WINTRISS®

User Manual

Wintriss® MultiPAC Types 1 and 2

Lubrication, Hydraulic Overload and Speed Control
A SmartPAC® Module
1124700
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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 the Manual

This is the installation and instruction manual for MultiPAC Types 1 and 2 modules for SmartPAC and SmartPAC 2. It has information about how to install and use MultiPAC Types 1 and 2. Also refer to your SmartPAC and SmartPAC 2 user manuals.

Chapter 1 – Introduction to Wintriss MultiPAC gives you an overview of MultiPAC Types 1 and 2, including specifications.

Chapter 2 – Installing Wintriss MultiPAC gives instructions for mounting and wiring your MultiPAC unit.

Chapter 3 – Set Up and Program Wintriss MultiPAC Types 1 and 2 tells how to prepare your MultiPAC unit for use and how to program and operate it.

Chapter 4 – Fault Messages shows you fault messages or other types of messages you will see on your SmartPAC display when MultiPAC sends a stop command to the press or when there is an equipment or software problem. Entries explain what the messages mean and how to correct the problem.

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 must be remembered and aids in job performance.

Warranty

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 (LETS and SBR), 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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MULTIPAC TYPES 1 AND 2
USER MANUAL
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Chapter 1 – Introduction to Wintriss MultiPAC Types 1 and 2

The MultiPAC is a SmartPAC option, which allows the user to program and monitor several press functions from the SmartPAC screen. MultiPAC is available in two different Types.

Type I allows the user to program and monitor up to three different lube systems on the press. The Lube Control feature is very flexible, and allows the monitoring and controlling of many different types of lubrication systems. It also has the capability to monitor and control the logic of a Hydraulic Overload system.

Type II allows the user to do everything Type I does and also adds the ability of programming and controlling the speed of a variable speed press. It also has the capability to control a flywheel brake.

All the programming for these features, except speed, are done in the Initialization mode of the SmartPAC. These features are ones that should be set up once during press start-up. There should be no reason to change these settings during normal operation of the press.

The MultiPAC has several fault messages associated with it. These messages will help the operator to distinguish between different lube system problems. It also displays a Hydraulic Overload message and instructions on how to reset the fault.

Settings you can make on MultiPAC

All settings are made using the keys on the SmartPAC keyboard. Here are settings you can make:

Type 1

- **Dynamically Control and Monitor up to three separate lube systems.** A unique setup screen makes it easy to program your MultiPAC to turn lube pumps on and off according to a selected time or the number of press strokes via a feedback device such as a divider block.
- **Hydraulic Overload Control.** Provides logic necessary to emergency stop the press in the event of a Hydraulic Overload. There is no programming or setup screen associated with this feature. Hard wiring connections between an existing Hydraulic Overload system and your press's Estop circuits make it possible to control how you will stop the press before a potential press damaging overload occurs

Type 2

- **Adds Speed Control.** Type 2 has all the features of Type1; it can also automatically control the speed of an existing variable speed drive of the main motor of your press. It can also control an existing Flywheel Brake and help slow down the flywheel faster. Each tool can have its own speed and mode of operation and be stored permanently in SmartPAC's memory for fast and easy job setup.

Modes of Operation

Type 1

- **Programmed in the Initialization Screen.** Parameters are entered only once and remain stored in memory. Once your press's lube system is adjusted to lubricate the press properly, there should be no need to make any changes. Adjustments to lube settings can only be made in the Initialization Screen. There is no user interface for Hydraulic Overload Control. All settings and programming for this feature are pre-set in MultiPAC. For added convenience there is also a VIEW only screen that allows a user to reference lube settings without energizing a lube pump.

Type 2

- **Press Speeds are adjusted in either the Program or Run modes of your SmartPAC.** High and low speed limits for the press are set in the initialization screen. There is no user interface for Flywheel Braking. Logic for this feature is contained in MultiPAC's programming code. If you are planning on using this feature, you will have to make hard wire connections to your press control. (Consult your Press and Control manuals or call Wintriss Tech. Support for more information).

Specifications: MultiPAC Type 1 and 2

MultiPAC	Type 1	Type 2
Power Requirements	24 VDC	Same
Current Requirements	.5 amp max @ 24 VDC (8/6)	Same
Digital Inputs	8	Same
Digital Input Voltage	24 VDC sink, optically isolated	Same
Digital Outputs	6	Same
Digital Output Type	Form A relay	Same
Digital Output Rating	7 amps/output (6 commons/board)	Same
Digital Output Volt	Up to 250VAC or 30VDC	Same
Memory Type	EPROM	Same
Analog In	N/A	0-10VDC
Analog Out	N/A	0-10VDC
Operating Temperature	0-60C (32-140F) 90% relative humidity non-condensing	Same
PC Board Dimensions Type 1 (WxHxD)	7” (17.78 cm) x 5” (12.70 cm) x 2” (5.08 cm)	
PC Board Dimensions Type 2 (WxHxD)	7” (17.78 cm) x 5” (12.70 cm) x 4” (10.16 cm)	

MultiPAC Power Supply	24 VDC 1/A
Supply Voltage	90-260VAC
Output Voltage	24 VDC ± 3%
Output Current/Power	1A
Status Indication	Green LED, Power OK
Operating Temperature	0°-55° C
Dimensions (WxHxD)	1.75” (4.45cm) x 3.06” (7.77cm) x 3.94” (10.01cm)
Mounting Hints	Normal position: horizontal onto Din rail. Spacing to other modules: left side min. 0.394” (1 cm), vertical distances min. 1.969” (5 cm)

Chapter 2 – Installing Wintriss MultiPAC Types 1 and 2

This chapter describes how to install MultiPAC. It covers:

- Installation guidelines and overview
- Preparation for mounting MultiPAC in your control console
- Preparation for mounting MultiPAC using the optional enclosure
- Connecting AC power and stop circuits
- Power-up pre-checks and turning power on
- Installing the power supply
- Final checkout
- Final assembly

> **⚠ WARNING**
>
> **ELECTRIC SHOCK**
>
> - 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.
>
> **Failure to comply with these instructions could result in death or serious injury.**

Before You Start

If you plan to install MultiPAC yourself, read this installation chapter carefully before you start. Find out what is required and plan your steps before taking any action. MultiPAC is not hard to install. But like anything else, when you are working with something new, the best way to proceed is to learn all you can about it first before cutting wires, drilling holes, and running conduit.

You will need to use your SmartPAC's keyboard and display during installation and programming. Therefore, before you start installation, you should have a good basic knowledge of how to use SmartPAC's keyboard and displays in order to make settings. This will speed things along. If you run into any problems installing MultiPAC, call Wintriss Tech Support at the telephone number on the cover of this manual.

Installation Guidelines

These guidelines cover major points that are important for proper MultiPAC operation. By following these guidelines, you will eliminate problems that could occur later. The points below are addressed again in the installation procedures.

- Never run wires for 120V and for lower voltages (such as 24V, 60V) inside the same conduit. Run flexible, liquid-tight conduit for high voltage lines (120V power) to the AC Input of your Power Supply (see fig. 2-4).
- Good grounds at MultiPAC are important. Make sure MultiPAC is properly grounded. Refer to Fig. 2-7 for instructions on how to ground the comms cable that runs between SmartPAC and MultiPAC.
- The ground wire from MultiPAC should be connected to the main ground point of the machine. This may be in the area where the control transformer is grounded. Finding a good place for a ground is sometimes difficult, but it should be close to where the machine receives its ground.

Overview of the installation

Figure 2 - 1 on the next page shows MultiPAC installed in a console. Study the drawing to get a general idea of what you will receive and what you will need to do. Of course, where you put the components will probably be different for your installation. Your exact wiring scheme may also be different (where you connect AC power, stop circuits, etc.) However, in general, this is what your installation should look like when done.

The drawing also shows how to properly run your wiring based upon the previous guidelines. If you have top stop and emergency stop circuits that are 24V or other voltage besides 120V; you must run the 24V wires separately. You must also run separately the communications wires that connect MultiPAC to SmartPAC.

Installing MultiPAC Types 1 and 2

Table 2 - 1. Contents of MultiPAC Kits

MultiPAC Type 1 Kit (P/N 9673502)	MultiPAC Type 2 Kit (P/N 9673501)
PC Board (8 inputs, 6 outputs)	PC Board (8 inputs, 6 outputs with expansion board)
Power Supply	Power Supply
Comms Cable 30’ (100’ optional)	Comms Cable 30’ (100’ optional)

Mounting MultiPAC

Find an appropriate place in your console to locate MultiPAC PC Board and Power Supply. Figure 2 - 1 shows an example of where MultiPAC might be installed. If there is no room available in your console or you are not using a console with your press, you will have to locate MultiPAC in a separate (NEMA 12) or similar enclosure.

