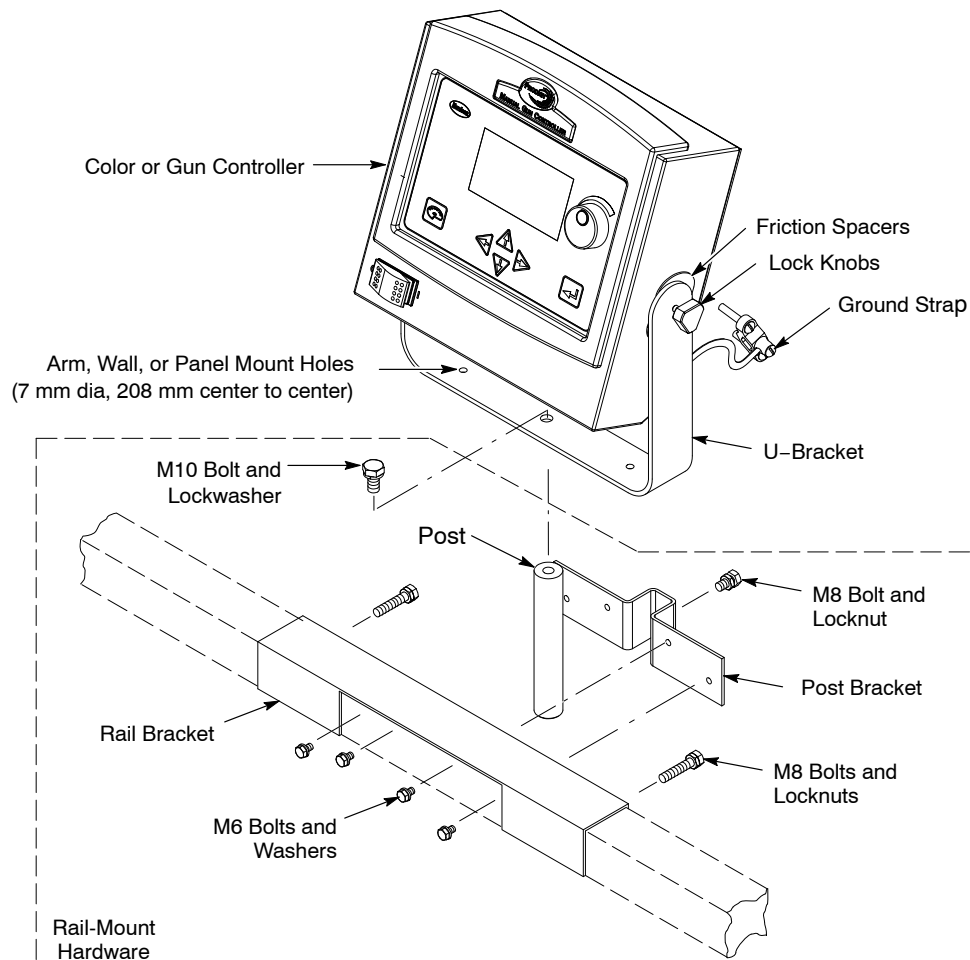


Figure 3 Controller Mounting

Connection Diagram (Rear View of System)

