FS10-R30 Flame Detector

Customer Product Manual
Part 334456-06
Issued 5/17

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

Table of Contents

Contact Us

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

This is a Nordson Corporation publication which is protected by copyright. Original copyright date 1999. No part of this document may be photocopied, reproduced, or translated to another language without the prior written consent of Nordson Corporation. The information contained in this publication is subject to change without notice.

Trademarks

Nordson and the Nordson logo are registered trademarks of Nordson Corporation.

© 2017 Nordson Corporation

Change Record

Revision	Date	Change
06	5/17	Updated power supply.

© 2017 Nordson Corporation

© 2017 Nordson Corporation

FS10-R30 Flame Detector

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 Safety Data Sheets (SDS) 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.

© 2017 Nordson Corporation

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 SDS 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.

Electrostatic 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.

© 2017 Nordson Corporation

Description

The model FS10-R30 flame detector is installed in a coating system booth and interfaces with the booth and the application system controls. The flame detector shuts down the booth, application equipment, and the conveyor when it detects a fire in the booth.

See Figure 1. The flame detector consists of an indicator panel (1) and one or two detector heads (2).

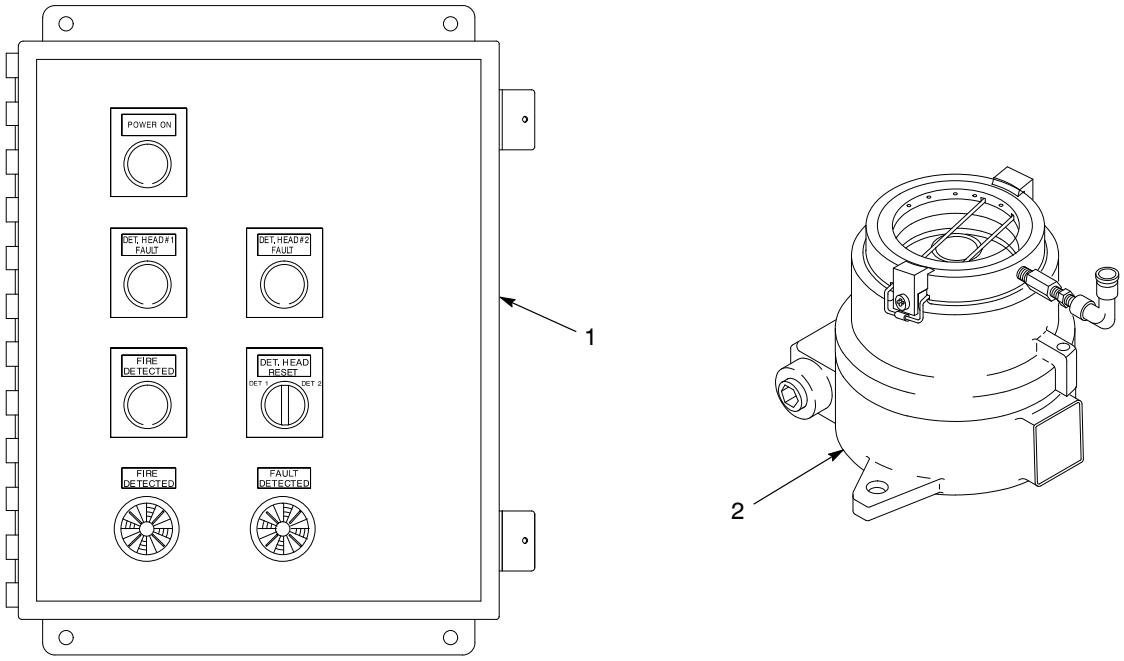


Figure 1 FS10-R30 Flame Detector Components

1. Indicator panel
2. Detector head

© 2017 Nordson Corporation

Indicators, Alarms, Interlocks, and Controls

The indicator panel houses the flame detector indicators, alarms, interlocks, and controls.

The indicator panel is provided with a connector system or without a connector system. See Figure 11 for a view of the alternate indicator panel with the connector system.

Indicators

- POWER ON (green)
- DET. HEAD 1 FAULT (amber)
- DET. HEAD 2 FAULT (amber)
- FIRE DETECTED (red)

Alarm Buzzers

- fault detected (continuous tone)
- fire detected (fast intermittent tone)

Interlocks

The indicator panel houses three interlock relays:

- booth
- conveyor
- customer-use

If a fire is detected in the booth, the booth and conveyor interlocks shut down the booth, application equipment, and conveyor. The customer-use interlock relay can be wired to activate an alarm or other external device.

Refer to *Installation* for instructions on wiring these interlocks, and *Specifications* for the relay contact conditions during fault, major fault, and fire alarms.

Reset Switch

The DET. HEAD RESET switch is a three-position momentary selector switch, used to reset the detector heads after a fault has been corrected. Moving the switch to the left resets detector head 1. Moving the switch to the right resets detector head 2.

NOTE: A detector fault condition will reset with the next self-test if a dirty lens fault occurs.

Detector Heads

See Figure 2.

A detector head consists of an air shield (1), microprocessor/sensor module (2), and housing (3).

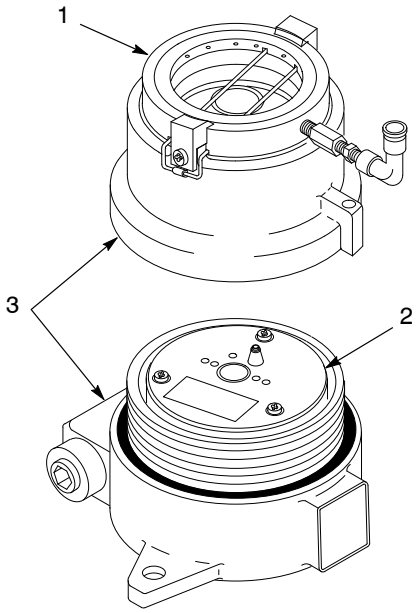


Figure 2 Detector Head Components

1. Air shield
2. Microprocessor/sensor module
3. Housing

The detector heads simultaneously scan two IR spectrums and the visible spectrum. They use intelligent, real-time signal processing to tell the difference between a real fire and false-alarm radiant energy sources.

Each detector head continuously monitors itself via a through-the-lens test. The detector head shines a light through the lens and looks for a reflection from the chrome lens-protection grille. If the test fails, the detector head goes into fault mode and the amber fault indicator lights.

Each detector head also has a green status LED, visible through the lens. The detector head lens is continuously cleaned by low-pressure air flowing from the air shield.