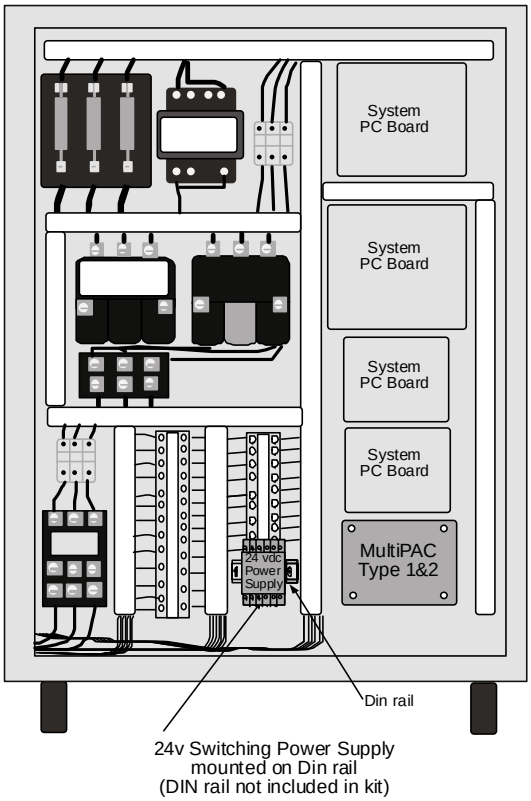

Figure 2 - 1. Example of MultiPAC Installation in a Typical Console

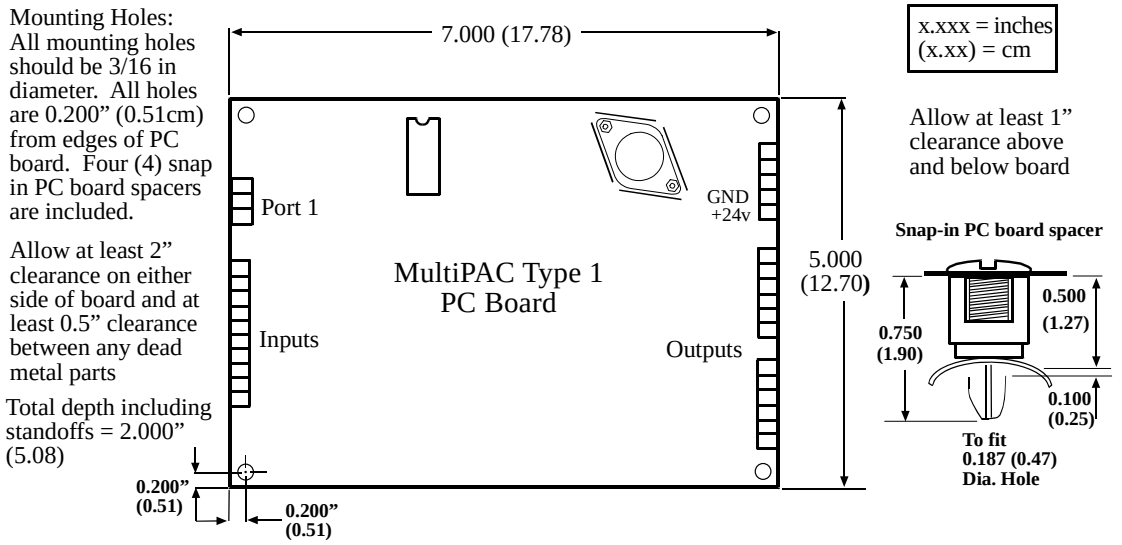

Figure 2 - 2. MultiPAC Type 1 PC Board Mounting Dimensions

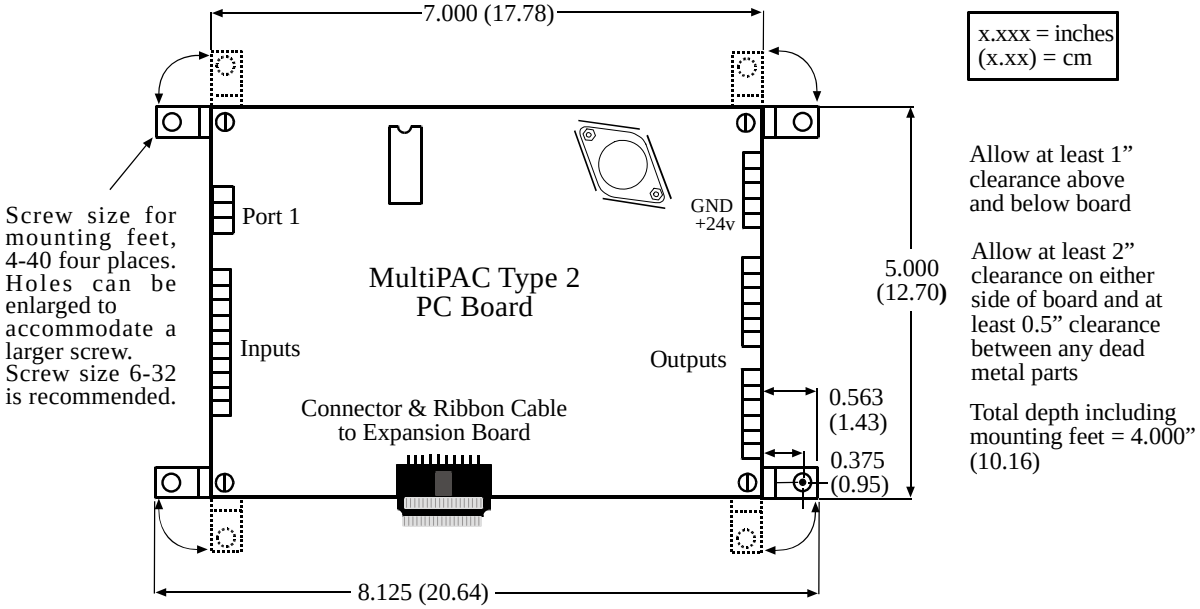

Figure 2 - 3. MultiPAC Type 2 PC Board Mounting Dimensions

The first step—checking the machine

Before starting the installation, make sure any tooling has been removed from the machine. Then **check all modes of machine operation**. Run the machine in inch, single stroke, and continuous modes. Make sure the machine has working top stop and emergency stop circuits. Verification that the machine operates and stops properly is extremely important because MultiPAC will be tied in to the machine stop circuits. Do not forget to mark your electrical prints where you wire in MultiPAC.

Preparation for mounting MultiPAC In your console or enclosure

To prepare for mounting MultiPAC in your console or enclosure, follow these steps:

1. Determine a convenient place to mount MultiPAC Type 1 or 2 PC Board in your console or enclosure.
2. Refer to the drawings in Figure 2 - 2 and Figure 2 - 3 for mounting dimensions.
3. Find a convenient place to mount your switching power supply. Refer to Figure 2 - 4 and Figure 2 - 5 for dimensions.
4. Mount a short piece of din rail (not provided) approx. 2" long close to where you just located your PC board. Refer to drawing in Figure 2 - 4or mount on an existing rail.
5. Snap power supply onto DIN rail. Refer to Figure 2 - 4.

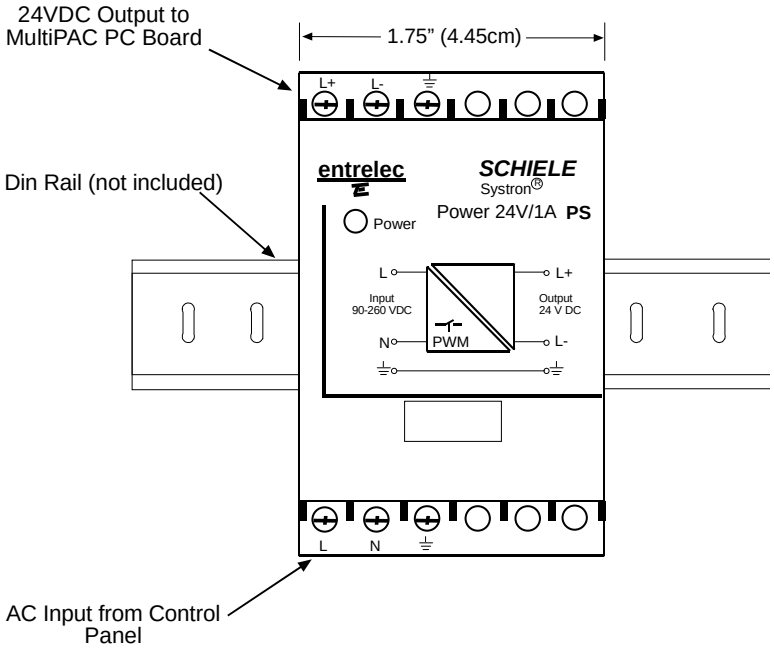

Figure 2 - 4. MultiPAC 24VDC Power Supply Front View, Mounted on DIN Rail (not included)

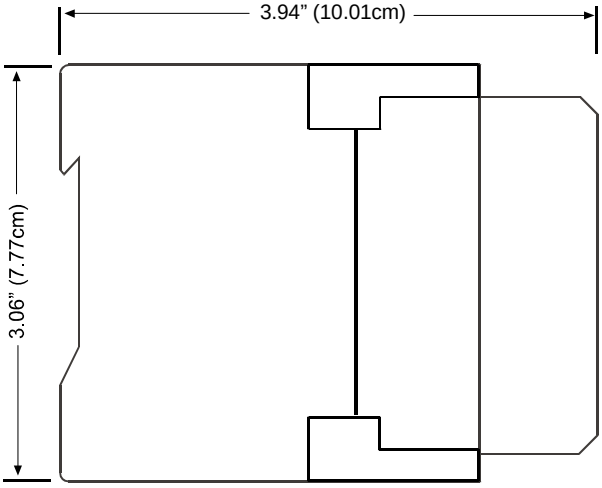

Figure 2 - 5. MultiPAC Power Supply Dimensions, Side View

Wiring Your MultiPAC Type 1 and 2

⚠ WARNING

ELECTRIC SHOCK

- 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.

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

Connecting AC to the 24 VDC Switching Power Supply

To connect AC power to the 24 VDC Switching Power Supply follow these steps:

1. Determine how you will bring wiring from your AC source to the left side of the power supply. You will need three wires – high, neutral, and ground. No.16 wire is recommended (No. 14 if local code requires it).
2. Locate the connector on the bottom of the power supply. Refer to fig 2.4 for its exact location.
3. Prepare wires to be inserted into connector by stripping off approximately ¼ inch of insulation.
4. With a small flat blade screwdriver, back off screws so that throat of connector opens large enough to insert the diameter of the gauge wire you are using.
5. Insert wires into connector according to color. Black (HI) into connector on Power Supply marked with the letter “L”, White (neutral) into the connector marked with the letter “N” and Green (Ground) into the connector marked with the ground symbol.
6. Tighten connector for each wire so that a good connection is made.

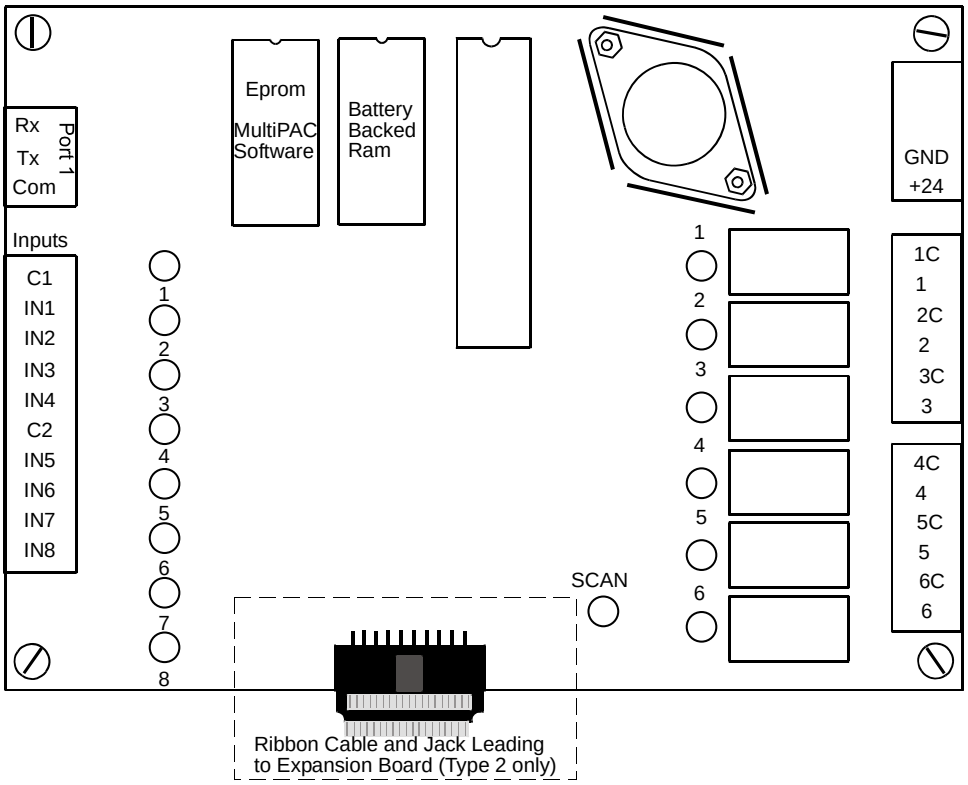

Figure 2 - 6. MultiPAC Types 1 and 2 PC Board layout

> **⚠ WARNING**
>
> **ELECTRIC SHOCK**
>
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> - Turn off all power to the machine and equipment used with the machine
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>
> **Failure to comply with these instructions could result in death or serious injury.**

Connecting 24VDC From Power Supply to MultiPAC PC Board

1. Determine how you will bring wiring from your 24VDC Power Supply to your MultiPAC PC Board. You will need three wires – positive, ground and chassis ground. No.22 gauge low voltage hook up wire is recommended
2. You will need to have enough # 22 gauge wire (Red, Black and Green) to travel from Power supply to MultiPAC PC Board
3. Prepare wires to be inserted into connectors by stripping off approximately ¼ inch of insulation. Locate the connector on the top of the power supply. Refer to Figure 2 - 4 for its exact location.
4. With a small flat blade screwdriver, back off screws so that throat of connector opens large enough to insert the diameter of the gauge wire you are using.

5. Insert wires into connector according to color. Red (Positive) into connector on Power Supply marked with the letter "L+", Black (Ground) into the connector marked with the letter "L-" and Green (Ground) into the connector marked with the ground symbol.
6. Tighten connector for each wire so that a good connection is made.
7. Locate DC power connector located on MultiPAC PC board. Refer to Figure 2 - 6 for its exact location. It is marked +24 and GND.
8. Repeat step 5.
9. Insert into connector according to color. Red (Positive) into connector on PC board marked +24, Black (Ground) into the connector marked GND. Attach Green (Chassis ground) wire coming from power to Chassis.
10. Repeat step 6.

