

Mars Air Systems

Typical Air Curtain Wiring Diagrams

Table of Contents

Unheated Wiring Diagrams

Typical Wiring Diagrams.....	3
LPV2/LPN2 115v Motor.....	4
LPV2/LPN2 208/230v Motor.....	5
Door Limit Switches.....	6
Three Speed Switch and Cord.....	7
VFD with Variable Speed Control.....	8
RIB ½ HP with No Time Delay.....	9
RIB ½ HP with Time Delay.....	10
RIB 1 HP with No Time Delay	11
RIB 1 HP with Time Delay	12
RIB 1 HP with Time Delay and 2 Speed Switch.....	13
RIB ½ HP with Two Door Switches.....	14
Typical Motor Control Panel (MCPA-1UA)	15
Typical Motor Control Panel with Time Delay and Three Speed (MCPA-1UA-TD-3S)	16
Typical Motor Control Panel with BMS Control & Monitor (MCPA-3UH-303)	17
SimpleLink 2 Controller with TRIAC for LPV2 (MCPS-2UA-SK2)	18
SimpleLink 2 Controller with Remote VFD for STD2 (MCPA-2UG-SK2-VR)	19

Hot Water/Steam Heated Wiring Diagrams

Typical HW/S (1 Ph, 1Hp max)	20
LPV2 HW/S with Heat on Demand	21
Typical HW/S with RIB.....	22



HW/S Motor Control Panel (MCPB-2VD)	23
HW/S Motor Control Panel with Heat on Demand (MCPB-2VD-HD)	24
HW/S Motor Control Panel with BMS Monitor & Control (MCPB-3VH-306)	25

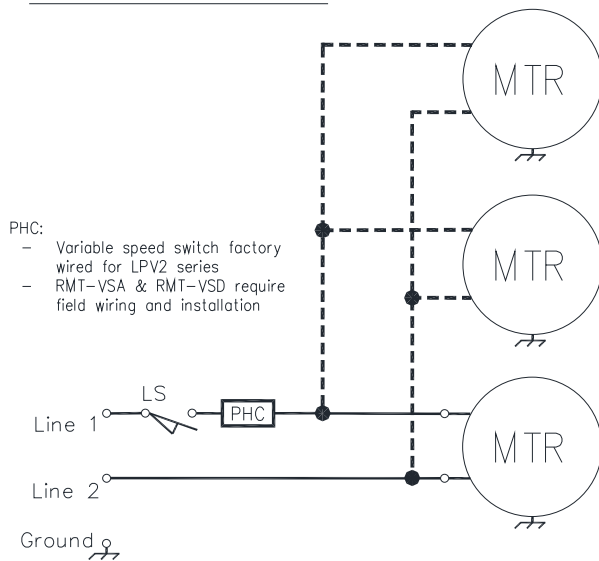
Electric Heated Wiring Diagrams

Electric Heated LPV2, 1 Mtr, 208/230v, 3ph	26
Electric Heated LPV2, 1 Mtr, 460v, 3ph Heater, 115v, 1ph Motor	27
Electric Heated LPV2, 1 Mtr, 460v, 3ph Heater, 115v, 1ph Motor, SimpleLink 2 Controller.....	28
Electric Heated STD2, 2 Mtr, 208/230v, 3ph	29
Electric Heated STD2, 2 Mtr, 460v, 3ph, Adj TD	30
Electric Heated STD2, 2 Mtr, 460v, 3ph, SimpleLink 2 Controller	31

Typical Wiring Diagrams

SINGLE PHASE

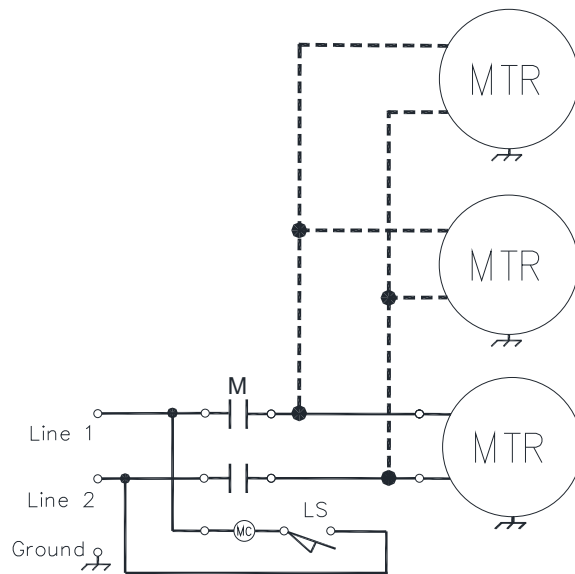
TYPICAL UNHEATED DIAGRAMS



120/208-240/277v Single Phase Motor

- 1/6 H.P. Use 15A Micro Switch
- 1/2 H.P. Use 15A Micro Switch
- 1 H.P. Use 20A Micro Switch

LS: Limit Switch. Wire as Normally Closed (COM & NC)
Max Rating: Upto 1 HP, 250VAC, 1PH



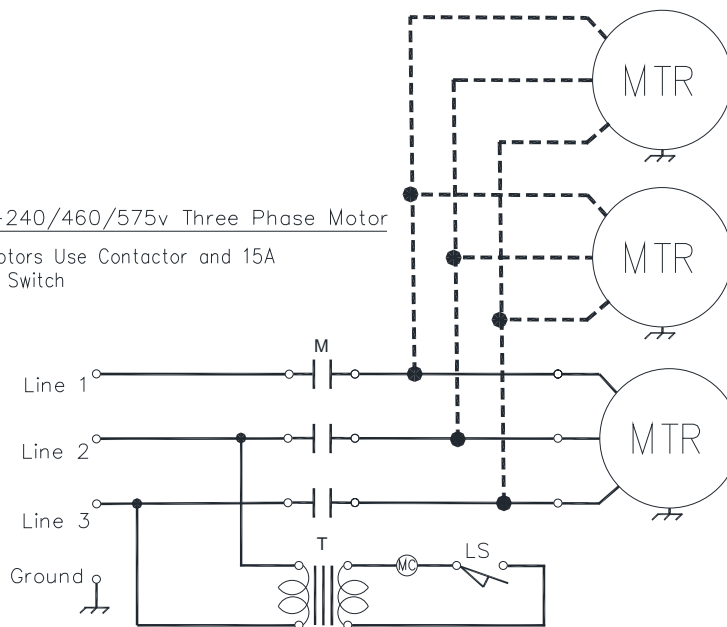
120/208-240/277v Single Phase Motor

Larger than 1 H.P. Use Contactor and 15A Micro Switch

THREE PHASE

208-240/460/575v Three Phase Motor

All Motors Use Contactor and 15A Micro Switch



Typical Single Phase Motor Terminal Connections:

For 1/2 HP: <1> is Common for 115V

<1> is Hot for 208/230V

<2> is Low Speed

<3> is High Speed

<4> is Ground

<5> is Medium Speed

For 1 HP: <1> is Common for 115V, 208/230V

<2> is High Speed

<3> is Low Speed

<4> is Ground

Notes: This wiring diagram is applicable for Single Phase motors as follows:

LPV2: Up to 3 motors

STD2: Up to 2 motors

HV2: 1 motor

*See Door Limit Switch submittal for additional switch info

SYMBOLS

LS - Micro Switch

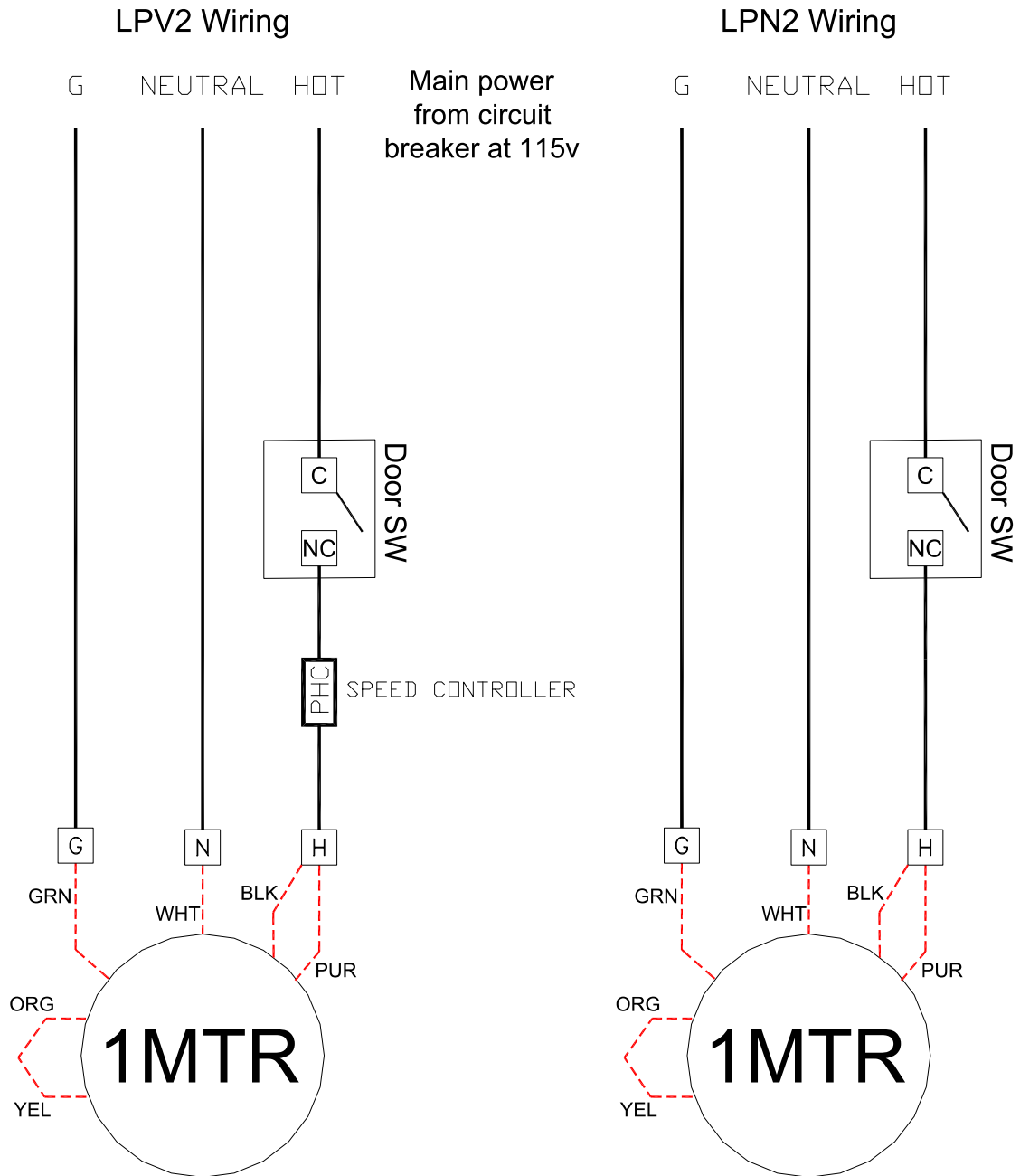
M - Contactor or Motor Starter

MC - Contactor Coil

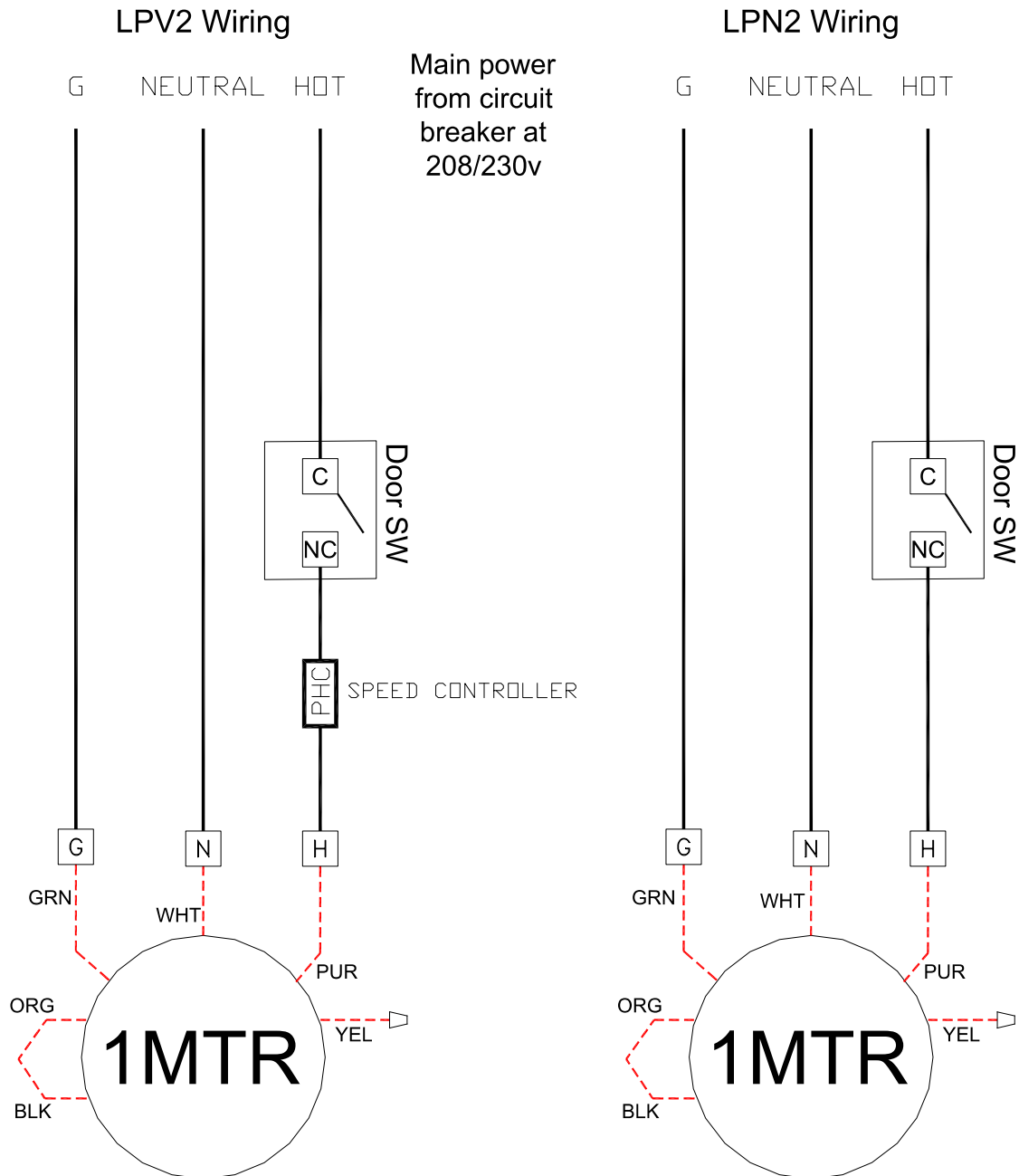
T - Control Transformer

PHC - Speed Controller (LPV series only)

LPV2/LPN2 115v Motor



LPV2/LPN2 208/230v Motor



Door Limit Switches

How to Properly Wire Mechanical Door Limit Switches

Note: Please follow the wiring diagram included with the optional door limit switch purchased.