© 2017 Nordson Corporation

Theory of Operation

Power is supplied to the indicator panel and detector heads from the booth electrical panel.

Flame Detection

If a flame is detected inside the booth, interlock relays in the indicator panel open and shut down the exhaust fan, application equipment, and conveyor. The red FIRE DETECTED indicator lights and the fire alarm sounds.

Faults

The FAULT DETECTED indicator light and the fault alarm alert operators to problems with the detector heads. There are two fault modes:

Fault: A fault occurs when one detector head loses power, fails a through-the-lens test, or has a microprocessor/sensor module malfunction. The fault indicator for that detector head lights and the fault alarm sounds. No interlocked equipment is shut down if two detector heads are used and only one is in fault. If only one detector head is used, any fault is treated as a major fault.

Major Fault: A major fault occurs when both detector heads lose power, fail a through-the-lens test, or have microprocessor/sensor malfunctions. Both fault indicators light and the fault alarm sounds. If only one detector head is connected, then any fault is a major fault. A major fault shuts down the booth and application equipment. The conveyor will continue to run. The conveyor is shut down only if a flame is detected.

Installation

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

Mounting

See Figure 3.

1. Measure and mark the locations in the booth entrance and exit vestibules (2) for the detector heads (1).
2. Mount the detector heads to the spray booth entrance and exit vestibule walls or floors, using the included brackets (7), and screws, washers, lock washers, and nuts (8).

   NOTE: Each detector head has a 90-degree, cone-shaped field of view.
3. Align the detector head centerlines (4) so they have an unobstructed view of the spray guns (3), conveyor (5), hangers, and workpieces (6).
4. Mount the indicator panel in an appropriate location, close to or on the booth electrical panel, or on an operator platform, using the mounting holes on the panel flanges.

© 2017 Nordson Corporation

Mounting *(contd)*

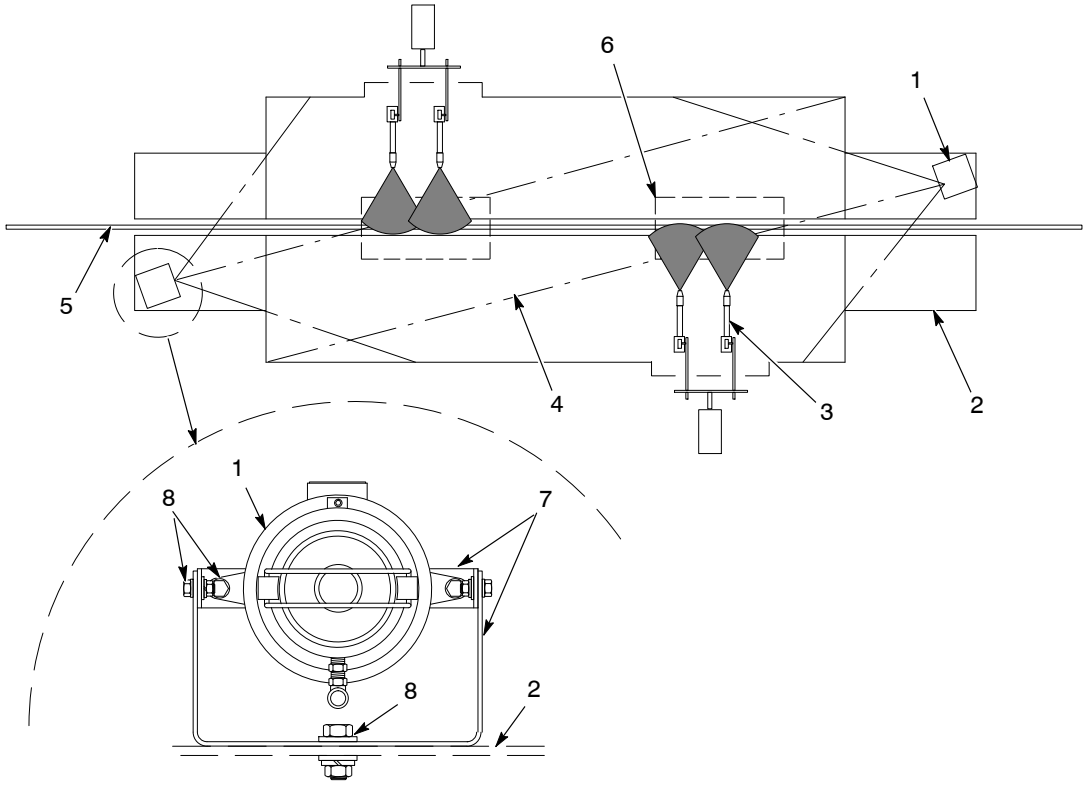


Figure 3 Fire Sensors and Light Test Source Installation Side View

1. Detector heads
2. Booth vestibules
3. Spray guns
4. Centerlines
5. Conveyor
6. Hangers and workpieces
7. Brackets
8. Screws, washers, lock washers, and nuts

Pneumatic Connections

See Figure 4. Install a 0.7 bar (10 psi) fixed-pressure regulator for each detector head.

1. Install the regulator (4) on the booth as close as practical to the detector head (2).
2. Connect 6-mm air tubing (3) from the air supply to the regulator and from the regulator to the detector head air shield.

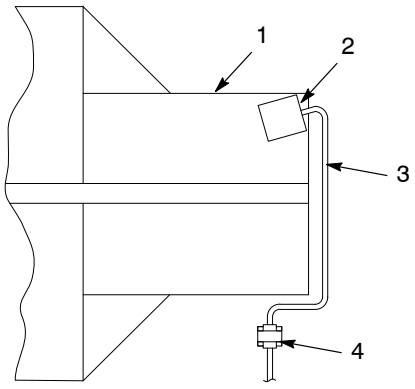


Figure 4 Detector Head Pneumatic Connections

1. Vestibule
2. Detector head
3. 6-mm air tubing
4. Regulator

© 2017 Nordson Corporation

Electrical Connections

WARNING: All electrical connections must be made according to local or national electrical codes. Use properly sized wire and approved conduit and fittings. Failure to observe this warning could result in property damage or personal injury.

NOTE: There are two types of indicator panels: with field wiring connectors or without. See Figures 6 and 7.

NOTE: Use copper conductors for all field wiring to the indicator panel.

Detector Heads

Connect the detector heads to the indicator panel with seven-wire shielded cable, ground wire, flexible or rigid conduit, and liquid-tight conduit fittings (Type 12 minimum rating).