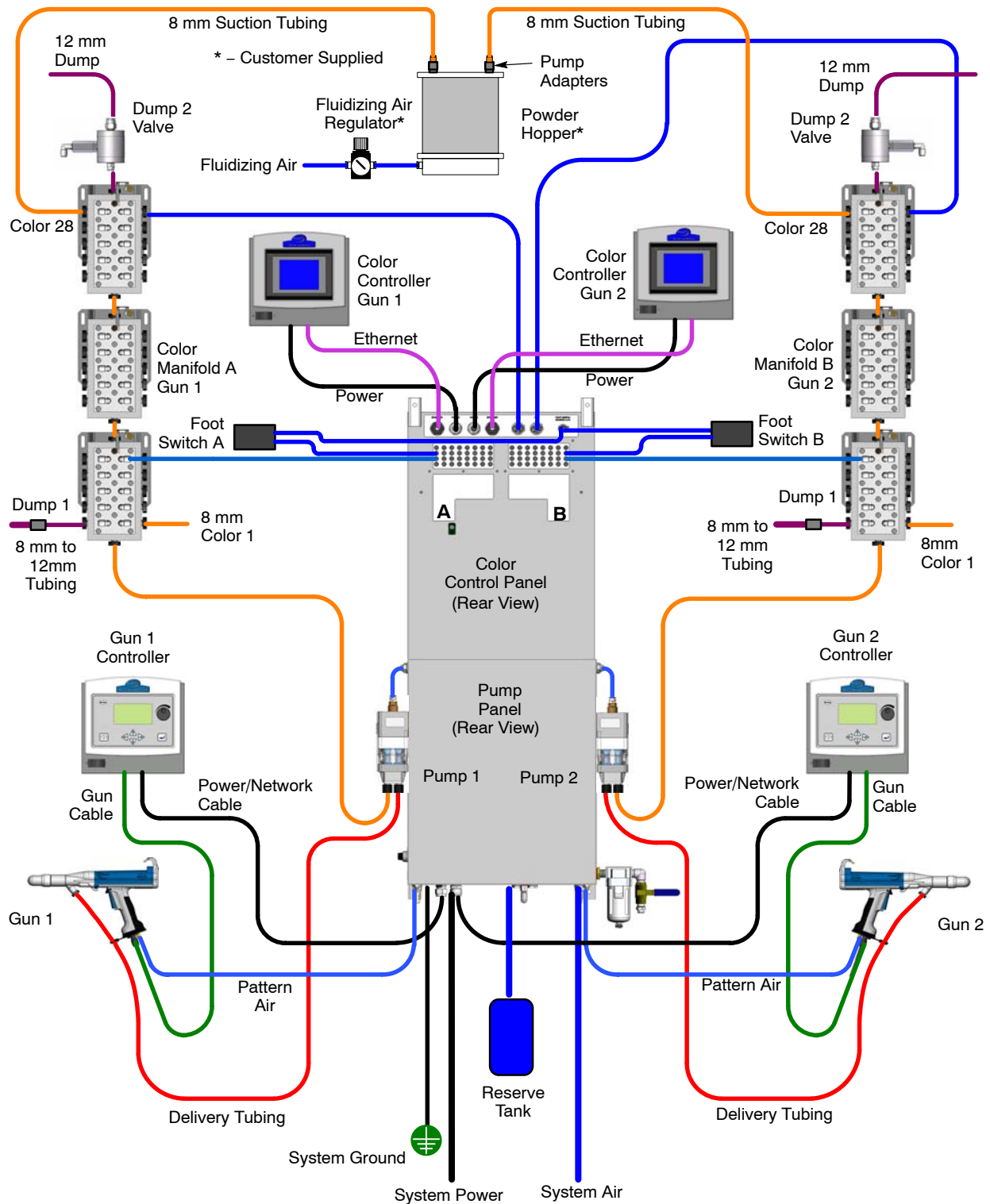


Figure 4 System Diagram (Rear View of System)

