Sure Coat®
Mini-Master Controller

Customer Product Manual
Part 334589C
Issued 1/02

For parts and technical support, call the Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

This document is subject to change without notice.
Check http://emanuals.nordson.com for the latest version.

NORDSON CORPORATION • AMHERST, OHIO • USA

Nordson Corporation welcomes requests for information, comments, and inquiries about its products. General information about Nordson can be found on the Internet using the following address: http://www.nordson.com.

Address all correspondence to:

Nordson Corporation
Attn: Customer Service
555 Jackson Street
Amherst, OH 44001

Notice

Trademarks

Table of Contents

Sure Coat Mini-Master Controller

Safety

Read and follow these safety instructions. Task- and equipment-specific warnings, cautions, and instructions are included in equipment documentation where appropriate.

Make sure all equipment documentation, including these instructions, is accessible to all persons operating or servicing equipment.

Qualified Personnel

Equipment owners are responsible for making sure that Nordson equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

Intended Use

Use of Nordson equipment in ways other than those described in the documentation supplied with the equipment may result in injury to persons or damage to property.

Some examples of unintended use of equipment include

- using incompatible materials
- making unauthorized modifications
- removing or bypassing safety guards or interlocks
- using incompatible or damaged parts
- using unapproved auxiliary equipment
- operating equipment in excess of maximum ratings

Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for Nordson equipment will be voided if instructions for installation, operation, and service are not followed.

All phases of equipment installation must comply with all federal, state, and local codes.

Personal Safety

To prevent injury follow these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing any moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.
- Obtain and read Material Safety Data Sheets (MSDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection devices.
- To prevent injury, be aware of less-obvious dangers in the workplace that often cannot be completely eliminated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

Fire Safety

To avoid a fire or explosion, follow these instructions.

- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored.
- Provide adequate ventilation to prevent dangerous concentrations of volatile materials or vapors. Refer to local codes or your material MSDS for guidance.
- Do not disconnect live electrical circuits while working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment. Contact your Nordson representative for parts information and advice.

Grounding

WARNING: Operating faulty electrostatic equipment is hazardous and can cause electrocution, fire, or explosion. Make resistance checks part of your periodic maintenance program. If you receive even a slight electrical shock or notice static sparking or arcing, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.

All work conducted inside the spray booth or within 1 m (3 ft) of booth openings is considered within a Class 2, Division 1 or 2 Hazardous location and must comply with NFPA 33, NFPA 70 (NEC articles 500, 502, and 516), and NFPA 77, latest conditions.

- All electrically conductive objects in the spray areas shall be electrically connected to ground with a resistance of not more than 1 megohm as measured with an instrument that applies at least 500 volts to the circuit being evaluated.
- Equipment to be grounded includes, but is not limited to, the floor of the spray area, operator platforms, hoppers, photoeye supports, and blow-off nozzles. Personnel working in the spray area must be grounded.
- There is a possible ignition potential from the charged human body. Personnel standing on a painted surface, such as an operator platform, or wearing non-conductive shoes, are not grounded. Personnel must wear shoes with conductive soles or use a ground strap to maintain a connection to ground when working with or around electrostatic equipment.
- Operators must maintain skin-to-handle contact between their hand and the gun handle to prevent shocks while operating manual electrostatic spray guns. If gloves must be worn, cut away the palm or fingers, wear electrically conductive gloves, or wear a grounding strap connected to the gun handle or other true earth ground.
- Shut off electrostatic power supplies and ground gun electrodes before making adjustments or cleaning powder spray guns.
- Connect all disconnected equipment, ground cables, and wires after servicing equipment.

Action in the Event of a Malfunction

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out electrical power. Close pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the equipment.

Disposal

Dispose of equipment and materials used in operation and servicing according to local codes.

Description

The Sure Coat mini-master controller provides a single junction point for the electrical and pneumatic connections of up to six Sure Coat individual controllers. The mini-master controller also provides an auxiliary air output and a conveyor interlock for automatic spray gun applications.

Refer to the controller and spray gun manuals for additional information about the controllers and spray guns.

Front Panel Components

Refer to Table 1 and see Figure 1 for an overview of the mini-master controller's front panel components.

Table 1 Front Panel Components

Item	Component	Description
1	POWER Switch	Controls the distribution of power to the Sure Coat individual controllers. Up Position: Turns on power to all individual controllers connected to the mini-master controller. Down Position: Turns off power to all individual controllers connected to the mini-master controller.
2	AUX AIR Gauge	Monitors the system air pressure to the auxiliary air output. Air pressure is controlled by the AUX AIR regulator. Maximum Air Pressure: 7 bar (100 psi)
3	AUX AIR Regulator	Controls the air pressure to the auxiliary air output. Air pressure is monitored by the AUX AIR gauge.

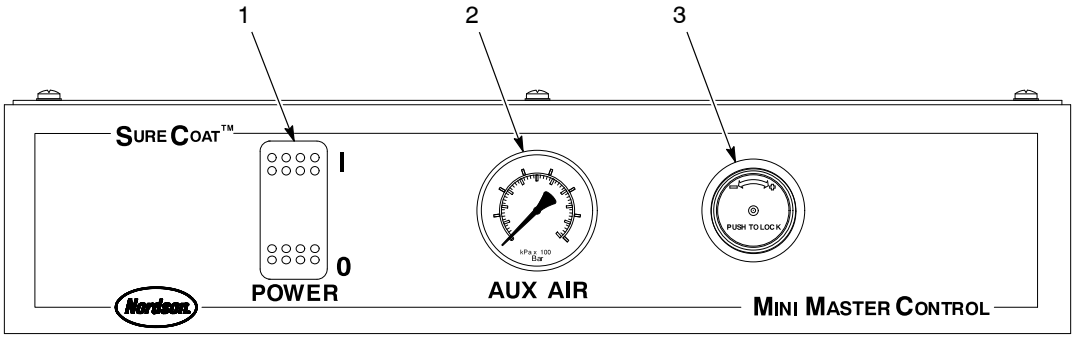

Figure 1 Front Panel Components

Back Panel Components

Refer to Table 2 and see Figure 2 for an overview of the mini-master controller's back panel.