1. See Figure 5. Loosen the set screw (2) in the upper housing (1). Unscrew the upper housing from the lower housing (6).
2. Loosen the three screws (4) in the top of the microprocessor/sensor module (3). Remove the module from the lower housing. Keep the sensor lens clean.
3. Remove one of the plugs (8) from the lower housing, and install a liquid-tight conduit fitting (9) (Type 12 minimum) in the open port.
4. Pull the cable (7) and ground wire (11) through the conduit (10), then connect the conduit (10) to the fitting.
5. Connect the cable wires to the terminal block (5) on the bottom of the microprocessor/sensor module. See Figures 6 and 7 for connections.
6. Connect the ground wire to the green ground stud in the lower housing.
7. Install the microprocessor/sensor module into the lower housing and secure it in place with the three screws removed in step 2.
8. Screw the upper housing on the lower housing. Tighten the set screw.
9. Connect the cable wires to the indicator panel terminal block or panel connector as shown in Figures 6 and 7.

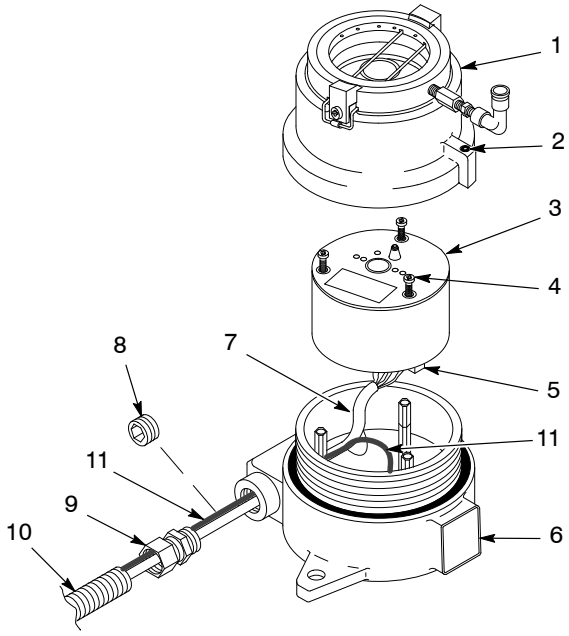


Figure 5 Detector Head Electrical Connection

1. Upper housing
2. Set screw
3. Microprocessor/ sensor module
4. Screws
5. Terminal block
6. Lower housing
7. Cable
8. Plug
9. Conduit fitting
10. Conduit
11. Ground wire

Fire Interlocks

NOTE: All interlock relays are rated for 120–240 Vac, 10 A.

Connect interlock wiring as shown in Figures 6 and 7.

1. Wire the booth interlock terminals so that the booth and application equipment will shut down when the fire interlock relay opens.

   NOTE: If a connector system is provided (Figure 7), wire to the orange and black wires of the mating power cord.
2. Wire the conveyor interlock to the normally open (1270, 1271) or normally closed relay contacts (1271, 1272).
3. If desired, wire a customer-supplied device such as a remote alarm to the customer-use terminals. Use either the normally open (1290, 1291) or the normally closed contacts (1291, 1292).

   NOTE: Refer to *Specifications* for more information about relay contact operating conditions.

© 2017 Nordson Corporation

Power Supply

See Figures 6 and 7. Supply 120–240 Vac, 1 phase, 50/60 Hz, 2 amp electrical service with ground to the indicator panel from the booth electrical panel. Use three-wire cable, flexible or rigid conduit, and liquid-tight conduit fittings.

NOTE: If a connector system is supplied, connect power to the red, white, and green wires of the power cord as shown in Figure 7.

NOTE: Connections must be made so that power is supplied to the indicator panel as long as the booth electrical power is turned on.

Supply service must be provided from a disconnect switched source.