Wiring Communications Cable from SmartPAC to MultiPAC Types 1 and 2

CAUTION

DAMAGE TO SHIELD

Ensure that the shield wire is kept intact. It is necessary for proper MultiPAC operation.

Failure to comply with these instructions could result in property damage.

1. Locate the 30-foot or 100-foot piece of cable you ordered with your kit. (4-conductor shielded cable without connector). This is a low voltage connection. Use green, white, black, and shield wires. Red wire is not needed and can be cut off. Wire connections as shown in the table below and wiring diagram at the end of this manual. Locate TB103 at the SmartPAC Board (consult your SmartPAC manual) and the connector on the MultiPAC Board labelled Port 1, which has wiring connections for Rx, Tx, and Com. Refer to Fig.2-6 for its exact location.
2. Run communications cable from SmartPAC to MultiPAC. If SmartPAC and MultiPAC are in separate enclosures, use liquid-tight conduit between each enclosure. Strip off approximately 2 ½ inches of insulation exposing all four conductors and the braided shield. Be careful not to run low voltage and high voltages in the same conduit. Stripping, inserting and tightening procedure is the same as when you connected the power supply.

Table 2 - 2. SmartPAC and MultiPAC Communications Connections

MultiPAC Port 1		SmartPAC TB 103	
Pin ID	Connection	Pin #	Connection
Rx	Rx (white)	226	TXD3 (white)
Tx	Tx (green)	225	-RXD3 (green)
Com	Com (black)	224	+RXD3 (black)
		*224 +RXD3	*229 Gnd.

3. *With a short piece of wire (You can use a piece of scrap wire left over from Comms. cable) jump pin # 224 (+RXD 3) to pin # 229 (Gnd) on SmartPAC (TB103 connector).

4. Connect shield (Thin braided silver looking wire with no insulation) to the chassis ground lug located in SmartPAC (Refer to your SmartPAC manual for its exact location) and the other end in MultiPAC to a chassis ground location in your console or enclosure (Refer to Figure 2 - 7).

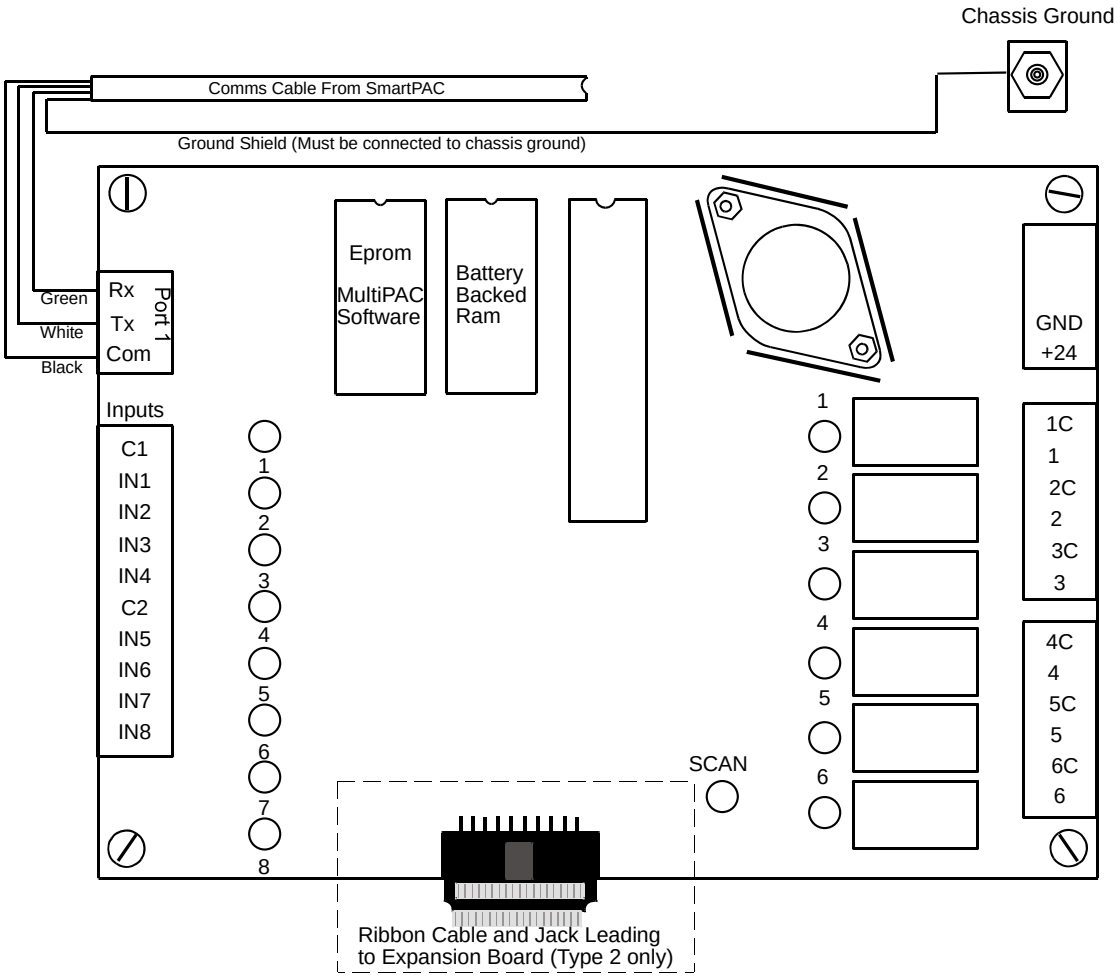


Figure 2 - 7. Connecting Shield to MultiPAC

Wiring the Inputs on MultiPAC

Zero Cam (Input 5)

1. Wire the Zero Cam output signal from SmartPAC to MultiPAC. Locate TB101 (main power connector on your SmartPAC PC board. Refer to your SmartPAC manual if you are unfamiliar with its exact location. Also, refer to wiring diagram at the end of this manual.

> **NOTICE**
>
> Zero Cam signal indicates that the press is at the top of the stroke. The Zero Cam signal is required for MultiPAC to operate correctly when lube control is programmed to operate on a specified number of strokes. The Zero Cam signal is also used in the logic of the Hydraulic Overload portion of the control (if used).

2. Find pin # 211 on SmartPAC connector TB101. Run a single low voltage 22 gauge wire from this pin (#211 TB101 SmartPAC) to MultiPAC PC board. This is a low voltage connection.

3. Locate connector on MultiPAC PC board. Refer to Fig. 2-6 for its exact location.

4. Connect the 22 gauge wire you just connected to SmartPAC to pin #7 (IN5) on connector marked Inputs (Refer to wiring diagram at the end of this manual)

NOTICE

When running wire for Zero Cam from SmartPAC to MultiPAC with separate enclosures, do not run low voltage with high voltage in the same conduit.

5. Next, you will have to wire up the clutch engaged signal from SmartPAC or Wintriss press control.

Clutch Engaged (Input 1)

1. Locate input #1(pin #2) on your MultiPAC PC Board. Refer to Figure 2 - 6 for its exact location.

2. Determine how you will provide a low voltage signal to this input. In order to activate this input you will have to find a way to pull it to ground. Pins 205 and 206 on TB1 on your SmartPAC are input check wires from the DSV (Dual Safety Valve). It is necessary to signal MultiPAC when the DSV is engaged. There are a couple of ways of accomplishing this. One way is by using a 120 VAC relay to open and close a set of dry contacts when the DSV is open and closed. The dry contacts of the relay can be used to switch a ground signal to input 1 of MultiPAC. The other way to signal MultiPAC that the clutch is engaged is to use the clutch engaged output from Wintriss Press Control (only if WPC is used). Ultimately the way you signal MultiPAC when the clutch is engaged is determined by how you are signaling SmartPAC.

NOTICE

SmartPAC has the ability to accept high or low voltage signals into its input check circuit. MultiPAC does not. If your SmartPAC is using a high voltage signal for its input check circuit, a relay needs to be used to sense the input at SmartPAC and switch a contact to ground for the MultiPAC. Refer to wiring diagram at the end of this manual. If a Wintriss Press Control is part of the control, than the output from Pin 29 of the Clutch Brake Control can be wired directly to input 1. (Refer to you WPC users manual)

3. Once you have determined how you will provide the necessary signal to MultiPAC's clutch engaged input, connect it to input #1(pin#2) on MultiPAC PC board.

NOTICE

Input 1 can also be connected to the motor on circuit of the control. Doing this enables time based lubrication to occur when the press is idle and the motor is running.

Divider Block-Cycle Switch Connection (Inputs 2, 3 and 4)

1. If your lubrication system plumbing has a divider block/s with a cycle switch/s, find their location and the two(2) wires that come from the cycle switch/s

2. Next determine the number of lube pumps that you will be switching or monitoring. MultiPAC has the capability to switch one lube pump on and off and monitor up to 2 additional lube pumps. A ground signal from the Cycle switch is what provides MultiPAC with the logic needed to make this happen.

3. Input 2 (Lube 1) is associated with output 4. Whenever lube 1 is programmed output 4 will turn on and off accordingly. A common application for using this input is where lube points need only occasional lubrication. An example of this would be lubricating a counterbalance or die cushion. In order for your MultiPAC to determine when a complete lube cycle/s has taken place, it is necessary to connect the ground signal from the cycle switch to this input. To wire, connect one wire of the cycle switch to ground and the other to Input 2. Refer to wiring diagram at the end of this manual for exact wiring of cycle switches

4. Inputs 3 and 4 (Monitor 1 and 2) can be used to monitor other lube systems on your press. These inputs will not activate any outputs on MultiPAC. They are used for monitoring purposes only. You can connect cycle switch output signals to these inputs from other lube systems that you want to monitor for proper operation. Each time a lube cycle takes place, MultiPAC will expect to see a one (1) cycle switch actuation to take place within a programmed time. Often times using one or both of these inputs can be an excellent way to monitor lube pumps that may run continuously. If either one or both of these inputs are not going to be used, simply leave them vacant and program their values to zero (0). To wire, connect one wire of the cycle switch to ground and the other to either or both inputs Refer to wiring diagram at the end of this manual for exact wiring.

Hydraulic Overload Pressure Switch (Input 6)

1 If your press is equipped with a hydraulic overload system, MultiPAC has the capability to monitor this switch and provide the logic needed in order to stop the press and return it to normal operation after a hydraulic overload has occurred. Determine if your press has this feature and locate the pressure switch associated with the hydraulic overload system. It may be helpful to refer to the press wiring diagrams or consult the press manufacturer for more information.

2 Input 6 of MultiPAC is where you will tie in this switch. It is a normally closed switch and opens if a hydraulic overload occurs.

NOTICE

If your press is not equipped with an Hydraulic Overload System or you are not going to monitoring it using MultiPAC, input 6 must be jumped out (grounded) or you will get continuous Hydraulic Overload error messages. There is no programming screen to disable this feature.

3 Refer to the wiring diagram at the end of this manual for exact wiring of the hydraulic overload pressure switch.

Motor On (Input 7)

> **NOTICE**
> Connecting to this input is only necessary for Type 2 MultiPAC

1 This input is necessary to signal MultiPAC when the speed output (Type 2) to the drive should be present. MultiPAC needs to know if the motor is in forward or reverse. In some cases if a hydraulic overload occurs, the press will be forced to run in reverse (i.e. only if the press has a reversing motor). If this happens, there must be a signal at this input to let MultiPAC know that the motor is on, if not the press will move.

2 Refer to wiring diagram at the end of this manual for exact wiring.

Wiring the Outputs on MultiPAC

Estop and Topstop (Outputs 1 and 2 respectively)

1 Output 1 (ESTOP) must be wired into the controls stop circuit and will be used to stop the press in the event of a Hydraulic Overload.

2 Output 2 (TOPSTOP) must be wired into the controls stop circuit and will be used to Top Stop the press in the event of a lube fault.

3 Refer to your presses wiring diagram to determine how you will tie in these circuits, also refer to wiring diagram at the end of this manual for exact wiring.

