

ShopFloorConnect™ Machine Interface (SMI 2)

1146400

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For complete SMI 2 documentation
visit www.sfcdocs.com



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Installation
Manual

This SMI 2 Installation Manual covers SMI 2 software version 2.21 and higher.

NOTICE

CHECK DOWNLOAD SITE FOR ANY AVAILABLE ADDENDA TO MANUAL

Before you use this manual to install your Wintriss product, check www.sfcdocs.com for any addenda or document changes to this manual since its last revision.

You can also find documentation for other ShopFloorConnect-related products on this site, such as the SMI 2 Rev A user manual (which covers HMI version 1.44 and lower) and the Quick Start Guide (which covers HMI version 2.21 and higher).

If you encounter cross-references in this manual to chapters that have not been included, refer to the appropriate chapter of the user manual.

Thank you for purchasing a Wintriss ShopFloorConnect Product. We appreciate your business and want to do whatever we can to ensure your satisfaction. Wintriss products are built to stay on the job day after day, and are backed by an ironclad guarantee, international standards approvals, and unbeatable support. Whenever you need assistance or service, we back all our products with excellent spare parts inventories, training programs, and prompt repair service. We would like to share with you a list of service options—probably the largest number of service options offered in the industry.

- **Technical Assistance**

We offer a toll-free line for technical assistance. Call our ShopFloorConnect Technical Support at 800-586-8324 and select option 3 should you have any questions about your equipment. Our technical staff is ready to assist you Monday through Friday, 8 a.m. to 5 p.m. ET. In many cases our experienced technical staff can resolve your inquiry right over the phone. Download ShopFloorConnect documents at www.sfcdocs.com. You can download other Wintriss product manuals at www.wintrissdocs.com.

- **Return Authorization**

Please call our “800” number for a return authorization (RMA) number to return a product for repair. Returned goods must arrive freight prepaid. In order to process your return quickly, we ask that you provide us with the following pertinent information when you call: purchase order number, shipping address, contact name and telephone number, and product type. The assigned RMA number should appear on all packages returned to Wintriss Controls Group to ensure prompt service.

At the time of requesting an RMA, you will be quoted a flat-rate repair price for the product you are returning. We ask that you either fax us a PO for that amount or enclose the PO with the returned item. This will enable us to ship the item back to you as soon as the repair has been completed. If the item cannot be repaired or there are additional charges, you will be contacted for approval.

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- **Service Center**

Our Service Center for product service is located at our headquarters in Acton, MA. If your equipment requires repair, please contact us at 800-586-8324 to obtain a return authorization number. Nationwide field service is also available. Contact the Wintriss ShopFloorConnect Technical Support at 800-586-8324.

- **Product Training**

We also offer both product training and maintenance/troubleshooting courses at our Acton, MA and Chicago-area facilities. On-site training is available from the factory or through your local Wintriss representative.

- **Restocking Charge**

Returned goods are subject to a 20% restocking charge if returned for credit. The minimum charge is \$50, not to exceed \$250 per item.

Whatever the product, we are committed to satisfying you with innovative engineering, quality construction, reliable performance, and ongoing, helpful support. Call us whenever you need assistance.

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How to Use This Manual

NOTICE

Also refer to related documents found on www.sfcdocs.com

This manual shows you how to install and troubleshoot ShopFloorConnect (SFC) Machine Interface (SMI 2).

Chapter 2 shows how to mount and wire the SMI 2. Installation instructions are provided for both enclosure and panel mount versions.

Chapter 5 documents the system messages that appear at the top of the Main Menu screen.

Appendix A explains how SFC “discovers” primary items at the SMI 2.

Wiring diagrams are provided at the end of the manual.

Important Highlighted Information

Important danger, warning, caution and notice information is highlighted throughout the manual as follows:

DANGER

A DANGER symbol indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.

WARNING

A WARNING symbol indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

CAUTION

A CAUTION symbol indicates a potentially hazardous situation, which, if not avoided, may result in property damage.

NOTICE

A NOTICE symbol indicates important information that you should remember, including tips to aid you in performance of your job.

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Wintriss Controls warrants that Wintriss electronic controls are free from defects in material and workmanship under normal use and service for a period of one year (two years for Shadow light curtains) from date of shipment. All software products electro-mechanical assemblies, and sensors are warranted to be free from defects in material and workmanship under normal use and service for a period of 90 days from date of shipment. Wintriss's obligations under this warranty are limited to repairing or replacing, at its discretion and at its factory or facility, any products which shall, within the applicable period after shipment, be returned to Wintriss Controls freight prepaid and which are, after examination, disclosed to the satisfaction of Wintriss to be defective. This warranty shall not apply to any equipment which has been subjected to improper installation, misuse, misapplication, negligence, accident, or unauthorized modification. The provisions of this warranty do not extend the original warranty of any product which has either been repaired or replaced by Wintriss Controls. No other warranty is expressed or implied. Wintriss accepts no liability for damages, including any anticipated or lost profits, incidental damages, consequential damages, costs, time charges, or other losses incurred in connection with the purchase, installation, repair or operation of our products, or any part thereof.

Please note:

It is solely the user's responsibility to properly install and maintain Wintriss controls and equipment. Wintriss Controls manufactures its products to meet stringent specifications and cannot assume responsibility for consequences arising from their misuse.

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SFC MACHINE INTERFACE (SMI 2)
INSTALLATION MANUAL
1146400
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Chapter 2 – Installation

This chapter shows you how to install both enclosure and panel mount versions of the ShopFloorConnect Machine Interface (SMI 2). The document is organized in the following sections:

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If you encounter problems when installing SMI 2, call Wintriss ShopFloorConnect Technical Support.

WARNING

ELECTRIC SHOCK HAZARD

- Disconnect main power before installation.
- Turn off all power to the machine and equipment used with the machine
- Ensure that installation is performed by qualified personnel.
- Complete all installation and wiring procedures before connecting to the AC power source.

Failure to comply with these instructions could result in death or serious injury.

NOTICE

If you encounter problems installing SMI 2 call Wintriss ShopFloorConnect Technical Support.

Installation Guidelines

Observe the following guidelines when planning your installation:

- Never run wires for 120V and for lower voltages (e.g., 24V) inside the same conduit.
- Run flexible, liquid-tight conduit for high voltage lines (e.g., 120V power) to the knockout at the bottom right of the SMI 2 enclosure or to the appropriate location on your console if you have an SMI 2 panel mount.
- Run a conduit for low voltage lines (i.e., 24 VDC inputs and machine inhibit outputs) through one of the rear knockouts at the bottom left of the SMI 2 enclosure or to the appropriate location on your console.
- Run a conduit for the Ethernet cable through the center knockout at the bottom of the SMI 2 enclosure or to the appropriate location on your console.

NOTICE

You may choose to run 24 VDC input wires, machine inhibit output wires, and Ethernet cable through the same conduit.

- The SMI 2 enclosure is rated NEMA 12 (protected against dust and oil). If you have ordered the enclosure, you must use conduit of the same rating and make proper connections to ensure NEMA 12 protection.
- Good grounds at the SMI 2 are important. Make sure that the SMI 2 is properly grounded.
- The ground wire from SMI 2 should be connected to the main ground point of the machine. This may be near the control transformer ground.

NOTICE

Before starting the installation, make sure to check all modes of machine operation. Verification that the machine operates and stops properly is extremely important because SMI 2 will be connected to the machine's inhibit circuit. Do not forget to mark on your electrical prints where you wire in SMI 2.

Mounting the SMI 2

The SMI 2 is provided in an enclosure or as a panel mount. Mounting instructions for both SMI 2 configurations are given in the following sections.

Before you begin, determine a convenient place to mount your SMI 2. Ideally, the unit should be close to the machine control so operators and setup personnel can easily see and reach the displays on the touch screen.