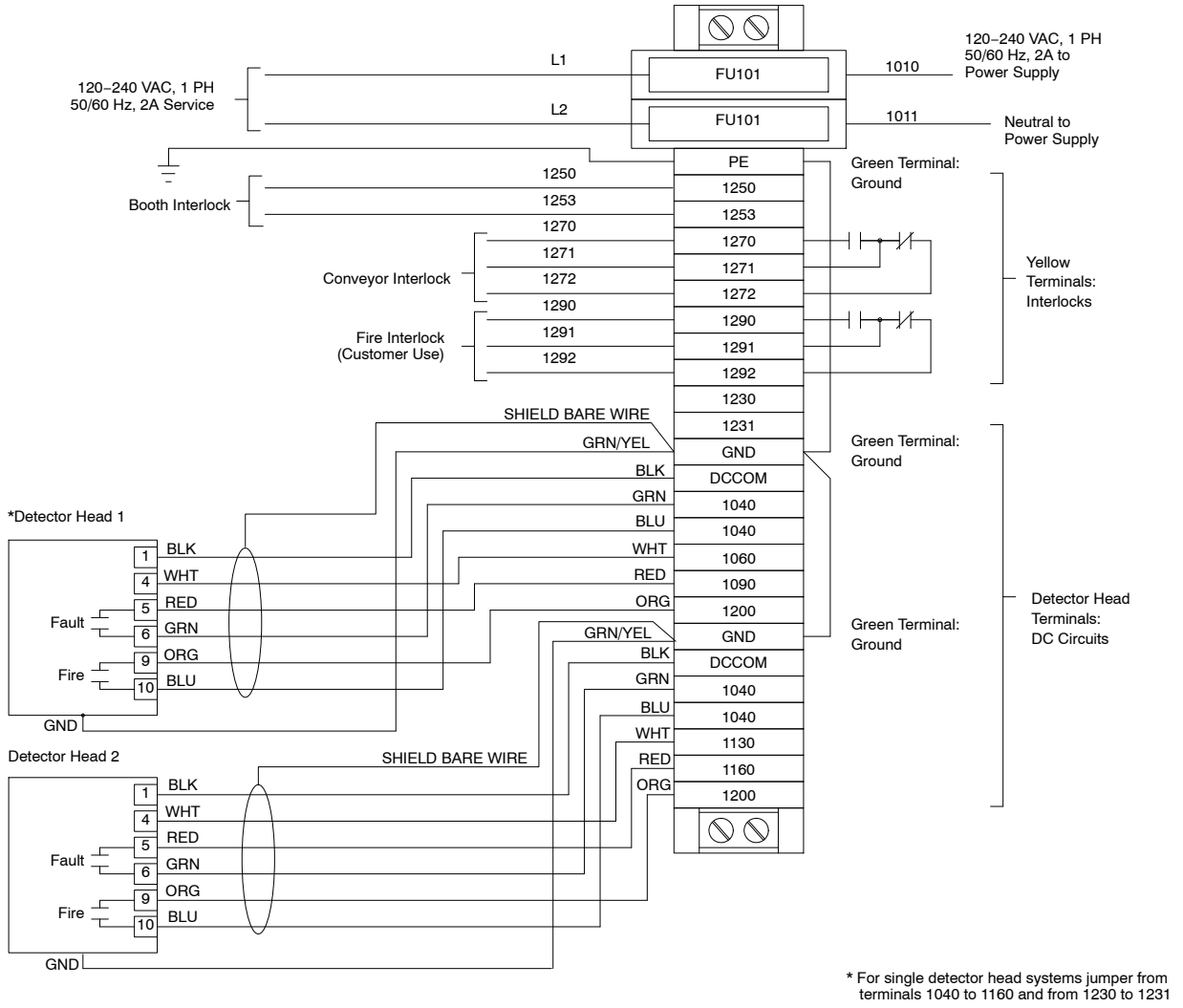
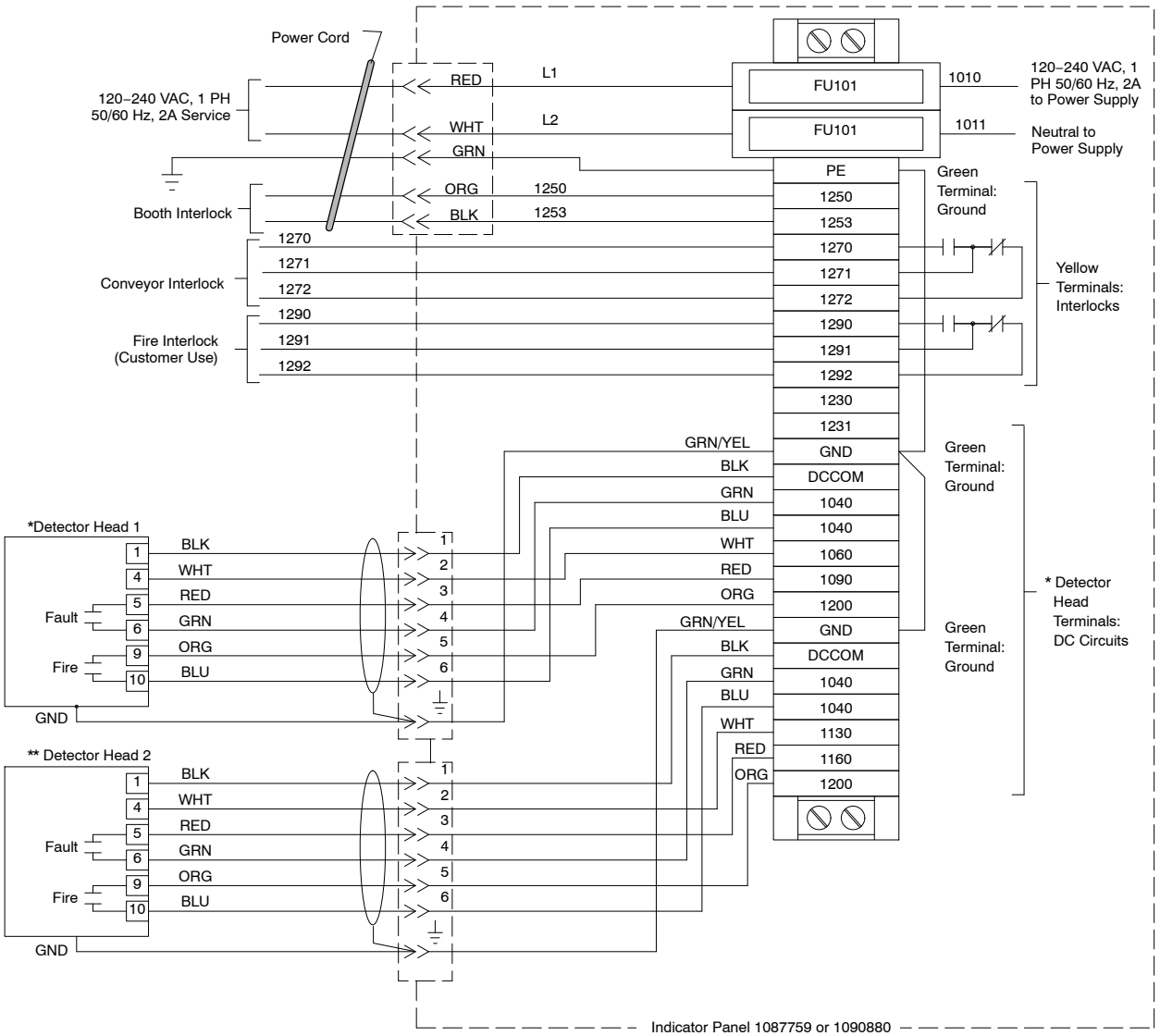


Figure 6 Installation Wiring Diagram – Indicator Panel 307445 **without** Field Wiring Connectors

© 2017 Nordson Corporation



* For single detector head systems (panel 1090880 jumper from terminals 1040 to 1160 and from 1230 to 1231.

** Not included with 1090880 panel.

Figure 7 Installation Wiring Diagram – Indicator Panels 1087759 or 1090880 **with** Field Wiring Connectors

© 2017 Nordson Corporation

Operation

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

Startup

Use the main disconnect switch to turn on power to the powder coating system:

- The green POWER ON indicator on the flame detector indicator panel will light.
- The FAULT DETECTED indicators will light then shut off if there are no faults.
- The red FIRE DETECTED indicator will stay off.
- The green status LEDs on the detector heads blink continuously for 10 seconds.

Normal Mode

In normal operating mode, the

- green POWER ON indicator is on.
- amber FAULT and red FIRE DETECTED indicators are off.
- green status LEDs on the detector heads blink once every 10 seconds.
- interlocked equipment can be started.

Fault Mode

In fault mode,

- the amber FAULT DETECTED indicator corresponding to the faulted detector head lights.
- all interlocked equipment continues to run.

WARNING: Immediately correct any condition that causes a fault or major fault. Do not operate the coating system with the flame detector shut down or bypassed, or with a malfunctioning flame detector component.

The system indicates a fault if a

- detector head loses power,
- through-the-lens test fails, or
- microprocessor/sensor module malfunctions in one of the detector heads in the system.