Forward Inhibit (Output 3)

1 Used if Hydraulic Overload is before bottom dead center. This output opens, forcing the operator to reverse the press.

> **NOTICE**
>
> This dry contact output can be wired in series with the motor forward circuit. If a Hydraulic Overload occurs before BDC, this output opens, prohibiting the motor form running in forward. If your press does not have a reversing motor, DO NOT wire this output.

Lube Pump (Output 4)

1 MultiPAC has the capability to turn 1 lube pump on and off. Determine which lube pump you will be switching. Often times the main lube pump will come on when the main motor is started and is monitored only by MultiPAC, while another pump that lubes the counter balance is turned on and off at different intervals by MultiPAC. This seems to be a common way of lubing the press. The main bearings, gibs and gibways need the most lubrication, while the counterbalance, need only be lubed occasionally. This output can turn on a variety of pumps that run different voltages.

2 Refer to your presses wiring diagrams and wiring diagram at the end of this manual for exact wiring.

Hydraulic Overload Pump (Output 5)

1 This output is used to turn a pump on (This pump is part of the presses Hydraulic Overload System) that re-pressurizes the Hydraulic Overload System after a Hydraulic Overload occurs. The contacts on the relay associated with this output are normally closed; thus, the pump is on. When an overload occurs the contacts open, causing the pump to turn off. The pump turns back on to pressurize the system only when the ram is returned to the top and stays on during normal press operation.

2 Refer to your press's wiring diagrams and wiring diagram at the end of this manual for exact wiring.

Flywheel Brake (Output 6)

1 If your press is equipped with a flywheel brake, MultiPAC has the capability to control it by turning it on and off.

2 Operation of this feature is simple. When the presses main motor is on, the flywheel brake is in the off position. When the presses main motor is off, the flywheel brake is in the on position and is applied to the flywheel. This helps to take the energy out of the flywheel and slow it down quickly.

3 Refer to your presses wiring diagram and wiring diagram at the end of this manual for exact wiring.

NOTICE

Call Wintriss Tech Support for more information about this feature.

Analog Speed Control Wiring

NOTICE

SPEED CONTROL, MULTIPAC TYPE 2 ONLY

- Speed Control is available only with MultiPAC Type 2. Type 2 MultiPAC has 2 PC boards. The lower board is the expansion board that contains the analog portion needed to control the speed of a press.
- You must also have a variable speed press and motor drive that has a 0-10 vdc input and a 0-10 vdc velocity drive output for MultiPAC Type 2 function properly.

1 Locate analog connectors on your MultiPAC lower expansion board. Analog output 2 and analog input 2 are used to send and receive signals from the motor drive and MultiPAC.

2 Connect the output of MultiPAC (out 2) to the 0-10 volt input of the motor drive. (This input to motor drive is sometimes a potentiometer)

3 Next, connect the input of MultiPAC (in 2) to the 0-10 volt output of the motor drive. The analog input is used to receive feedback from the drive on how fast the motor is

actually going (Actual Flywheel Speed). The output from the drive is often times referred to as a tachometer output.

4 Connect the ground from MultiPAC port 2 (gnd) to the ground connection located on your motor drive.

5 Refer to your presses wiring diagram and wiring diagram for your motor drive as well as wiring diagram located in the back of this manual for the exact wiring.

Chapter 3 – Set Up and Program Wintriss MultiPAC Types 1 and 2

In this chapter, you will learn how to setup and program your MultiPAC type 1 or 2. Since SmartPAC is the user interface for MultiPAC, it is important to be familiar with SmartPAC's keyboard and programming procedures. It is a good idea to have a SmartPAC manual on hand for reference during the initial setup of your MultiPAC.

To setup and program MultiPAC Type 1 or 2 Lube Screen go to the Initialization screen of your SmartPAC (Press the 1 and clear key on your SmartPAC simultaneously). Type 1 and 2 both have the same Lube setup screens. If you have a Type 2 MultiPAC, you have another option that allows you to change the speed of a variable speed press using your SmartPAC's keypad. The speed control part of MultiPAC type 2 is programmed in both the Initialization and Program screens of SmartPAC (Refer to your SmartPAC manual for instructions on how to access this screen).

The screen below (Fig.3-1) is an example of what the Lubrication setup screen of your MultiPAC looks like. Remember you must be in the Initialization screen of SmartPAC to access it. There is also a convenient one-page programming and setup guide located in the back of this manual

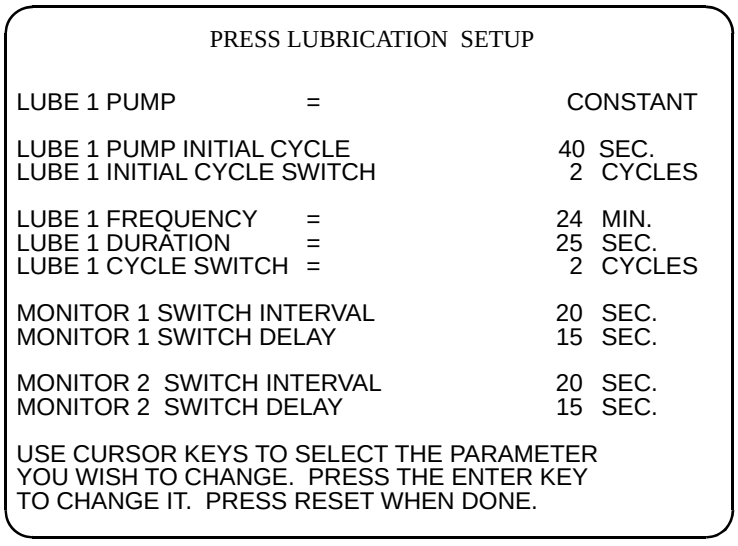


Figure 3 - 1. Press Lubrication Setup Screen

Lube Control Description (Type 1 and 2)

In most cases, one or more lube pumps lubricate a mechanical press, using a series of feed lines and divider valves. A divider valve is a type of valve that meters a specific amount of lubricant to areas on the press that requires lubrication (i.e. bearings, gibs, and ways). A cycle switch is usually located on the divider valve provides the feedback signals needed for MultiPAC to make intelligent decisions as to whether a press is being lubricated properly. Proper press lubrication is crucial to maintaining a healthy and happy press. With MultiPAC, it is now possible to avoid needless and costly repairs due to lack of proper lubrication. Since no two Lube Systems are exactly alike, it is important to remember that it will take a little time to set up and get familiar with your MultiPAC. This means that a certain amount of experimentation is usually necessary in order to achieve the final results. However, once you learn how to regulate the proper amounts of lubrication based on the feedback from the cycle switch/s, any further programming should be eliminated or minimized.

Programming Lube Set up (Type 1 or Type 2)

1. With your SmartPAC in the Initialization Screen scroll down and choose LUBE INIT. (MultiPAC Type 1) or LUBE / SPEED INIT (MultiPAC Type 2). Press enter. You will see the screen shown in Fig 3-1. If you have a Type 2, you will be asked to select, on another screen, between LUBE CONTROL INTIALIZATION and SPEED CONTROL INTIALIZATION. Select LUBE CONTROL INITIALIZATON (see Fig 3-2 below). Press enter. (Note: Both MultiPAC Types 1 and 2 are programmed in the PRESS LUBRICATION SETUP Screens Fig.3-1)

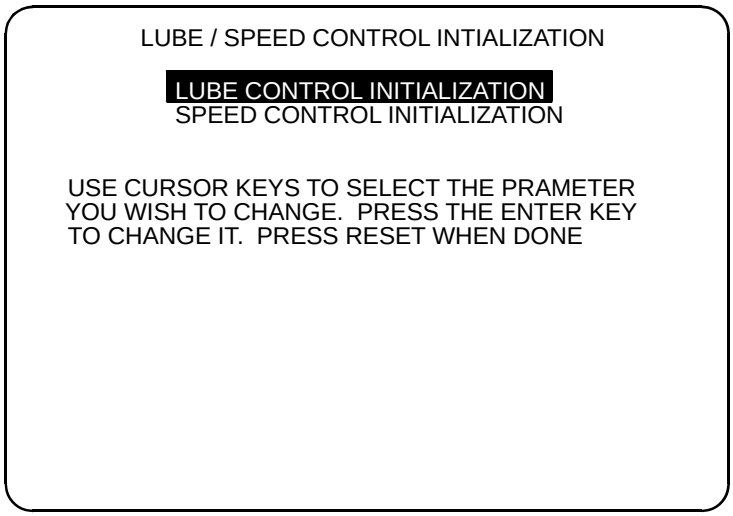


Figure 3 - 2. Lube / Speed Control Initialization Screen

2. To begin programming your lube settings select CHANGE LUBE SETTINGS (see Fig 3-4 on the next page).

NOTICE

All changes made while in the CHANGE LUBE SETTINGS screen will initiate an initial lube cycle after pressing the reset key (if one is programmed). This may cause excessive lubrication to occur while trying to achieve optimum lube settings for your press. If this becomes a problem or you just want to look at your lube settings in the future, select VIEW LUBE SETTINGS. No changes can be made in this screen. See Figure 3 - 3.

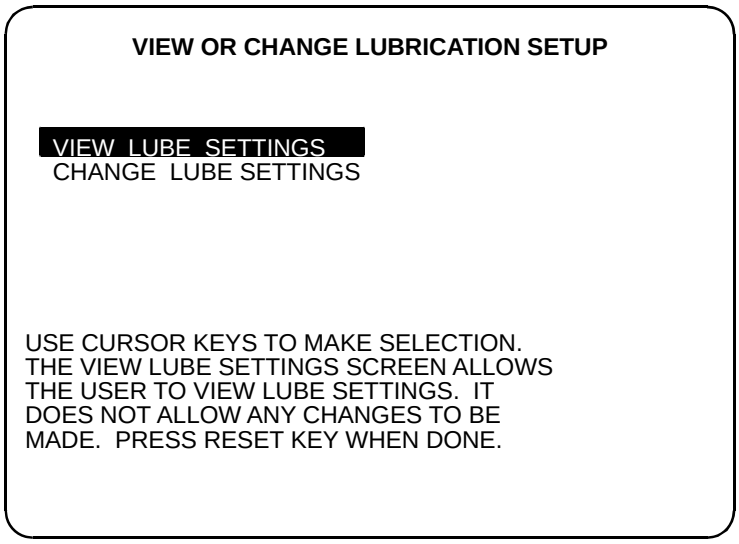


Figure 3 - 3. View Lube Settings

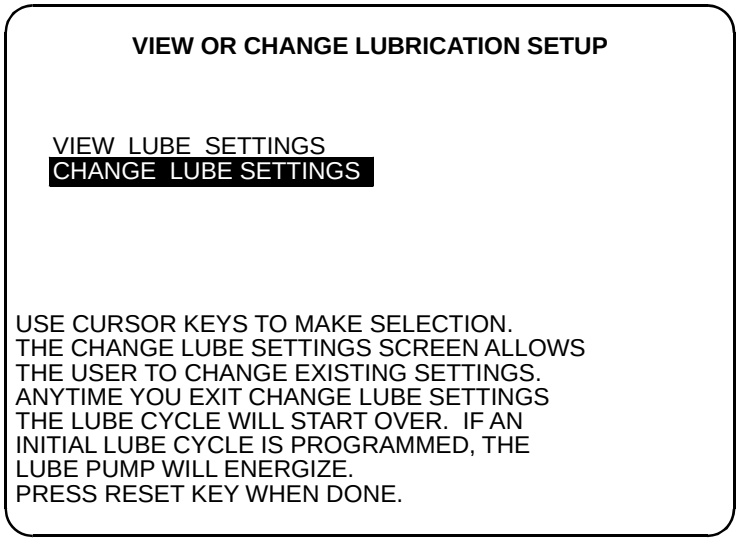


Figure 3 - 4. Change Lube Settings

3. The Press Lubrication Setup screen is set up to allow up to three (3) separate lube systems to be programmed. The first lube system is called LUBE 1. LUBE 1 is the only

system that can be programmed to turn a lube pump on and off. It can also be programmed to lubricate the press initially before starting the main motor. The other parts of the screen says MONITOR 1 and MONITOR 2 and are strictly used for monitoring the status of the other two other (2) lube systems. If any of these lube systems are not going to be used, simply set their values to zero (0).