For the Mechanical types: (99-012, 99-013, 99-014, 99-015, 99-016, 99-267)

DO NOT GROUND the "COM" terminal

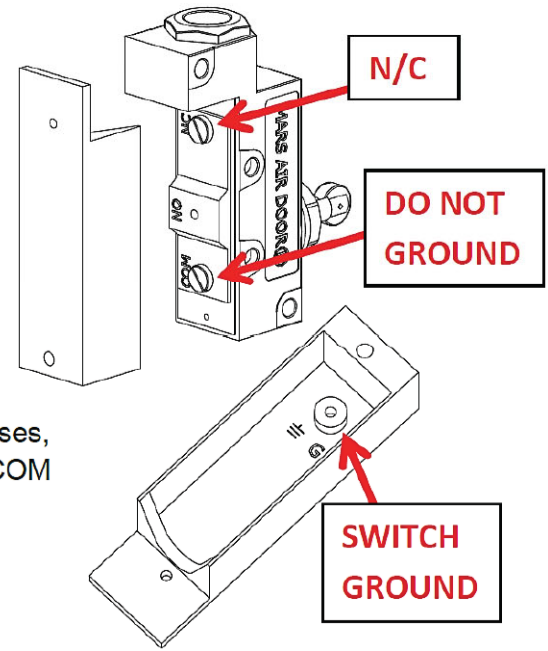
Damage caused by grounding the COM will not be covered under warranty.

There is a marked and/or green ground terminal provided.

COM is defined as the common terminal that supplies power to the N/C (Normally Closed) and N/O (Normally Open) terminals. Grounding the COM terminal will short the breaker and/or burn fuses, transformers and possibly motors. Typically, only 2 terminals, the COM and either the N/C or N/O, are used for standard applications.



atmosphere is everything



How to Properly Wire Magnetic Door Limit Switches

Note: Please follow the wiring diagram included with the optional door limit switch purchased.

For the Magnetic types: (99-018, 99-118, 99-124, 99-125, 99-275)

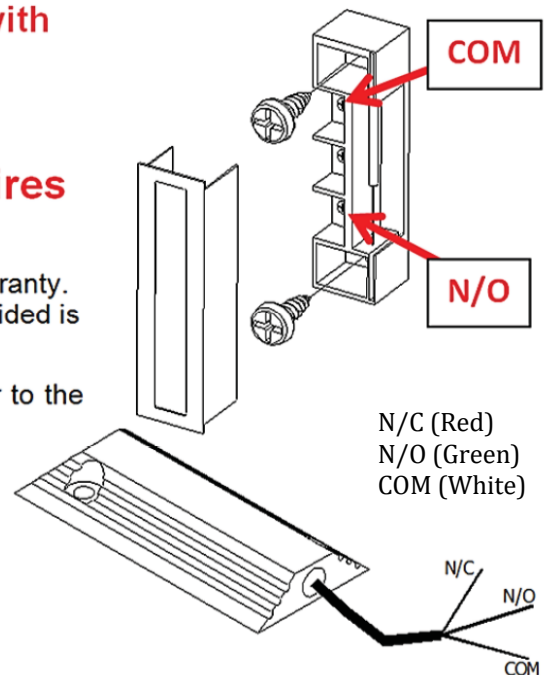
DO NOT GROUND the Green or White wires or COM (24V) terminals

Damage caused by grounding them will not be covered under warranty. The switch is grounded (except 24V) when the shielded cable provided is connected to a j-box.

COM is defined as the common terminal wire that supplies power to the N/C (Normally Closed) and N/O (Normally Open) terminal wires. Grounding the green or white terminal wires will short the breaker and burn the magnetic switches. Typically, only 2 terminal wires, either the N/C or N/O, are used for standard applications.



atmosphere is everything

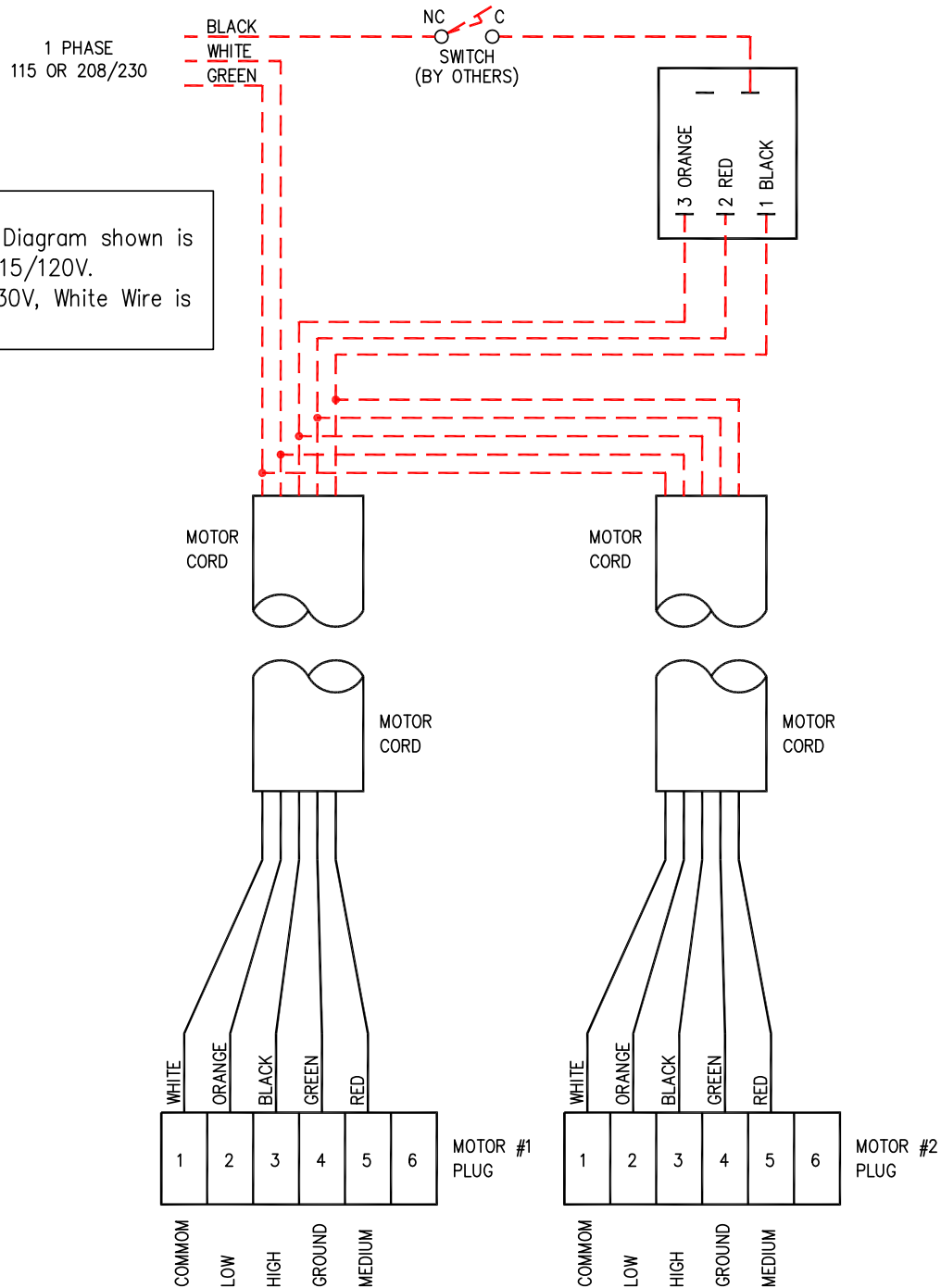


Three Speed Switch and Cord

Three Speed, (2) Single Phase, 1/2 HP Motor Plug and Switch Connection. (FIELD WIRING - - - - -)

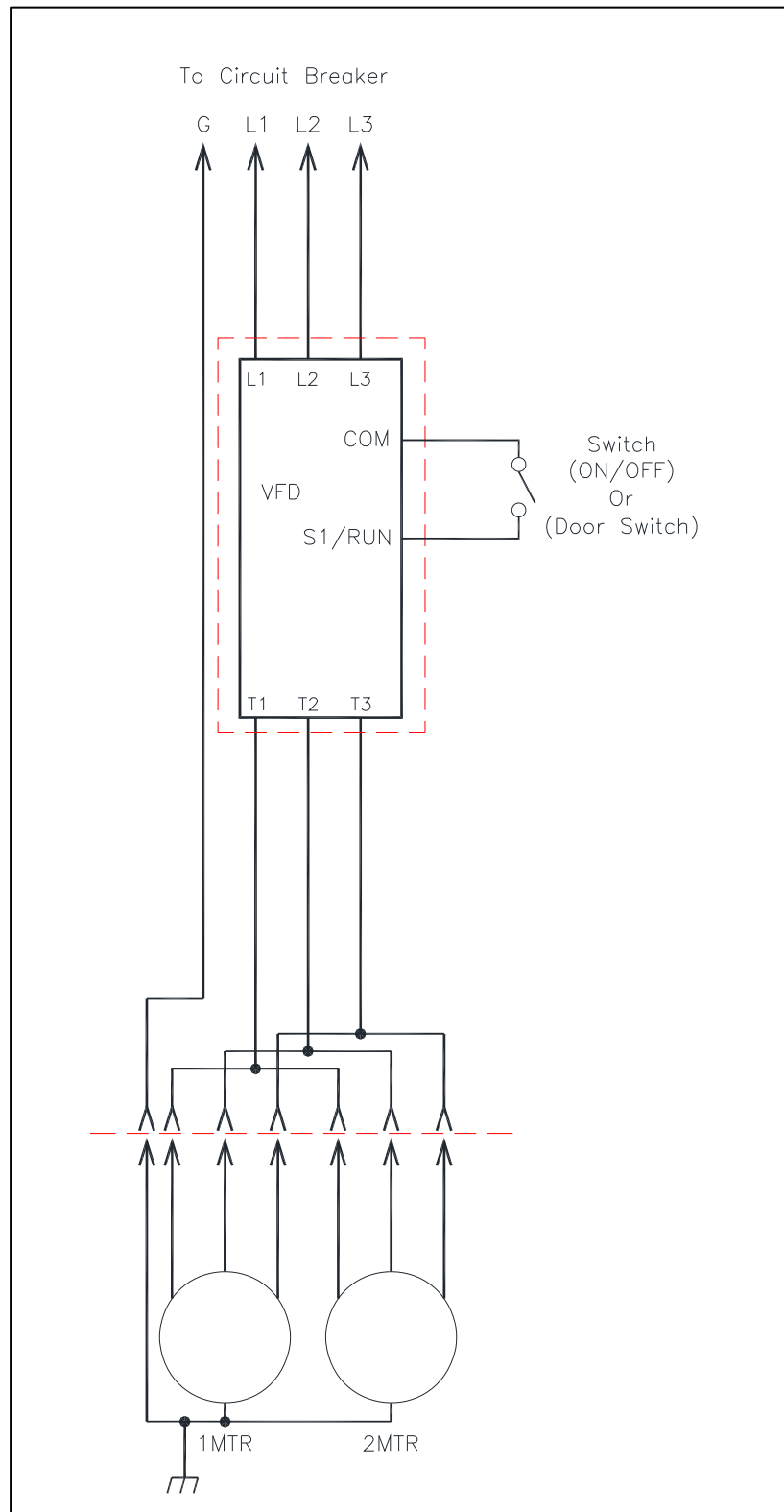
NOTE:

The Wiring Diagram shown is wired for 115/120V.
For 208/230V, White Wire is Hot.



