Standard Pneumatic Products

31 Shepard Hill Rd • Newtown, CT • 06470 • 203-270-1400 • 203-270-3881 Fax
www.stdpneumatics.com

Universal AutoSync Compressor Sequencer
MODEL AS2PT Pressure Transducer Sequencer with external starters
Installation and Operating Instructions

Overview

Congratulations on your purchase of the Transducer equipped Universal AutoSync Compressor Sequencer. This sequencer is designed to work with any 2 Automatic Dual Control equipped rotary compressors. When properly installed, the Universal AutoSync will operate both compressors in manual or automatic Lead/lag control and provide efficient operation and lead/lag cycling of both compressors. Please read the entire instruction sheet prior to installation of the controller.

The concept and operation of the AutoSync is simple: The AutoSync serves as a timed switch that "flip-flops" the Compressor 1 and Compressor 2 transducer pressure switch settings back and forth between compressors at a predetermined (and user adjustable) period of time for efficient and equal cycling time operation of both compressors. The backup lag compressor always comes on if the lead compressor is unable to meet shop air requirements and automatically shuts off when not required. Unlike other sequencers, the Universal AutoSync maintains identical operating hours for both compressors, and monitors individual usage hours for correct Compressor maintenance.

Installation

The following electrical procedures must be followed when stopping the compressor for the **AUTOSYNC** installation.

Per O.S.H.A. regulation 1910.147: The Control of Hazardous Energy Source (Lockout/Tagout), disconnect and lockout the main power source for both compressors. Display a sign in clear view at the main power switch stating that the compressor is being serviced.

Make sure the front panel "Power" switch is in the "off" position. Mount the **AUTOSYNC** unit on compressor frame, wall, or other suitable location.

Wiring Connections

Main Power to AS2PT Console:

Connect a 110VAC power line from an external power disconnect to the external black and white wired labeled **"110VAC Main Power "**

Connection to external starters

IMPORTANT NOTE: To prevent damage to the starter coils, Verify that the starter coils on your starter are rated for 110VAC. This voltage requirement is clearly called out near the starter coil A1 & A2 terminals.

Refer to the terminal block label inside the AS2PT console for the Comp 1 and Comp 2 output terminals to the starter coil. 110VAC is provided to energize the starter coils on the customer starters. Be sure to route these connection through the thermal overload or heaters on the motor starters.

Optional Unload Solenoid (electrical)

Unload solenoids are factory preset for a 5 sec delay between motor start and pumping. Please contact factory for instructions on changing the solenoid unloader time if required.

Compressor 1:
Connect 110VAC Unloader Solenoid to the terminals inside the console labeled "COMP 1 power to Solenoid Unloader

Compressor 2:
Connect Starter coil on the Compressor 2 external starter to the terminals inside the AS2PT console labeled "COMP 2 power to Solenoid Unloader .

Optional Unload Solenoid (pneumatic)

Compressor 1:
Connect fitting marked "Compressor 1 Head Unloader" to air connection on head unloaders (recip) valves or air inlet (rotary) The internal solenoids will provide pressure to unload compressor after shutoff pressure is reached

Compressor 2:
Connect fitting marked "Compressor 1 Head Unloader" to air connection on head unloaders (recip) valves or air inlet (rotary) The internal solenoids will provide pressure to unload compressor after shutoff pressure is reached

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Pressure Connection

1) Connect or tee and air feed from a common receiver tank (or connecting pipe between 2 tanks) of the compressors to the ¼" NPT fitting on the bottom of the Autosync controller. DO NOT EXCEED 200PSI to the AS2PT Controller inlet. Connections are now complete for successful Autosync operation. Controller must read air pressure to main air feed line, NOT individual tanks.

Front Panel Controls

The front panel "ON/OFF" switch powers down the AS2PT console AND the compressors by disabling power to the external starter coils. Returning console to the "ON" position starts compressors and begins a new sequencer timing cycle.