NOTE: If only one detector head is installed, any fault is treated as a major fault. The booth interlock opens, shutting down the booth and application equipment.

When the fault is corrected, the FAULT DETECTED indicator turns off and normal mode resumes.

Major Fault Mode

The system goes into major fault mode when faults are detected in both detector heads, preventing the detection of a fire.

WARNING: Immediately correct any condition that causes a fault or major fault. Do not operate the coating system with the flame detector shut down or bypassed, or with a malfunctioning flame detector component.

In major fault mode,

- both amber FAULT DETECTED indicators light.
- the fault alarm turns on (continuous tone).
- the booth fire interlock opens, shutting down the booth and application equipment.
- the conveyor continues to run.

NOTE: If only one detector head is installed, any fault is treated as a major fault.

When the fault is corrected, the FAULT DETECTED indicator(s) and siren turn off and normal mode resumes.

Fire Mode

When a fire is detected,

- the red FIRE DETECTED indicator turns on.
- the fire alarm turns on (fast intermittent tone).
- the booth and conveyor interlock relays open. The booth, application equipment, and conveyor shut down.
- the fire interlock contact (customer-use) changes state. Customer-use equipment is either activated or deactivated, depending on use.

© 2017 Nordson Corporation

Reset

To reset a detector head after a fault has been corrected, move the DET. HEAD RESET switch toward the appropriate detector head number, then release it.

Optional Test Light

The FS10-R30 test light has a light and lens combination that produces the appropriate IR source for testing the FS10 system. Refer to *Parts* for the test light part number.

The test light has a three position switch: Off, Continuous Beam, and Pulsed Beam.

Adjustment Procedure

NOTE: A moderately dark room is best for this adjustment.

1. Switch the test light to Continuous Beam and direct the beam on a wall or other vertical surface.
2. Loosen or tighten the lens cap until the beam is at its smallest diameter.

Through-the-Lens Test

The detector heads automatically perform periodic through-the-lens tests to check their operation. If a test fails, the detector head goes into fault mode. Refer to *Troubleshooting* for diagnostic and correction procedures.

Detector Head Test Procedure

NOTE: The response to the test light is slower than the 1/2 second response of the detector head to the flame from a powder gun.

1. Switch the test light to Continuous Beam and direct the beam at a detector from a distance of 1.2–2.4 meters (4–8 ft).
2. Wait for a response from the detector head and detector indicator panel. Response to the test light typically take several seconds or longer, up to 15–20 seconds.
3. Reset the detector head with the Reset switch on the indicator panel.

Test Light Maintenance

To replace the test light batteries, unscrew the threaded lens cap.

© 2017 Nordson Corporation

Maintenance

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

WARNING: Keep the detector head lenses clean. Dirty lenses can prevent the detector heads from detecting a fire in the booth. Failure to observe this warning could result in property damage or personal injury.

NOTE: Keeping the lenses clean will prevent nuisance fault alarms or shutdowns. A dirty lens can cause a through-the-lens test to fail, triggering a fault. If only one detector head is installed, a fault will shut down the coating system during production.

Daily

Check the detector head lenses daily. If they are dirty, clean them with an approved low-pressure air gun or an oil- and silicone-free cloth. If necessary, dampen the cloth with ethyl alcohol. Do not use a silicone-based product such as commercial window cleaner to clean the detector head lenses.

NOTE: If the detector head lenses are covered with powder overspray, check the air supply to the air shields. Air should be supplied at 0.7 bar (10 psi). Make sure the air shield orifices are not clogged.

Periodically

Check all electrical connections periodically. Tighten any loose terminals. Replace any wiring that has worn or damaged insulation. Make sure conduit fittings are tight.

© 2017 Nordson Corporation

Troubleshooting

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

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.

WARNING: Hazardous voltages are present inside the indicator panel when booth power is on. Do not touch exposed terminals or wiring when checking voltages. Use insulated tools. Failure to observe could result in severe shock and personal injury.

Problem	Possible Cause	Corrective Action
1. Detector fault	Through-the-lens test failed	If the green status LED on the detector head blinks three times every 10 seconds, the detector lens is obstructed. Make sure the detector lens is clean and clear of powder. If powder is accumulating on the lenses, check the air supply to the air shields. Reset the detector head if the fault continues.
	Detector head lost power	Check the green status LED on the detector head. When operating normally, the LED should blink once every 10 seconds. If the LED is off, check the wiring between the indicator panel and the detector. There should be 24 Vdc between pins 1 and 4 at the detector. • If 24 Vdc is present, replace the microprocessor/sensor module. • If 24 Vdc is not present, make sure green POWER ON indicator on the indicator panel is lit. If the indicator panel has power, repair or replace the wiring between controller and detector.
	Microprocessor/sensor module failed	If the green status LED on the detector head blinks five times every 10 seconds, there is a detector over-temperature fault. Correct the condition and reset the detector head. If the fault continues, replace the detector microprocessor/sensor module. If the LED blinks four or six times every 10 seconds, there is a detector internal hardware or memory fault. Replace the detector microprocessor/sensor module.

© 2017 Nordson Corporation

Problem	Possible Cause	Corrective Action
2. No power (green POWER ON indicator on indicator panel is off)	Blown fuse in indicator panel	Check the fuses on the terminal block. Replace if necessary with 2A fuse.
	Bad wiring to booth electrical panel	See Figure 8. Check for correct voltage at L1 and L2 terminals in the indicator panel terminal block. If correct voltage is present, refer to the next Possible Cause. If correct voltage is not present, repair or replace the wiring.
	Indicator panel dc power supply failed or bad wiring to detector heads	Check for 24 Vdc at terminals 1040 and DCCOM in the indicator panel terminal block. If 24 Vdc is not present, remove the detector head wiring from indicator panel terminals. Check for 24 Vdc again. If 24 Vdc is still not present, replace the power supply. If 24 Vdc is present, check the wiring to the detector heads.

© 2017 Nordson Corporation

Electrical Schematic

See Figure 8.