4. Use the UP / DOWN cursor keys on your SmartPAC to select the field you want to program. If a field is highlighted with a black background, it can be changed. To change the FREQUENCY in LUBE 1 from STROKES to MINUTES or the PUMP in LUBE 1 from CONSTANT to PULSED, use the RIGHT / LEFT cursor keys.

Getting Started

Lube 1

1. Lube 1 has two sections that can be programmed to lubricate your press. The first section is typically used to provide initial lubrication to parts of the press that may need to have a coating of lubricant before operating. A good example of this would be the counter balance cylinders. If your lube application is similar to this or if you want to apply lube before starting the main motor then program this section.

2. Decide how many seconds you would like your pump to stay on and how many cycle switch actuations should take place. For example (shown in Fig 3-5), if you program a value of 40 seconds and 2 cycles, than your lube pump will stay on for 40 seconds and MultiPAC will expect to see 2 cycle switch actuations during this period. If not, a lube fault will be generated. Its that simple. If you are not going to use Initial lube, than set both (Pump initial cycle and Initial cycle switch) to zero (0).

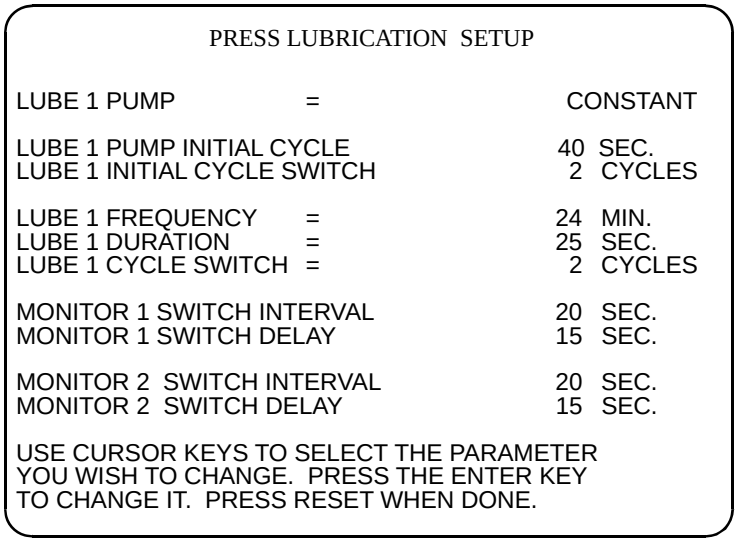


Figure 3 - 5. Press Lubrication Setup Screen

3. The second part of lube 1 deals with what happens once you have started the main motor and running the press (clutch engaged time). Programming this section will allow you to keep the lube pump associated with lube 1 on for a specified time (output 4 on MultiPAC). It also has a setting that allows you to keep the pump on constantly or pulsed. (E.g. Use Constant for re-circulating systems and Pulsed for a grease pump system.

4. Decide how often you want the pump to turn on and program this value into **Lube 1 Frequency.** Program this value in minutes or strokes (E.g. Every 24 min. the lube pump will turn on. Shown in Fig 3-5). To toggle from minutes to strokes press the left cursor key. The right cursor key toggles back to minutes. You can program from 0 –4000 minutes or strokes.

5. Next decide how long you want the pump to stay on and program this value (In seconds) into **Lube 1 Duration.** (e.g.25 seconds shown in Fig 3-5)

6. Now tell MultiPAC how many cycle switch actuations you want to take place while the pump is on. Program this value into **Lube 1 cycle switch**. Remember, it is the divider valve that meters the right amount of lubricant to the specific lube points on the press and it is the cycle switch that tells MultiPAC when a lube cycle has been completed. For example (shown in Fig 3-5) if you have programmed in a duration time of 25 seconds and 2 cycles, than MultiPAC will expect to see 2 complete cycles of the divider valve to take place within 25 seconds (whatever comes first). If not, a lube fault will be generated.

7. Lastly, decide how you want the pump to run, either in a constant or pulsed state. Enter this setting next to **Lube 1 Pump.** (Most recirculating lube applications will use the **Constant** setting. The Pulsed setting is often used for applications that use a grease pump. Use the right cursor key to toggle between Constant and Pulsed. (e.g. Constant setting shown in Fig 3-5) Note: Programming lube pump to pulsed will allow for a 3 second on and off time.

8. If you are not going to use using Lube 1, program all its values to zero (0).

NOTICE

PRESS RESET WHEN DONE PROGRAMMING

In order for your MultiPAC to function as programmed, you must press the RESET key on your SmartPAC when you are finished programming lube settings.

Monitor 1 and 2

1. Monitor 1 and 2 are used for monitoring only. Typically, feedback from cycle switch/s on divider valve/s provides the signals needed for MultiPAC to determine if specific lube points are receiving enough lubrication. These two inputs are most commonly used when lube is needed to flow throughout the lube system when the main motor is on. Also, when you want the lube pump to run all the time.(Not recommended for lost oil lube systems)

2. Decide how much time you want to elapse between divider block cycles. Program a value in **Monitor 1 or 2**. For example(Shown in Fig 3-3), if you program 20 seconds in either Monitor 1 or 2, MultiPAC will expect to see 1 cycle switch actuation every 20 seconds. If not a lube fault will occur. If a lube line is clogged or broken, MultiPAC will detect this and Top Stop the press, e.g. lubrication flow will not be sufficient enough to allow the divider block to shuttle back and forth, thus there will be no cycle switch actuation.
3. If your application is such that you need to have a delay at start up (main motor on), than you can program in a value for **Switch Delay**. This setting can be helpful if it takes a while getting enough lube volume to flow through the divider valve/s when you first start the main motor. For example (Shown in Fig 3-5), if you program a value of 15 seconds, MultiPAC will not begin to check for cycle switch actuations during that time period.
4. After that time has expired, than MultiPAC will expect to see feedback from the cycle switch.
5. If a delay is not needed simply set the value to zero (0).
6. If you are not using Monitor 1 or 2, simply program their values to zero (0) (Switch interval and Switch Delay.

NOTICE

There is a convenient one-page lube program and setup guide located in the back of this manual.

Speed Control Programming

Initialization Mode (Programming Minimum and Maximum press speeds)

1. Start out by getting your SmartPAC into the **Initialization** mode.
2. Select **LUBE/SPEED INIT** from the menu
3. The next screen will be **LUBE/SPEED CONTROL INITIALIZATION** (Figure 3-6)

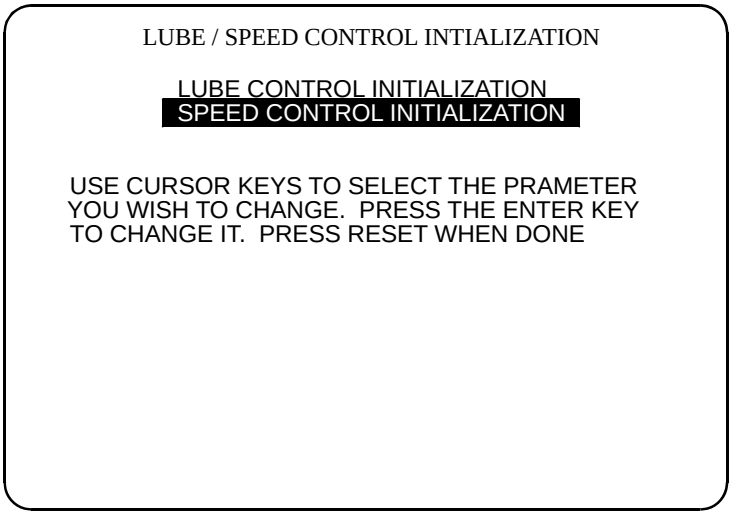


Figure 3-6. Lube / Speed Control Initialization

4. Select **SPEED CONTROL INITIALIZATION**
5. The next screen will be **PRESS SPEED SETUP** (Figure 3-7)

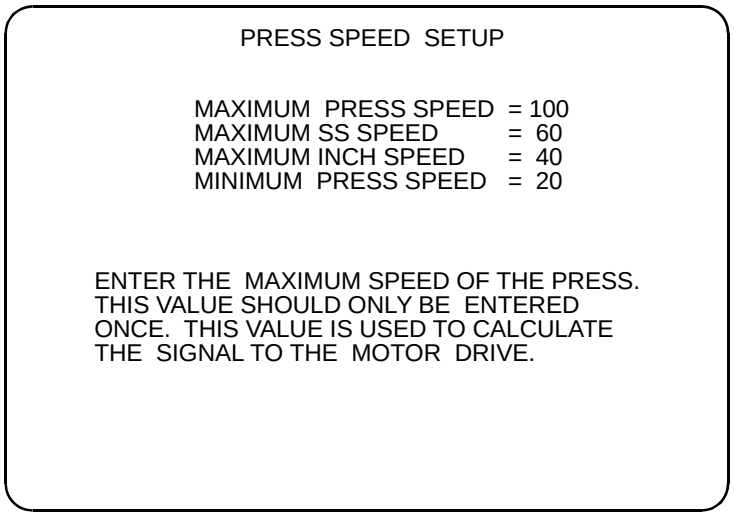


Figure 3-7. Press Speed Setup

6. Next enter the Maximum Speed. This value is critical for the calibration of the speed control and must be equivalent to the 10 VDC input to your variable speed drive. Refer to your press or drive manufacturer's manual. SmartPAC assumes linear relationship between 0 to 10 VDC and zero and the Max. Speed you set here.

7. Next enter the Maximum Single Stroke (SS) speed. This will be the maximum speed that is allowed for any tool in Single Stroke. If it is not necessary to limit the speed allowed, set this to the maximum Press Speed value.

8. Next enter the Maximum inch speed. This will be the maximum speed that is allowed for any tool in inch. If it is not necessary to limit the speed allowed, set this to the maximum Press Speed value.

9. Next enter the Minimum Speed. This value is not used for calibration. You can leave it at zero, or you can use it to set a lower limit for running your press for any tool in any mode. For example, if you want to make sure that the press is never operated below 20 SPM for any tool and mode including Inch, enter 20. While programming speeds for any tool in this example, SmartPAC will not accept any value below 20 SPM.

Program Mode (Programming operating modes and speeds by tool number)

NOTICE

In many instances, different tools or dies may have certain speed requirements for each mode (i.e. Inch, Single Stroke, or Continuous). MultiPAC speed settings can also be changed in the Run mode. If you want to add security and limit access to only certain personal, you may do so in the Initialization mode by selecting **Security Access,** than select **Adj. Press Control**. Change the setting to either Password required or Program Mode Only. Doing this will only allow authorized personal from making changes to Press Control Parameters while in the Run Mode. (If you limit access to program only, remove Prog/Run keys)

1. Add or edit new tools and tool parameters just as you have done prior to installing MultiPAC with Speed Control. Select an existing tool or create a new one.
2. While in the Program mode select **Press Control** (WPC integration) Figure 3-8 **or Press Speed** (no WPC integration) Figure 3-9 to program speed settings.