The front panel Lead/Lag control switch is for controlling lead/lag functionality. When switched to the "auto" (up position) **Compressor 1** begins its Lead pumping cycle for the time assigned by the Lead/Lag timer (see below for Lead/Lag time adjustment). The compressor 2 unit serves as the Lag controller during this cycle. When the Lead/Lag timer reaches its "swap cycle", compressor 2 serves as the lead machine. Center and down position on the Lead/Lag switch lock the compressors in Lead or Lag mode and defeat the sequencing operation. It is recommended that the compressor 2 pressure switch be set approximately 10PSI Min below the Compressor 1 pressure setting on the transducer. This setting will result in well balanced machine swapping when operating the AutoSync in AUTO mode.

The digital hour meter for each compressor will blink on the left side of each LCD display when its coil is energized and the compressor motor is operating. This timer is non-resettable.

Setting the Compressor Operating Pressures

Transducer Pressure Switch Adjustments

CHANGE SHUTOFF PRESSURE - COMPRESSOR 1 - Press the blue button on the transducer display until the display toggles between P_1 and 120.0psi which is the default factory SHUT OFF pressure setting for COMPRESSOR 1 (175.0 PSI for med pressure transducers). To increase or decrease this pressure use the up or down arrows next to the blue button as required to adjust the pressure setting. Note the pressure you are changing in this mode is the compressor SHUTOFF pressure. It is important to note that changing the shutoff pressure also changes the turn on pressure, as the pressure deadband (known as hysterisis) always remains 20 psi LOWER than the shutoff pressure. For example, if you change the "compressor off" pressure to 100 psi, the turn on pressure will also move to 80 psi, a difference of 20 psi.

CHANGE SHUTOFF PRESSURE - COMPRESSOR 2 - Press the blue button on the transducer display until the display toggles between P_2 and 100.0psi which is the default factory SHUT OFF pressure setting for COMPRESSOR 2 (165.0 PSI for med pressure transducers). To increase or decrease this pressure use the up or down arrows next to the blue button as required to adjust the pressure setting. Note the pressure you are changing in this mode is the compressor SHUTOFF pressure. It is important to note that changing the shutoff pressure also changes the turn on pressure, as the pressure deadband (known as hysterisis) always remains 20 psi lower than the shutoff pressure. For example, if you change the "compressor off" pressure to 100 psi, the turn on pressure will also move to 80 psi, a difference of 20 psi. This is known as the hysteresis setting, and can be changed as follows for both pressure settings:

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CHANGE PRESSURE DEADBAND - Factory preset to 20 psi differential between the high and low pressure settings. Do not change any other functions or modes on the transducer!!

Press and hold down the blue button on the transducer until F_0 flashes on the display. Press the "up" arrow until F_1 appears on the display (or F_2 for compressor 2)

Press the blue button until H_1 appears on the display, and alternately toggles between H_1 and 20.0. (or H2 for Compressor 2) This is the default pressure deadband pressure.

Use the up or down arrows to increase or decrease the deadband setting between the upper and lower pressure. **This number represents the difference between the high and low pressure, NOT THE ACTUAL LOW PRESSURE "turn on" pressure.**

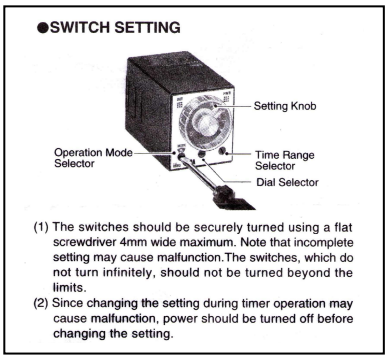
Hold the blue button down until the transducer display goes back to the current inlet pressure setting. **The MAXIMUM high pressure setting on the standard transducer is 148 PSI. If this pressure is exceeded the transducer will fault and reset itself when pressure drops below 148PSI. Higher pressure transducers are available up to 1000 P.S.I by special order, but must be factory installed.**

Lead/Lag Sequencing Timer Adjustment

IMPORTANT NOTE: No matter what adjustment mode is selected on the IDEC timer, the main adjustment dial on the face of the IDEC timer should NEVER be turned all the way down to the "0" (ZERO) setting. This causes the Lead/Lag relay into infinite mode, causing the relay And starters to "chatter" very quickly, and will damage the starters OR the motors due to extremely fast cycling of the AutoSync relay. Any setting above the Zero setting is acceptable.