System Power, Ground, and Gun Controller Connections

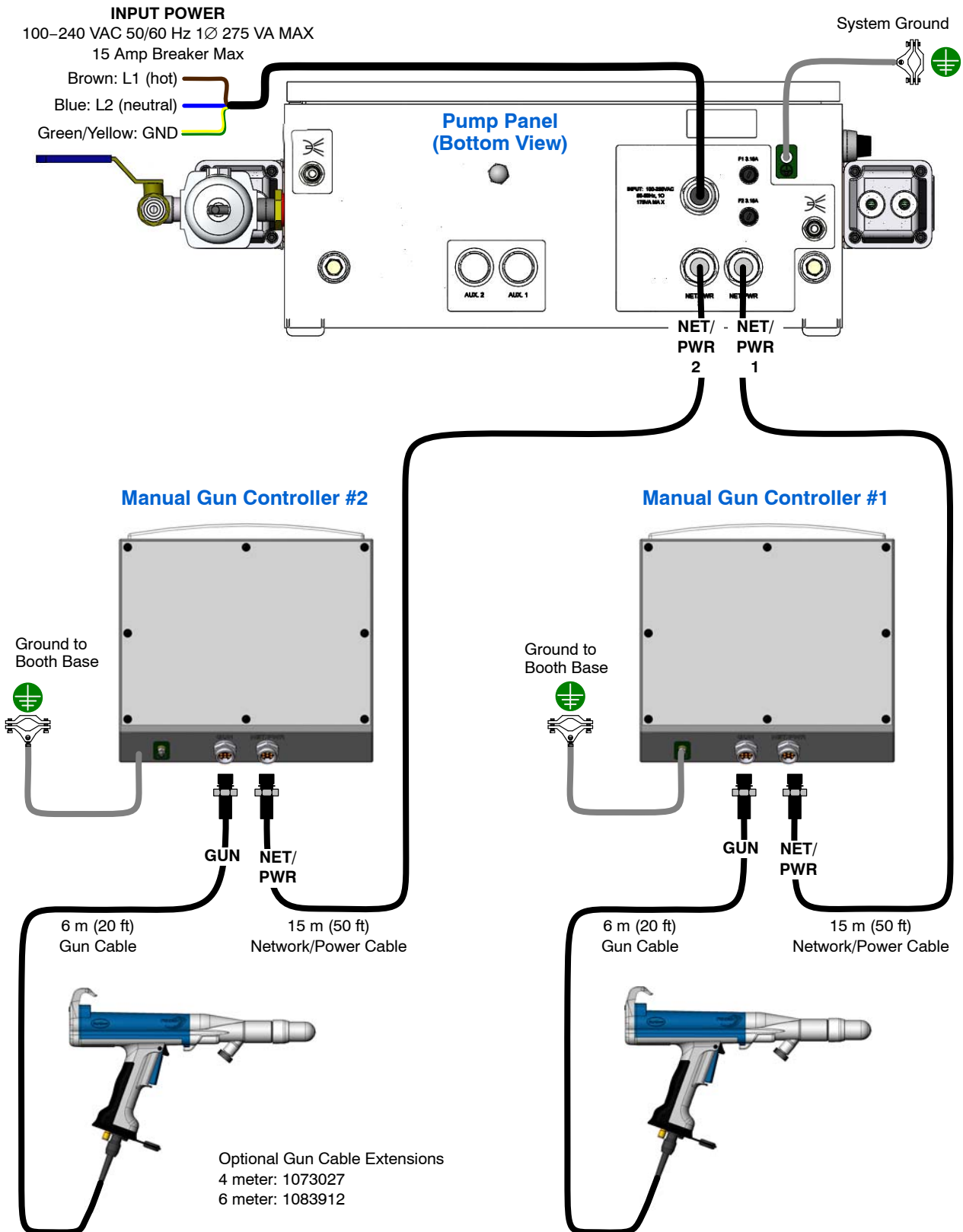


Figure 5 System Power, Ground, and Gun Controller Connections

System Air Supply and Gun Air Connections

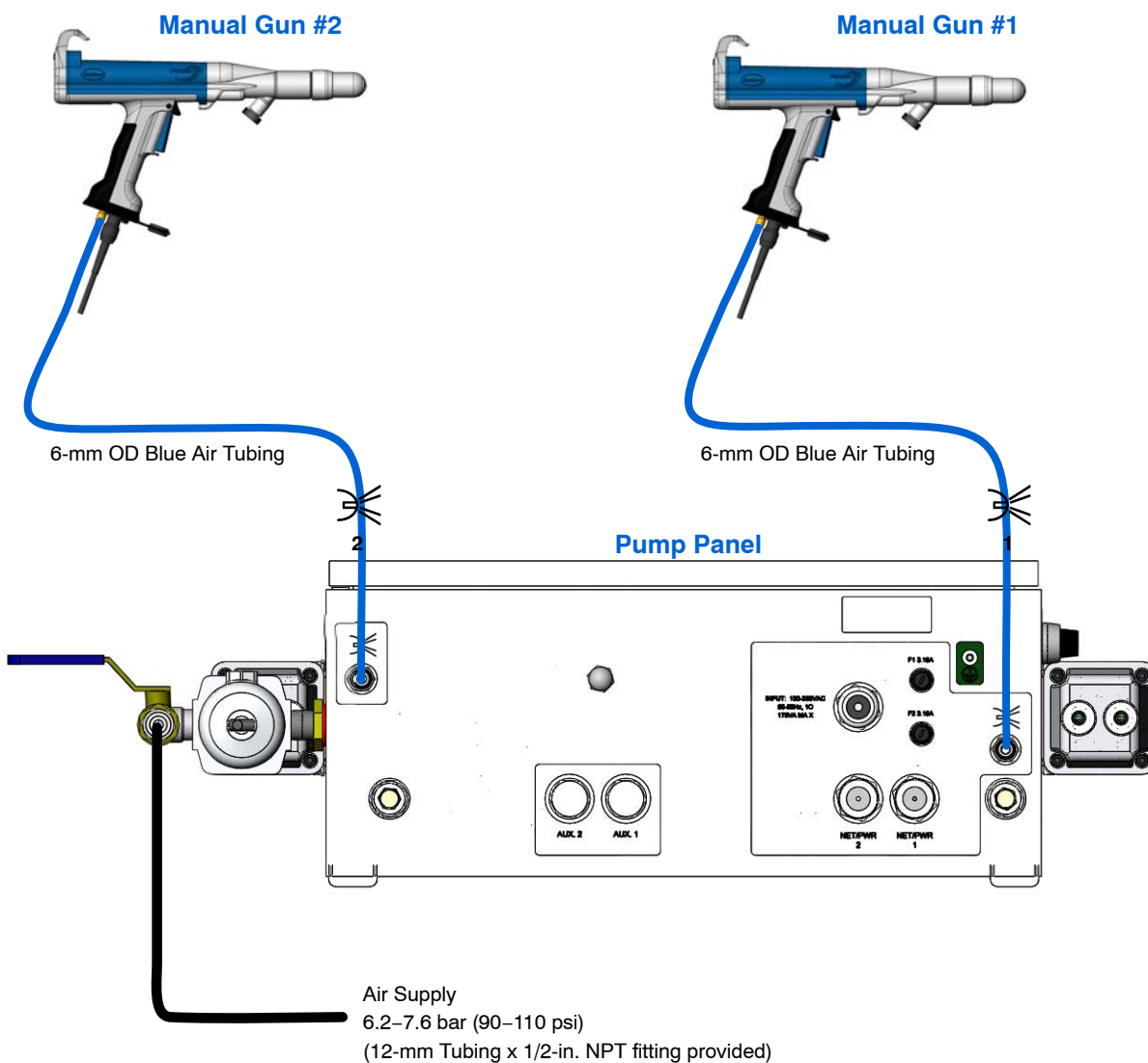


Figure 6 System Air Supply and Gun Air Connections

Color-On-Demand Controller and Foot Switch Connections

1. Connect the power cables to the Color-on-Demand controllers.
2. Cut one of the RJ45 jacks off the 100 ft. long Ethernet cable included in the ship-with kit, leaving a jack on the other end.
3. Remove the back from the controller and plug the Ethernet cable into the socket as shown.
4. Pull the cut end of the cable through the provided 1/2 in. conduit connector and conduit to the color panel and route it inside the panel.