Table 2 Back Panel Components

Item	Component	Description
1	Ground Lug	Ground for the mini-master controller enclosure.
2	AUX. AIR OUT	Auxiliary air output fitting. Air is monitored and controlled by the AUX AIR gauge and regulator on the front panel. The fitting size is 10-mm tube x $^1/_4$-in. unifit.
3	Air Out Fittings	Air outlet to up to six individual controllers. The fitting size is 10-mm tube x $^1/_4$-in. unifit.
4	Controller Cable Holes	Hole locations (numbered 1–6) for individual controller cables. A strain relief for one of these holes is included with each individual controller. **NOTE:** If any of these holes are not used, leave the caps in place to prevent dirt or powder from getting into the mini-master controller.
5	AC IN Connector	Input power connector to the mini-master controller and individual controllers. Use a standard five-wire cable; the wires are black, white, green, red, and orange.
6	Auxiliary Output Hole	Hole for an auxiliary component's power or interconnect cable. Allows triggering or conveyor interlock and terminates at a terminal block.
7	Air Input Fitting	Main supply air input. The fitting size is 10-mm tube x $^1/_4$-in. unifit.

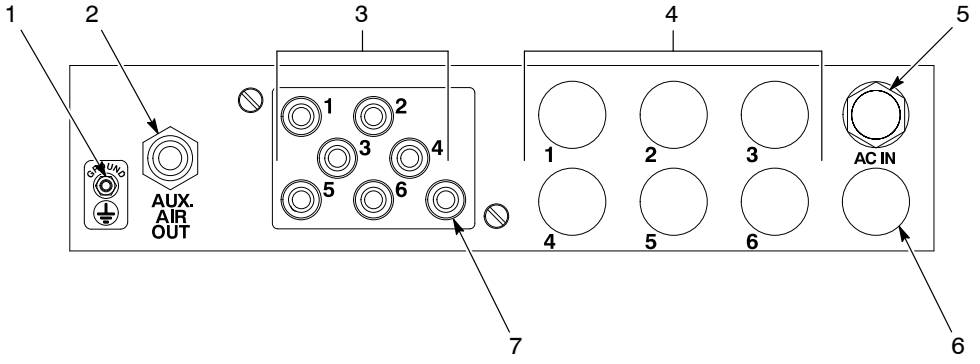

Figure 2 Back Panel Components

Internal Components

Refer to Table 3 and see Figure 3 for an overview of the mini-master controller's internal components.

NOTE: Access the internal components by removing the top panel of the mini-master controller.

Table 3 Internal Components

Item	Component	Description
1	Main ac Power Connector	Connects the main ac power cable to the mini-master controller.
2	Terminal Block Assembly	Provides connections for the main ac power cable, ground, conveyor interlock, programmable logic control (PLC) triggering, and ac input connections for up to six Sure Coat individual controllers. The terminal blocks labeled L1 and L2 have 250 V, 5 amp fuses for the main ac power.
3	Auxiliary Air Output Fitting	Provides a pneumatic connection for an auxiliary component.
4	Pneumatic Manifold	Provides pneumatic connections for the individual controllers.
5	Auxiliary Air Regulator	Controls the air pressure to an auxiliary component.
6	Auxiliary Air Gauge	Monitors the air pressure to an auxiliary component.
7	POWER Switch	Controls the distribution of power to the individual controllers.