Mounting the SMI 2 Enclosure

The SMI 2 enclosure can be mounted to the machine, on a free-standing pedestal, or on a pendant. To mount the enclosure, follow these steps, referring to Figure 2-1, page 17, for mounting dimensions.

NOTICE**PLACE ENCLOSURE AT A CONVENIENT HEIGHT**

The SMI 2 enclosure should be installed at a convenient height for all users. An ideal height is to have the top edge of the unit approximately at chin level. Experiment to determine a good height for everybody prior to wiring and mounting.

1. Drill four holes for mounting, and tap if necessary. Mounting bolts are 1/4-20. Use a No. 7 drill and 1/4-20 tap.
2. Allow up to 9 in. of service loop when performing the wiring connections (see *Wiring the SMI 2*, page 19). Also, make sure all cables will reach the enclosure.

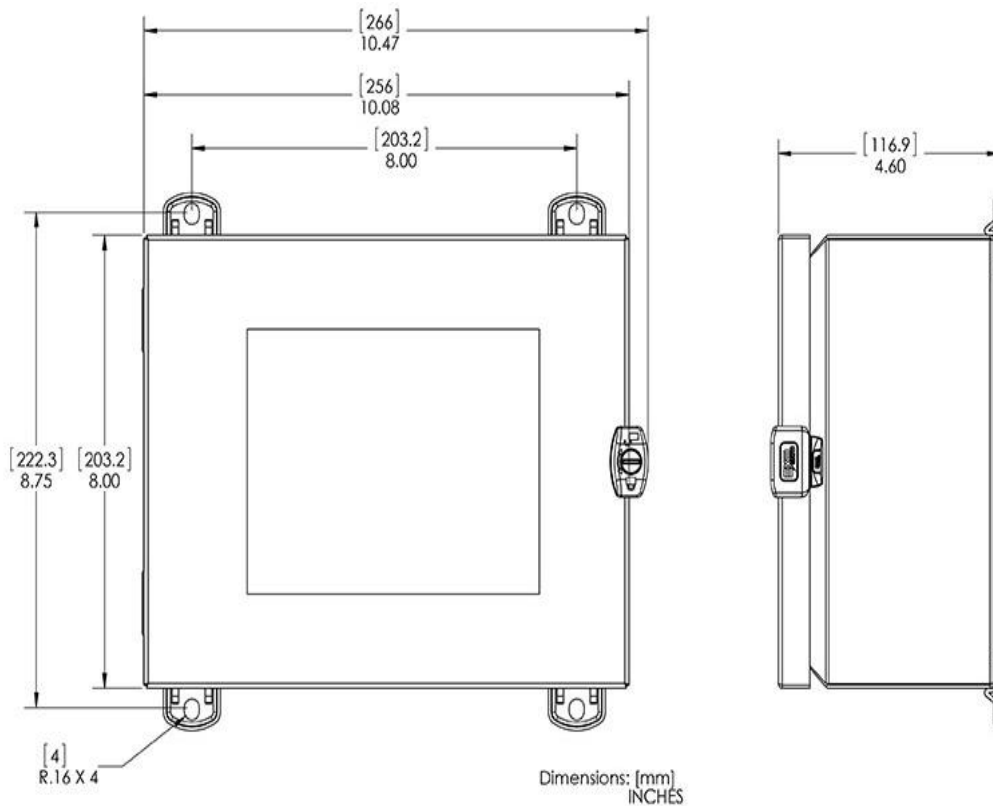


Figure 2-1. SMI 2 Enclosure: Mounting Dimensions

Mounting the SMI 2 Panel Mount

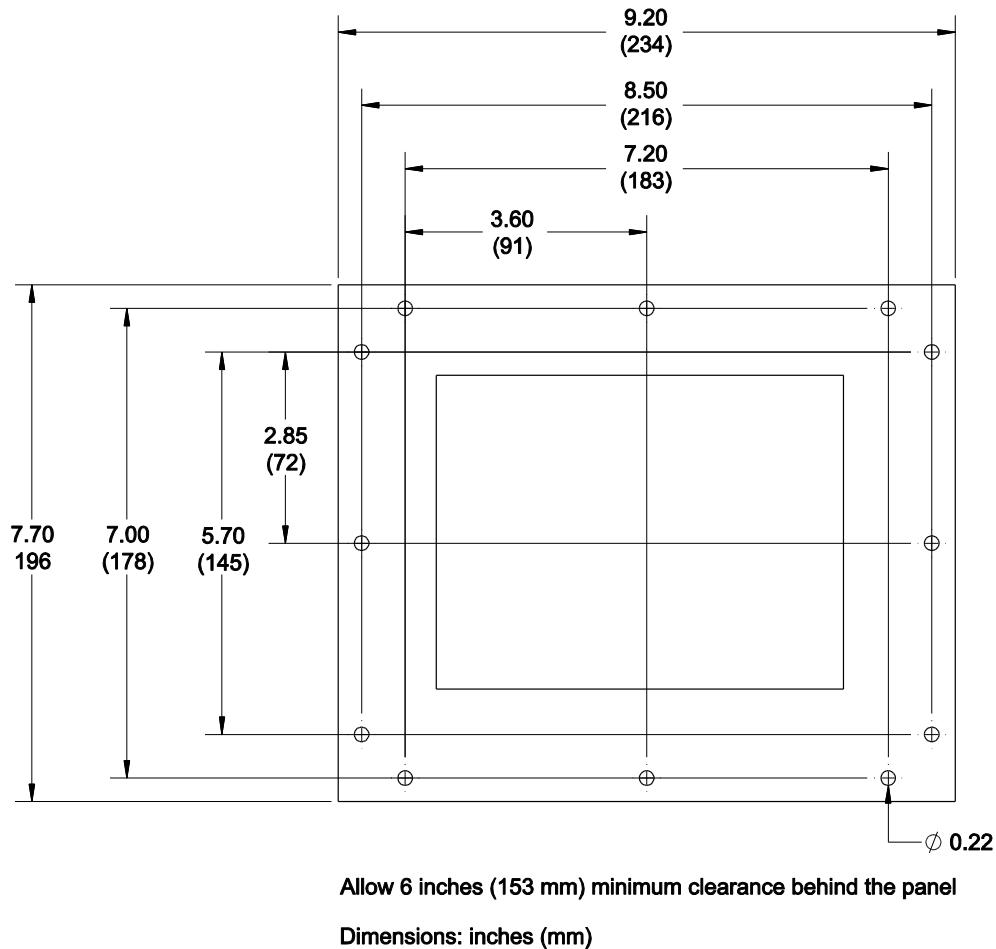


Figure 2-2. SMI 2 Panel Mount: Mounting Dimensions

To install the SMI 2 Panel Mount in your enclosure or console, perform the following steps:

1. Cut a 7.9 in. (200.1 mm) wide by 6.4 in (162.6 mm) high mounting hole.
2. Insert the SMI 2 panel mount into the cutout ensuring that it is centered and square. Using the holes in the SMI 2 panel mount as a guide, mark the locations of the mounting holes. Remove the SMI 2 panel mount and drill the mounting holes in your enclosure.

Note: The holes in the SMI 2 panel mount are sized for #10 screws.

Wiring the SMI 2

Connecting AC Wiring to the SMI 2 Enclosure

WARNING

ELECTRIC SHOCK HAZARD

Do not apply AC power until all other electrical connections and installation procedures are complete.

Failure to comply with these instructions could result in death or serious injury.

To make AC input connections to the SMI 2, do the following, referring to Figure 2-3 on page 20 and wiring diagram Figure 1 or 2 at the end of the manual. Remember to allow plenty of room to make wiring connections.

1. Determine how you will bring wiring from your 115 VAC power source (or 230 VAC source if applicable) to the unit. These wires should be connected directly to the machine control supply voltage. No. 16 wire is recommended; use No. 14 wire if local codes require it.