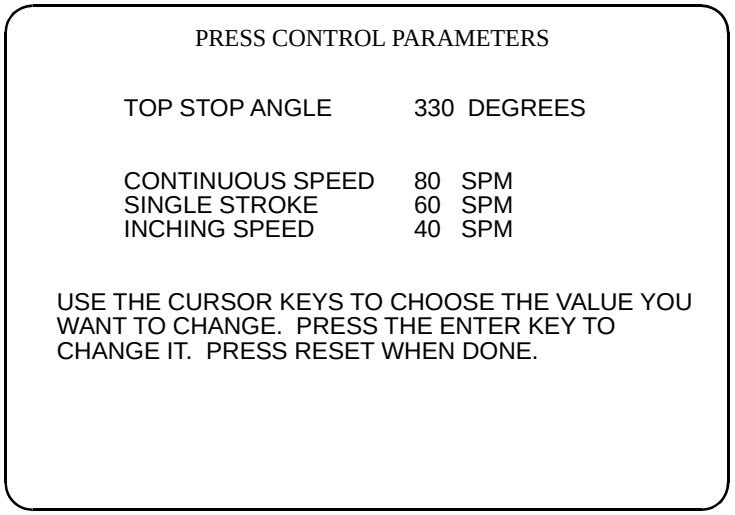


Figure 3-8. Press Control Parameters (Program Mode WPC integration)

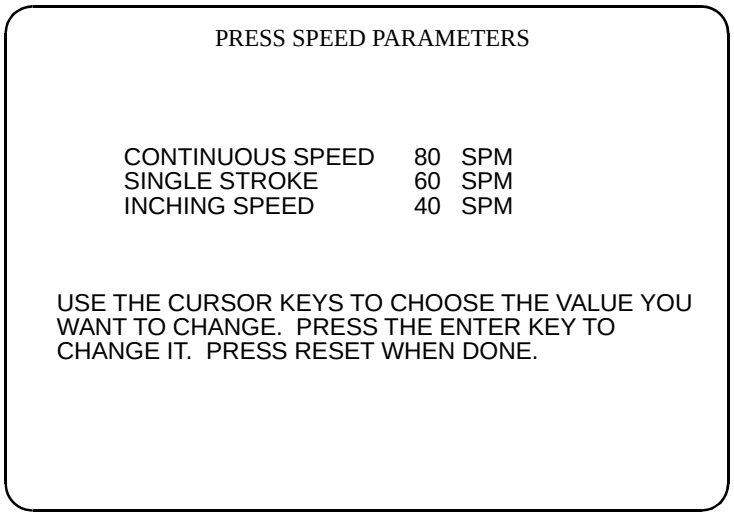


Figure 3-9. Press Speed Parameters (Program Mode no WPC integration)

3. Next enter speeds for each mode, according to how fast you want your tool to run.(i.e. Inch, Single Stroke and Continuous)
4. Enter values by selecting the mode you want to change and press enter. A dialog box will appear for you to enter a speed value in rpm. You can use the up/down cursor keys to increase (up) or decrease (down) the value or use the numerical keypad to enter values. Press **Enter** when finished.
5. Repeat step 4 for each operating mode. When you are finished programming all your speed parameters press **Reset** to save settings.
6. To run your press with this tool you must first load it. If you are not familiar with loading a tool, consult your SmartPAC Manual.

Run Mode (Increasing or Decreasing Press Speed)

NOTICE

Press speed changes can only be made incrementally while in this mode. Due to specific speeds that tools are meant to run at, only qualified personal should be allowed to make speed changes while operating the press.

1. While in the Run Mode While in the Run mode select **Press Control** (WPC integration) Figure 3-10 **or Press Speed** (no WPC integration) Figure 3-11 to program speed settings.

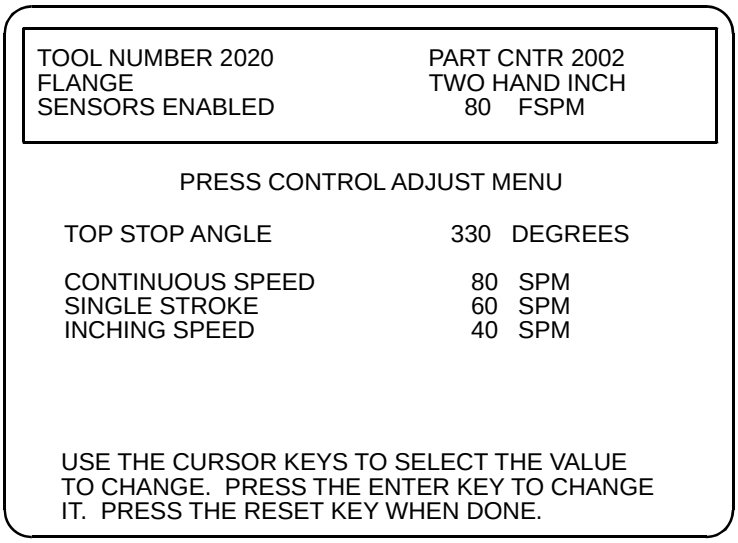


Figure 3-10. Press Speed Adjust (Run Mode WPC integration)

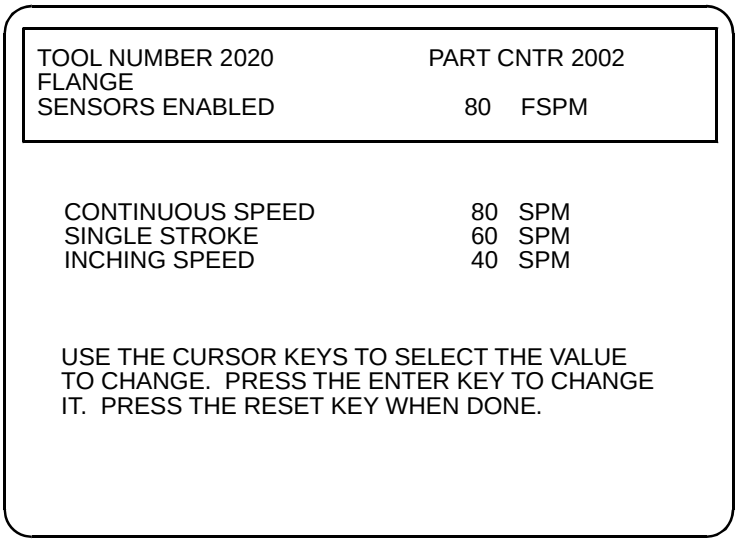


Figure 3-11. Press Speed Adjust (Run Mode no WPC integration)

2. Highlight the mode of operation you want to make changes to and press enter.
3. Using the up/down cursor keys, either increase or decrease the press speed by holding down on the appropriate key until the desired speed is reached. The **up** key increases and the **down** key decreases the speed. Press Reset.
4. If you need to make changes to other operating modes, use the up/down cursor keys to select the desired mode. Repeat step 3 to make changes.

Calibration

It may be necessary to calibrate your MultiPAC so that accurate speeds are displayed on your SmartPAC Screen.

Steps:

1. Make sure that the SPEED CONTROL INITIALIZATION parameters have been set up properly. Enter the Maximum and minimum speeds that the press will be run. Try running the press. If the speed displayed in the status box does not match that which is displayed in the angle wheel graphic, proceed to step 2.
2. Program a tool with all three modes of operation (INCH, SINGLE STROKE, and CONT) to the maximum speed that you programmed in the speed control initialization setup.
3. Locate the three Analog 2 Port potentiometers found on the edge of the lower board. Find the one that is labeled Out 2 Gain. Refer to Fig 3-6 for its location.
4. Start the main motor.
5. Put a voltmeter across the terminals Out2 and COM (common). Refer to Figure 3 - for its exact location. The voltage reading should read 10VDC. If it doesn't, adjust the Out 2 Gain potentiometer until it does.

   Note: If the press doesn't run at the correct maximum speed after making this adjustment, the Drive will need to be adjusted. Consult your Drive manual for instructions on how to adjust it.
6. After you have adjusted Out2 to the 10VDC you will need to calibrate the input 2 (In2). Refer to Figure 3 - for its exact location. Find an output from the variable speed drive that will give you a 0-10 VDC output, which corresponds to the flywheel speed.
7. Before hooking this 0-10VDC input into the MultiPAC, run a jumper wire from Out2 to In2.
8. Start the main motor of the press again.
9. Make sure the output from Out 2 is still at 10VDC.
10. With the main motor running and the clutch is disengaged, you should read the Max Press Speed in status box of the SmartPAC screen where it is labeled FSPM (flywheel stokes per minute). If it doesn't, adjust the In2 Gain potentiometer until it does.

    Note: If the press doesn't run at the correct maximum speed after making this adjustment, the Drive will need to be adjusted. Consult your Drive manual for instructions on how to adjust it.
11. Once your MultiPAC is calibrated properly, you will be able to accurately program various speeds for each mode of operation (Inch, Single Stroke and Continuous). The graph shown in Figure 3 - is an example of voltage readings at analog port 2 with relation to the mode you are in and SPM.

Note: Actual voltage readings depend on how you have programmed the Min and Max speed settings in Initialization.