LEAD/LAG TIMER SETTING CHART

RANGE (USE TIME RANGE SELECTOR)	DIAL SETTING (USE DIAL RANGE SELECTOR) 0-1 AND 0-3 SETTING NOT USED	
	0-6	0-18
1S	NOT USED	NOT USED
10S	NOT USED	NOT USED
10M	36 SEC 60 MIN	108 SEC- 180 MIN
10H	36 MIN – 60 HRS	108 MIN – 180 HRS



The AutoSync comes preset from the factory to switch the compressors between Lead/Lag mode every 2 hours. However, there are various ways to set the timer for different Lead/Lag switching time using the settings on the chart above. In addition to the dial adjustment, there is a Dial Selector, a time range selector, and a operation mode selector. **The operation mode selector should remain in mode "C" for proper operation**. The dial selector and the time range selector may be set by the installer/end user to achieve the desired Lead/Lad switching. When the front panel selector is set to either lead./lag mode, the timer is bypassed, and locks the compressors in the desired Lead/Lag mode for compressor 1 & 2.

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WARRANTY

General Provisions

Standard Pneumatic Products, Inc. (the Seller) warrants to each Purchaser products of the Seller's own manufacture against defects in material and workmanship. With respect to products not manufactured by the Seller, the Seller will, if practical, pass along the warranty of the original manufacturer.

The Seller's sole obligation under this warranty shall be, at its option, to repair, replace, or refund the purchase price of any product or part thereof which is deemed to be defective, provided the Purchaser meets all of the applicable requirements of this warranty and none of the limitations apply.

Warranty Periods

Units

All Standard Pneumatic Products controllers are warrantied from date of manufacture or 15 months from shipment.

Replacement Parts

Seller warrants repaired or replaced parts against defects in material and workmanship under normal use and service for ninety (90) days, or for the remainder of the warranty on the product being repaired, whichever is longer.

Normal maintenance items and procedures are not warranted unless found to be defective in material or workmanship, e.g., a clogged 3-way valve.

Limitations

Notice of the alleged defect must be given to the Seller in writing with all identifying details, including serial number, model number, type of equipment and date of purchase within thirty (30) days of discovery of same during the warranty period. If requested by Seller, such product or product thereof must be promptly returned to Seller, freight collect for inspection. No models are eligible for travel expense.

The above warranties shall not apply and Seller shall not be responsible or liable for:

a. Consequential, collateral or special losses or damages.
b. Equipment conditions caused by fair wear and tear, abnormal conditions, accident, neglect or misuse of equipment, improper storage or damages resulting during shipment.
c. Deviation from operating instructions, specifications or other terms of sales.
d. Labor charges, loss or damage resulting from improper operation, maintenance or repairs made by person(s) other than Seller or Seller's authorized service station.
e. Improper application, installation, or miswiring of product.

Disclaimer

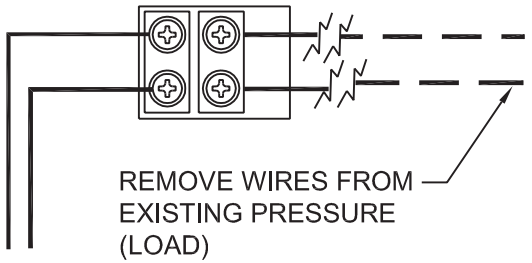
In no event shall Seller be liable for any claims, whether arising from breach of contract or warranty or claims of negligence or negligent manufacture, in excess of the purchase price.

This warranty is the sole warranty of Seller and any other warranties, express, implied in law or implied in fact, including any warranties of merchantability and fitness for particular use, are hereby specifically excluded.