COMBI-WIRE-2MTR 10/17/14 NT

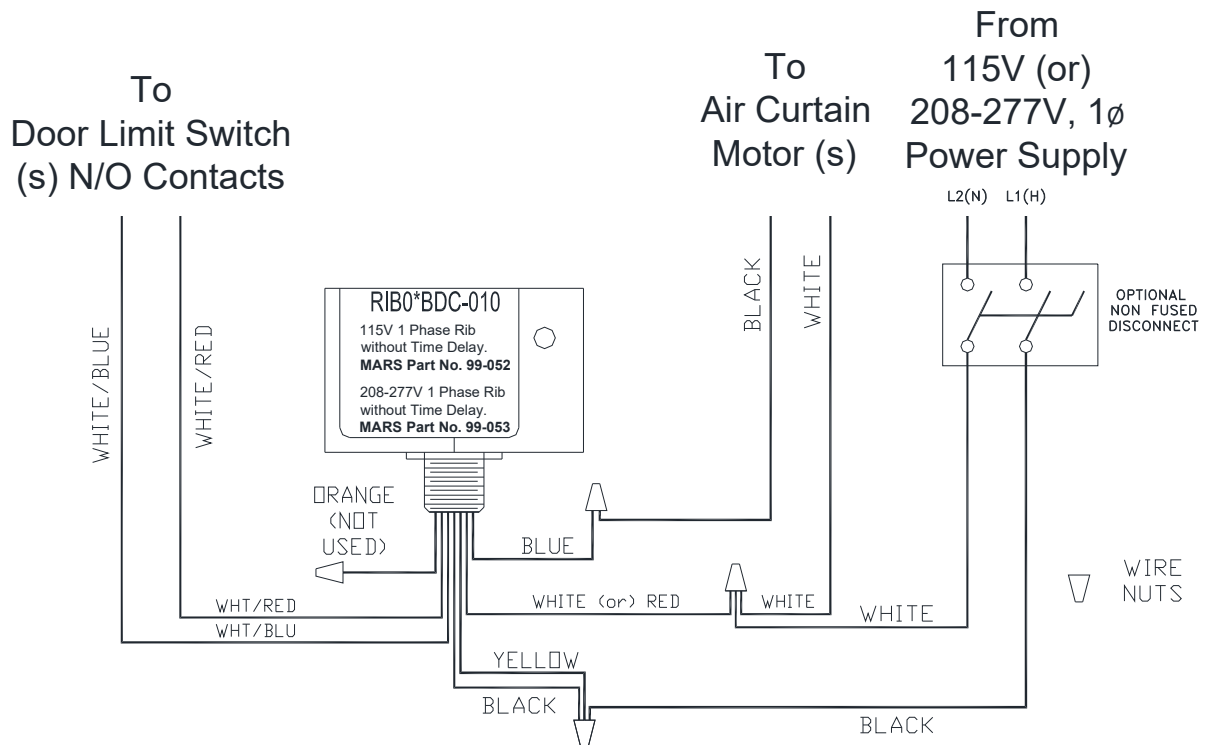
VFD with Variable Speed Control



RIB, ½ HP with No Time Delay

RIB Kit Rating:

- 115v or 208-230v
- 1/2 HP Max



RIB Kit Part Numbers:

- 115v/1Ø
- [J0023](#), J0036, J0100
- 208-230v/1Ø
- [J0024](#), J0037, J0104

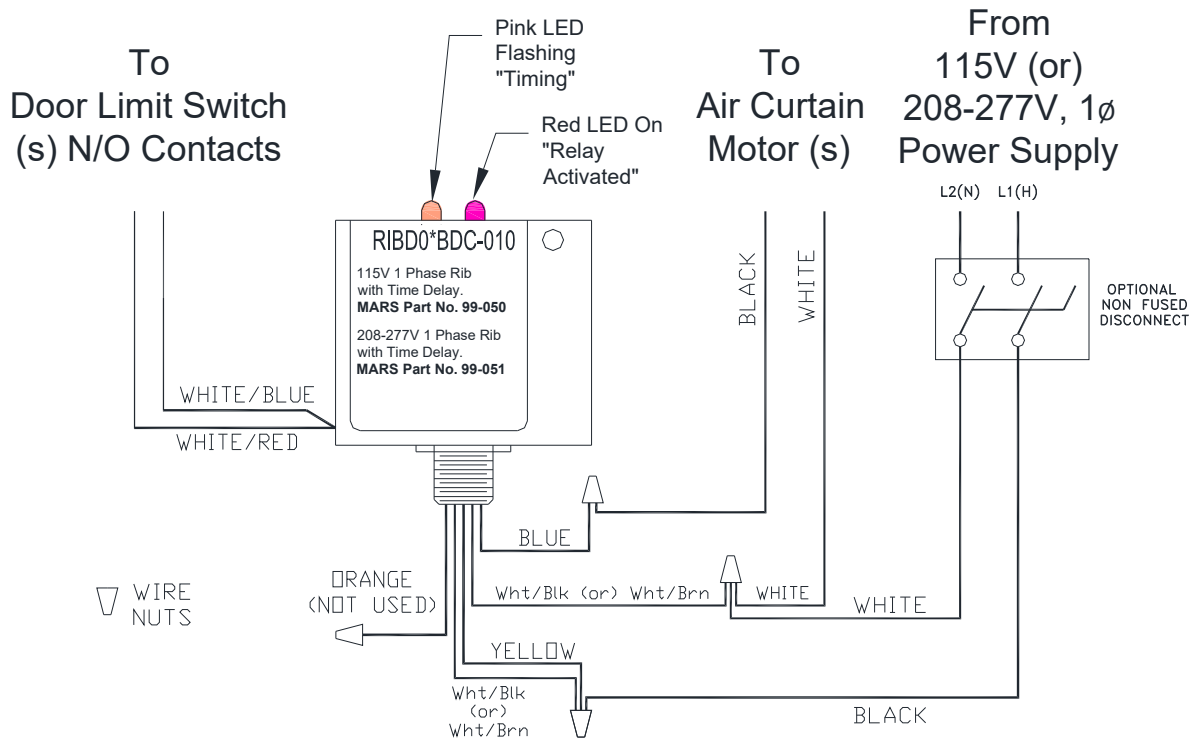
Note:

The controllers are wired the same, but are not interchangeable.

RIB, ½ HP with Time Delay

RIB Kit Rating:

- 115v or 208-230v
- 1/2 HP Max
- Adjustable Time Delay



RIB Kit Part Numbers:

- 115v/1Ø
- J0021, J0028, J0038, J0102
- 208-230v/1Ø
- J0022, J0029, J0042, J0106

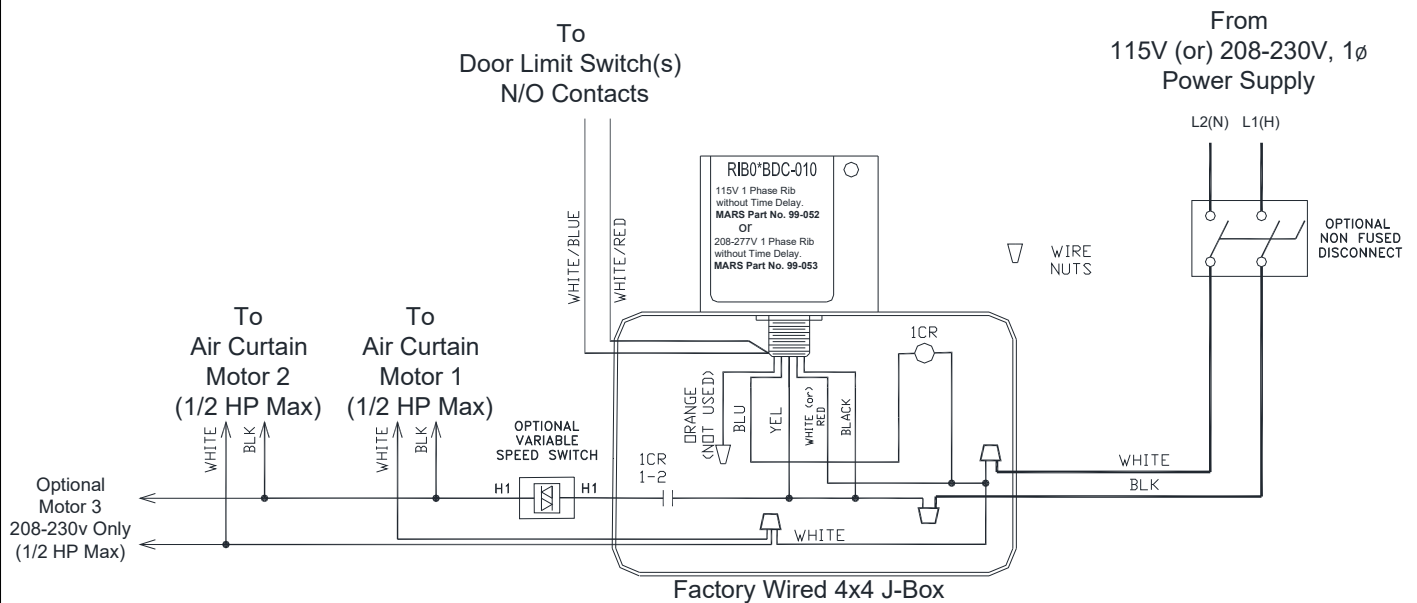
Note:

The controllers are wired the same, but are not interchangeable.

RIB, 1 HP with No Time Delay

RIB Kit Rating:

- 115v or 208-230v
- 1 HP Max (1.5HP for 208-230v)



RIB Kit Part Numbers:

- ```
- 115v/1ø
-- J0705, J0722, J0726
- 208-230v/1ø
-- J0706, J0723, J0727
```

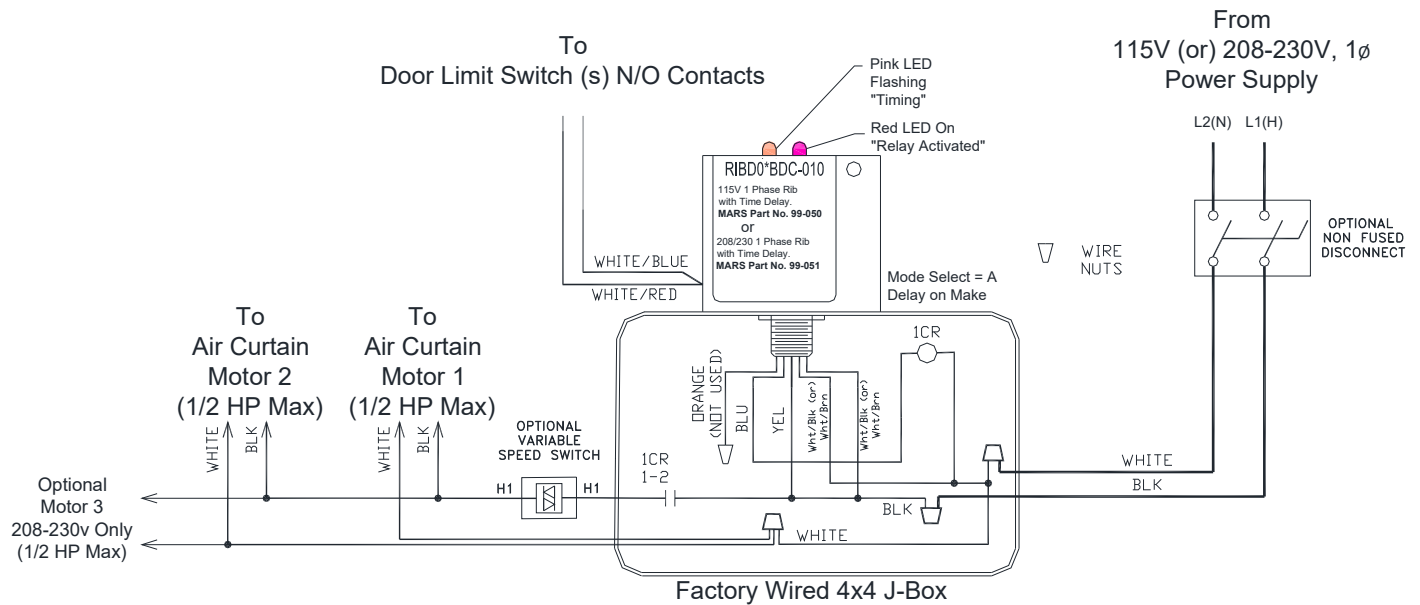
Note:

The controllers are wired the same,  
but are not interchangeable.