For 115 VAC, you need three wires—line (black), neutral (white) and ground (green). For 230 VAC, wires are black and red, with green or green/yellow for ground.
2. Turn the screw on the enclosure door's latch 1/4 turn clockwise to release the latch, and swing open the enclosure door.
3. Run the AC power wires to SMI 2 through flexible liquid tight conduit to the knockout in the lower right corner of the enclosure. Because SMI 2 is rated NEMA 12 (protected against dust and oil), you must use conduit of the same rating and make proper connections to ensure NEMA 12 protection.
4. Connect the ground (green or green/yellow) wire to the setscrew terminal on the ground stud on the bottom of the enclosure near the right side (see Figure 2-3)

To make the connection, strip the wire 1/2 in. (12.7 mm) from the end, loosen the screw on the terminal, insert the exposed wire into the hole, and tighten down the screw.

5. Connect power wires to the input connectors on the inside wall of the SMI 2 enclosure labelled "Line" and "Neut," as shown in Figure 2-3, below, and Figure 1, SFC Machine Monitor 2 Wiring Diagram at the end of this manual.

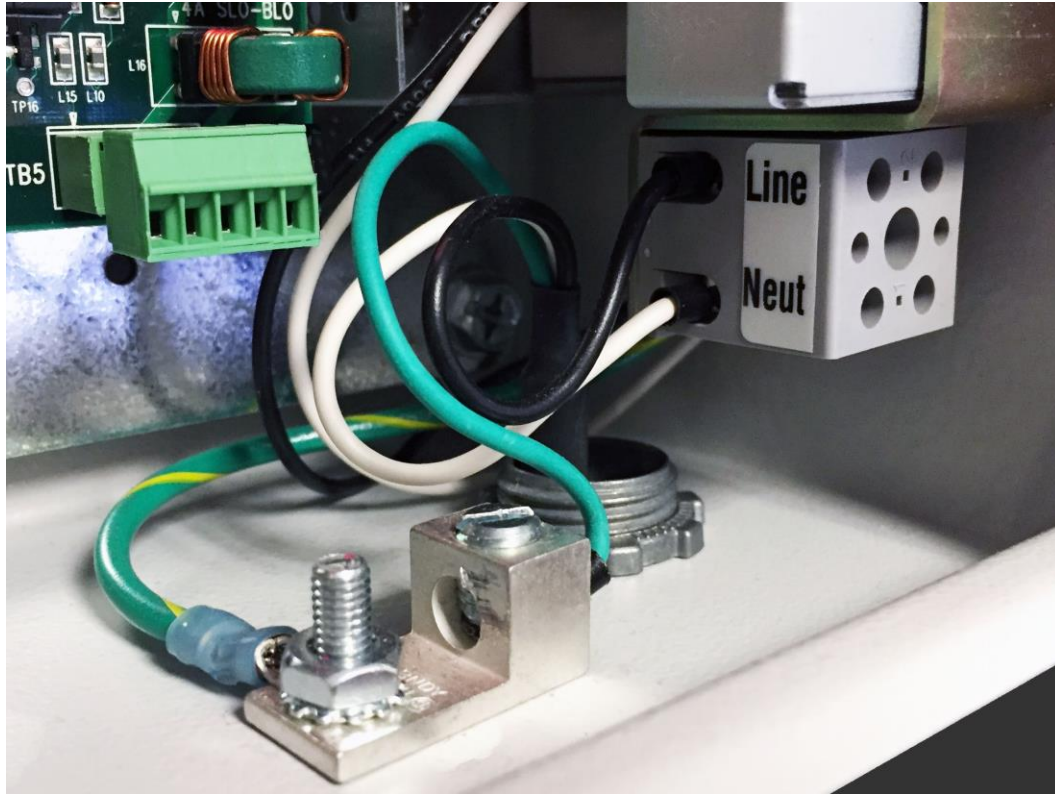


Figure 2-3. AC Wiring Connections, SMI 2 Enclosure

Wiring the SMI 2 Panel Mount

Connecting AC Wiring to the Panel Mount

⚠ WARNING

ELECTRIC SHOCK HAZARD

Do not apply AC power until all other electrical connections and installation procedures are complete.

Failure to comply with these instructions could result in death or serious injury.

To make AC input connections to the SMI 2 panel mount, do the following, referring to Figure 2-4, Figure 2-5, below, and Figure 1, SFC Machine Monitor 2 Wiring Diagram, at the end of this manual. Remember to allow plenty of room to make wiring connections.

1. Determine how you will bring wiring from your 115 VAC power source (or 230 VAC source, if applicable) to the unit. These wires should be connected directly to the machine control supply voltage. No. 16 wire is recommended; use No. 14 wire if local codes require it.

For 115 VAC, you need three wires—line (black), neutral (white) and ground (green). For 230 VAC, wires are black, red, and green or green/yellow for ground.

2. Connect the ground (green or green/yellow) wire to a ground stud on your panel mount, Figure 2-4. enclosure or panel mount console.
3. Connect power wires to the input connectors labelled “Line” and “Neut,” as shown in Figure 2-5, and Figure 1, SFC Machine Monitor 2 Wiring Diagram, at the end of this manual.