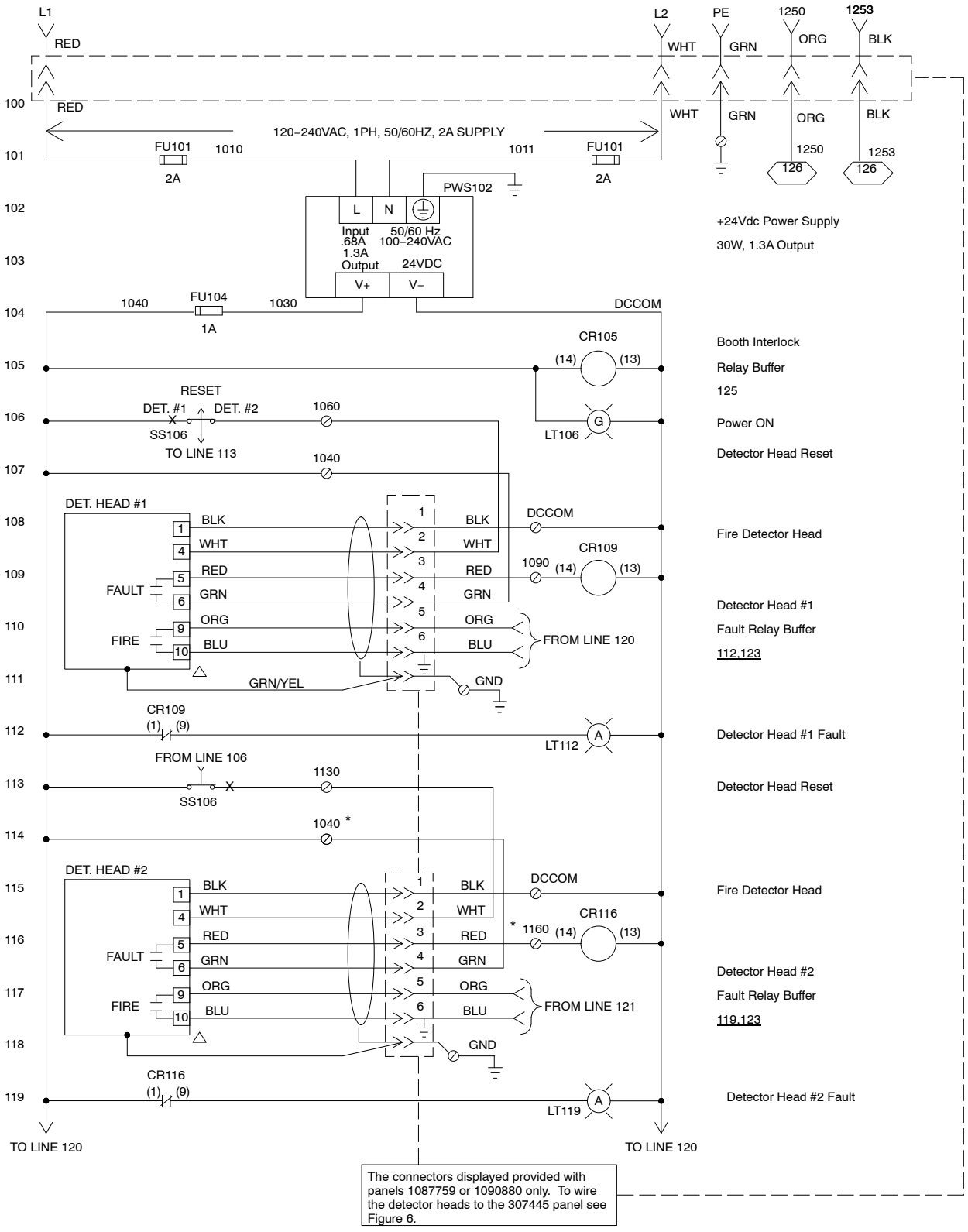


Figure 8 Indicator Panel Electrical Schematic (Sheet 1 of 2)

© 2017 Nordson Corporation

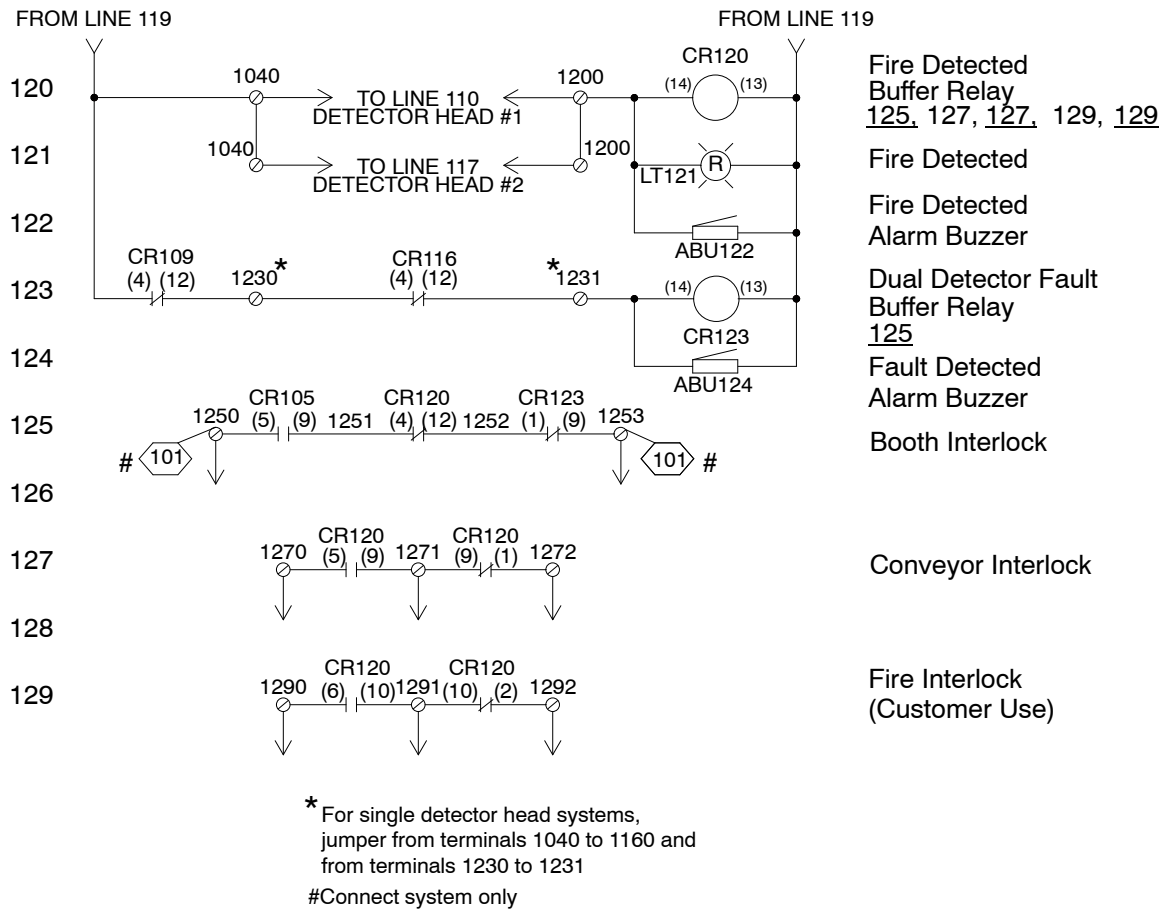


Figure 7 Indicator Panel Electrical Schematic (Sheet 2 of 2)

© 2017 Nordson Corporation

Repair

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

WARNING: Disconnect and lock out electrical power before servicing.