UNIVERSAL AUTOSYNC
LEAD/LAG CONFIGURATION
WIRE ROUTING
SCREW COMPRESSOR W/TIMEOUT

OPTION 1 - ROTARY SCREW INSTALLATION

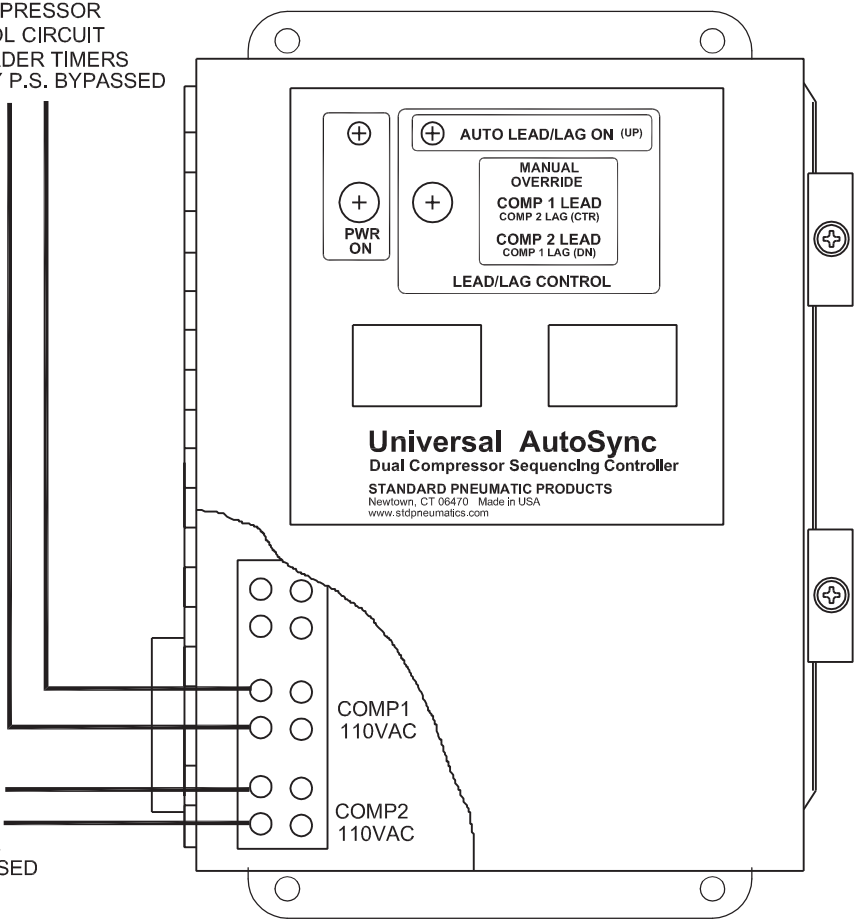
COMPRESSOR 1 P.S.



REMOVE WIRES FROM
EXISTING PRESSURE
(LOAD)

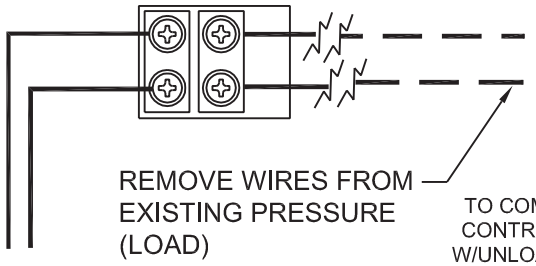
FACTORY
110VAC
POWER
IN TO P.S.

TO COMPRESSOR
CONTROL CIRCUIT
W/UNLOADER TIMERS
FACTORY P.S. BYPASSED



OPTION 1 - ROTARY SCREW INSTALLATION

COMPRESSOR 2 P.S.