5. Connect the cable leads to the termination module as shown on page 9.
6. Connect the conduit to the controller and panel.
7. If you are going to use the footswitches, remove the bottom covers and install the provided connectors. Connect 6-mm tubing from the FOOTSWITCH A & B fitting to the IN fitting on the switch, and from the OUT fitting to the SWA RTN or SWB RTN ports on the tubing manifolds.

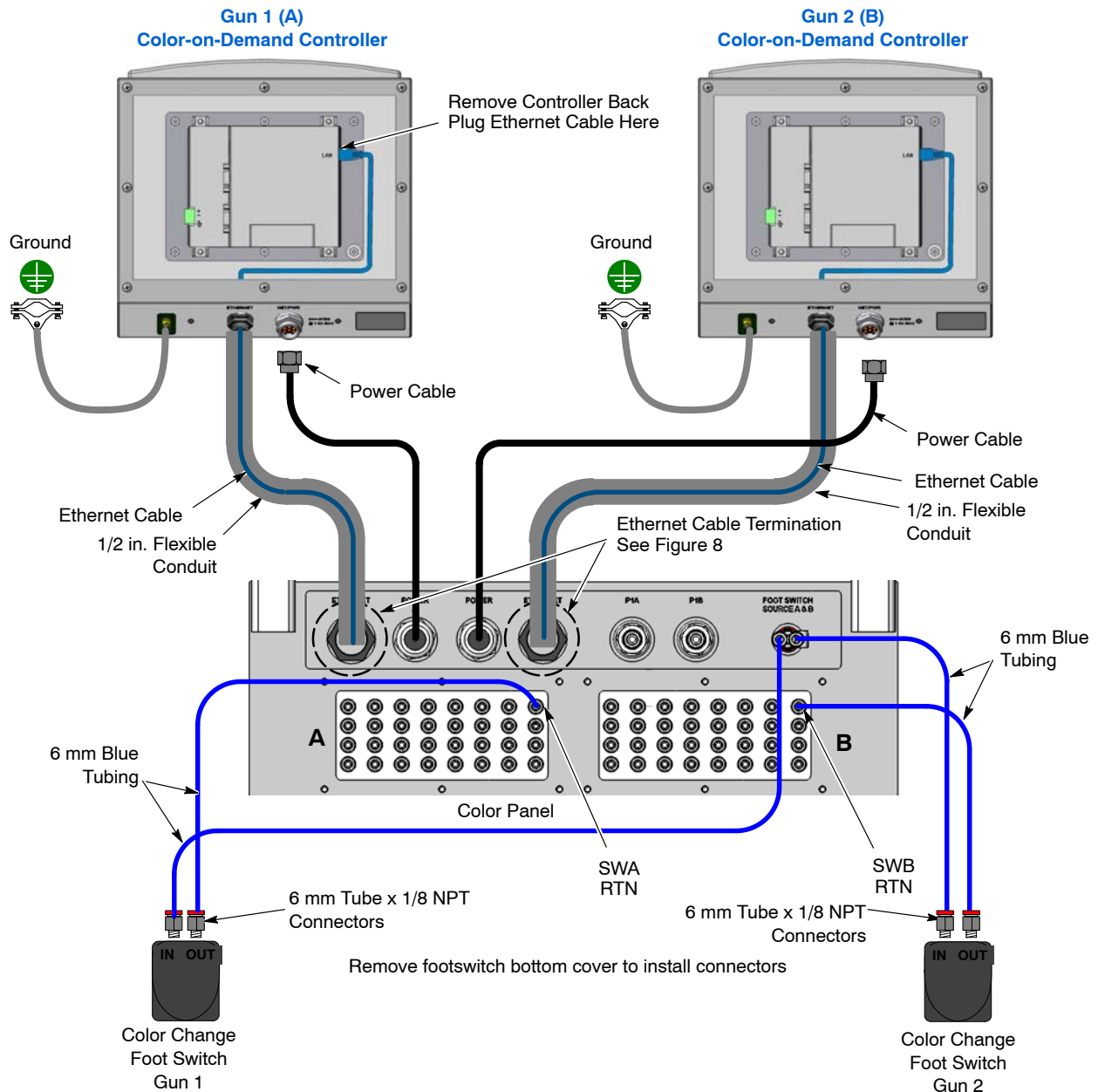
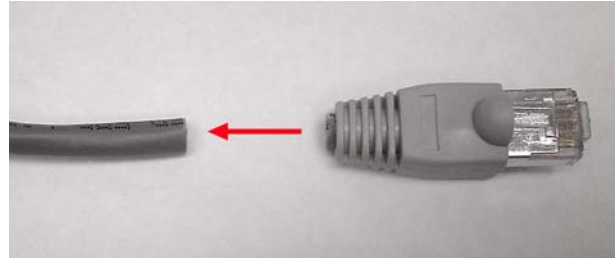


Figure 7 Color-on-Demand Controller and Foot Switch Connections

Ethernet Cable Termination

Follow these steps to complete the ethernet cable termination.