## RIB, 1 HP with Time Delay

### RIB Kit Rating:

- 115v or 208-230v
- 1 HP Max (1.5HP for 208-230v)
- Adjustable Time Delay



### RIB Kit Part Numbers:

- 115v/1Ø
  - [J0703](#), [J0708](#), [J0720](#), [J0724](#)
- 208-230v/1Ø
  - [J0704](#), [J0709](#), [J0721](#), [J0725](#)

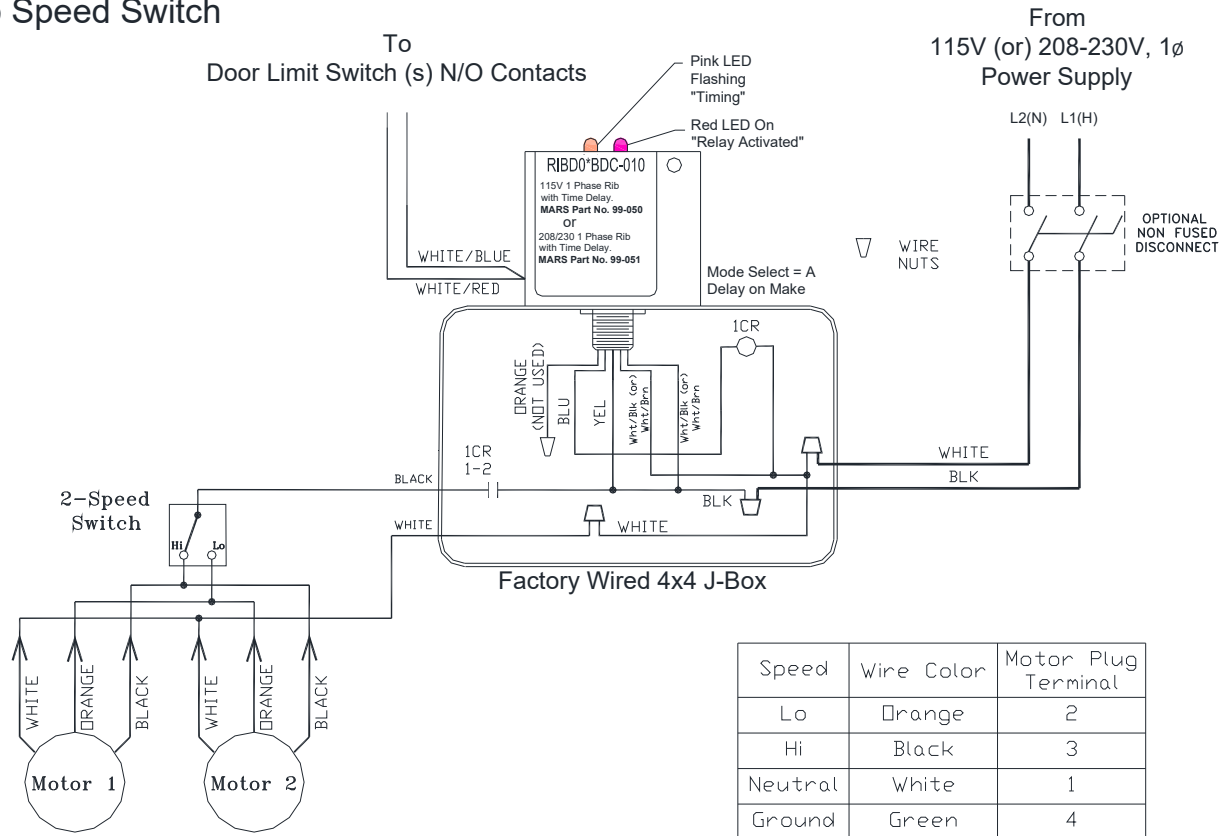
Note:

The controllers are wired the same,  
but are not interchangeable.

## RIB, 1 HP with Time Delay and 2 Speed Switch

### RIB Kit Rating:

- 115v or 208-230v
- 1 HP Max (1.5HP for 208-230v)
- Adjustable Time Delay
- Two Speed Switch



### RIB Kit Part Numbers:

- 115v/1Ø  
-- J0703, J0708, J0720, J0724
- 208-230v/1Ø  
-- J0704, J0709, J0721, J0725

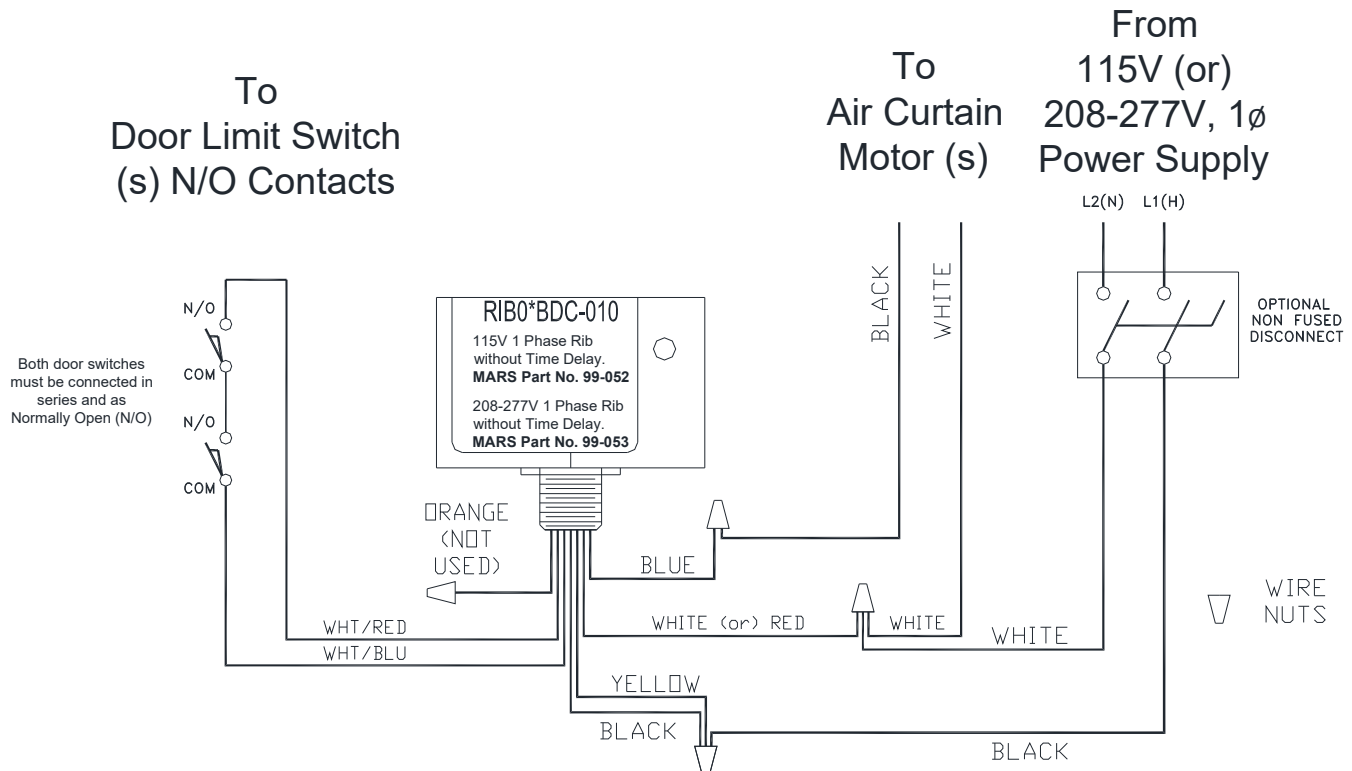
### Note:

The controllers are wired the same, but are not interchangeable.

## RIB ½ Hp with Two Door Switches

### RIB Kit Rating:

- 115v or 208-230v
- 1/2 HP Max
- Two Door Switches



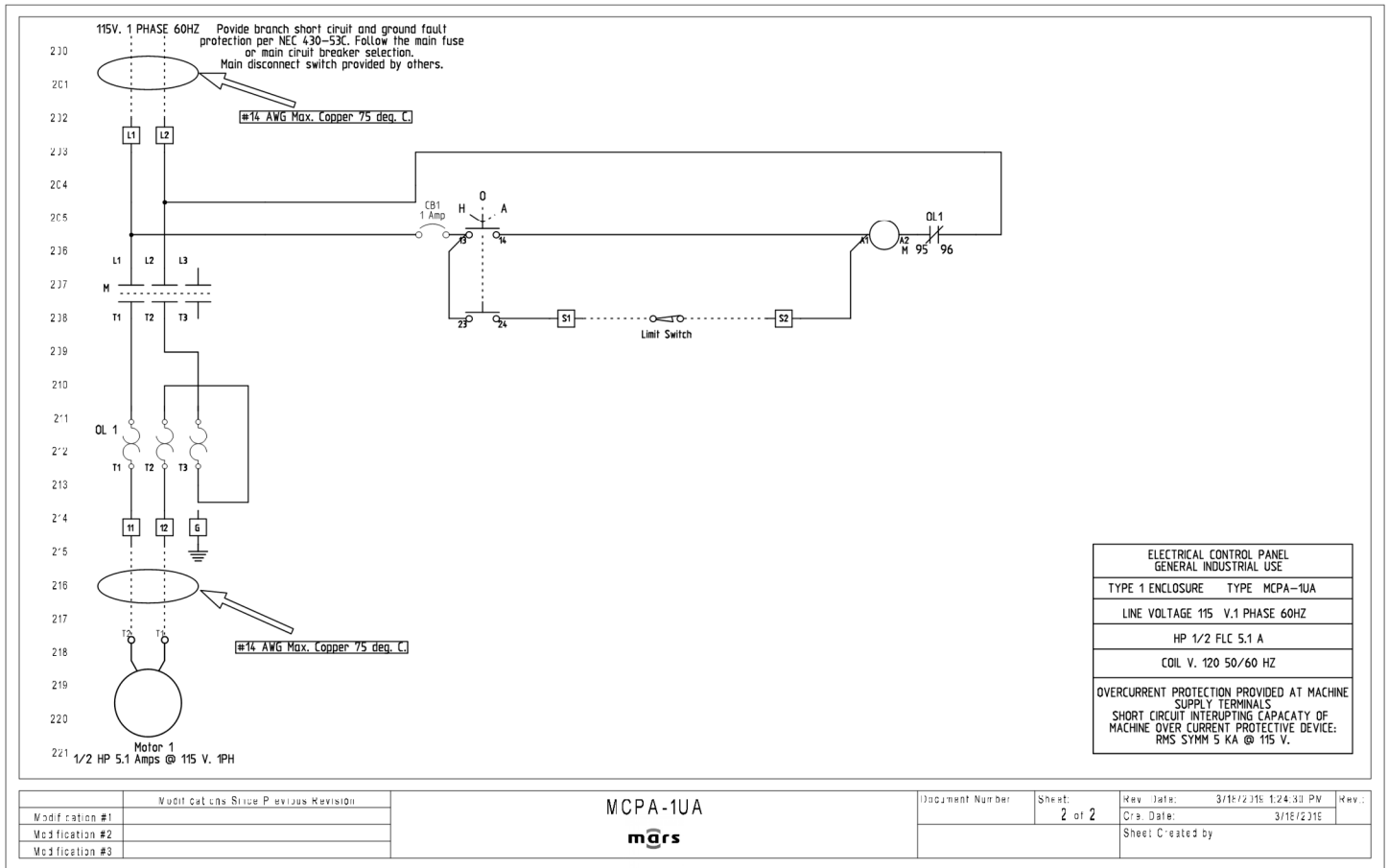
### RIB Kit Part Numbers:

- 115v/1Ø
- J0023, J0036, J0100
- 208-230v/1Ø
- J0024, J0037, J0104

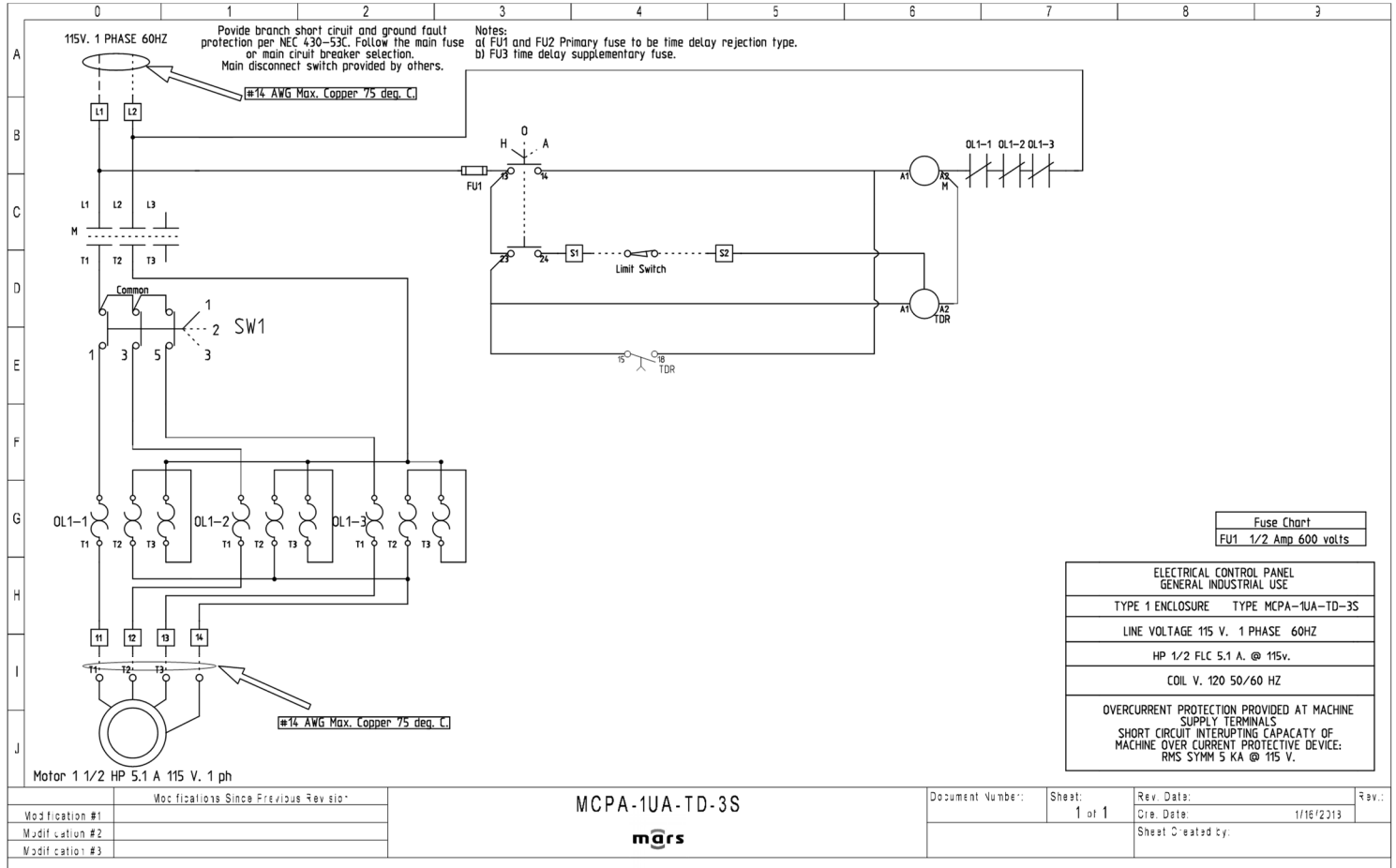
### Note:

The controllers are wired the same, but are not interchangeable.