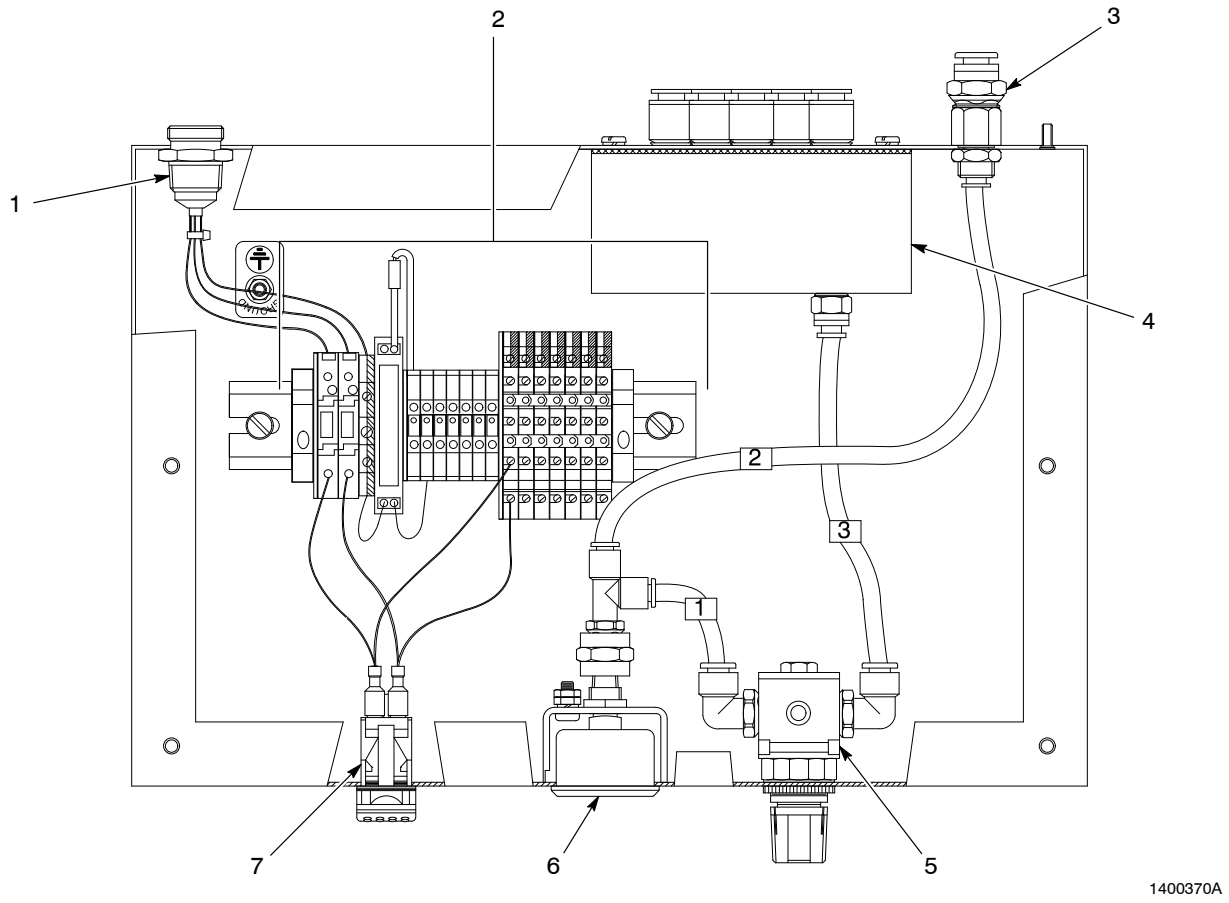

Figure 3 Internal Components

Maximum Input Power

85–240 Vac, 5 Amp maximum, single phase, 50/60 Hz

Maximum Input Air Pressure

7 bar (100 psi) maximum

Mounting Requirements

The mini-master controller must be mounted at the top of the stack of Sure Coat individual controllers. The top panel of the mini-master controller must be accessible for repair.

Installation Requirements per ANSI/ISA S82.01

Pollution degree	2
Installation category	2

Installation

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

Use the following procedures to install the Sure Coat mini-master controller.

NOTE: Refer to the *Sure Coat Individual Controllers* manual for additional installation instructions for the individual controllers.

Mounting

Use the following steps to mount the mini-master controller.

NOTE: Refer to the *Sure Coat Individual Controllers* manual for detailed installation instructions.

1. Mount the individual controllers.
2. Mount the mini-master controller on top of the stack of individual controllers using the supplied mounting brackets and pan-head screws.

Electrical Connections

Use the following steps to make the necessary electrical connections to the mini-master controller.

NOTE: The input power requirements are 85–240 Vac @ 5 Amp maximum, 50/60 Hz.

1. See Figure 2. Connect one end of the power cable to the AC IN connector (5) on the mini-master controller's back panel. Connect the other end of the power cable to a keyed, lockable ac power source.
2. If a PLC is used, connect the flexible control conduit to the auxiliary output hole (6) on the back panel. Connect the other end of the conduit to the PLC through a terminal or junction box. Refer to *PLC Wiring* for instructions for wiring the mini-master controller to a PLC.
3. Connect ac power from each individual controller to the mini-master controller.
   a. Remove the protective plug from the cable hole (4) labeled 1 on the mini-master controller back panel.
   b. Install a strain relief in the hole.

   NOTE: A strain relief is included with each individual controller.

   c. Route the ac power cable from the individual controller at the bottom of the stack through the strain relief. Connect the wires to the terminal block assembly using the guidelines given in Table 4.
   d. Working your way up the stack, connect the remaining individual controllers using steps a–c.

Table 4 Individual Controller Wiring

Wire Color	Terminal Location
Brown	ac input (L1)
Blue	ac input (L2)
Green	Ground
White	Trigger (T1–T6)*
Black	N/A
*For automatic units only. For more information, refer to the *Sure Coat Individual Controllers* manual.	

Pneumatic Connections

Use the following steps to make the necessary pneumatic connections to the mini-master controller.

NOTE: Leave plugs in any unused air fittings to prevent dirt or powder from getting into the mini-master controller.

1. See Figure 2. Connect the 10-mm main air input hose to the main air input fitting (7).
2. If necessary, connect 10-mm air tubing to the AUX. AIR OUT fitting (2). Connect the other end of the tubing to the auxiliary component.
3. Remove the plug from the air out fitting (3) labeled 1. Connect 10-mm tubing to fitting 1. Connect the other end of the tube to the IN air fitting on the bottom individual controller's back panel.
4. Connect each individual controller in the same manner, connecting the tubing from fitting 2 to the second individual controller from the bottom of the stack, from fitting 3 to the third controller, etc.
5. Refer to the *Sure Coat Individual Controllers* manual for additional pneumatic connections.

Conveyor Interlock

In a booth equipped with automatic spray guns, a conveyor interlock signal is required to shut off the spray guns when the conveyor stops running. The conveyor and spray guns operate when the conveyor interlock wires are shorted together. The conveyor and spray guns do not operate when the interlock wires are open.

Use the following steps to configure the conveyor interlock.