Microprocessor/Sensor Module Replacement

See Figure 9.

1. Turn off power to the detector heads by turning off power to the system.
2. Disconnect the air tubing (2) from the air fittings (3). To avoid having to remove the detector head from the bracket, remove the air fittings from the air shield (1).
3. Loosen the set screw (4) in the upper housing (5), then unscrew the upper housing from the lower housing (10).
4. Loosen the three screws (6) in the top of the microprocessor/sensor module (7). Remove the module from the lower housing. Keep the sensor lens clean.
5. Disconnect the cable wires from the module terminal block (8), and connect the wires to the new module terminal block.

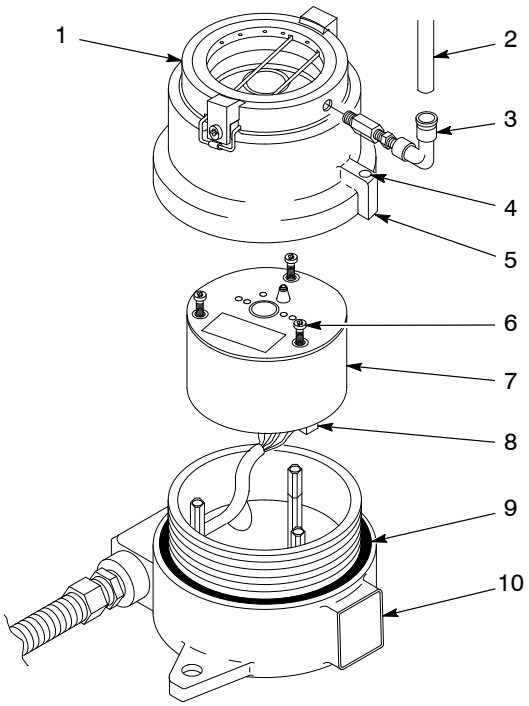


Figure 9 Detector Head Electrical Connections

1. Air shield
2. Air tubing
3. Air fittings
4. Set screw
5. Upper housing
6. Screws
7. Microprocessor/ sensor module
8. Terminal block
9. O-ring
10. Lower housing

6. Install the module in the lower housing and secure it with the three screws.
7. Check the O-ring (9) for damage and replace it if necessary.
8. Screw the upper housing onto the lower housing until tight. Tighten the set screw.
9. Wrap the air fitting threads with PTFE tape and install them in the air shield. Connect the air tubing to the quick-disconnect fitting.

© 2017 Nordson Corporation

Parts

To order parts, call the Nordson Finishing Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

Using the Illustrated Parts List

Numbers in the Item column correspond to numbers that identify parts in the illustrations. 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.

- 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.

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

© 2017 Nordson Corporation

Detector Head

See Figure 10.

Item	Part	Description	Quantity	Note
—	327757	KIT, mounting bracket, FS10-R30	1	
1	327761	SHEILD, air, FS10-R30	1	
2	327760	DETECTOR, fire, FS10-R30	1	
3	327758	• HOUSING, FS10-R30	1	
4	327759	• MODULE, circuit board, FS10-R30	1	

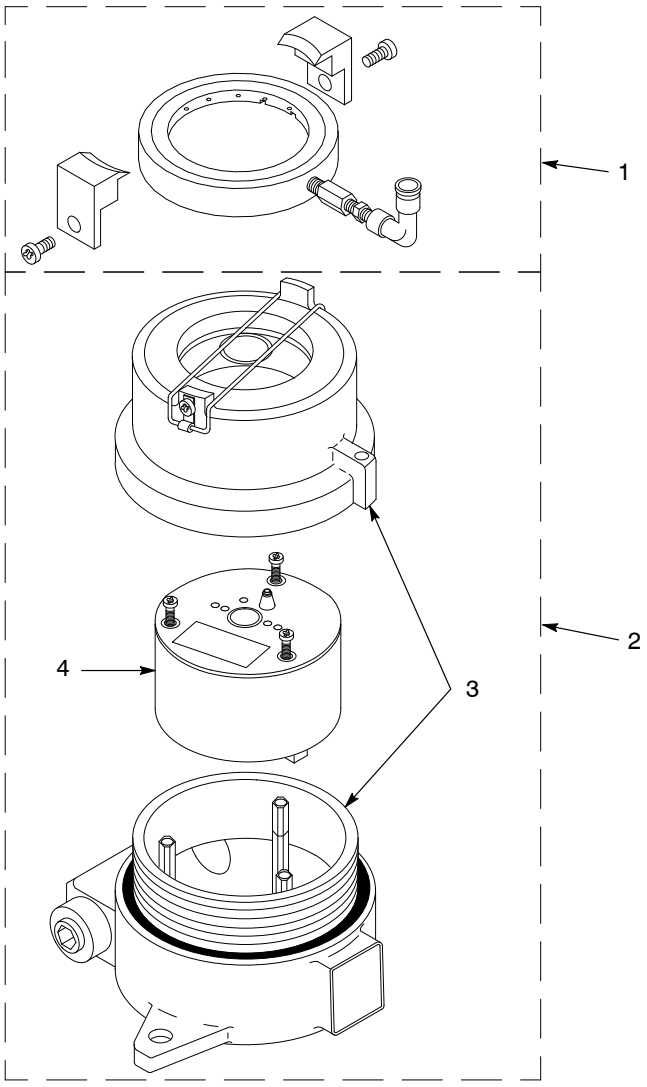


Figure 10 Detector Head Parts

© 2017 Nordson Corporation

Indicator Panel

See Figure 11.