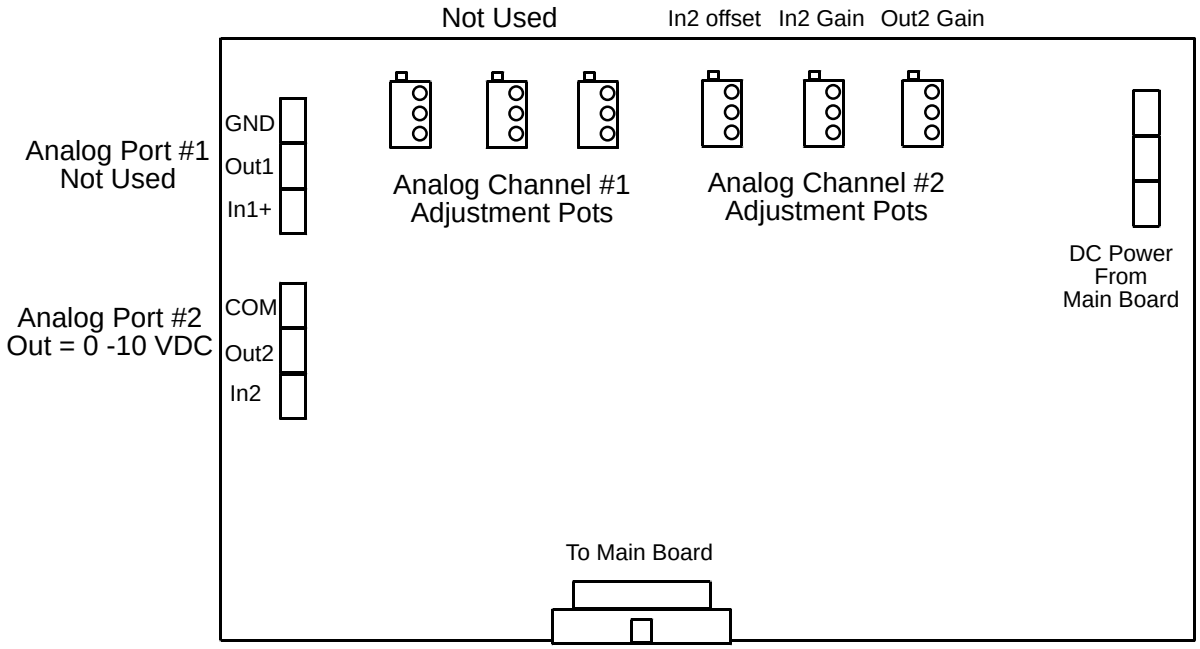


Figure 3 - 12. Analog board (lower board) adjustment potentiometers

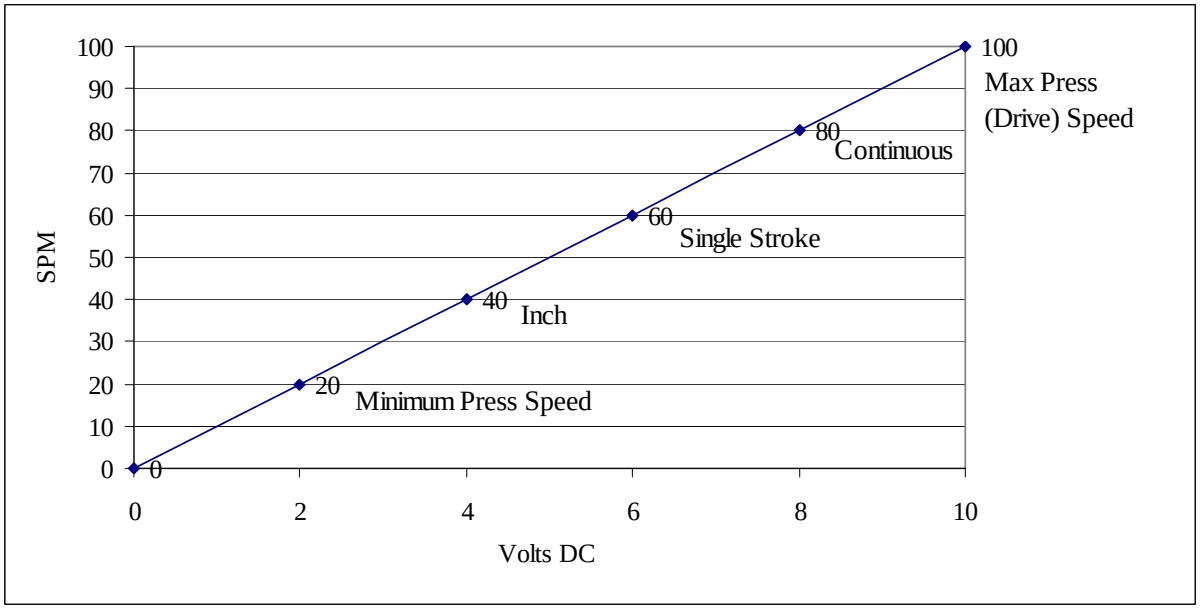


Figure 3 - 13. Analog Port 2 Output Voltage vs. SPM (Example)

Chapter 4 – Fault Messages for MultiPAC Types 1 and 2

Lubrication and Hydraulic Overload fault messages will be displayed on your SmartPAC LCD display or in the error log. These messages record the error or other conditions when the press stops or when a fault occurs. If you are unfamiliar with how to view error messages in your error log, it is explained in chapter 7 of your SmartPAC manual. If you get a fault or error message when the press is stopped or you are in the Run mode, the letter Err will blink in the LED display. To resume operation after an error message occurs, clear the error message by pressing the Reset key. Correct the malfunction or other message before running the press.

Messages Displayed When a Lube Fault Occurs

Lube 1 Fault

A LUBE CONTROL FAULT HAS OCCURRED. THE LUBRICANT IS NOT BEING PROPERLY CIRCULATED OR THERE IS A CYCLE SWITCH FAILURE.

Explanation:

This specific message indicates a problem with the Lube 1 portion of the MultiPAC Type 1 or Type 2. This error message is associated with Input 2 and Output 4 of the MultiPAC .

This message can appear on startup of the machine or while the machine is running.

The only way this message can appear is if the control does not see an adequate number of cyclic switch input actuations (if programmed) on INPUT 2 while OUPUT 4 is running the lube pump for its programmed duration.

Remedy:

The cycle switch inputs are generated from a cycle pin on a lube divider block. Check that this switch is functioning correctly. This can be done by observing the LED associated with Input 2 of the MultiPAC. If this is a control startup problem check that you are not asking for too many switch inputs in the allotted duration time. Either decrease the cycle switch inputs. Or increase the duration time of LUBE 1.

If the machine has been running properly for some period of time, check that the lube system has sufficient oil in the reservoir. Also check that no lube lines have come unattached.

Monitor 1 Fault

A LUBE CONTROL FAULT HAS OCCURRED. THE LUBE CYCLE MONITOR SWITCH 1 HAS DETECTED A PROBLEM

Explanation:

This specific message indicates a problem with Input 3 of the MultiPAC, Type 1 or Type 2. The only way this message can appear is if the control does not see an input from the cycle switch input at Input 3 within the programmed interval. These inputs are coming from a divider block on the lube line.

Remedy:

If this is a new installation, check that the LED associated with Input 3 is coming on and off when the lube pump is energized, (normally when main motor is turned on). If the LED is not indicating that the input is turning on and off, check the wiring to the cycle pin switch. If the LED is turning on and off, make sure that your Monitor 1 Switch Interval which is programmed in the initialization menu is sufficient. If this is a system that has been working properly for a some time, check the lube lines to ensure that you are getting proper lube to the divider block. Also check the wiring from the Cycle Pin Switch to the MultiPAC.

Monitor 2 Fault

A LUBE CONTROL FAULT HAS OCCURRED. THE LUBE CYCLE MONITOR SWITCH 2 HAS DETECTED A PROBLEM

Explanation:

This specific message indicates a problem with Input 4 of the MultiPAC, Type 1 or Type 2. The only way this message can appear is if the control does not see an input from the cycle switch inputs at Input 3 within the programmed interval. These inputs are coming from a divider block on the lube line.

Remedy:

If this is a new installation, check that the LED associated with Input 4 is coming on and off when the lube pump is energized, (normally when main motor is turned on). If the LED is not indicating that the input is turning on and off, check the wiring to the cycle pin switch. If the LED is turning on and off, make sure that your Monitor 1 Switch Interval which is programmed in the initialization menu is sufficient. If this is a system that has been working properly for a some time, check the lube lines to ensure that you are getting proper lube to the divider block. Also check the wiring from the Cycle Pin Switch to the MultiPAC.

Hydraulic Overload 1

THE HYDRAULIC OVERLOAD PRESSURE SWITCH HAS OPENED. INCH THE PRESS TO THE TOP OF THE STROKE. THE SYSTEM MUST REPRESSURIZE TO CLOSE THE PRESSURE SWITCH. TURN MODE SELECT SWITCH TO INCH AND PRESS THE RESET BUTTON TO CONTINUE. CHECK REASON FOR OVERLOAD BEFORE RETURNING TO NORMAL OPERATION.

Explanation:

This message indicates that the normally closed hydraulic overload switch has opened during operation of the press. This input is Input 6. The LED corresponding to that input must be on to properly Run the system.

Remedy:

The press must be inched to the top of the stroke. Input 6 must be satisfied to continue running the press. If the press does not have a hydraulic overload system than this input must be shorted to ground.

Hydraulic Overload 2

THE HYDRAULIC OVERLOAD PRESSURE SWITCH HAS OPENED. THE RAM IS BEFORE BDC. IF POSSIBLE, REVERSE THE MOTOR AND INCH THE PRESS TO THE TOP OF THE STROKE. THE SYSTEM MUST REPRESSURIZE TO CLOSE THE PRESSURE SWITCH. TURN MODE SELECT TO INCH AND PRESS THE RESET BUTTON TO CONTINUE. CHECK REASON FOR OVERLOAD BEFORE RETURNING TO NORMAL OPERATION.

Explanation:

This message indicates that the normally closed hydraulic overload switch has opened before bottom dead center (BDC) during operation of the press. This input is Input 6. The LED corresponding to that input must be on to properly run the system. It also indicates that an overload occurred and the press has not gone through the bottom of the stroke.

Remedy:

The motor must be started in reverse, and the press inched to the top of the stroke. The Hydraulic Overload Switch must then be satisfied, and the LED corresponding to Input 6 must be on. If the machine has no Hydraulic overload system Input 6 must be shorted to ground.

Hydraulic Overload 3

THE HYDRAULIC OVERLOAD PRESSURE SWITCH IS STILL OPEN. THE SYSTEM MUST REPRESSURIZE TO CLOSE THE PRESSURE SWITCH. PRESS THE RESET BUTTON TO CONTINUE. CHECK REASON FOR OVERLOAD BEFORE RETURNING TO NORMAL OPERATION.

Explanation:

This error message indicates that the normally closed hydraulic overload pressure switch has not been satisfied and remains in the open state . This input is Input 6. The LED corresponding to that input must be on to properly Run the system.

Remedy:

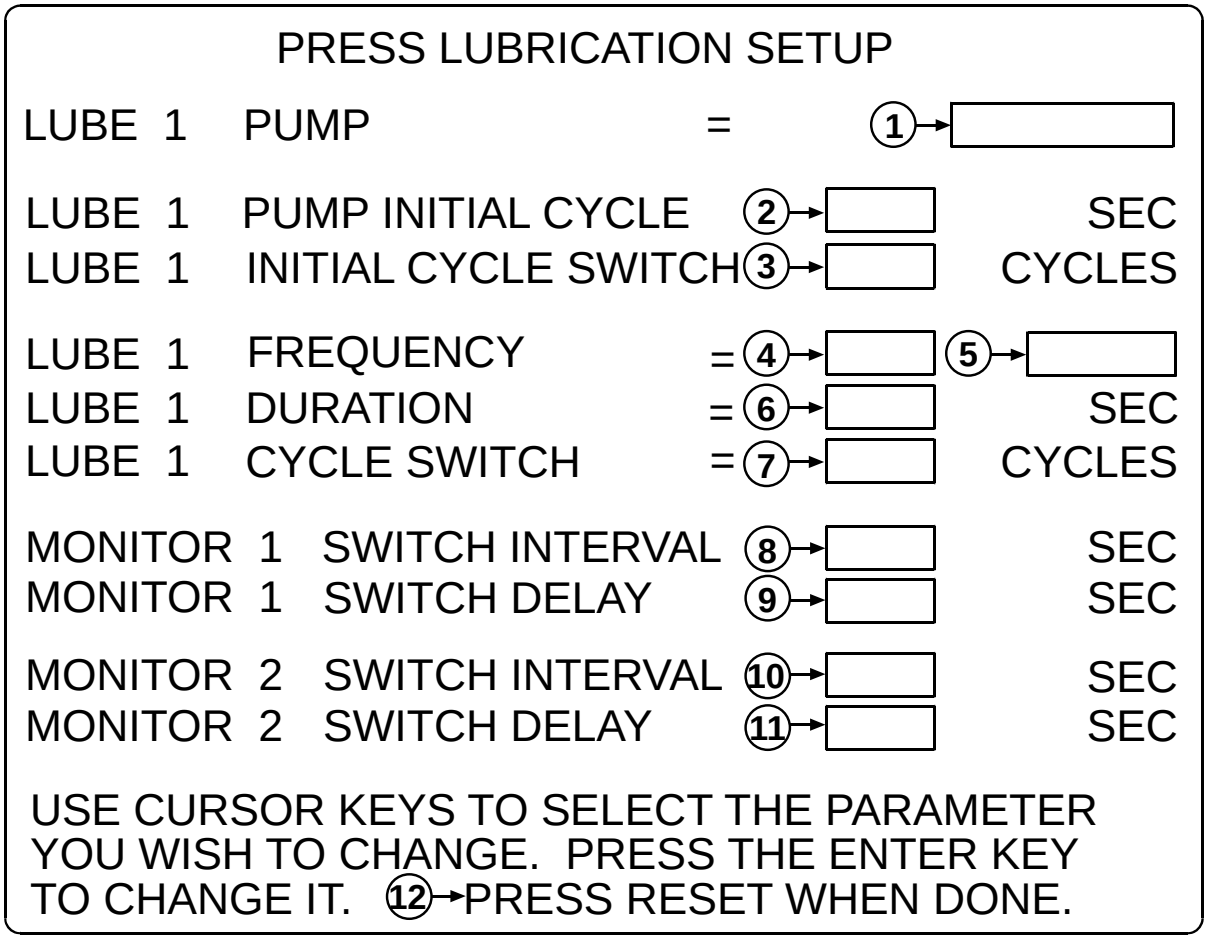
The Hydraulic Overload Switch must then be satisfied, and the LED corresponding to Input 6 must be on. If the machine has no Hydraulic overload system Input 6 must be shorted to ground.