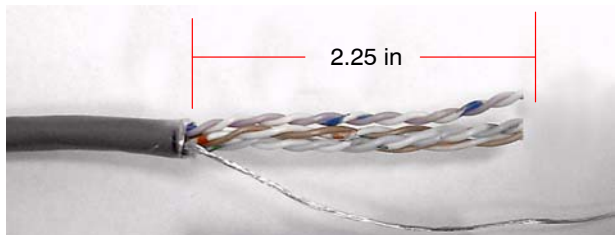
1. Cut the RJ45 jack from one end of the Ethernet cable.



2. Route the cut end of the Ethernet cable into the color panel.
3. Trim back the cable jacket about eight inches.
4. Cut the foil, clear wrapper, and pull string on the cable.



5. Trim back the four twisted pair wires to approximately 2.25 inches.



6. See Figure 8. Arrange the twisted pair wires in the module according to the T568-B wiring scheme, with the ends at least 1/4 in. through the terminals. Retain the twists in the wires as close to the terminals as possible. Use a 110 punch-down tool to attach the wires
7. Trim the ends of the wires as close to the termination module as possible.
8. Install the retention caps on the termination module.

9. Crimp a ground lug to the shield wire.
10. Assemble the ethernet termination case as shown. For rear-connect modules, snap the termination module into the bezel, then install the bezel into the adapter.