WARNING: Do not make contact with the terminal block unless instructed. Line voltage is present. Make sure that the disconnect switch is off at the booth. Failure to observe this warning could result in an electric shock.

1. Remove the top panel from the mini-master controller by removing the eight screws.
2. See Figure 4. Connect the conveyor interlock wires (2) to the terminal block (3) according to your system's voltage requirements.
3. Make sure that the jumpers (1) are correctly installed on the terminal block.
4. Secure the top panel to the mini-master controller using the eight screws.

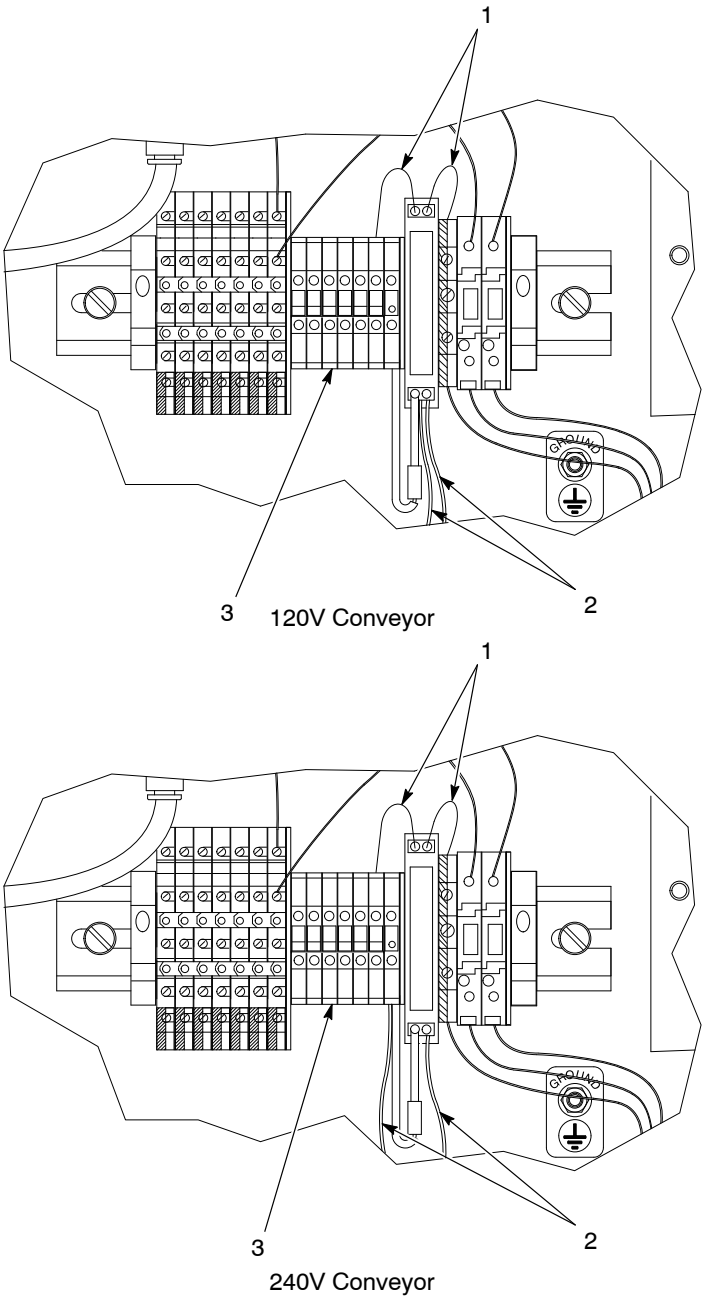

Figure 4 120 and 240 V Conveyor Interlock Wiring

1. Jumpers
2. Conveyor interlock wiring
3. Terminal block

PLC Wiring

Sure Coat systems that use a PLC for triggering and control must interface with the PLC via a cable connected to the mini-master controller. The cable has enough signals to allow the user to individually control triggering for a maximum of six automatic powder spray guns.

WARNING: Disconnect and lock out main electrical power before performing the following procedure. Failure to observe this warning may result in an electric shock.

Use the following procedure to configure the mini-master controller for use with a PLC.

1. Remove the top panel from the mini-master controller by removing the eight screws.
2. See Figure 5. Remove the plastic trigger jumper (4) from terminal blocks T1 through T6. Save the plastic jumper for later use.
3. Remove the wire jumper (1) from the conveyor interlock relay (3) and terminal block. Save the wire jumper for later use.

NOTE: The only remaining jumper should be the single wire jumper (2) connected to the conveyor interlock relay and terminal block.

4. Connect the appropriate wires from the PLC to terminal blocks T1–T6. Refer to the PLC manual for wiring instructions.

NOTE: For further wiring assistance, contact your Nordson representative.

Standalone Wiring

The mini-master controller is factory-set to operate as a standalone unit without a PLC. Perform the following procedure to rewire from the PLC configuration back to the standalone configuration.

WARNING: Disconnect and lock out main electrical power before performing the following procedure. Failure to observe this warning may result in an electric shock.

1. Remove the top panel from the mini-master controller by removing the eight screws.
2. See Figure 5. Install the factory-supplied plastic trigger jumper (4) across terminal blocks T1 through T6.
3. Install the wire jumper (1) from the terminal block to the conveyor interlock relay (3).
4. Make sure that the wire jumper (2) is present on the conveyor interlock relay.