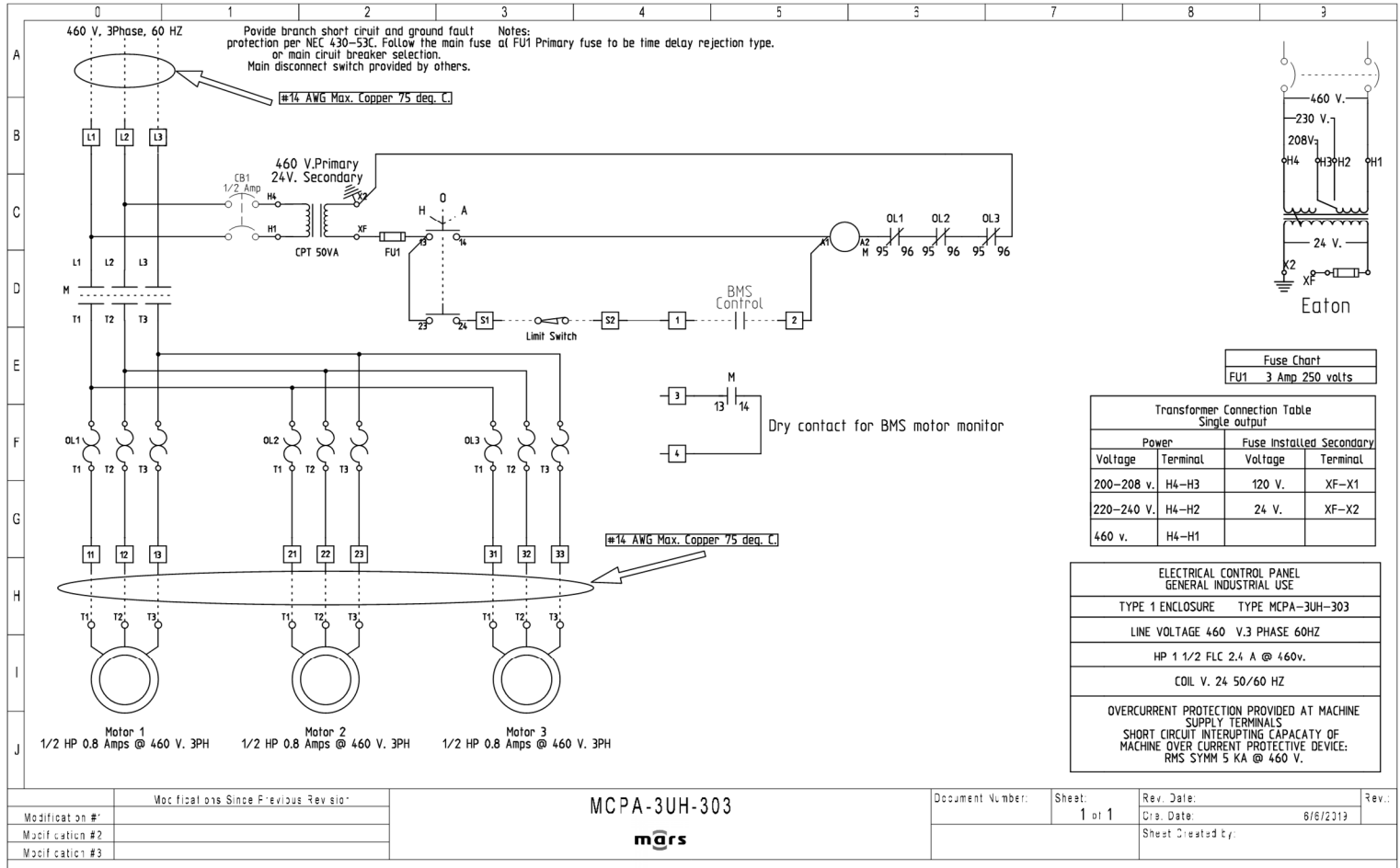
## Typical Motor Control Panel (MCPA-1UA)



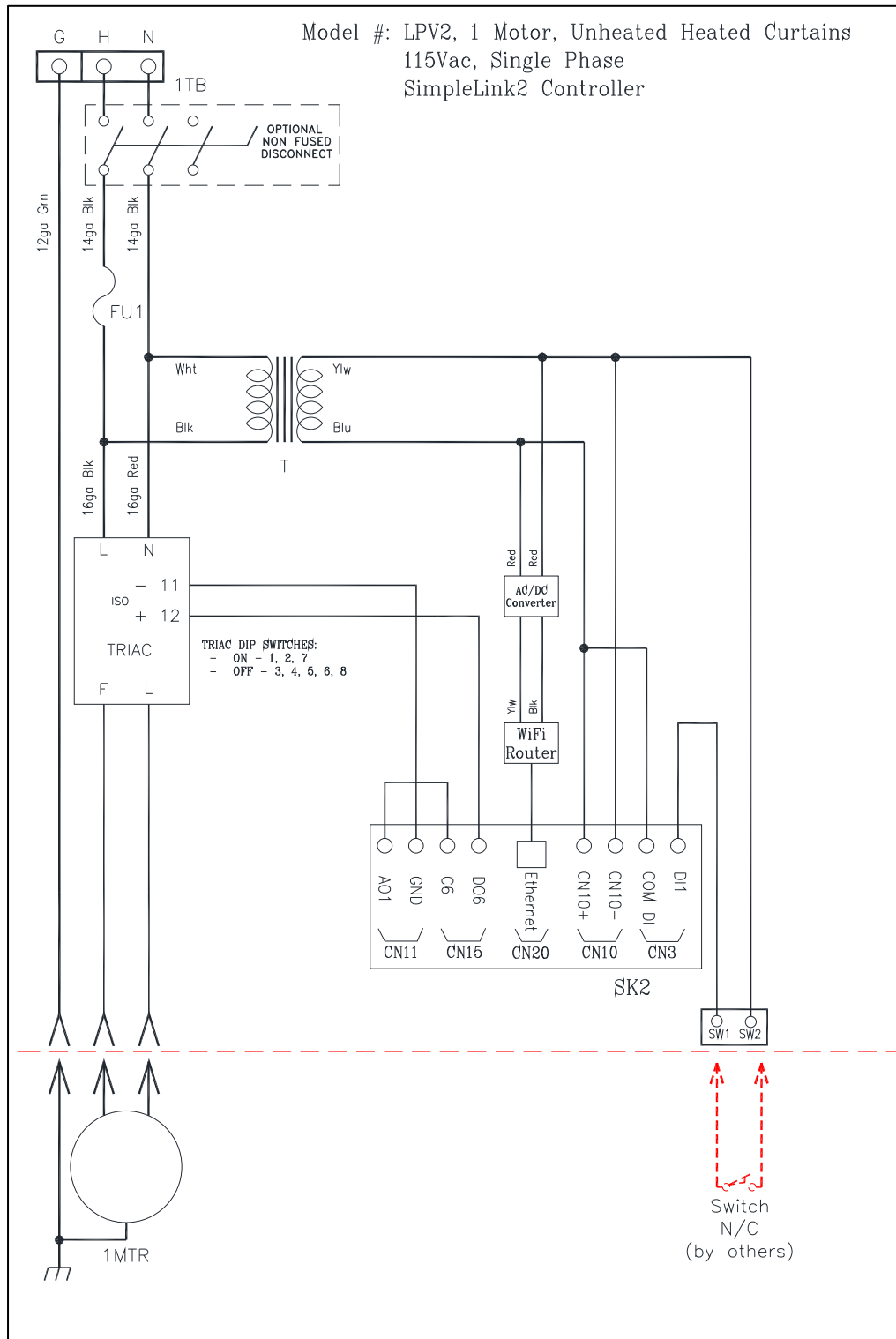
## Typical Motor Control Panel with Time Delay and Three Speed (MCPA-1UA-TD-3S)



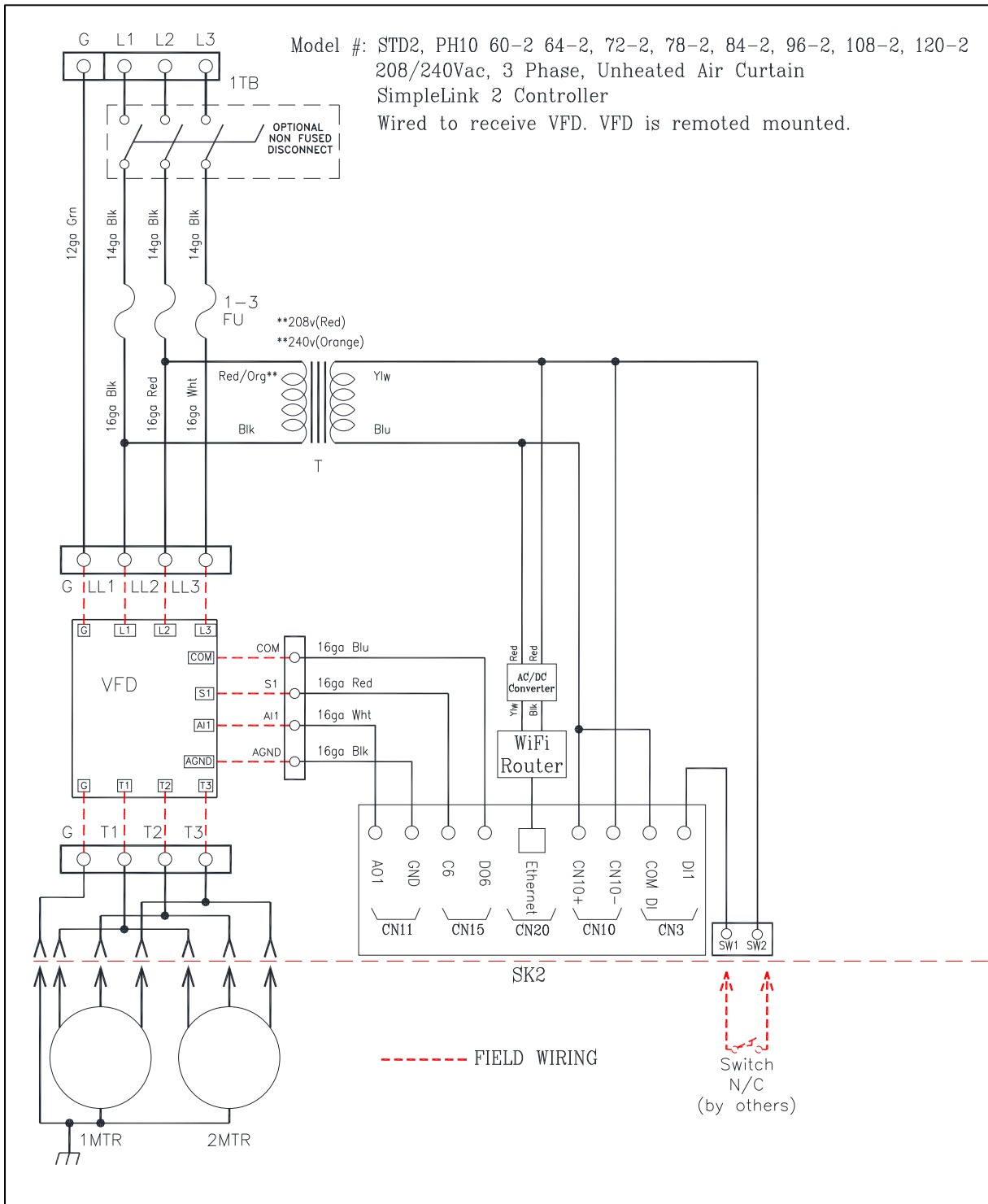
## Typical Motor Control Panel with BMS Monitor & Control (MCPA-3UH-303)



## SimpleLink 2 Controller with TRIAC for LPV2 (MCPS-1UA-SK2)

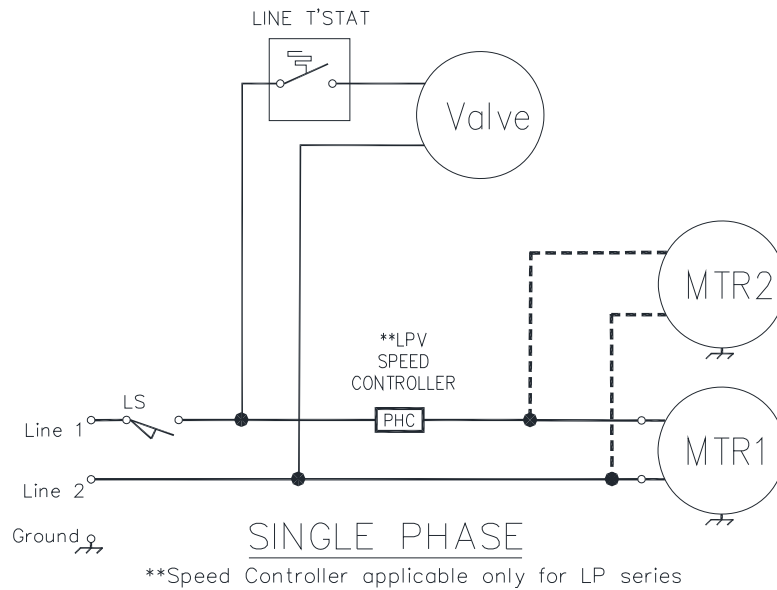


## SimpleLink 2 Controller with Remote VFD for STD2 (MCPA-2UG-SK2-VR)



## Typical HW/S Heated (1Ph, 1Hp max)

### TYPICAL Hot Water/Steam HEATED DIAGRAMS



#### 120/208-240/277v Single Phase Motor

1/6 H.P. Use 15A Micro Switch  
 1/2 H.P. Use 15A Micro Switch  
 1 H.P. Use 20A Micro Switch