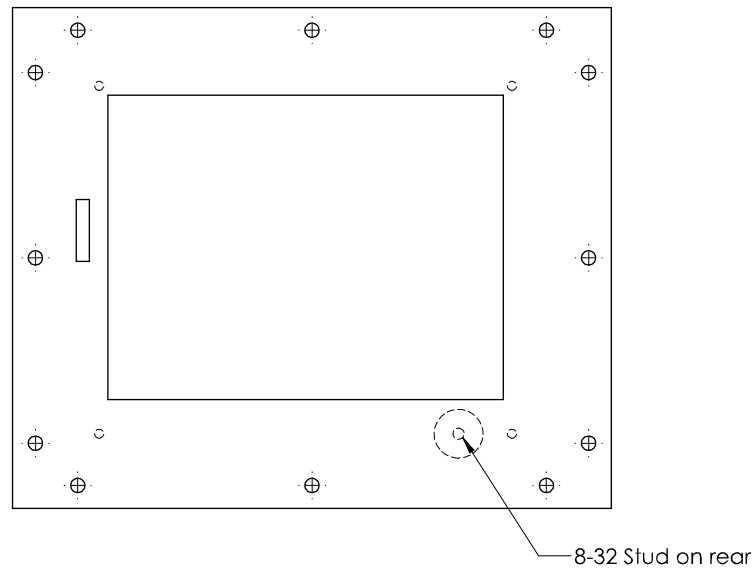


Figure 2-4. Grounding Stud on SMI 2 Panel Mount



Figure 2-5. AC Wiring on SMI 2 Panel Mount

Connecting Input Wiring

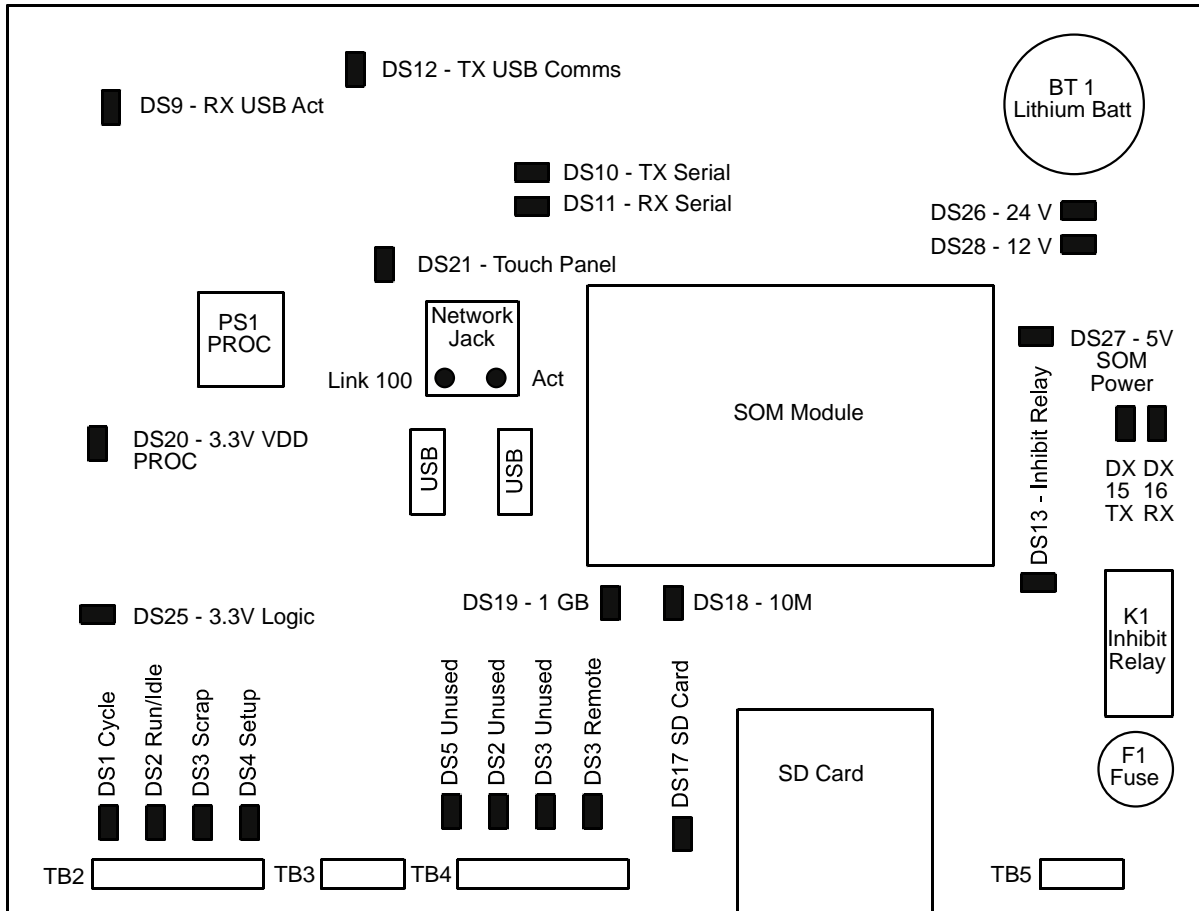


Figure 2-6. SMI 2 Control Board

You can make up to four input connections to the SMI 2:

- Machine cycle input
- Run/idle input
- Scrap input
- Setup mode input

These wiring connections are made on the series of terminal blocks (connectors) labelled TB2, TB3, and TB4 located along the bottom edge of the left side of the SMI 2 control board (see Figure 2-7, page 23).

You must wire either a Cycle or a Run/Idle input in order for SMI 2 to detect that the machine is running. If you want SMI 2 to also count parts, you must wire the Cycle input. The Scrap input should be wired if you want SMI 2 (or the machine operator) to be able to increment the scrap part counter. Wire the Setup mode input if you want SMI 2 to maintain the current machine state and suspend counting of parts during machine setup.

To make wiring connections, run the input wires you intend to use through flexible liquid tight conduit and one of the left-side knockouts in the bottom of the enclosure or to the appropriate location on your console. If you ordered the enclosure, it is rated NEMA 12 (protected against dust and oil), and you must use NEMA-12-rated conduit and make proper connections to ensure NEMA 12 protection.

NOTICE

These inputs on TB2 are factory set as PNP.

To change all of them to NPN, move the jumper on TB3 pin 1 to +24VDC.

Wiring a Cycle Input

The Cycle input allows the SMI 2 to receive a signal whenever the machine cycles, incrementing the Good Parts Counter each time the input transitions from low (approximately 0 VDC) to high (+24 VDC).

The Cycle input signal can come directly from the machine controller if it transitions from 0 to +24VDC. If a control signal at a different voltage level is available, you can add a user-supplied relay to operate the Cycle input. Connect the relay so that its coil is actuated by your control signal, and then wire the relay's normally open contacts as follows:

1. Connect one wire to input Pin 1 on connector TB2 (see Figure 2-7).
2. Connect the other wire to Pin 5 on connector TB2 (+24 VDC).

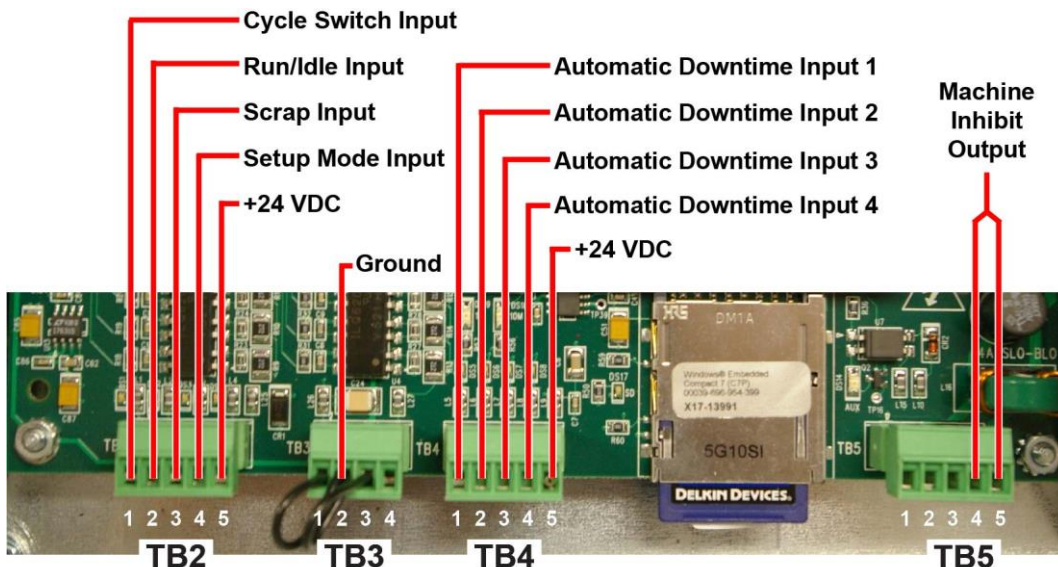


Figure 2-7. SMI 2 Input/Output Wiring

If no appropriate control signal is available, you can use a separate user-supplied electronic sensor such as a proximity or photoelectric sensor to provide the Cycle input signal. The sensor should be installed in a location where it can sense the completion of a machine cycle and/or actuate each time a part is made. The sensor should be a PNP solid-state device. If the monitored machine is used in high-

speed applications of greater than 300 cycles per second, the Cycle input should operate with a 50% duty cycle.

You need three wires for the machine Cycle Sensor connections: an output wire, a ground wire, and a 24 VDC power wire. To wire the sensor, do the following:

1. Connect the PNP Output wire to input Pin 1 on connector TB2.
2. Connect the Ground wire to the input Pin 2 on connector TB3.
3. Connect the Power In wire to Pin 5 on connector TB2 (+24 VDC).

No settings are required for the Cycle input, but there are three optional settings. For instructions in how to make these settings see *Configuring the Cycle Input* in your user manual and *Cycle Input Setup* in the addendum:

- You can add a delay time to the actuation of the Cycle Sensor, enabling you to make accurate parts counts when multiple sensor actuations occur during a single cycle.
- You can configure the units/time (e.g., cycles/min, feet/hr, etc.) in which the production rate is calculated and the number of Cycle input pulses that produce each unit.
- If you wire and enable a Run/Idle contact, SMI 2 by default reports a Running state when the Cycle Sensor actuates following actuation of the Run/Idle contact. You can change this setting so the SMI 2 reports that the machine is running when only the Run/Idle contact actuates.
- If you do not wire a Run/Idle contact, you can configure the SMI 2 to use the Cycle input to determine when the machine is running by setting the Production Idle Timer.