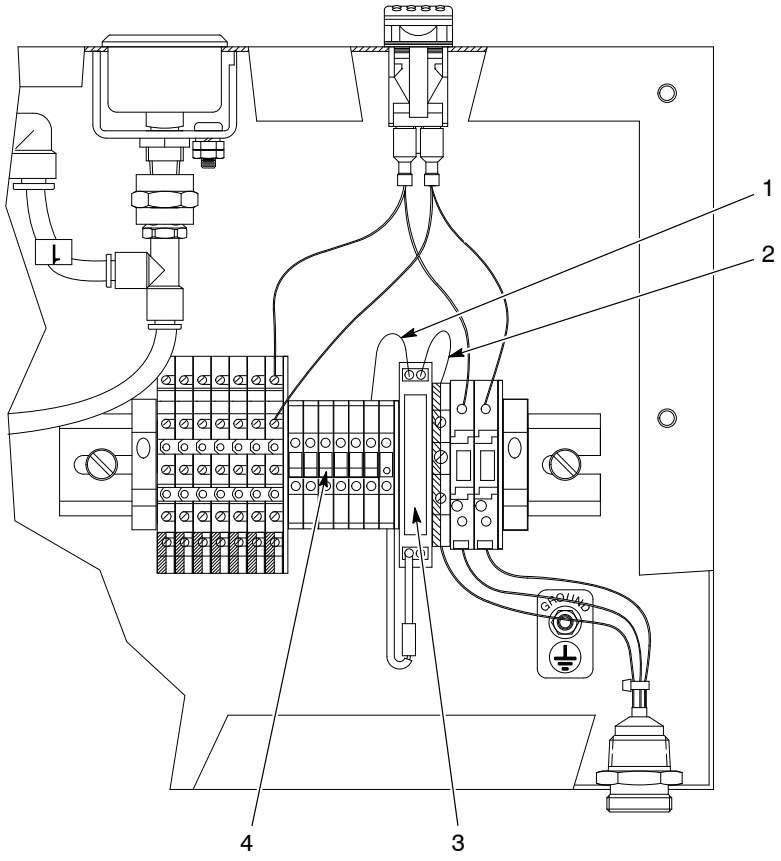

Figure 5 Wiring for PLC or Standalone Operation

1. Wire jumper
2. Wire jumper
3. Conveyor interlock relay
4. Plastic trigger jumper

Adding Individual Controllers to an Existing System

Use the following procedures to connect an additional spray gun and individual controller to the mini-master controller.

NOTE: Six is the maximum number of individual controllers that can be connected to the mini-master controller.

WARNING: Disconnect and lock out main electrical power before performing the following procedure. Failure to observe this warning may result in an electric shock.

WARNING: Shut off and relieve system air pressure before performing the following procedure. Failure to observe this warning may result in personal injury.

1. Remove the screws and brackets holding the mini-master controller to the top individual controller. Carefully lift the mini-master controller off of the stack of individual controllers.
2. Place the new individual controller on top of the others and secure it in place using the brackets and pan-head screws included with the individual controller. Refer to the *Sure Coat Individual Controllers* manual for more information about mounting the controllers.
3. Place the mini-master controller on top of the new individual controller. Secure it in place with the screws and brackets removed in step 1.
4. Connect the new individual controller's ground strap to a true earth ground.
5. Connect the new individual controller cable and wires to the mini-master controller. Refer to *Electrical Connections* for instructions.
6. Connect the gun cable to the GUN OUTPUT receptacle on the individual controller back panel.
7. Make the necessary pneumatic connections to the new individual controller. Refer to *Pneumatic Connections* in this section and refer to the *Sure Coat Individual Controllers* manual for additional information.
   a. Connect 10-mm air tubing to the next available air out fitting on the mini-master controller back panel. Connect the other end to the IN air fitting on the new individual controller's back panel.
   b. Connect and route the atomizing and flow rate air tubing from the connections on the new individual controller to the powder pump.
   c. If used, connect gun air and purge air from the new individual controller to the spray gun.

Operation

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

Use the following procedures to operate the Sure Coat mini-master controller. Refer to the *Sure Coat Individual Controllers* manual for additional operation instructions.

Startup

Use the following procedure to start up the mini-master controller.

1. Turn on the main power to the booth.
2. Turn on main power to the controllers using the POWER switch on the mini-master controller front panel.
3. Make sure that the power switches on the individual controllers are in the on position.
4. Turn on the main air supply to the mini-master controller.
5. **Automatic Individual Controllers Only:** Turn on the trigger enable switches on the individual controllers that will be operating. The automatic spray guns should spray when the trigger enable switches are pressed.

NOTE: If a PLC is connected to the system, the spray guns automatically trigger on and off.

6. Refer to the *Sure Coat Individual Controllers* manual and the spray gun manuals for additional startup and operation procedures.

Shutdown

Use the following procedures to shut down the mini-master controller and individual controllers.

All Controllers

Use these steps to shut down the mini-master controller and all individual controllers simultaneously.

1. Turn off power to the controllers using the POWER switch on the mini-master controller front panel.
2. Turn off the main booth power.

Single Controller

Turn off the power switch on the appropriate individual controller(s) to shut down specific controllers. The mini-master controller and any individual controllers that you do not turn off in this manner will remain active.

Maintenance

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

WARNING: Turn off the electrostatic voltage and ground the gun electrode before performing the following tasks. Failure to observe this warning could result in a severe electric shock.

WARNING: Check all ground connections thoroughly. Ungrounded equipment and parts may accumulate a charge that could arc and cause a fire or explosion. Failure to observe this warning could result in serious injury.

Perform the following maintenance procedure daily.