Item	Part	Part	Part	Description	Quantity	Note
—	307445			PANEL, indicator, without connector	1	
—		1087759		PANEL, indicator, with dual connector	1	
—			1090880	PANEL, indicator, with single connector	1	
1	1606678	1606678	1606678	• POWER SUPPLY, 30 w, 24 V, 1.3 A	1	
2	332222	332222	332222	• RELAY, control, 3-pole, 24 Vdc, socket-mount	1	
3	332223	332223	332223	• RELAY, control, 2-pole, 24 Vdc, socket-mount	4	
4	939132	939132	939132	• FUSE, time delay, 250 V, 2 a, 0.25 x 1.25 in.	2	
5	332227	332227	332227	• ALARM, piezo, continuous, panel-mount	1	
6	332226	332226	332226	• ALARM, piezo, intermittent, panel-mount	1	
7	939016	939016	939016	• FUSE, time delay, 250 V, 1 a, 0.25 x 1.25 in.	1	
8	1083790	1083790	1083790	• LED, indiclamp, green, 24 V, PNL–MNT	1	
9	1083792	1083792	1083792	• LED, indiclamp, amber, 24 V, PNL–MNT	2	
10	1083749	1083749	1083749	• LED, indiclamp, red, 24 V, PNL–MNT	1	
11	1083794	1083794	1083794	• ROTARY, SW, 3–pos, spring return, ctr, 2–nc	1	
12		1088420	1088420	• HOUSING, connectors, 6–pos	2	A, B
13		175119	175119	• CONNECTOR, insert, female, scr, term, 6 pin	2	A
14		1087623	1087623	• RECEPTACLE, male, 5 pin, 16awg, 36 in. lead	1	
NS		1043941	1043941	• CONNECTOR, insert, male, 6–pos, 400v, scr, term	2	A, C
NS		1088398	1088398	• HOOD, connector, 6–pos	2	A, C

NOTE A: The quantity of this part will be reduced to 1 for the panel with a single connector (1090880).

B: The panel with a single connector (1090880) will have only one connector housing (1088420). The area that would have contained the second connector housing will be covered with a plate.

C: Mating parts to detector head 1 and 2 receptacles. For connection to detector heads.

NS: Not Shown

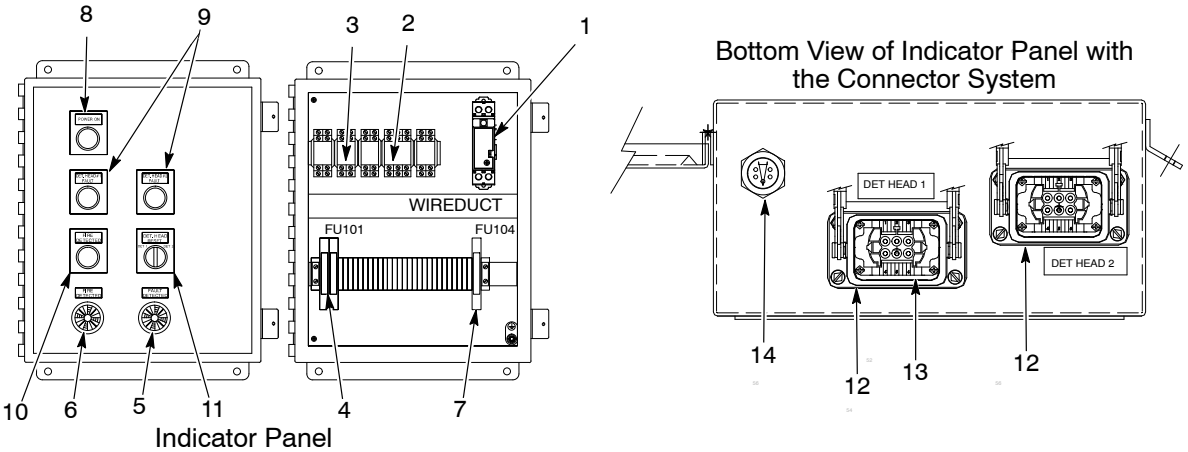


Figure 11 Indicator Panel Parts

© 2017 Nordson Corporation

Options

Test Light

See Figure 12.

Part	Description	Note
327762	LAMP, test, FS10-R30	

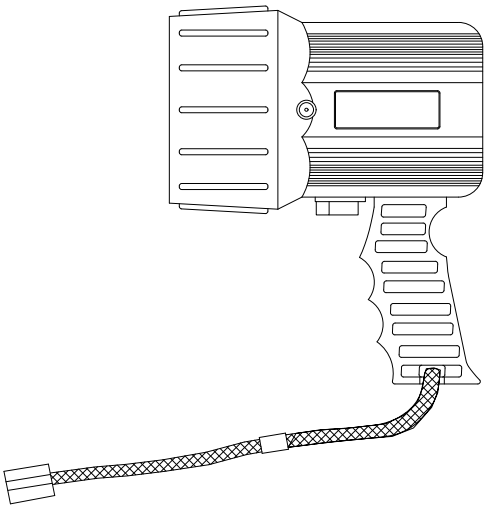


Figure 12 Test Lamp

Air Supply Parts

Use these parts to supply air to the air shields.

Part	Description	Note
249467	REGULATOR, in-line air	
900730	TUBING, polyurethane, 0.250 x 0.040 in.	A
900742	TUBING, polyurethane, 6/4 mm, blue	A
NOTE A: Order tubing in one-foot increments.		

© 2017 Nordson Corporation

Specifications

Detector Head Terminal Block Connections

Pin	Function
1	dc Common
4	+24 Vdc
5	Fault Relay (N.O.)
6	Fault Relay (Com)
9	Fire Relay (N.O.)
10	Fire Relay (Com)

Interlock Relay Contact Conditions

		Condition				
Interlock	**Terminal**	**No Power**	**Normal Operation**	**Fault**	**Major Fault**	**Fire Alarm**
Booth	1250–1253	○	●	●	○	○
Conveyor	1272–1271	●	●	●	●	○
	1271–1270	○	○	○	○	●
Customer Use	1292–1291	●	●	●	●	○
	1291–1290	○	○	○	○	●

● = Closed contact

○ = Open contact

NOTE: All relays are rated at 120–240 Vac, 10A.

Dimensions

Indicator Panel

Height: 304.8 mm (12 in.)

Width: 254 mm (10 in.)

Depth: 127 mm (5 in.)

Detector Head (Including Air Shield)

Height: 127 mm (5 in.)

Diameter: 127 mm (5 in.)

Electrical Power

Indicator Panel

Input voltage: 100–240 Vac, 1 phase, 1 A, 50/60 Hz

Detector Heads

Input voltage: 24 Vdc, 120 mA

Temperature Rating

-40 °C to +85 °C (-40 °F to +185 °F)

© 2017 Nordson Corporation