Wiring a Run/Idle Input

The Run/Idle input enables the SMI 2 to detect when the machine is running and when it is stopped. Whenever this input is high (i.e., +24 VDC), the SMI 2 detects that the machine is running (i.e., in the Running state) and reports that status to SFC. Whenever the input is low (i.e., 0 VDC), the SMI 2 detects that the machine is stopped (i.e., in the Idle state) and reports an Idle status to SFC unless a downtime reason is selected.

To wire a Run/Idle contact input using a dry contact, connect one wire to input Pin 2 on connector TB2 and the other wire to input Pin 5 on TB2 (see Figure 2-7, page 23).

You must enable the Run/Idle input in order for the SMI 2 to use it to detect changes in machine state. When the input is enabled, you can stipulate that the Cycle input must actuate after the Run/Idle input actuates in order for the SMI 2 to report that the machine is in the Running state. Instructions in how to make these settings are provided in *Configuring the Run/Idle Input*, in your user manual and in the addendum *Enable Inputs* and *Run/Idle Setup*.

Wiring a Scrap Input Switch

The Scrap input, if wired, maintains an automatic count of bad parts, incrementing a scrap counter each time the input transitions from low (approximately 0 VDC) to high (+24 VDC).

Wire the Scrap input using a dry contact, normally open momentary switch. Connect one wire to input Pin 3 on connector TB2 and the other wire to Pin 5 on connector TB2 (24 VDC) (see Figure 2-7, page 23).

You must enable the Scrap input in order for the SMI 2 to maintain a count of scrap (for instructions, see *Configuring the Scrap Input* in your user manual and *Multipliers* and *Enable Inputs* in the addendum). If the part being made requires multiple operations, then actuating the scrap input resets the stroke count to zero, as well as incrementing the scrap count.

NOTICE

You can also wire your scrap handler to the scrap input. Contact Wintriss ShopFloorConnect Technical Support for more information.

Wiring a Setup Mode Input

The Setup Mode input instructs the SMI 2 to ignore the Run/Idle and Cycle inputs whenever the input transitions from low (approximately 0 VDC) to high (+24 VDC). This input enables the machine the SMI 2 is monitoring to be run in a non-production mode, such as during setup or troubleshooting, without the SMI 2 responding to changes in the running state or to machine cycles. During these non-production periods, the SMI 2 holds the current machine state, including the downtime reason if one is in effect, and does not count parts.

The Setup Mode input should be connected to a switch or output from the machine control that actuates (i.e., goes to +24 VDC) whenever the machine is not in production mode, such as a setup or programming switch or a switch that places the machine in Jog or Inch mode.

To wire a Setup Mode input, connect one wire to input Pin 4 on connector TB2 and the other wire to Pin 5 on connector TB2 (see Figure 2-7, page 23).

Wiring Automatic Downtime Inputs

NOTICE

These automatic downtime inputs on TB4 are factory set as PNP.
To change all of them to NPN, move the jumper on TB3 pin 3 to +24VDC.

Four inputs on SMI 2 provide automatic downtime logging. When the monitored machine transitions from Running to Idle and one of these inputs is ON, SMI 2 automatically uses the assigned downtime reason. You can use these inputs to monitor ancillary equipment that could stop your production line.

The automatic downtime inputs (TB4 inputs 1-4) are associated with four downtime reasons, 29 – 32, respectively. Create these downtime reasons in SFC the same way as you create the others.

Table 2-1. Automatic Downtime Inputs Priority

Input number	Wire to TB4 pin	Priority Order	Automatic Downtime Reason #
4	4	1 - highest	32
3	3	2	31
2	2	3	30
1	1	4 - lowest	29

Automatic downtime inputs have a set priority. Input 4 has the highest priority, Input 1 the lowest.

When the machine transitions from Running to Idle, SMI 2 detects only the highest priority input that is ON. SMI 2 ignores any lower-priority inputs.

Example:

If automatic downtime Input 4 is ON and all the other automatic downtime inputs are also ON, SMI 2 responds only to Input 4. If Input 4 then goes OFF while all the others are still on, SMI 2 responds to Input 3.

Wire input 4 to the equipment that would stop the line first. Wire input 3 to the equipment that would stop the line next, and so on.

If you use only one of the automatic downtime inputs, use the highest priority input, Input 4. If you use two of these inputs, use Inputs 4 and 3, and so on.

You can record the wiring connections and downtime reasons in the table below.

Table 2-2. Automatic Downtime Inputs and Reasons

Automatic Downtime Input	TB4 Pin Number	Wired to	Automatic Downtime Reason Number	Automatic Downtime Reason (Programmed on SFC)
4	4		32	
3	3		31	
2	2		30	
1	1		29	

Connecting Machine Inhibit Output Wiring

To make wiring connections for the machine inhibit output circuit, do the following, referring to Figure 2-7, page 23, and Figure 1, SFC Machine Interface 2 Wiring Diagram, at the end of this manual. Make sure to number all wires in a way consistent with your machine's electrical prints.

1. Determine how you will run the wires from your machine control to the SMI 2 control board outputs. Refer to your machine control manual or other electrical prints. You need two wires for the machine inhibit circuit.
2. Run the machine inhibit circuit wires to SMI 2 through flexible liquid tight conduit to the knockout at the bottom center of the SMI 2 enclosure or to the appropriate location on your console. If you ordered the enclosure, it is rated NEMA 12 (protected against dust and oil), and you must use NEMA-12-rated conduit and make proper connections to ensure NEMA 12 protection.
3. Connect the wires for the machine inhibit circuit to pins 4 and 5 on connector TB5 (see Figure 2-7, page 23), and Figure 1, SFC Machine Monitor 2 Wiring Diagram, at the end of this manual.). This output is a dry-contact (4A Max @ 240 VAC or 30 VDC).

Connecting SMI 2 to Your Ethernet

NOTICE

To use the optional wireless connection, see **Error! Reference source not found.**, page **Error! Bookmark not defined.**

To wire the SMI 2 to your Ethernet, do the following:

1. Run an Ethernet cable through flexible liquid tight conduit into the knockout at the center bottom of the SMI 2 enclosure or to the appropriate location on your console. If you ordered the enclosure, it is rated NEMA 12 (protected against dust and oil), and you must use NEMA-12-rated conduit and make proper connections to ensure NEMA 12 protection.
2. Plug the Ethernet cable into the Ethernet connector ("network jack") near the center of the SMI 2 control board. Figure 2-6, page 22.

Checking Wiring Connections

Before using SMI 2, perform the following checks to make sure that you have wired the unit correctly.

Checking Power Connections

To check SMI 2 power connections, do the following:

1. If you have an SMI 2 enclosure, connect AC wires from the enclosure to the power source. If you have an SMI 2 panel mount, make sure that your AC power supply is connected.
2. Turn on power to SMI 2. The SMI 2 Main Menu, shown in Figure 2-8, should display.



Figure 2-8. SMI 2 Main Menu

3. If the Main Menu does not display, turn off power to SMI 2 and recheck all power connections.
4. If the power connections check out and you still cannot get the Main Menu to display, call Wintriss ShopFloorConnect Technical Support.

Checking Input Wiring

Each SMI 2 input has a corresponding LED indicator on the control board above its input pin on the terminal block, Figure 2-6, page 22. The LED lights up when 24 volts is applied to the input. Simply actuate each of the relays/sensors/signals connected to the inputs, and verify that each LED lights up.

Checking Machine Inhibit Output Wiring

The machine inhibit circuit prevents the machine from being restarted after the interval programmed for the Forced Dialog Timer has elapsed and the Forced Downtime Menu screen (Figure 2-10, page 30) has displayed. To check the wiring connections for this circuit, do the following:

1. On the SMI 2 Main Menu, press *Setup*. The Setup Menu appears.
2. Press *Forced Dialog*. The Forced Dialog Settings screen, shown in Figure 2-9, displays.