1. Check all ground connections, including part grounds. Ungrounded or poorly grounded parts affect transfer efficiency, electrostatic wrap, and the quality of the finish.
2. Check all power and gun cable connections.
3. Make sure that the supply air is clean and dry.
4. Wipe powder and dust off the mini-master controller cabinet with a clean, dry cloth.
5. Carefully remove fused powder from the parts with a wooden or plastic dowel or similar tool. Do not use tools that will scratch the plastic. Powder will build up and impact fuse on any scratches.

Troubleshooting

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

Introduction

This section contains troubleshooting procedures. These procedures cover only the most common problems that you may encounter. If you cannot solve the problem with the information given here, contact your local Nordson representative for help.

Troubleshooting Chart

Problem	Possible Cause	Corrective Action
1. Mini-master controller does not turn on	Fuses on the terminal block blown or defective	Remove the top cover. Check the fuses with an ohmmeter and replace if necessary.
	Loose connections on the terminal block or input power supply (booth is not powered on)	Tighten the input connections and check the input wiring.
	Power switch failure	Replace the power switch.
2. Individual controller does not trigger on when the mini-master controller is on	Trigger jumper on terminal block not present or tightened down	Remove the top cover. Make sure that the plastic trigger jumper is tightened down on the blue terminals (T1–T6).
	Trigger wires are loose on the terminal block	Remove the top cover. Tighten wire connections to blue trigger terminals (T1–T6).
	Defective power cable from mini-master controller to individual controller	Replace the power cable.
	Conveyor interlock signal is open (defective relay or wiring)	Replace the relay or the wiring.
	Defective individual controller	Refer to *Troubleshooting* section in the *Sure Coat Individual Controllers* manual for additional troubleshooting procedures.

Wiring Diagram

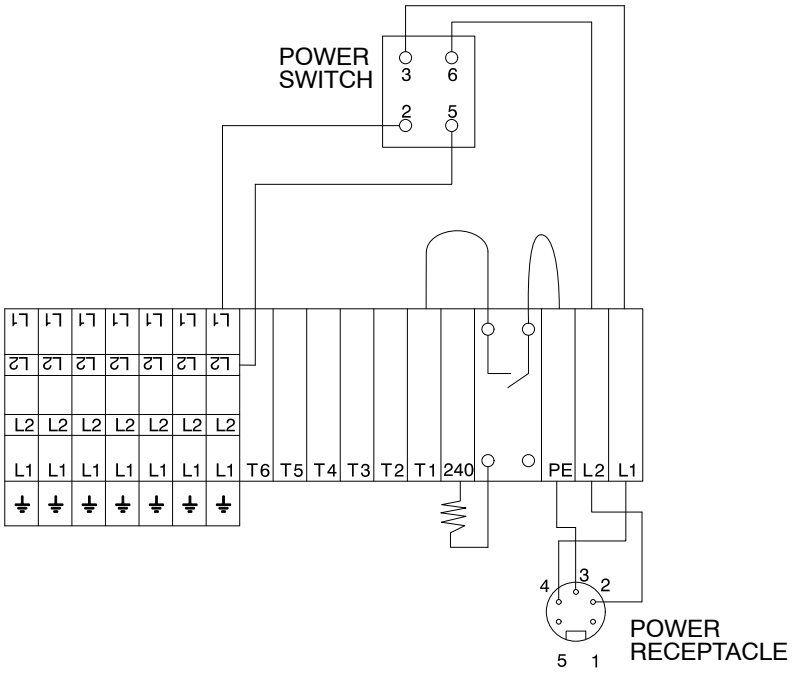

Figure 6 Wiring Diagram

Repair

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

WARNING: Relieve system air pressure before performing the following tasks. Failure to observe this warning may result in personal injury or death.

WARNING: Disconnect and lock out main electrical power before performing the following procedure. Failure to observe this warning may result in an electric shock.

Regulator Replacement

See Figure 7.

WARNING: Relieve system air pressure before performing the following tasks. Failure to observe this warning may result in personal injury or death.

WARNING: Disconnect and lock out main electrical power before performing the following procedure. Failure to observe this warning may result in an electric shock.

1. Remove the screws and washers securing the top panel to the mini-master controller cabinet. Remove the top panel.
2. Disconnect the air tubing (2, 3) from the regulator elbows (4).
3. Pull off the regulator cap (6) and remove the regulator assembly (5) through the inside of the controller cabinet.
4. Remove the elbows from the old regulator assembly. Wrap the elbow threads with PTFE tape and install them on the new regulator assembly.
5. Install the new regulator assembly through the inside of the controller cabinet. Install the regulator cap onto the regulator assembly.
6. Connect the air tubing to the regulator elbows.
7. Install the top panel on the controller cabinet.
8. Restore the system to normal operation.

Gauge Replacement

See Figure 7.

WARNING: Relieve system air pressure before performing the following tasks. Failure to observe this warning may result in personal injury or death.

WARNING: Disconnect and lock out main electrical power before performing the following procedure. Failure to observe this warning may result in an electric shock.

1. Remove the screws and washers securing the top panel to the mini-master controller cabinet. Remove the top panel.
2. Disconnect the air tubing (1, 3) from the tee (9).
3. Remove the front panel mounting ring from the gauge assembly (7). Remove the gauge assembly from inside of the controller cabinet.
4. Remove the tee and coupling (8) from the gauge assembly. Wrap the threads of the tee and coupling with PTFE tape and install them onto the new gauge assembly.
5. Install the new gauge assembly through the inside of the controller cabinet. Install the front panel mounting ring onto the gauge assembly.
6. Connect the air tubing to the gauge tee.
7. Install the top panel on the controller cabinet.
8. Restore the system to normal operation.