#### 120/208-240/277v Single Phase Motor

Larger than 1 H.P. Use Contactor and  
 15A Micro Switch

#### Typical Single Phase Motor Terminal Connections:

For 1/2 HP: <1> is Common for 115V

<1> is Hot for 208/230V

<2> is Low Speed

<3> is High Speed

<4> is Ground

<5> is Medium Speed

For 1 HP: <1> is Common for 115V, 208/230V

<2> is High Speed

<3> is Low Speed

<4> is Ground

Notes: This wiring diagram is applicable for  
 Single Phase motors as follows:

LPV2: Up to 3 motors

STD2: Up to 2 motors

HV2: 1 motor

\*See Door Limit Switch submittal for  
 additional switch info

### S Y M B O L S

LS - Micro Switch

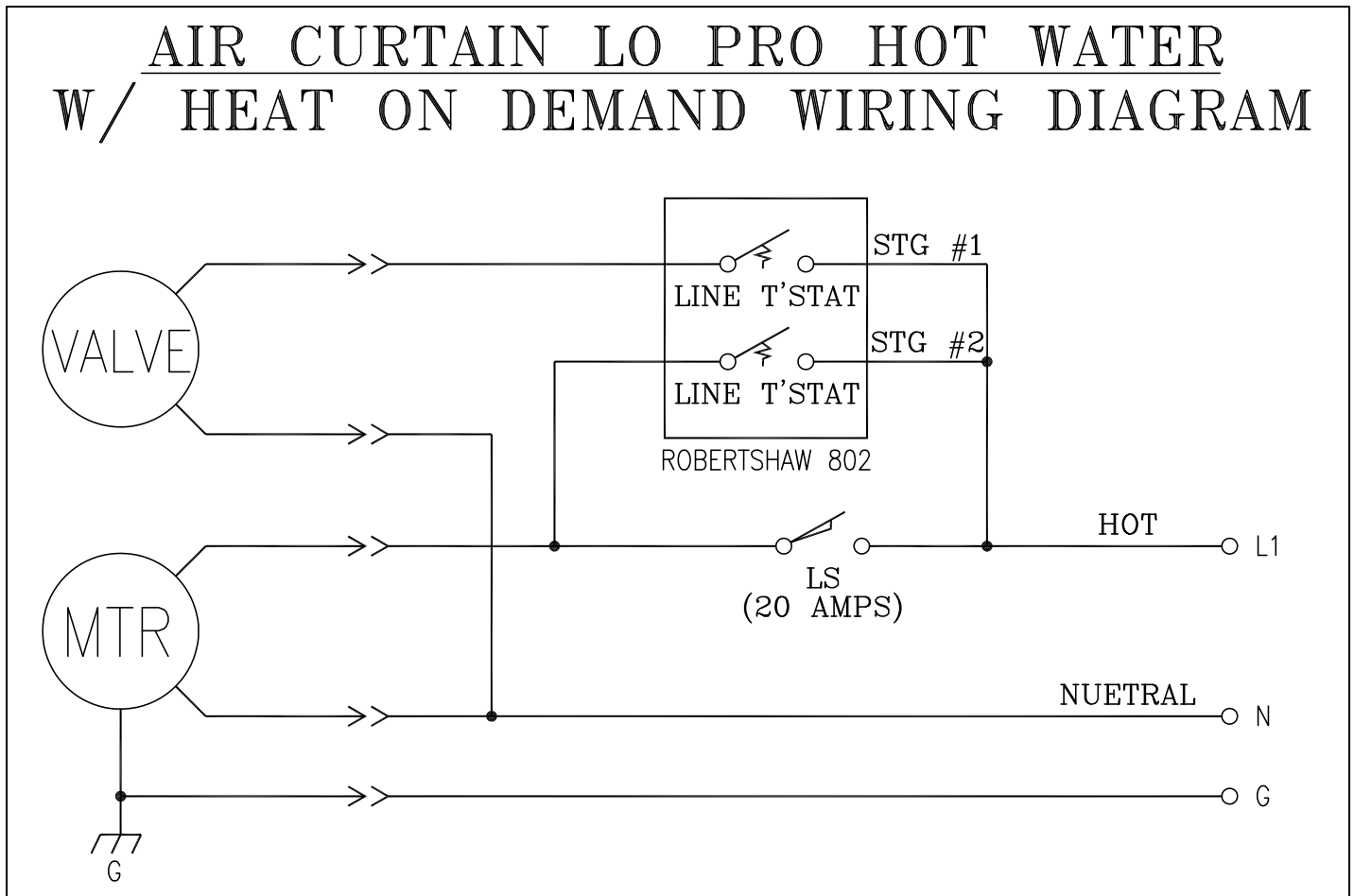
M - Contactor or Motor Starter

MC - Contactor Coil

T - Control Transformer

PHC - Speed Controller (LPV series only)

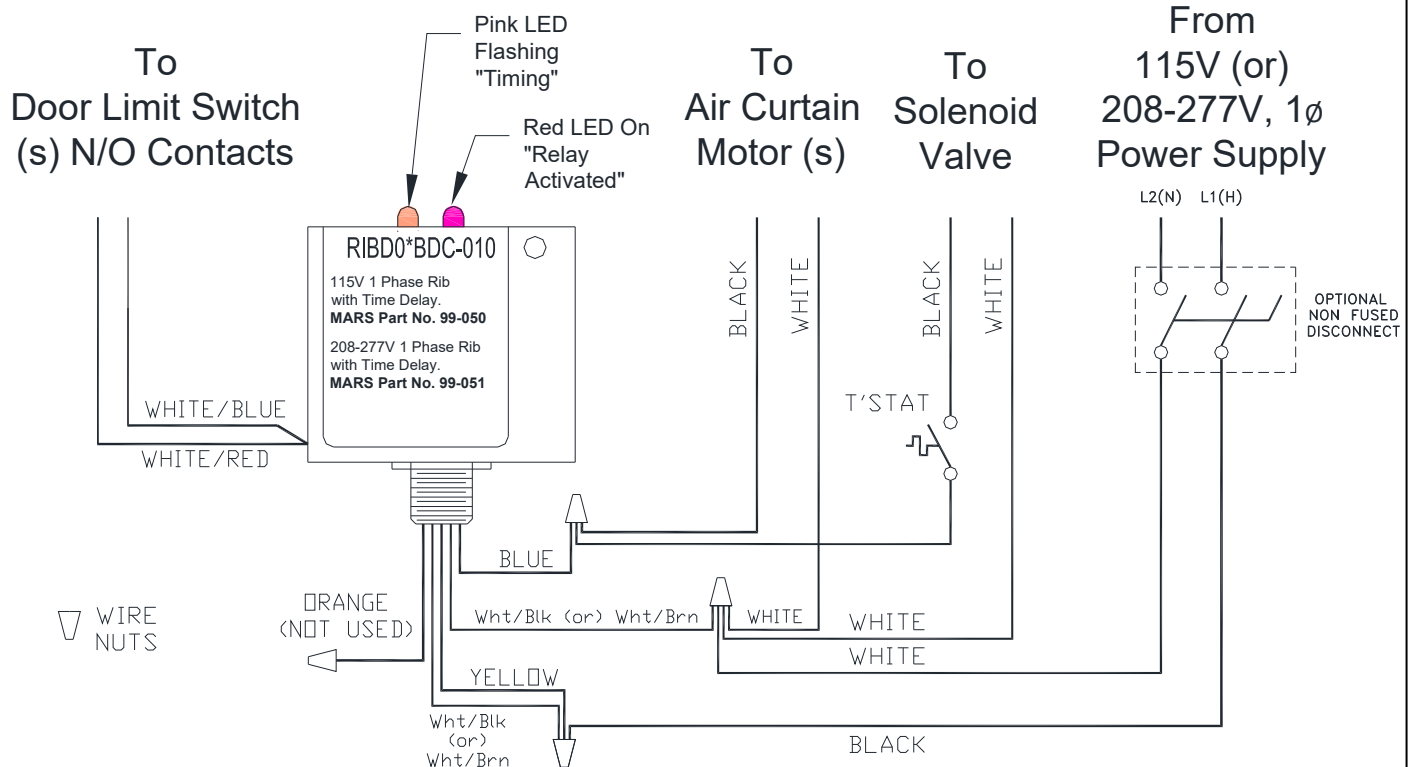
## LPV2 HW/S Heated with Heat on Demand (99-064 Thermostat)



## Typical HW/S Heated with RIB

### RIB Kit Rating:

- 115v or 208-230v
- 1/2 HP Max
- Adjustable Time Delay
- Hot Water/Steam Heat



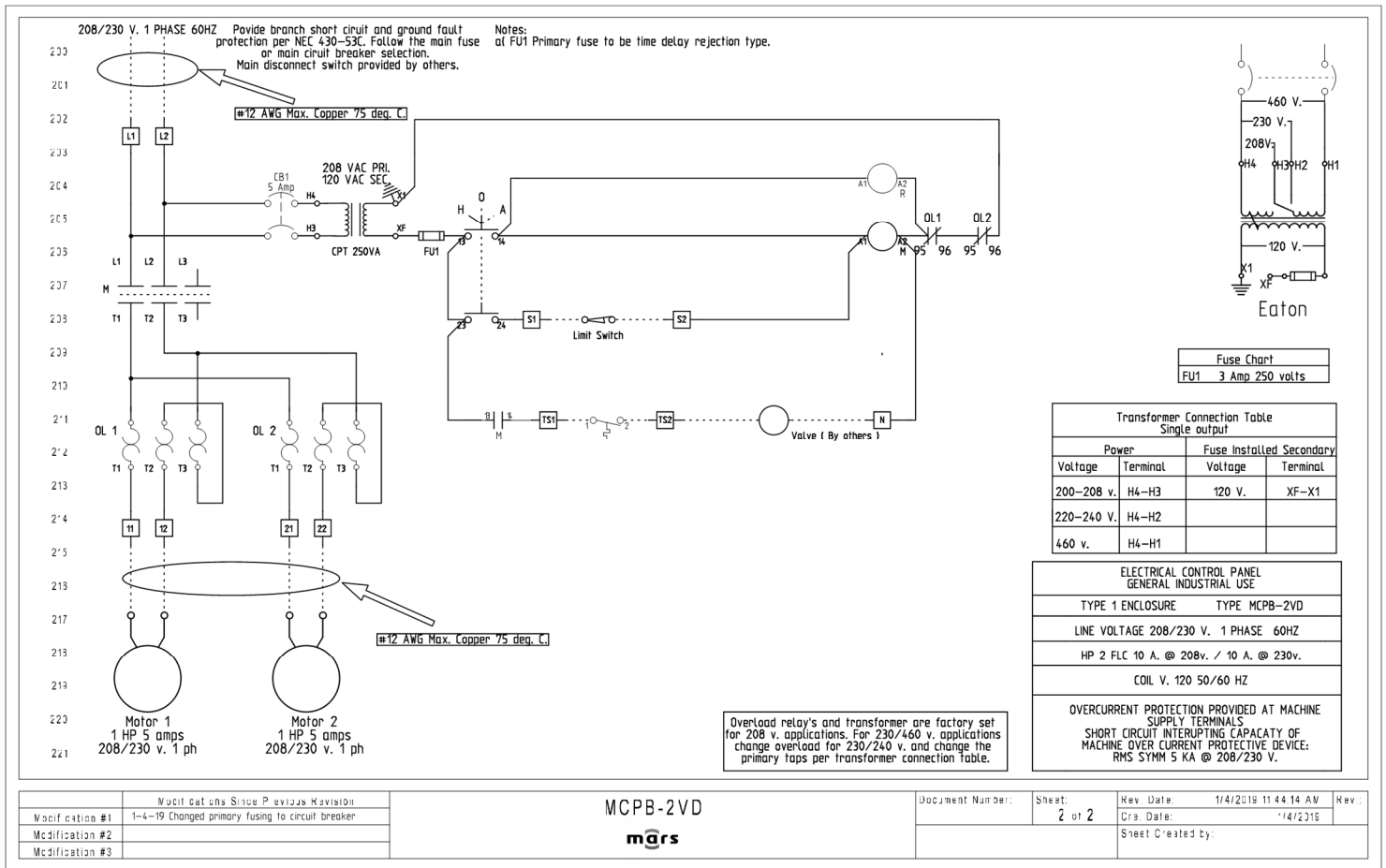
### RIB Kit Part Numbers:

- 115v/1Ø
- J0021, J0028, J0038, J0102
- 208-230v/1Ø
- J0022, J0029, J0042, J0106

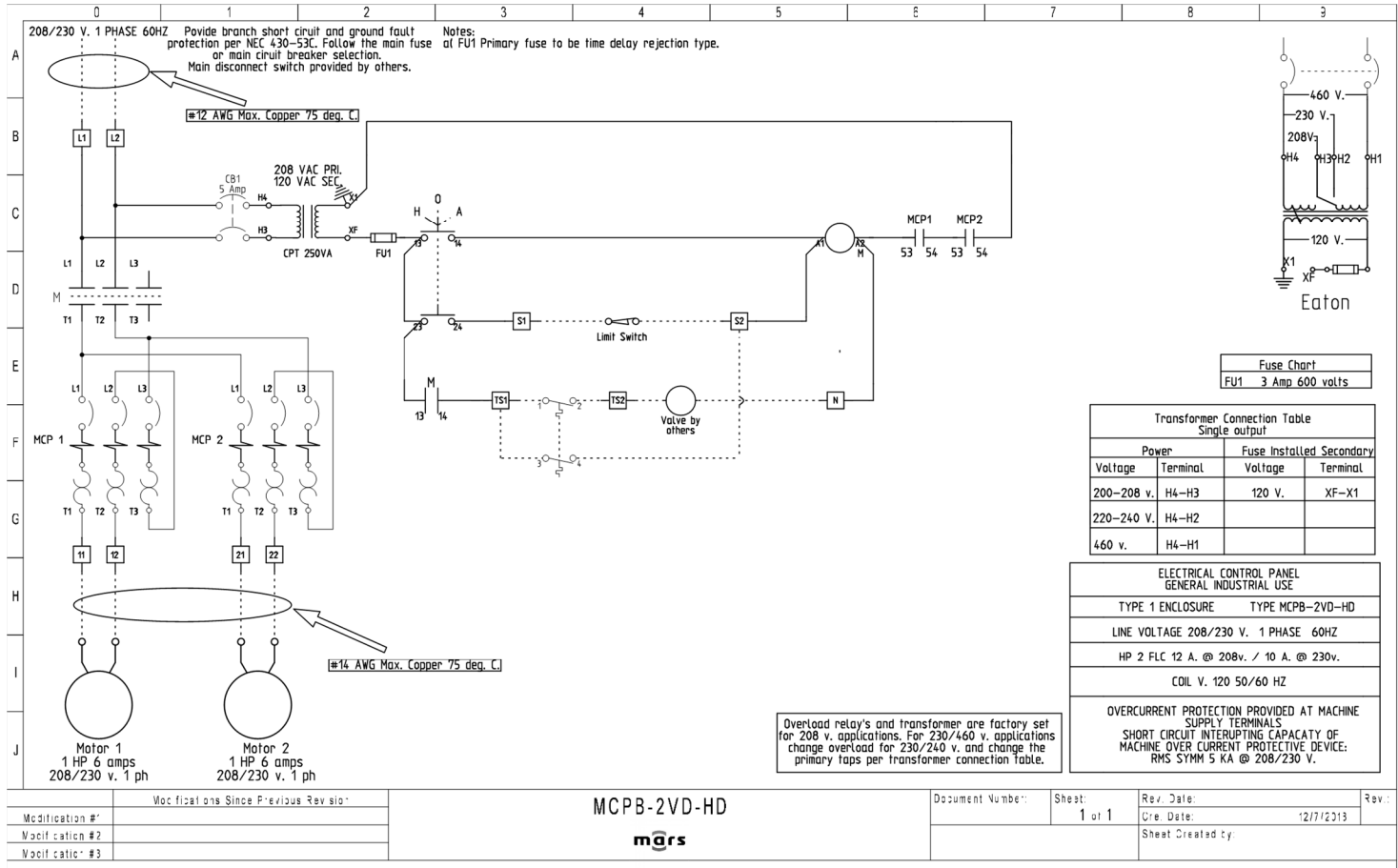
### Note:

The controllers are wired the same, but are not interchangeable.

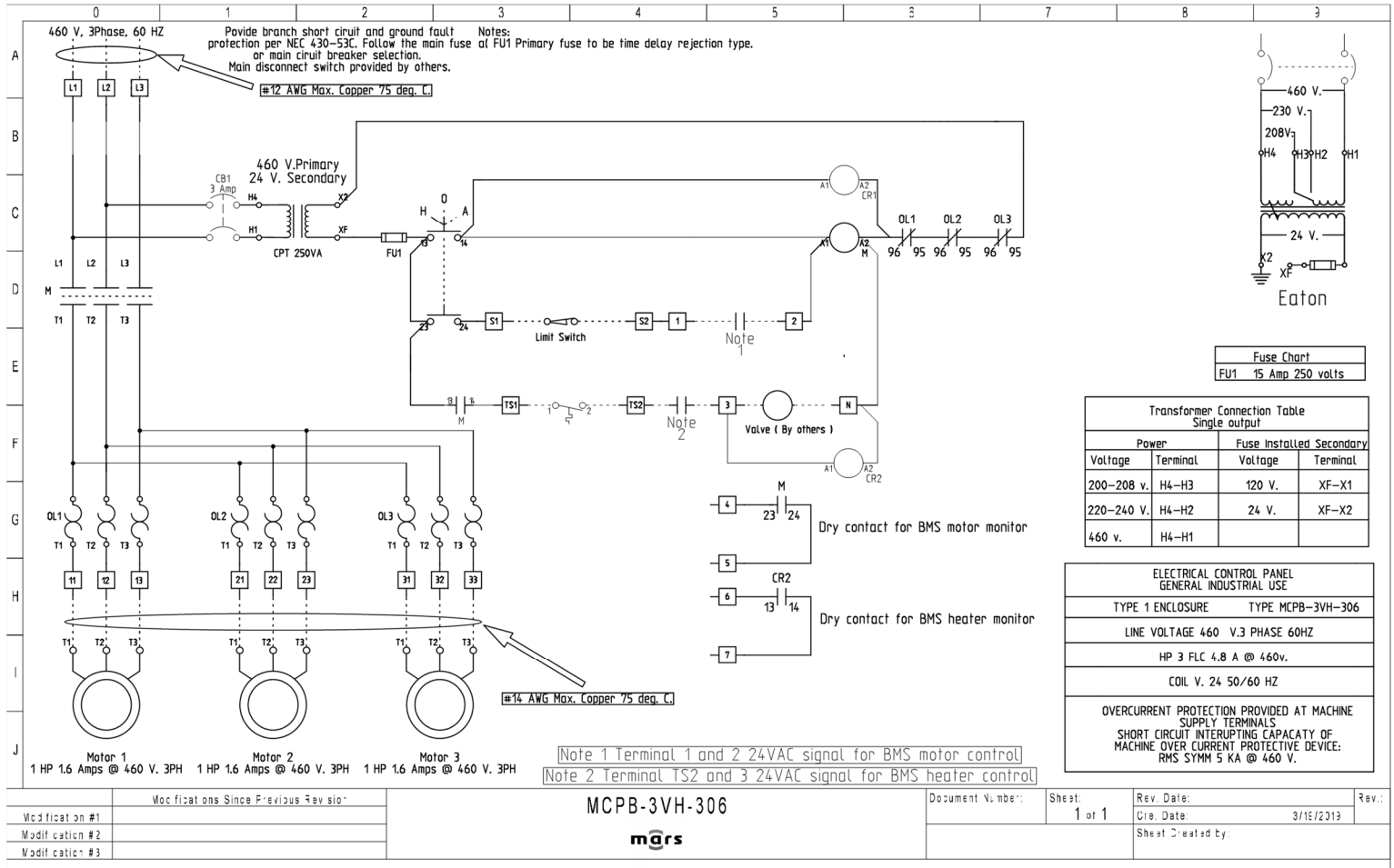
## HW/S Motor Control Panel (MCPB-2VD, 1 Hp, 2 Mtr, 208/230v/1ph/60Hz)



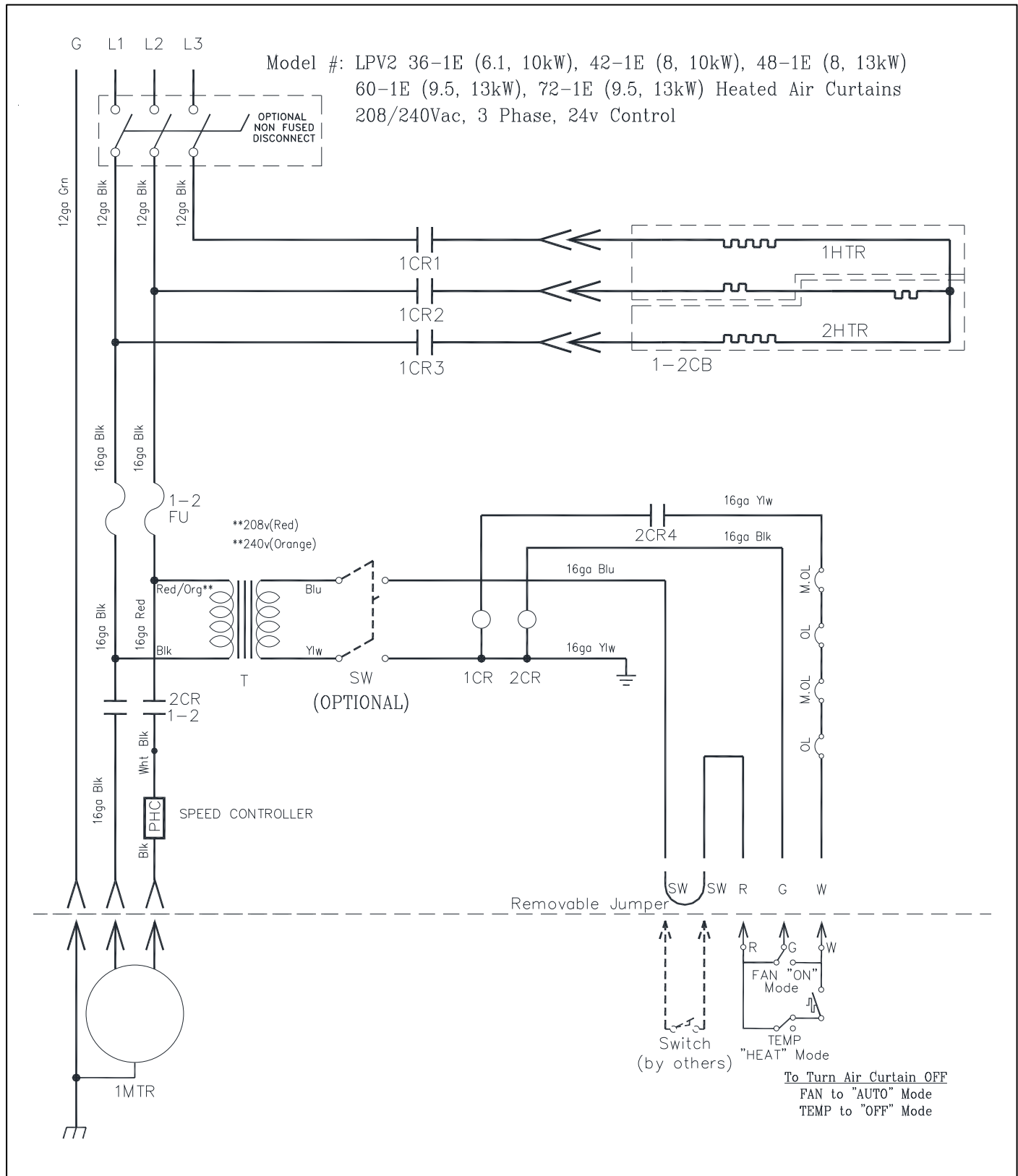
## HW/S Motor Control Panel with Heat on Demand (MCPB-2VD-HD, 1Hp, 2 Mtr, 208/230v, 1ph, 60Hz, Heat on Demand with 2 pole Tstat)



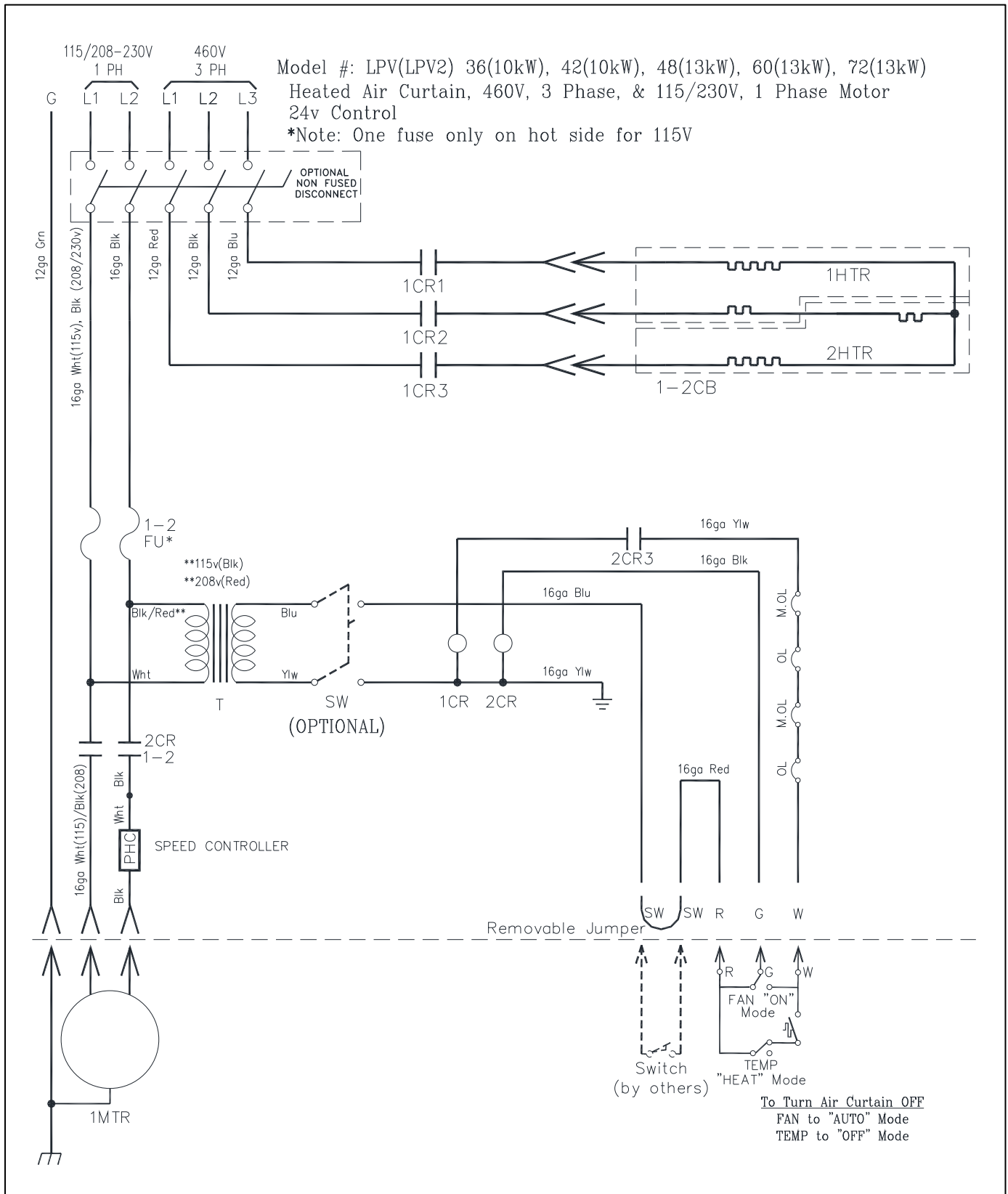
# HW/S Motor Control Panel with BMS Monitor & Control (MCPB-3VH-306, 1 Hp, 3 Mtr, 460v, 3ph)