Figure 2-9. Forced Dialog Settings Screen

3. On the Forced Dialog Settings screen, make sure the status message below the *Forced Dialog Mode* button is “Enabled w/Auto,” the default backfill setting. If the status is “Disabled” or “Enabled w/ Auto,” press *Forced Dialog Mode* to change the message to “Enabled w/Manual.”
4. The time interval displayed below the *Forced Dialog Timer* button should be “180 Sec,” the default setting. You can set it to a different interval (e.g., 60 seconds, 600 seconds, etc. up to a maximum of 3600 seconds) by pressing *Forced Dialog Timer*, which displays the Forced Dialog Timer screen. The current timer setting is displayed at upper right.
5. To test the output wiring, decrease the Forced Dialog Timer setting to 30 seconds by pressing the **3** key and the **0** key (the number at upper right changes to “30”), then press *Enter*.
6. You are returned to the Forced Dialog Settings screen with the setting “30 Sec” displayed below the *Forced Dialog Timer* button.
 - If your machine inhibit output wiring is correct, you should be unable to restart the machine after 30 seconds have elapsed and the Forced Downtime Menu screen, Figure 2-10 has displayed.
 - If you can restart the machine after 30 seconds have elapsed, check the machine inhibit output wiring.
 - If the machine inhibit circuit is wired correctly and you are unable to prevent the machine from restarting after the forced dialog time, call Wintriss ShopFloorConnect Technical Support.



Figure 2-10. Forced Downtime Menu Screen

- When you are finished, reset the Forced Dialog Mode to Enable w/Auto and the Forced Dialog Timer to 180 seconds, the default setting, or to a different setting of your choice.

Checking Ethernet Connectivity

To check that SMI 2 is properly connected to your Ethernet, do the following:

- Verify that the green link LED is lit solid and the amber LED is rapidly flashing. These LEDs are located on either side of the Ethernet (RJ45) connector, with the green on the left side and the amber on the right side.
- If one or both of these LEDs are not lit, check the connection between your Ethernet cable and the Ethernet connector.
- If the Ethernet cable is properly connected, but one or both of the LEDs still do not come on, call Wintriss ShopFloorConnect Technical Support.

Setting the IP Address, Subnet, and Default Gateway

You must set the SMI 2's IP address, subnet, and default gateway for the unit to communicate with SFC.

- On the Main screen, press *Setup*. The Setup screen appears.
- Press *Additional Settings*. The Additional Settings screen appears.
- Press *Network Settings*. The Network Settings screen appears.
- Press *Network IP Settings*. The Network Menu screen appears.

The factory default IP address (192.168.100.225), subnet, and default gateway must be changed to the static IP address programmed into ShopFloorConnect for the machine (refer to your *ShopFloorConnect Workbook* for the proper IP address for each machine).

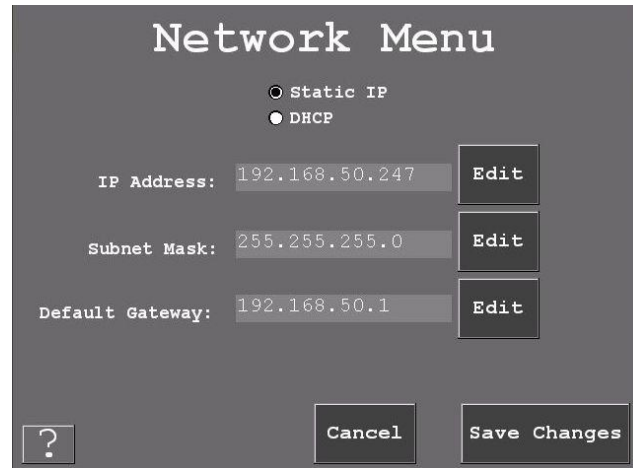


Figure 2-11. Network Menu Screen

5. Press *Edit* next to IP Address to change the IP address (see Figure 2-12). Enter the digits for the first octet, then press the period [.] to go on to the next. Press *Enter* to accept the IP address.



Figure 2-12. Setting the IP Address

6. Set the subnet and default gateway in similar fashion.

Maintaining the SMI 2

Cleaning the Touch Screen

Clean the SMI 2 touch screen with a mild detergent and a soft cloth.

Chapter 5 – System Messages

This chapter documents SMI 2 system messages. Most messages appear on the status line of the SMI 2 Main Menu and on the line beneath it; two messages display beneath the screen title on the Security Settings screen. Documentation for each message includes an explanation of what the message means and instructions for how to respond to the message if necessary. The chapter is organized in the following sections:

Messages on the Status Line of the Main Menu.....	33
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Control Setup Transition	33
Idle.....	33
Offline	33
Parts Preset Reached	34
Planned.....	34
Running at (cycles per min)	34
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Messages Below the Status Line of the Main Menu	34
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Parts count preset has been exceeded.....	34
Push Production when ready to run.....	34
Messages on the Security Settings Screen.....	34
Invalid password entered.....	34
Password out of range (0-9999)	34

Messages on the Status Line of the Main Menu

Changeover

Displays following the “Control Setup Transition” message (see below) after you load a new job. Also displays whenever you select the “Changeover” item on the Forced Downtime Menu or Select Downtime screen. Indicates that the machine is in the “Changeover” state.

Control Setup Transition

Displays for a few seconds after you load a new job, being followed by the “Changeover” message (see above). Indicates that the machine is in transition to the “Changeover” state.

Idle

Displays whenever the press is not in one of the other machine states and you have selected no reason for planned or unplanned downtime on the Forced Downtime Menu or Select Downtime screen. Also displays whenever you press *Production* following SMI 2 power-up, a period of planned or unplanned downtime, or a tool change. Indicates that the machine is in the “Idle” state.

Offline

Displays whenever there is no power to the machine or the network is down.

Parts Preset Reached

Displays whenever the value in the Parts Count window reaches the Parts Preset value, the “Press Production when ready to run” message displaying beneath it (see *Messages Below the Status Line of the Main Menu*, below). Press *Production* to clear the message.

Planned

Displays whenever you select a downtime reason on the Forced Downtime Menu or Select Downtime screen that is “associated” in SFC with the “Planned Downtime” machine state. Indicates that the machine is in the “Planned Downtime” state.

Running at (cycles per min)

Displays whenever the machine is in the “Running” state. The speed of the machine in cycles per minute is displayed to the right of the message, being refreshed based on the timing set for the Production Rate Calculation Interval (see *Setting the Production Rate Calculation Interval* in your user manual and *Production Settings* and *Rate Calculation* in the addendum).

Unplanned

Displays whenever you select a downtime reason on the Forced Downtime Menu or Select Downtime screen that is “associated” in SFC with the “Unplanned Downtime” machine state. Indicates that the machine is in the “Unplanned Downtime” state.

Messages Below the Status Line of the Main Menu

Function disabled while running

Displays for a few seconds whenever you press a button during machine operation that is not functional when the press is running (e.g., *Production*).

Parts count preset has been exceeded

Displays when the *Production* button has been pressed in response to the “Parts Preset Reached” message (see *Messages on the Status Line of the Main Menu*, above) and the machine continues to make parts. To respond to the message, stop the machine immediately.

Also displays when the *Preset Reached* button has been pressed in response to the appearance of the Preset Reached screen (see *Using the Preset Reached Button* in your user manual).

Push Production when ready to run

Displays following SMI 2 power-up and whenever the “Parts Count Reached” message displays (see *Messages on the Status Line of the Main Menu*, above). Press *Production* to clear the message.

Messages on the Security Settings Screen

Invalid password entered

Displays whenever the entry on the Current Password screen is incorrect or the entry on the Confirm Password screen is not identical to the New Password screen entry. Re-enter the current password or new password.

Password out of range (0-9999)

Displays whenever the entry on the New Password screen exceeds “9999,” the screen’s maximum value. Re-enter a new password, using a value in the valid range.