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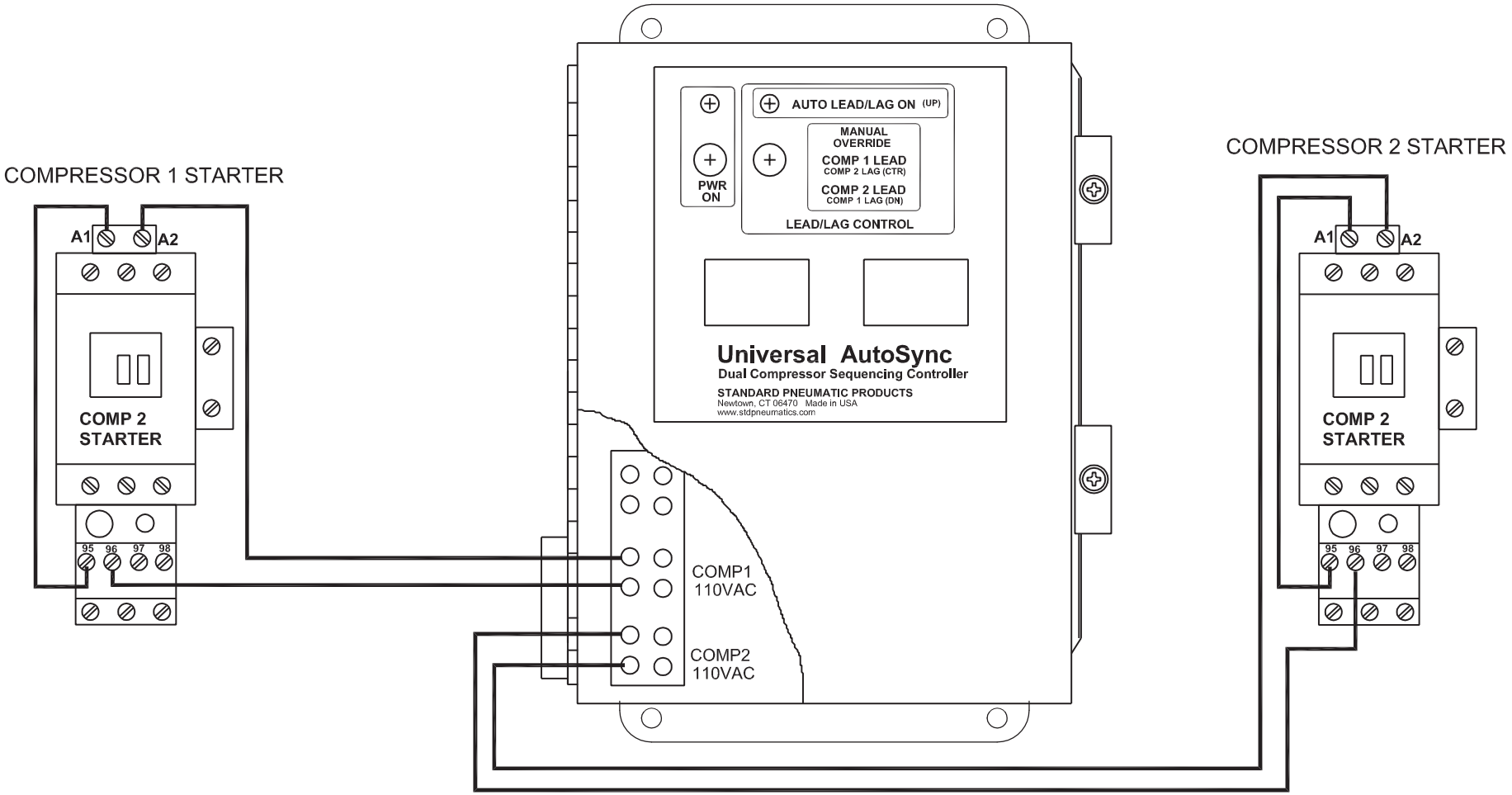
UNIVERSAL AUTOSYNC AS2PT
LEAD/LAG CONFIGURATION
WIRE ROUTING EXTERNAL STARTERS