Error Log Status Codes

Table 4 - 1. Error Log Status Codes

MultiPAC Status Codes	
Error #	**Description**
37	Lube fault
38	Hydraulic Overload 1
39	Hydraulic Overload 2
?	Hydraulic Overload 3
40	Monitor Switch 1 fault
41	Monitor Switch 2 fault

Appendix A – Lube Programming and Setup Guide



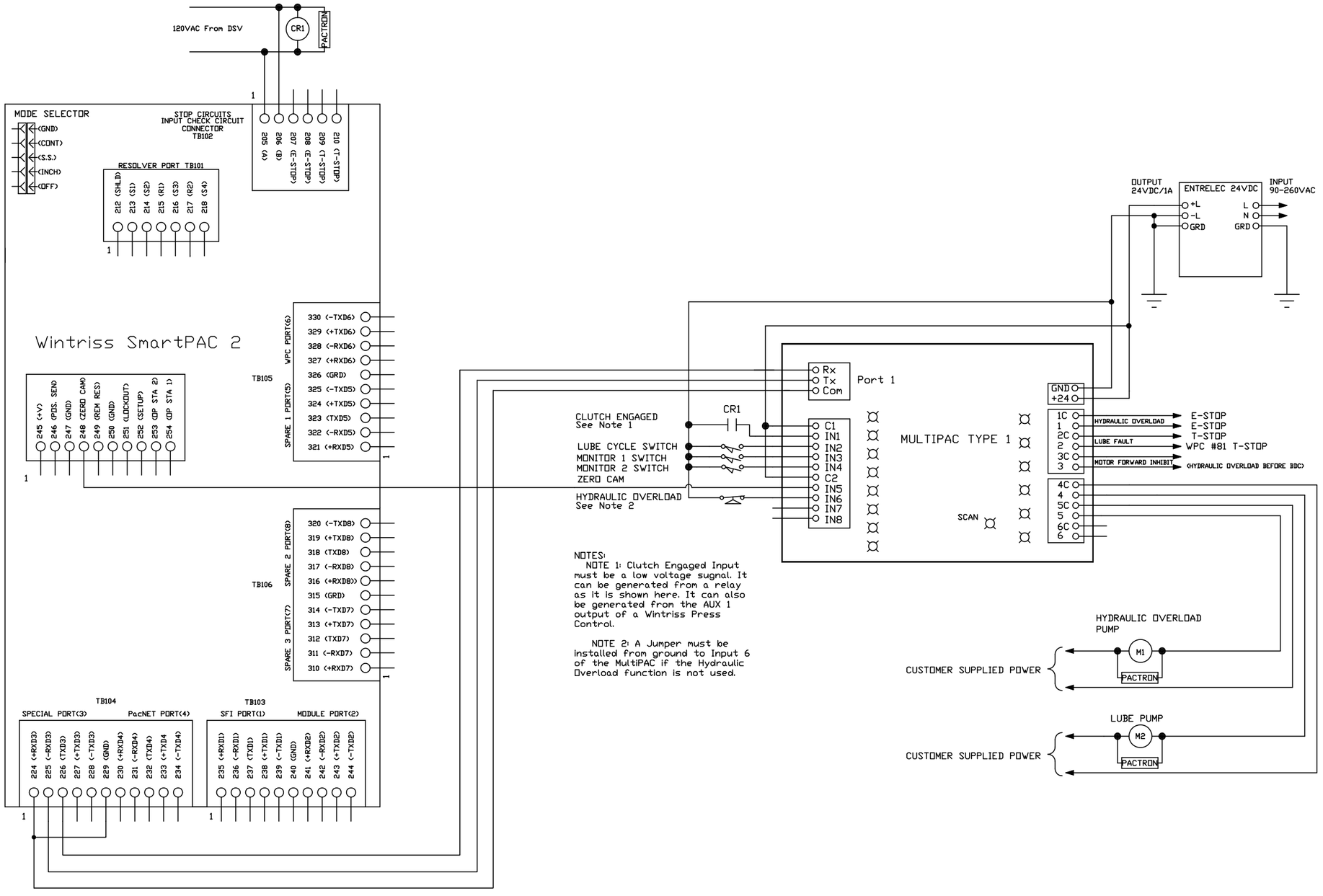
1. Lube 1 (Pump): Decide how you want a pump or other device to operate. Use the left/right cursor key on your SmartPAC to change from Constant or Pulsed (3 seconds on/off). Constant is recommended for most re-flow lube systems.

2. Lube 1 (Pump Initial Cycle): Starts a lube pump or other device by turning on output 4 each time main power is turned on. Enter value in seconds (1-400 sec.) for how long you want lube pump or device to run. Ideal for giving counter balance cylinder an initial lube before starting the main motor.

3. Lube 1 (Initial Cycle Switch): Enter the number of cycle switch actuations (1-100) required before a lube fault occurs.

4. Lube 1 (Frequency): Enter value in seconds for how often you want lube pump or other device to turn on (1-4000 Minutes or 4000 Strokes).

5. Lube 1 (Frequency): Decide if value entered in step 3 will be based on minutes or strokes. To change from Strokes to Minutes use the left /right cursor keys on your SmartPAC.
6. Lube 1 (Duration): Enter value in seconds (0-250 sec.) for how long you want lube pump or other device to run.
7. Lube 1 (Cycle Switch): Enter the number of cycle switch actuations (0-100) required before a lube fault occurs.
8. Monitor 1 (Switch Interval): Enter value in seconds (0-200 sec.) for the amount of time that will be allowed to elapse before a lube fault occurs. Ideal for monitoring the main lube system pump. No output is associated with this input. Lube faults are generated if a grounded signal is not generated from the cycle switch on the divider block.
9. Monitor 1 (Switch Delay): Enter a value in seconds (0-30 sec.) if you want a delay to take place before MultiPAC starts to monitor the cycle switch after power on. Ideal at press start up. Compensates for the time it takes lubrication to work through lube lines.
10. Monitor 2 (Switch Interval): Same as Monitor 1. Adds the ability to monitor another lube system.
11. Monitor 2 (Switch Delay): Same as Monitor 1 switch Delay
12. Reset Key: In order for MultiPAC to receive the parameters you program, it is essential that you press the reset key on you SmartPAC after your lube settings have been entered.

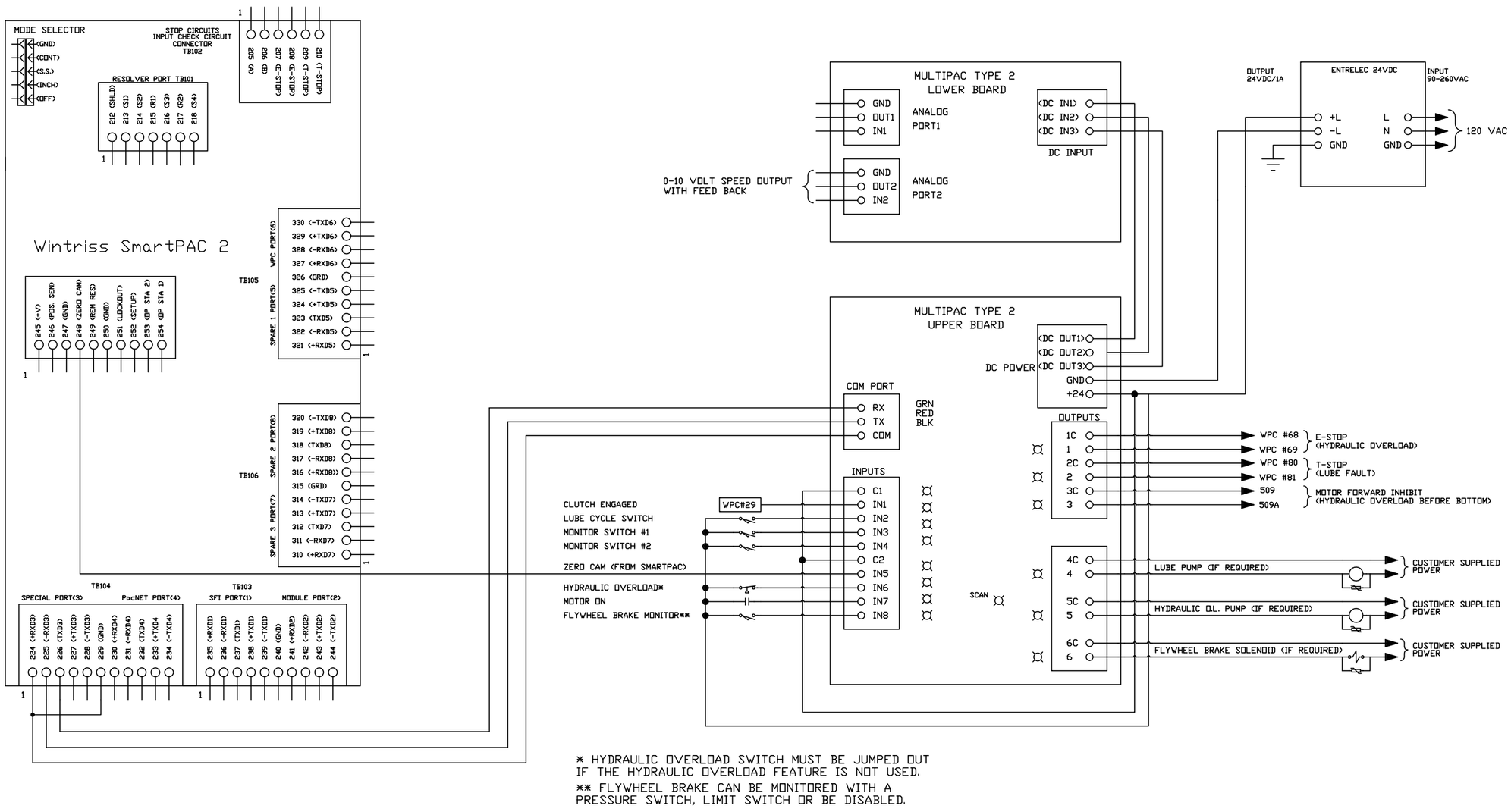


NOTES:

NOTE 1: Clutch Engaged Input must be a low voltage signal. It can be generated from a relay as it is shown here. It can also be generated from the AUX 1 output of a Wintriss Press Control.

NOTE 2: A Jumper must be installed from ground to Input 6 of the MultiPAC if the Hydraulic Overload function is not used.

REVISIONS By: Date:	DRAWN GVR	DATE 10-6-10	WINTRISS CONTROLS GROUP
A copy of this drawing, dated _____, has been provided to you as a courtesy. Any revisions made by you should be clearly marked on the drawing and identified by indicating in the box above, who made the revisions and on what date the revisions were made. Wintriss will not be held responsible for any revisions made to this drawing or for any changes made to the equipment referred to herein as a result of these revisions.	CHK.		TITLE: MultiPAC Type 1 SmartPAC 2
	APPROVALS ENG.		
	MFG.		
	FILE NAME		PRESS# / SIZE / DRAWING NUMBER / REV
	REL.		SCALE / SHEET OF



* HYDRAULIC OVERLOAD SWITCH MUST BE JUMPED OUT IF THE HYDRAULIC OVERLOAD FEATURE IS NOT USED.

** FLYWHEEL BRAKE CAN BE MONITORED WITH A PRESSURE SWITCH, LIMIT SWITCH OR BE DISABLED.

REVISIONS By: Date:	DRAWN GVR	DATE 10-13-10	WINTRISS CONTROLS GROUP
A copy of this drawing, dated _____, has been provided to you as a courtesy. Any revisions made by you should be clearly marked on the drawing and identified by indicating in the box above, who made the revisions and on what date the revisions were made. Wintriss will not be held responsible for any revisions made to this drawing or for any changes made to the equipment referred to herein as a result of these revisions.	CHK.		TITLE MultiPAC Type 2 SmartPAC 2
	APPROVALS ENG.		
	MFG.		
	FILE NAME		PRESS# / SIZE / DRAWING NUMBER / REV
	REL.		SCALE / SHEET OF