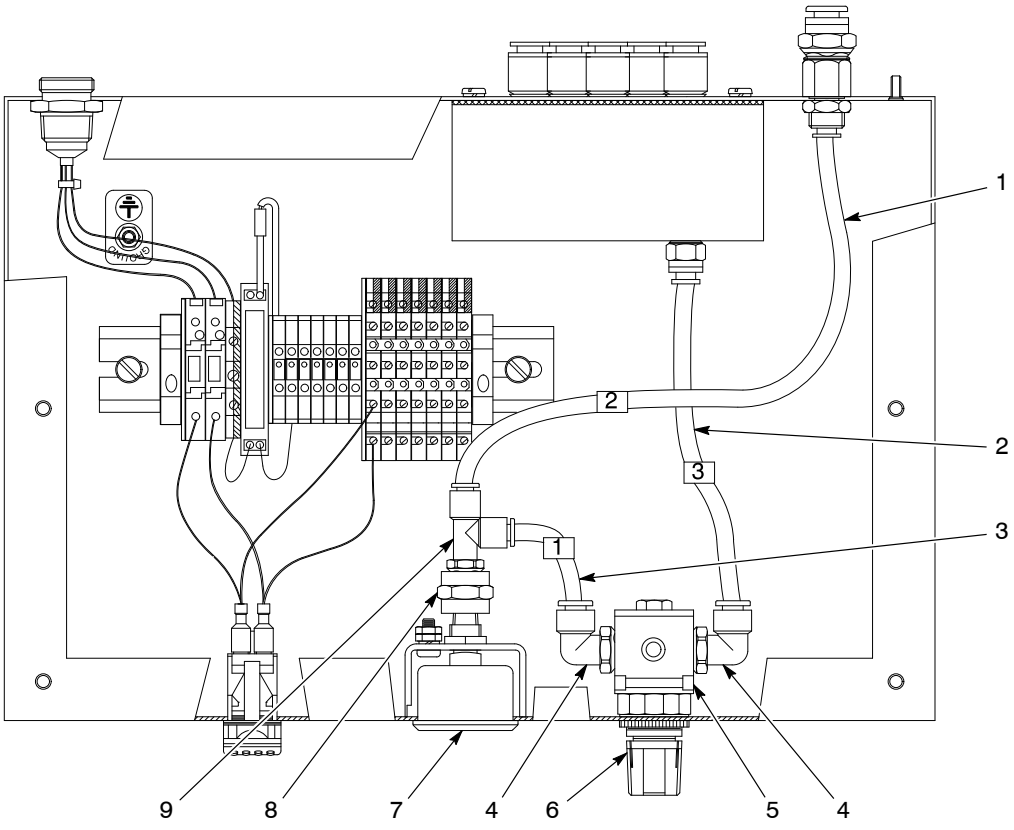

Figure 7 Mini-Master Controller Repair

1. Air tubing
2. Air tubing
3. Air tubing
4. Elbow
5. Regulator assembly
6. Regulator cap
7. Gauge assembly
8. Coupling
9. Tee

Parts

To order parts, call the Nordson Customer Service Center or your local Nordson representative. Use this five-column parts list, and the accompanying illustration, to describe and locate parts correctly.

Using the Illustrated Parts List

Numbers in the Item column correspond to numbers that identify parts in illustrations following each parts list. The code NS (not shown) indicates that a listed part is not illustrated. A dash (—) is used when the part number applies to all parts in the illustration.

The number in the Part column is the Nordson Corporation part number. A series of dashes in this column (- - - - - -) means the part cannot be ordered separately.

The Description column gives the part name, as well as its dimensions and other characteristics when appropriate. Indentions show the relationships between assemblies, subassemblies, and parts.

Item	Part	Description	Quantity	Note
—	0000000	Assembly	1	
1	000000	• Subassembly	2	A
2	000000	• • Part	1	

- If you order the assembly, items 1 and 2 will be included.
- If you order item 1, item 2 will be included.
- If you order item 2, you will receive item 2 only.

The number in the Quantity column is the quantity required per unit, assembly, or subassembly. The code AR (As Required) is used if the part number is a bulk item ordered in quantities or if the quantity per assembly depends on the product version or model.

Letters in the Note column refer to notes at the end of each parts list. Notes contain important information about usage and ordering. Special attention should be given to notes.

Mini-Master Controller Parts

See Figure 8.