Appendix A – SFC Primary Item Discovery

The Primary item identifiers to be used at the machine the SMI 2 is monitoring are made available to SFC in one of three ways:

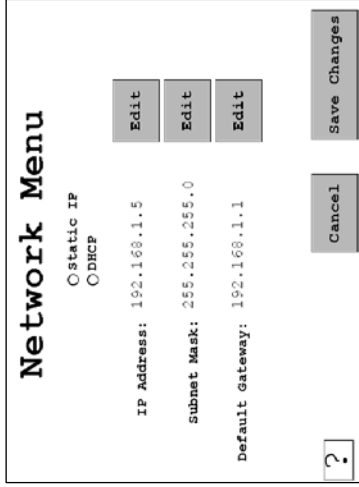
- Primary items can be imported into SFC in a CSV file
- Primary items can be entered manually into SFC
- Primary items can be automatically “discovered” by SFC the first time they are entered at an SMI 2

In order for SFC to “auto-discover” Primary items at the SMI 2, the SMI 2 must be powered up, connected to the network, and communicating with SFC, and all Primary items to be used at the SMI 2 must be entered and loaded once (see *Loading Primary Items for the First Time* in your user manual).

SFC creates a record for each new Primary item it “discovers.” If the primary item has been run previously at another SMI 2, SFC adds the new SMI 2 to the list of machines that run that Primary item. If the Primary item has not been run previously, SFC creates a record for it and “associates” it with that machine.

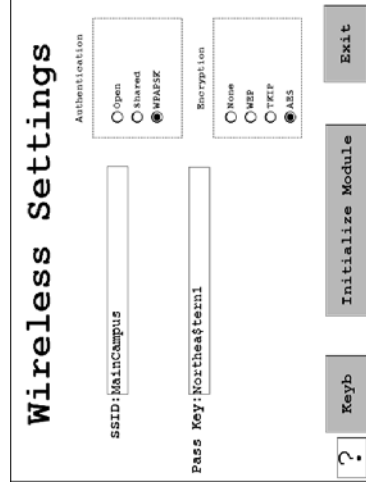
After records have been created for Primary items at the SMI 2, an SFC user with administrative privileges can access the SFC Administrator and configure the Primary items for description, status, rates and affiliations.

Once auto-discovered, the new Primary item will be available to the SFC Schedule Interface.



Static IP ADDRESS: _____
Subnet: _____
Gateway: _____

Setup/Additional Settings/Network Settings/Network IP Settings



SSID: _____
Pass Key: _____
Authentication type: _____
Encryption type: _____

Setup/Additional Settings/Network Settings/Wireless Settings

Troubleshooting items to consider:

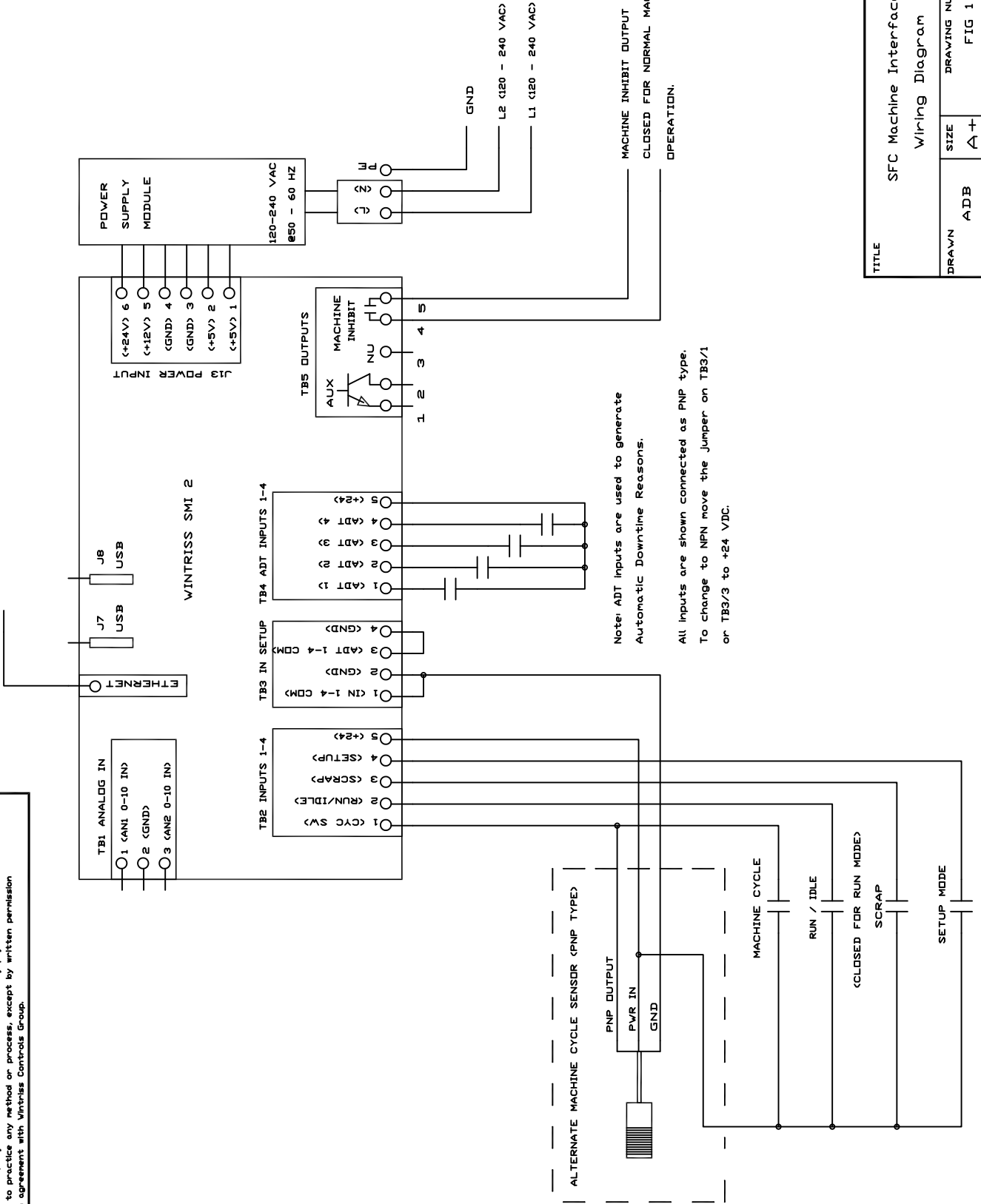
- UPPER/lower case sensitive
- MAC address filtering?
 - MAC address of device is located on wireless module inside box
 - Locate number and add 1 to the last number
 - Example: ACCF235DC2E0 will become ACCF235DC2E1