**Use Type T568B cables.
Use T568-B wiring scheme.**

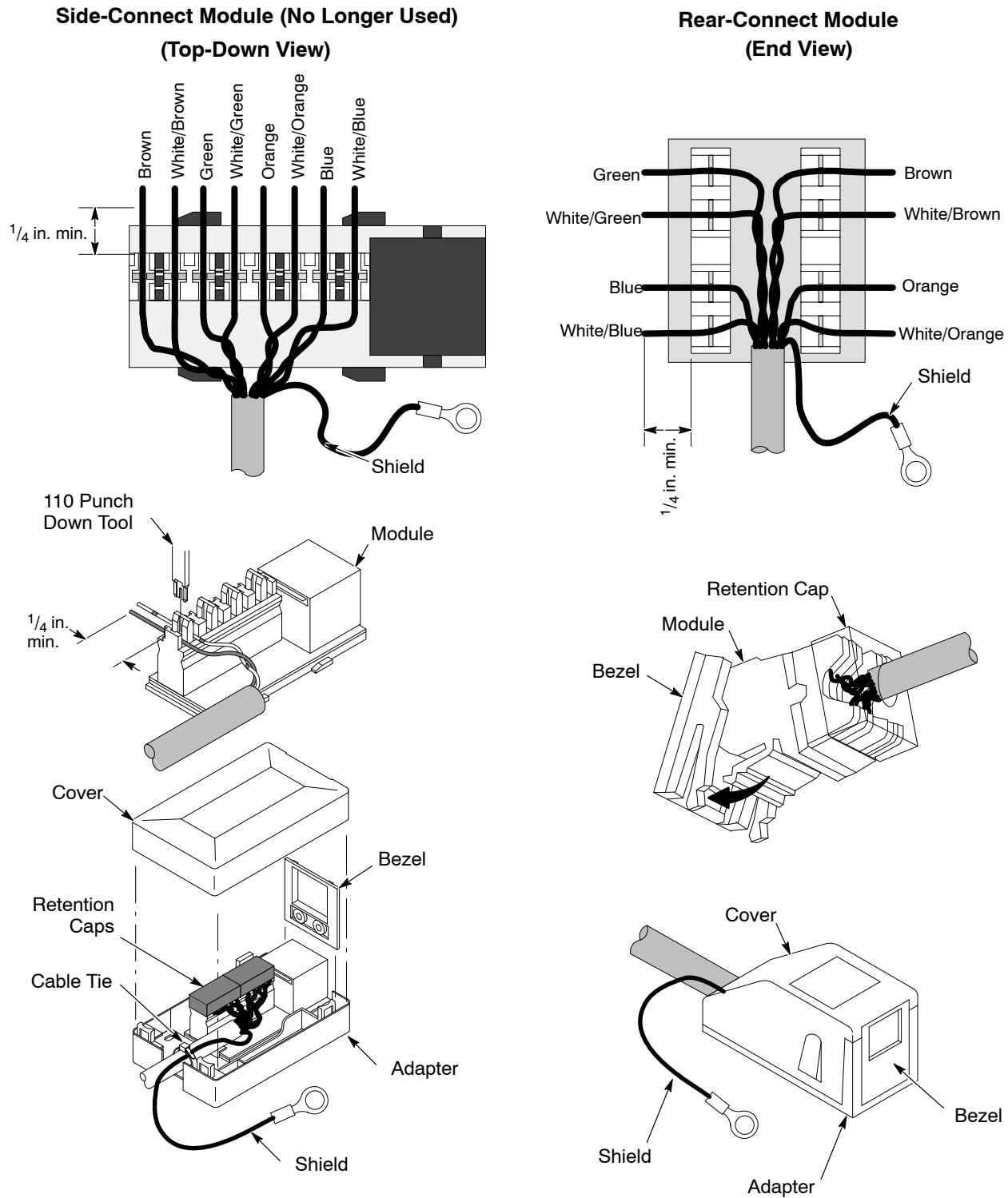


Figure 8 Ethernet Cable Connection to Termination Module

11. See Figure 9. Install the termination modules under the top side of the enclosure.
12. Connect the 1 meter (3 ft.) long crossover cables from the termination modules to the PLCs.
13. Attach the termination module ground wires to the cabinet ground stud.

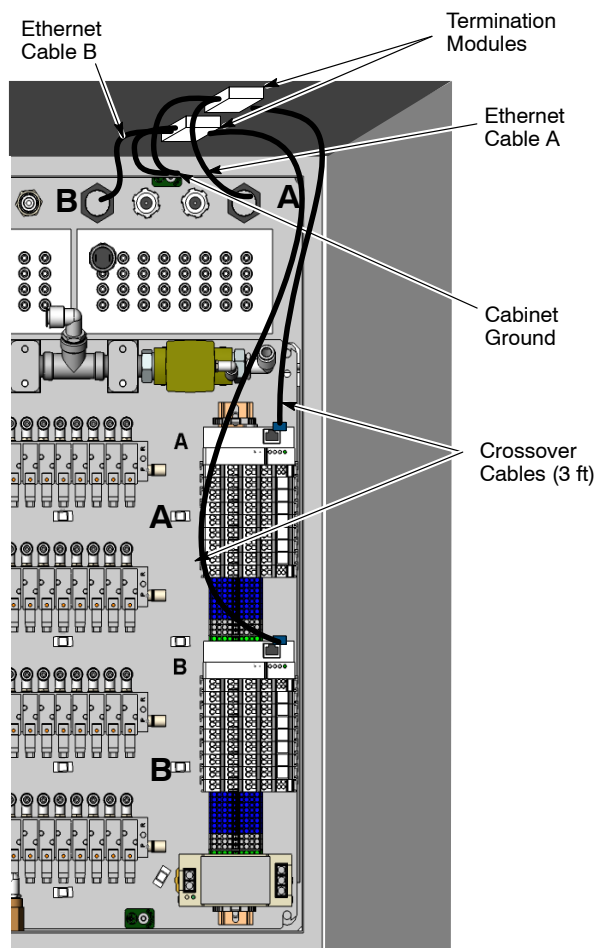


Figure 9 Ethernet Cable Termination Inside Color Control Panel

Delivery Tubing Installation

Connect 8-mm clear delivery tubing from the pump outlets to the spray guns. Observe tubing length guidelines, coil excess tubing in loops of at least 1 meter (3 ft) diameter, and lay coil flat on floor.