Item	Part	Description	Quantity	Note
—	335419	Controller, mini-master, Sure Coat, packaged	1	
1	335431	• Receptacle, power, mini-master	1	
2	984526	• Nut, lock, $^1/_2$-in. conduit	1	
3	982000	• Screw, pan, slotted, M5 x 10, zinc	12	
4	983401	• Washer, lock, m, split, M5, steel, zinc	14	
5	983408	• Washer, flat, m, narrow, M5, steel, zinc	12	
6	972283	• Connector, round, male, 10-mm tube x $^1/_4$-in. unifit	7	
7	983021	• Washer, flat, E, 0.203 x 0.406 x 0.040 in., brass	3	
8	984702	• Nut, hex, M5, brass	3	
9	972841	• Connector, male, 10-mm tube x $^1/_4$ in.	1	
10	309486	• Union, bulkhead, M6 x $^1/_4$-in. RPT	1	
11	940142	• O-ring, silicone, 0.500 x 0.625 x 0.063 in.	1	
12	335437	• Gasket, manifold, master control	1	
13	- - - - - -	• Manifold, mini-master control	1	
14	971100	• Connector, male, 6-mm tube x $^1/_4$-in. unifit	1	
15	900742	• Tubing, polyurethane, 6-mm OD x 4-mm ID, blue	AR	
16	- - - - - -	• Cover, cabinet, mini-master control	1	
17	335445	• Gasket, mini-master controller	1	
18	901444	• Regulator, air, 5–125 psi, $^1/_4$-in. NPT	1	
19	141603	• Seal, panel, regulator	1	
20	901260	• Gauge, air, 0–100 psi (0–7 bar), kPa	1	
21	631138	• Gasket, gauge, 40-mm diameter, EPDM	1	
22	322404	• Switch, rocker, DPST, dust-tight	1	
23	- - - - - -	• Cabinet, mini-master controller	1	
24	972142	• Elbow, male, 6-mm tube x $^1/_4$-in. unifit	2	
25	973572	• Coupling, pipe, hydraulic, $^1/_8$ in., zinc, steel	1	
26	972840	• Tee, male run, 6-mm tube x $^1/_8$-in. unifit	1	
27	- - - - - -	• Wire group, mini-master controller	1	
28	- - - - - -	• Block, terminal assembly	1	
NS	114875	• • Fuse, 5.00, fast acting, 250 V, 5 x 2	2	
NS	320588	• • Control relay, 120 Vac, open, fixed	2	
29	320586	• Resistor, MF, 20 K, 1 W, 5 axl	1	
NS	335455	• Plate, mounting, master to indiv. controller	2	A
NS	982094	• Screw, pan, slotted, M5 x 6, zinc, steel	6	A
NS	173086	• Cable, power, 3 wire, female, 18 ft	1	

NOTE A: Used to secure the mini-master controller to a Sure Coat individual controller.

AR: As Required

NS: Not Shown

Mini-Master Controller Parts *(contd)*

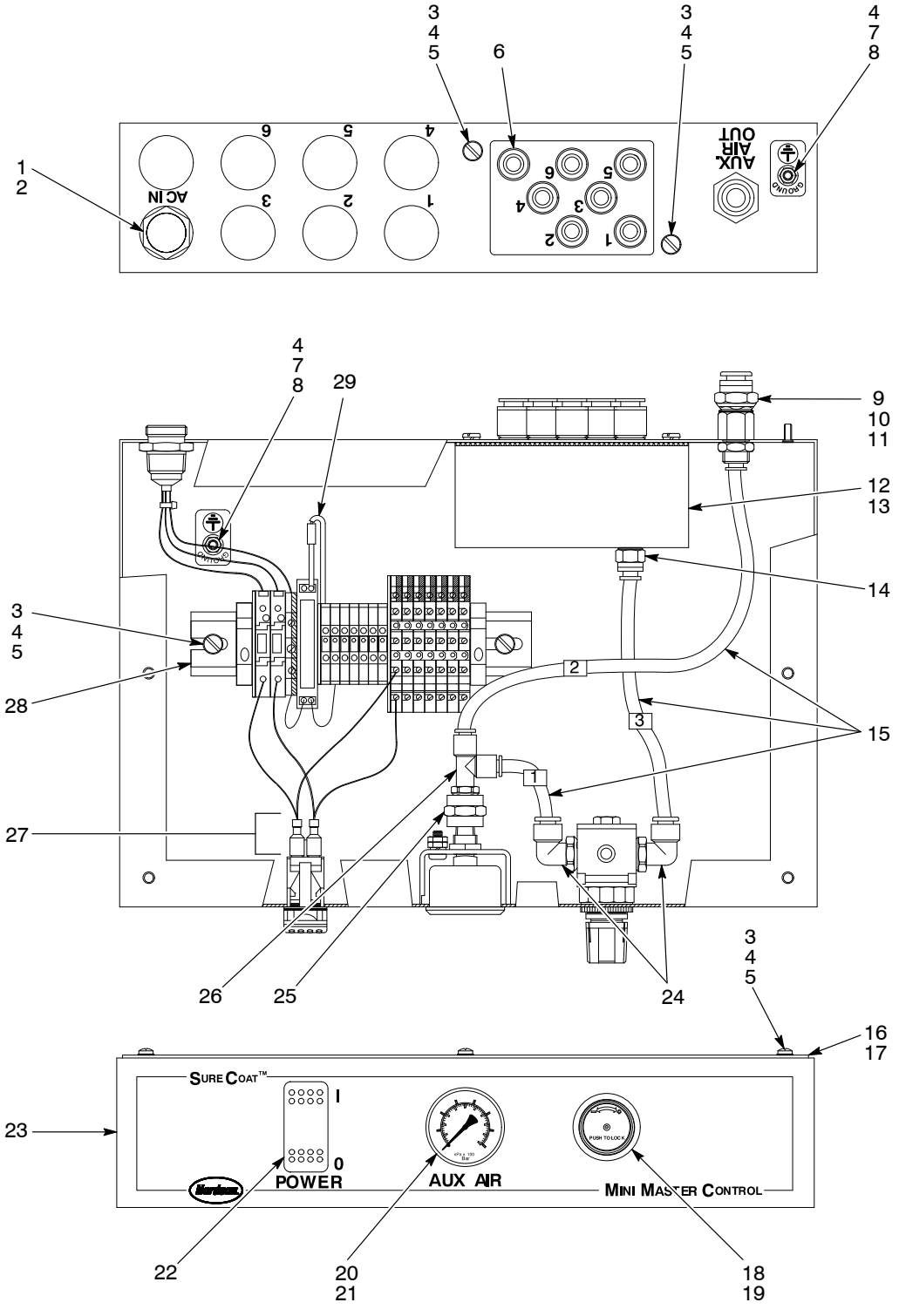

Figure 8 Mini-Master Controller Parts