Example

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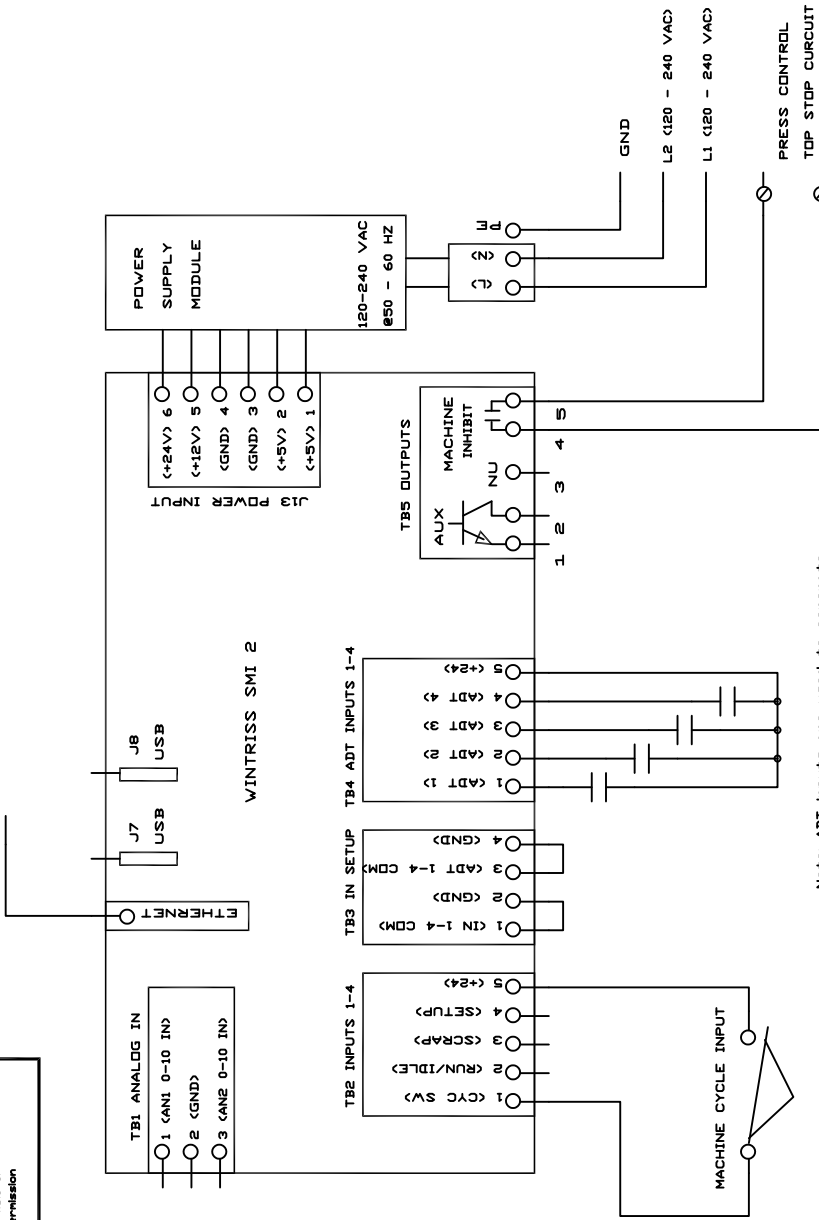
TO ETHERNET NETWORK CONNECTION



TITLE			
SFC Machine Interface 2			
Wiring Diagram			
DRAWN	ADB	SIZE	DRAWING NUMBER
DATE	1/20/17	A+	FIG 1
			REV
			OF

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TO ETHERNET NETWORK CONNECTION



Note: ADT inputs are used to generate Automatic Downtime Reasons.

All inputs are shown connected as PNP type. To change to NPN move the Jumper on TB3/1 or TB3/3 to +24 VDC.

MACHINE CYCLE INPUT

This input must go on at approx. 90 degrees and off at approx. 270 degrees each rotation of the press. The SMI uses this input to count press strokes and determine when the press is running.

To turn this input on you must apply +24 VDC. This voltage can come from internal SMI 24 VDC supply or an external voltage source as long as the the Com (Grounds) are connected together to provide a current return path.

The machine cycle input is shown connected to a cam switch and using the internal +24 VDC supply.

MACHINE INHIBIT OUTPUT

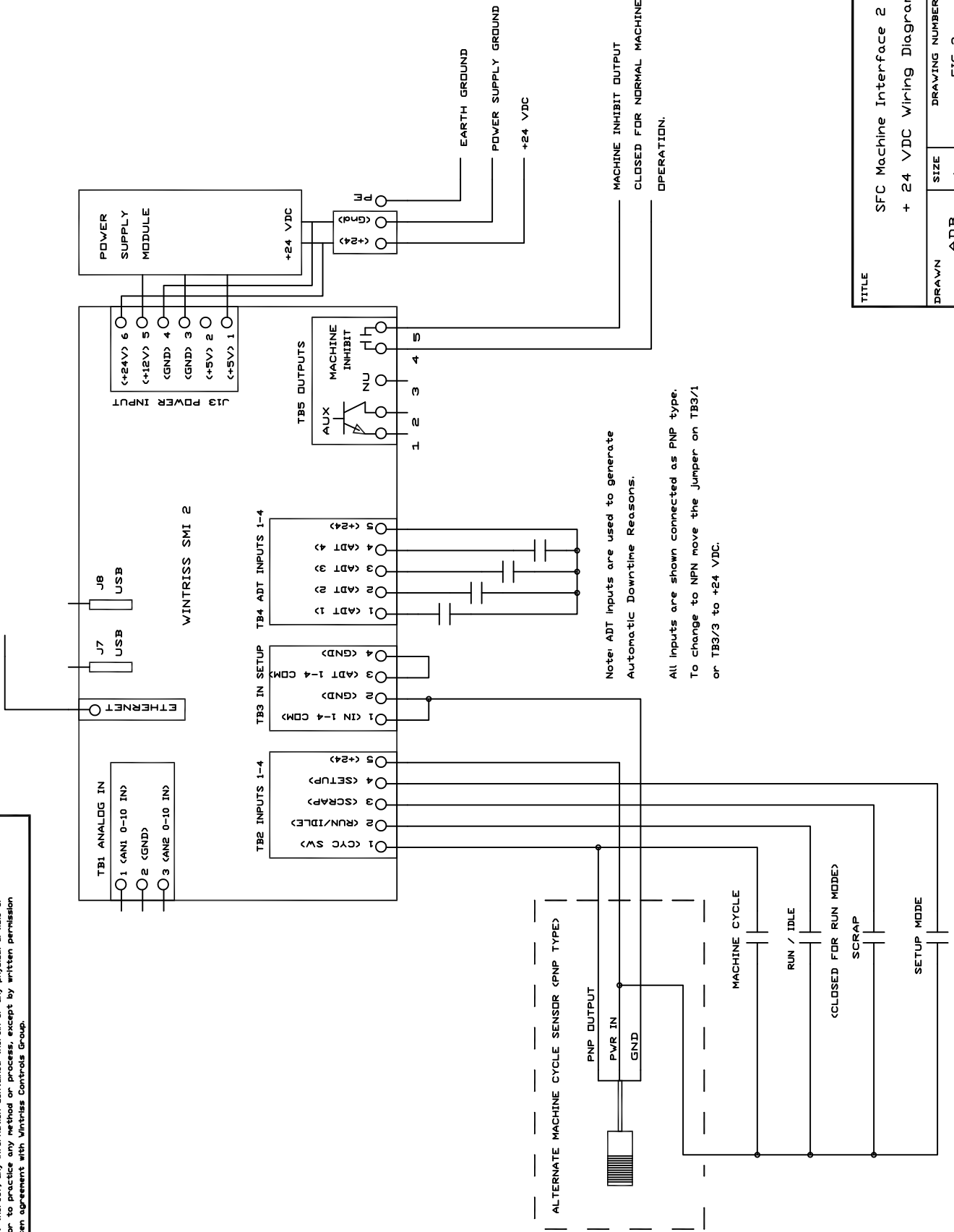
The machine inhibit output is closed for normal press operation. It opens when the machine operation needs to be inhibited to force the operator to enter downtime reasons.

This output is a dry contact relay rated at 2 amps. This is normally connected to the top stop circuit of the press control.

TITLE		SFC Machine Interface 2	
DRAWN		Press Wiring Diagram	
DATE	SIZE	DRAWING NUMBER	REV
1/20/17	A+	FIG 2	
SHEET		OF	

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TO ETHERNET NETWORK CONNECTION



Note: ADT inputs are used to generate Automatic Downtime Reasons.

All inputs are shown connected as PNP type. To change to NPN move the jumper on TB3/1 or TB3/3 to +24 VDC.

MACHINE INHIBIT OUTPUT
CLOSED FOR NORMAL MACHINE
OPERATION.

TITLE		
SFC Machine Interface 2		
+ 24 VDC Wiring Diagram		
DRAWN	SIZE	REV
A.D.B	A+	FIG 3
DATE	SHEET	DF
1/24/17		