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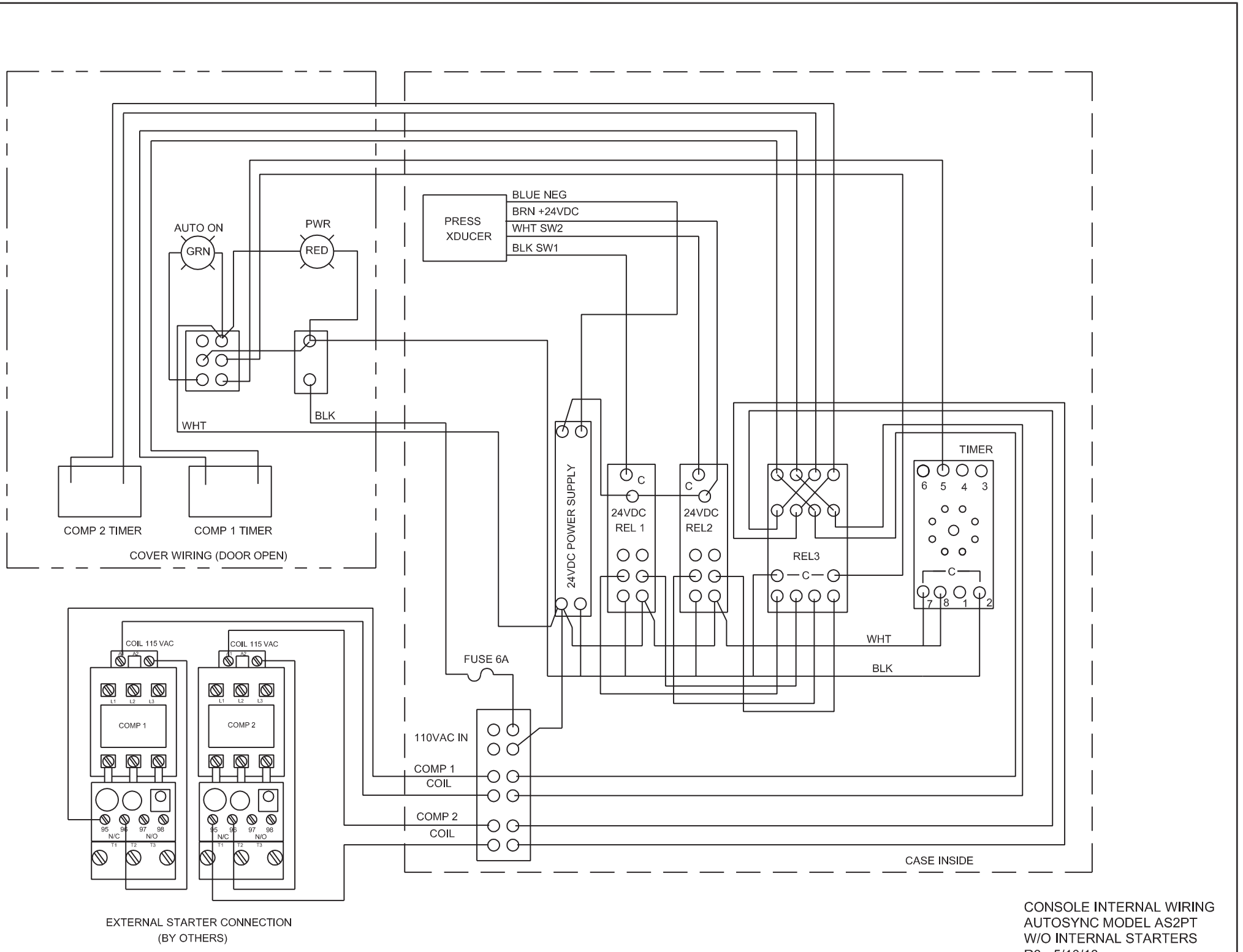

CONSOLE INTERNAL WIRING
AUTOSYNC MODEL AS2PT
W/O INTERNAL STARTERS
R3 - 5/10/18