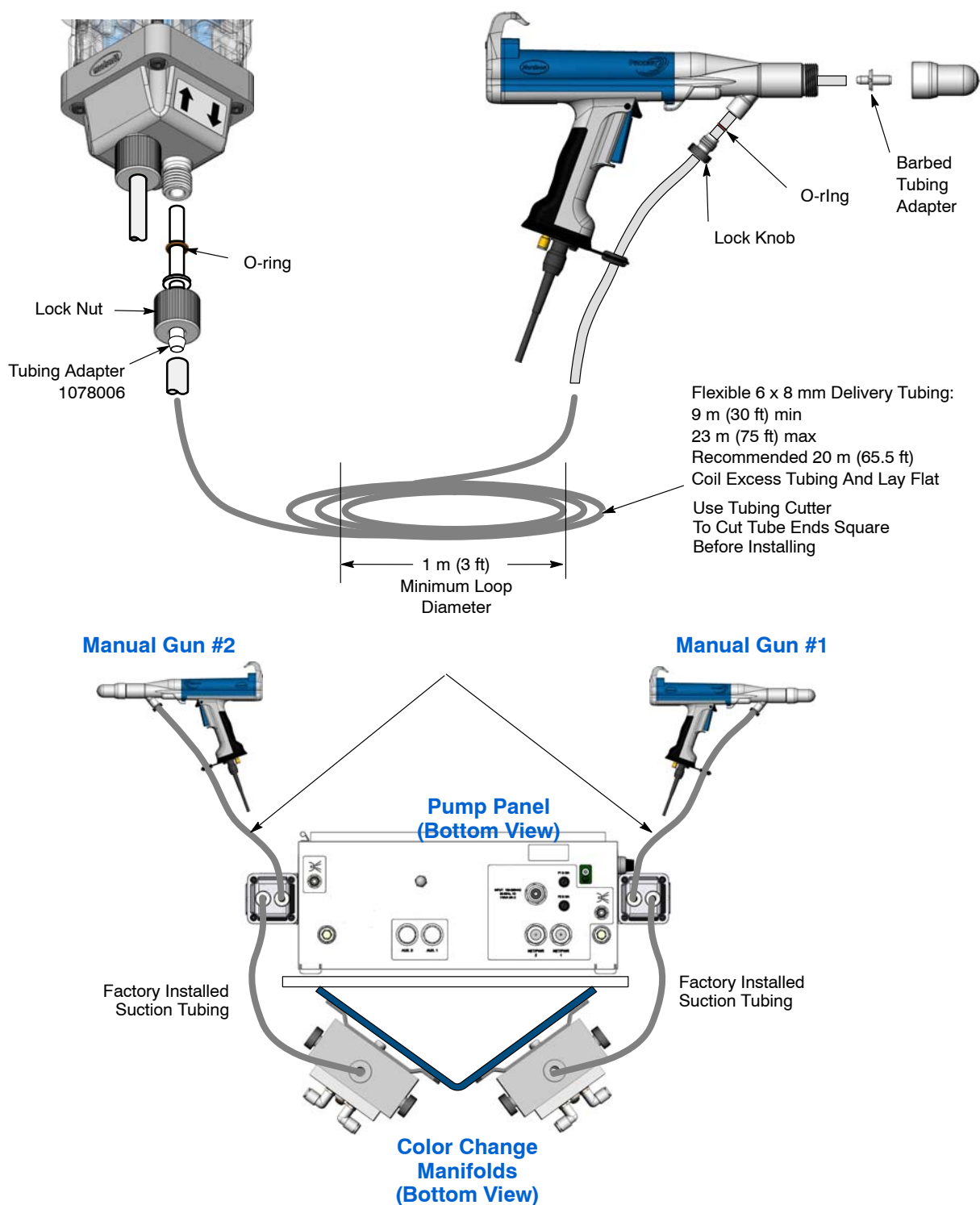


Figure 10 Delivery Tubing Installation

Suction and Dump Tubing Installation

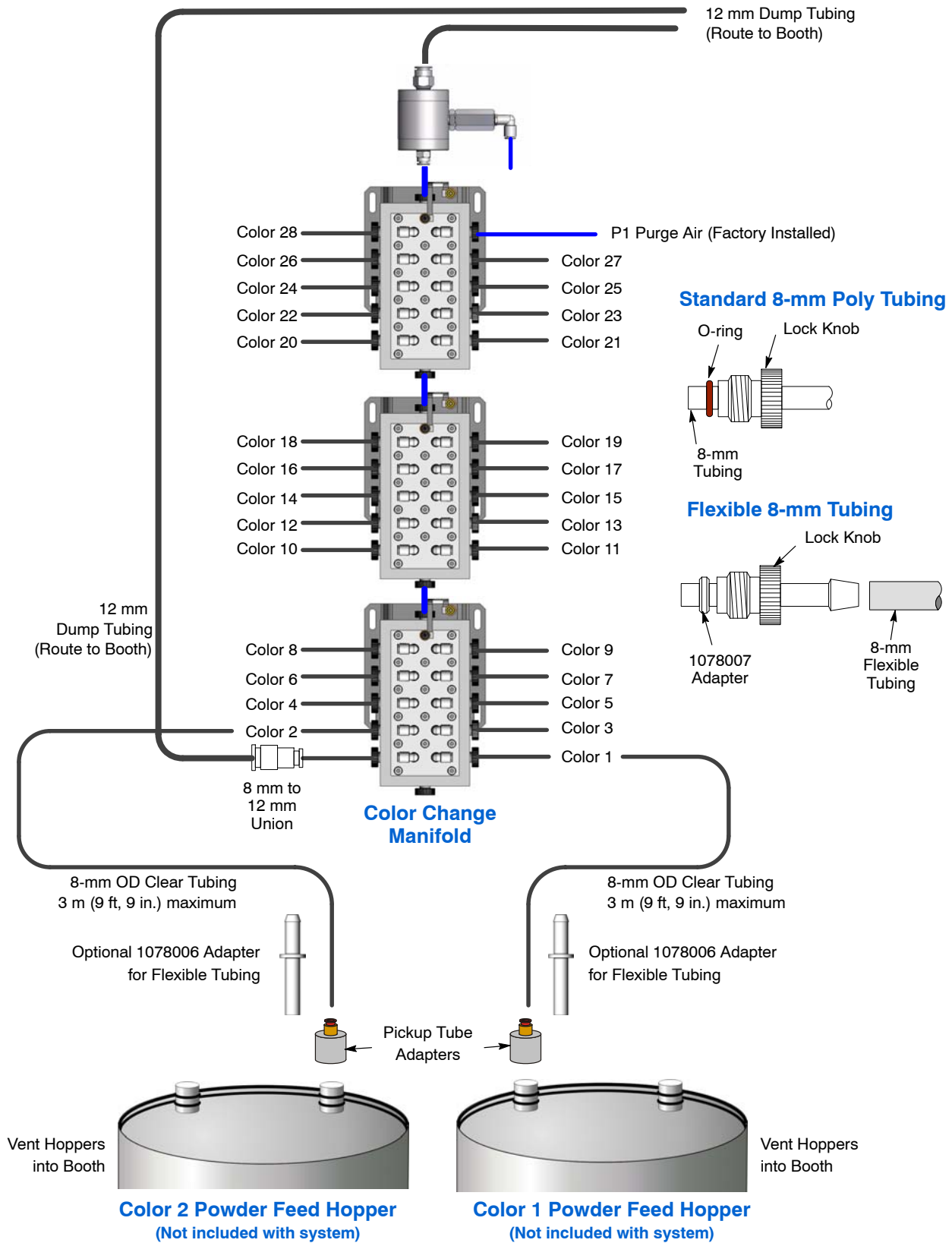