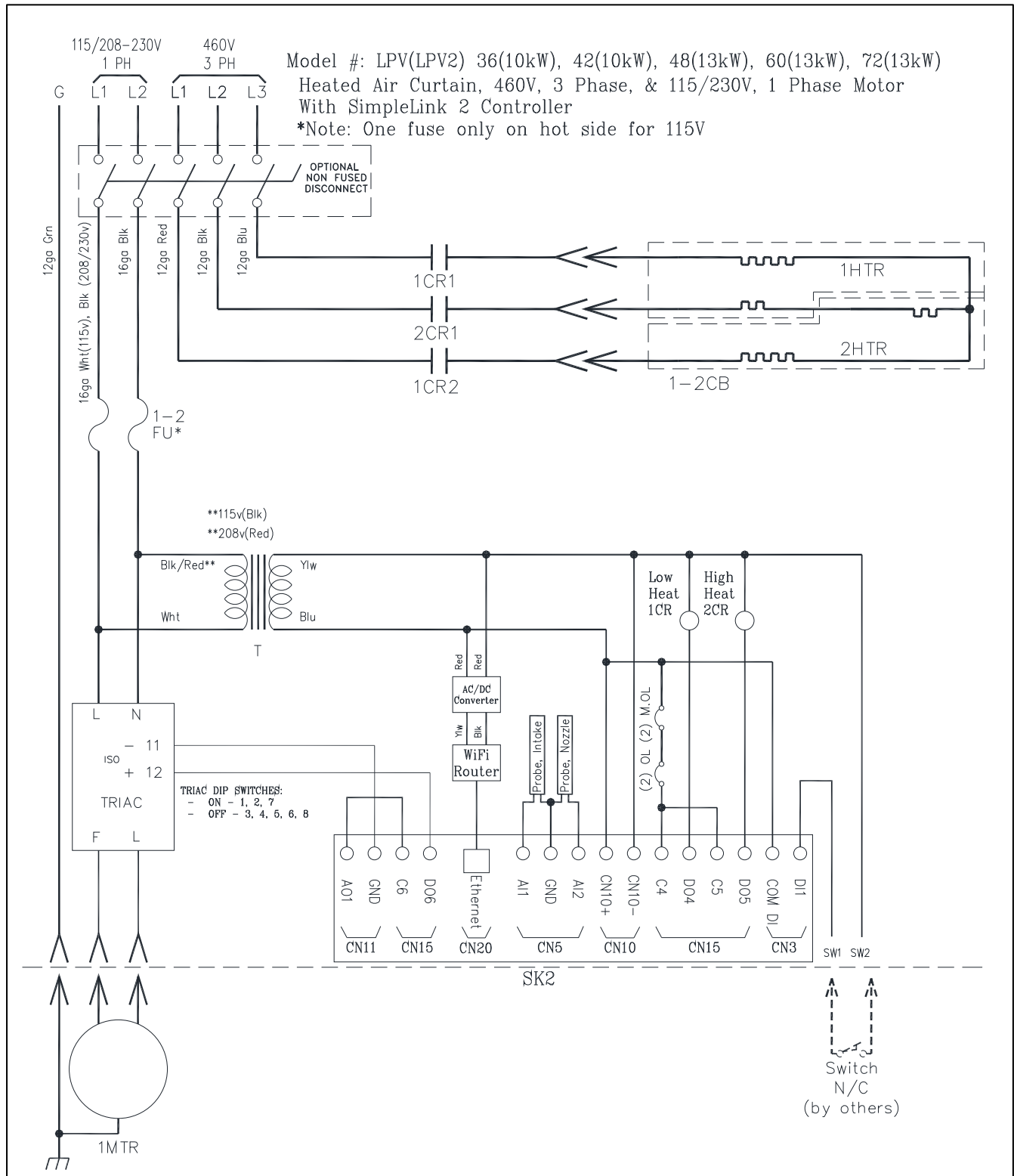
Electric Heated LPV2, 1 Mtr, 208/230v, 3ph



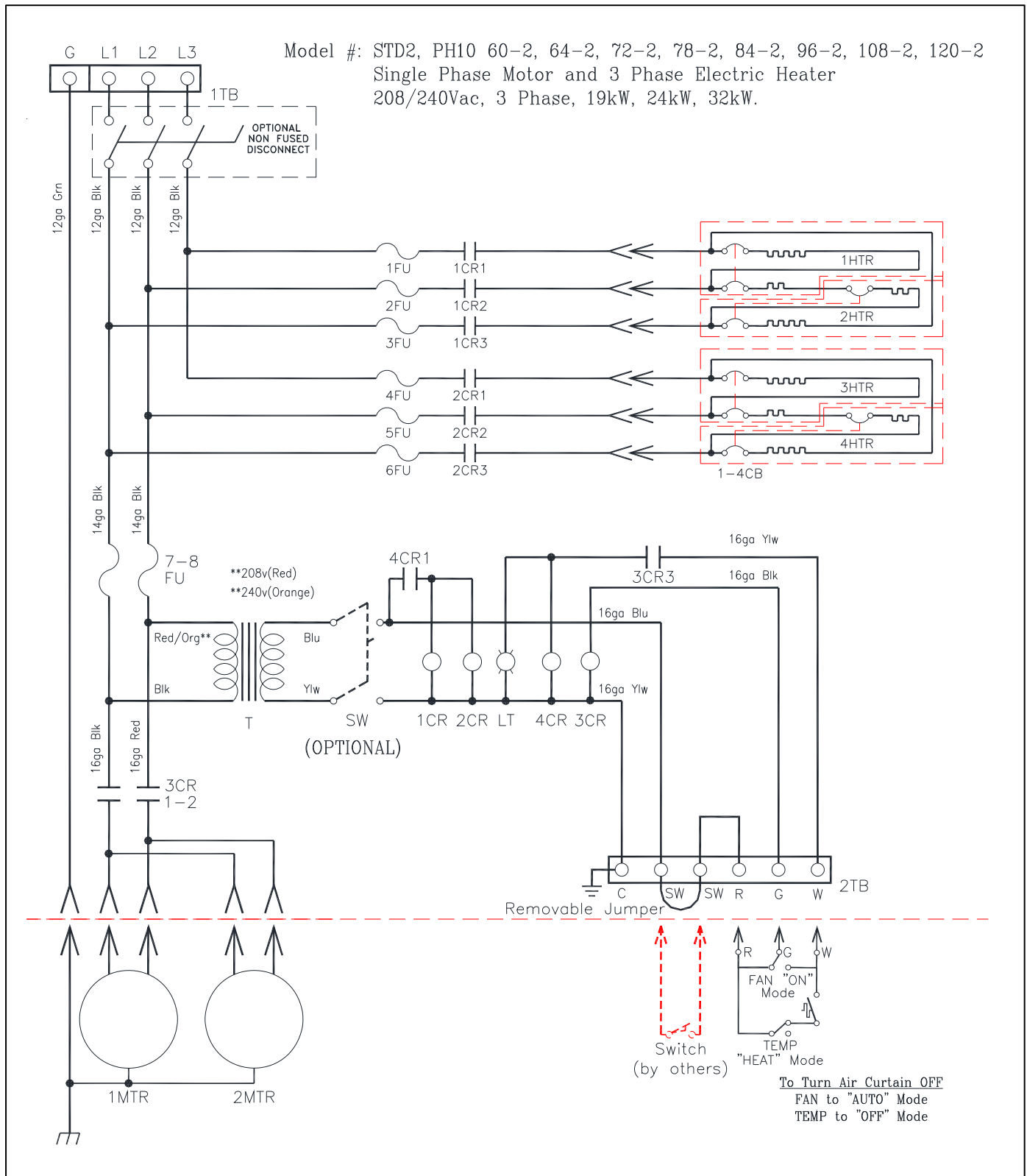
## Electric Heated LPV2, 1 Mtr, 460v/3ph Heater, 115v/1ph Motor



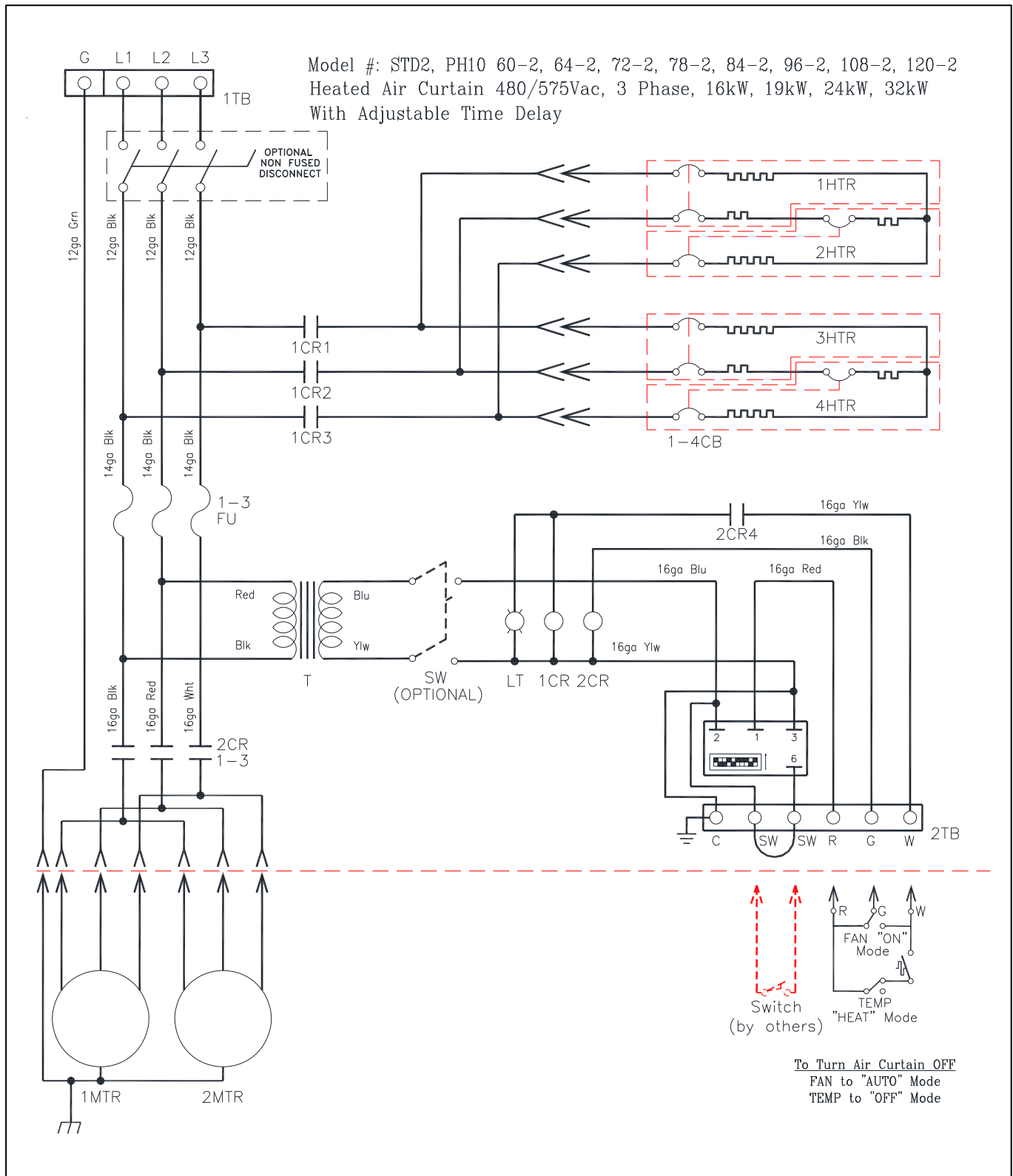
## Electric Heated LPV2, 1 Mtr, 460v/3ph Heater, 115v/1ph Motor, SimpleLink Controller



## Electric Heated STD2, 2 Mtr, 208/230v, 3ph



## Electric Heated STD2, 2 Mtr, 460v, 3ph, Time Delay



## Electric Heated STD2, 2 Mtr, 460v, 3ph, SimpleLink 2 Controller