Figure 11 Suction and Dump Tubing Installation

Remote Color Selection and Color Change Start Option

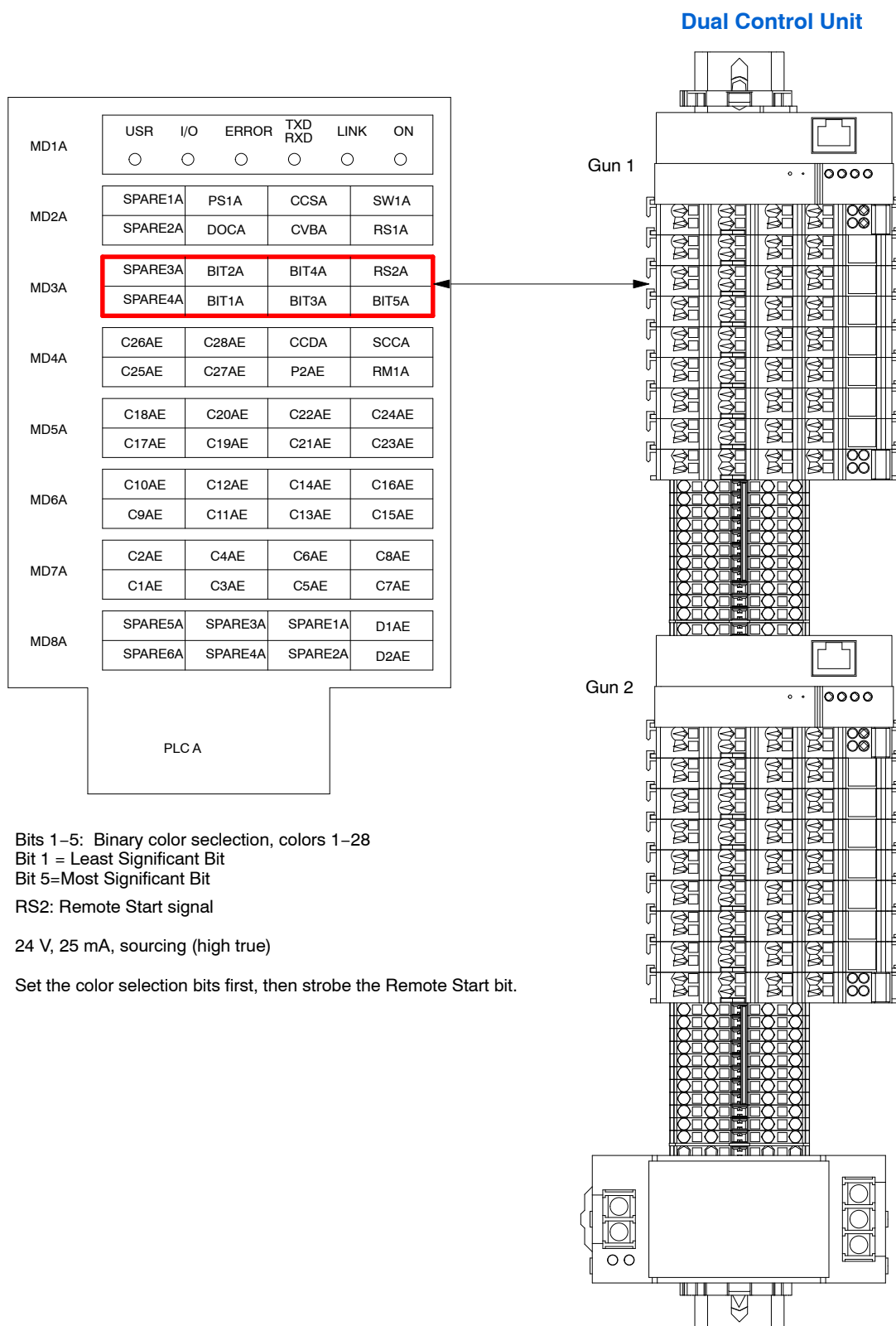


Figure 12 Remote Color Selection and Color Change Start Connections