VRSG65A-PS-HD HEAVY DUTY POWER SHUTTER

DISCONNECT POWER
BEFORE INSTALLING OR SERVICING.

ALL ELECTRICAL WORK IS TO BE COMPLETED BY A LICENSED AND CERTIFIED ELECTRICIAN AND MEET NATIONAL (NEC), REGIONAL AND LOCAL ELECTRIC CODES.

IT IS THE RESPONSIBILITY OF THE CUSTOMER TO ENSURE THAT INSTALLATIONS MEET THIS AND ANY ADDITIONAL PROVIDED ELECTRICAL REQUIREMENTS.

J&D Manufacturing is not liable for issues arising from non-compliant wiring or installation by unqualified personnel.

General Wiring Instructions:
- Wiring should only be performed by a trained electrician to prevent injury or death.
- Failure to follow the mentioned recommendations can lead to stray voltage and/or increased electrical interference.
- Only permit power to unit when guards are properly installed to prevent injury.
- Refer to motor/VFD specific instructions included with motor/VFD.
- Install manual disconnect switch inside building adjacent to unit.
- Route wire to motor with drip loop and secure. Drip loop will drain accumulated moisture away from the motor.
- Use four conductor 26AWG (or heavier), shielded, dual twisted pair, signal wire with drain wire from J&D control to motor/VFD.

Apply the following as applicable to this unit.

Fans using a VFD:
- Use line reactors to minimize voltage spikes and harmonics.
- Use VFD-rated shielded cable between the drive and motor.
- Ground the shield wire only at the VFD end to avoid ground loops.
- Follow the VFD's wiring instructions and nameplate ratings.
- All equipment must be wired to meet IEEE 519-2022 standard for harmonic distortion.
- Use dedicated overcurrent and overload protection (motor circuit breaker) for each fan.
- Input power must be within +/-5% of nominal voltage.

Single Phase Fans using an Electronic Voltage Control *(i.e. TRIAC)*:
- Do not reduce voltage below 40% of the motor's rated voltage.
- This control method may cause motor humming.
- Fan speed may fluctuate and not remain consistent.

INSTALLATION

Please read over ALL instructions carefully before you begin.
If you have any questions please call your local J&D reseller, or contact J&D Manufacturing at 1-800-998-2398.

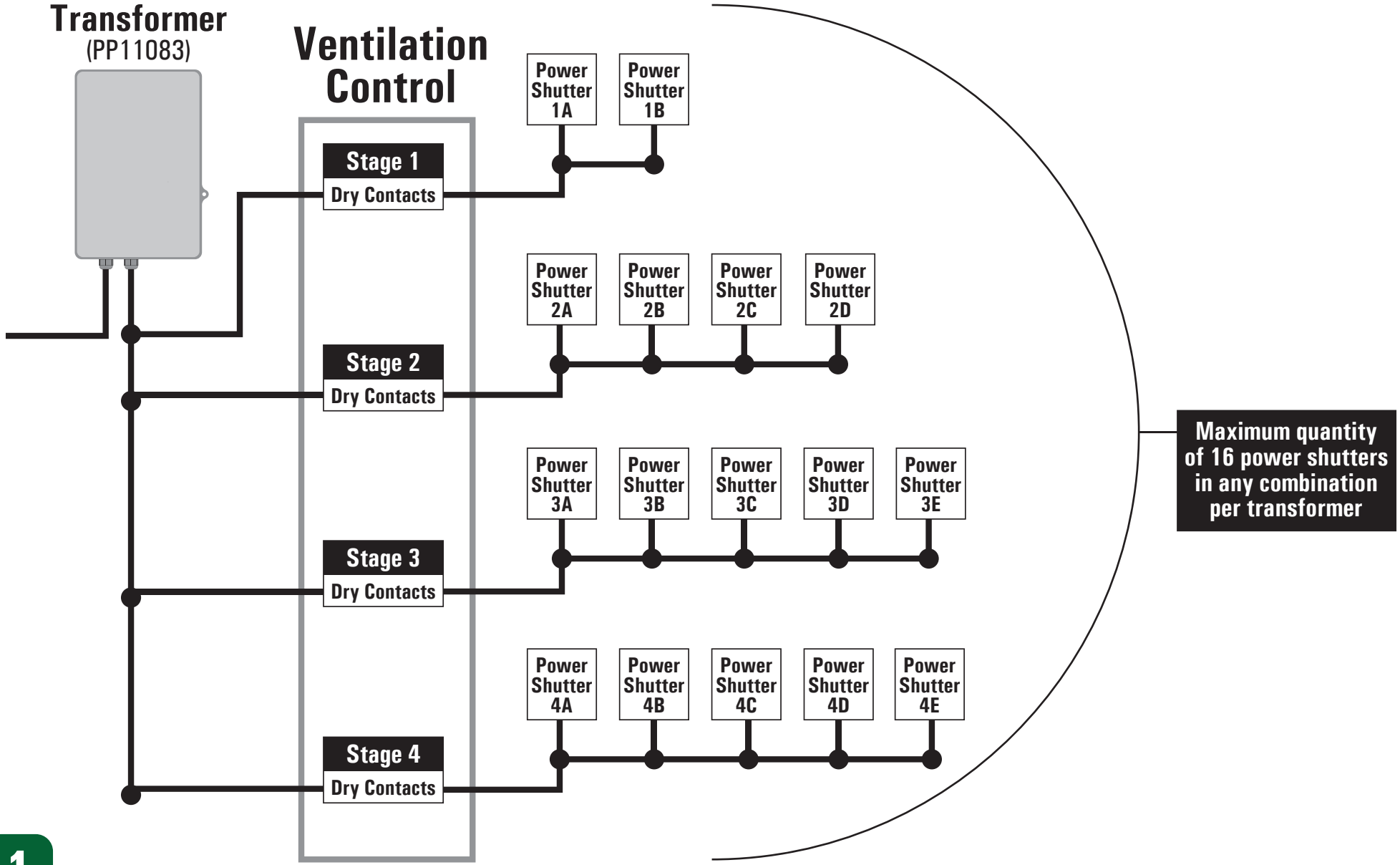
WARNING

For additional warnings, cautions, and notices refer to motor label/s.

Table of Contents

Basic Requirements For Wiring 1-16 Power Shutters To A Ventilation Control With The Use Of The Required Transformer:

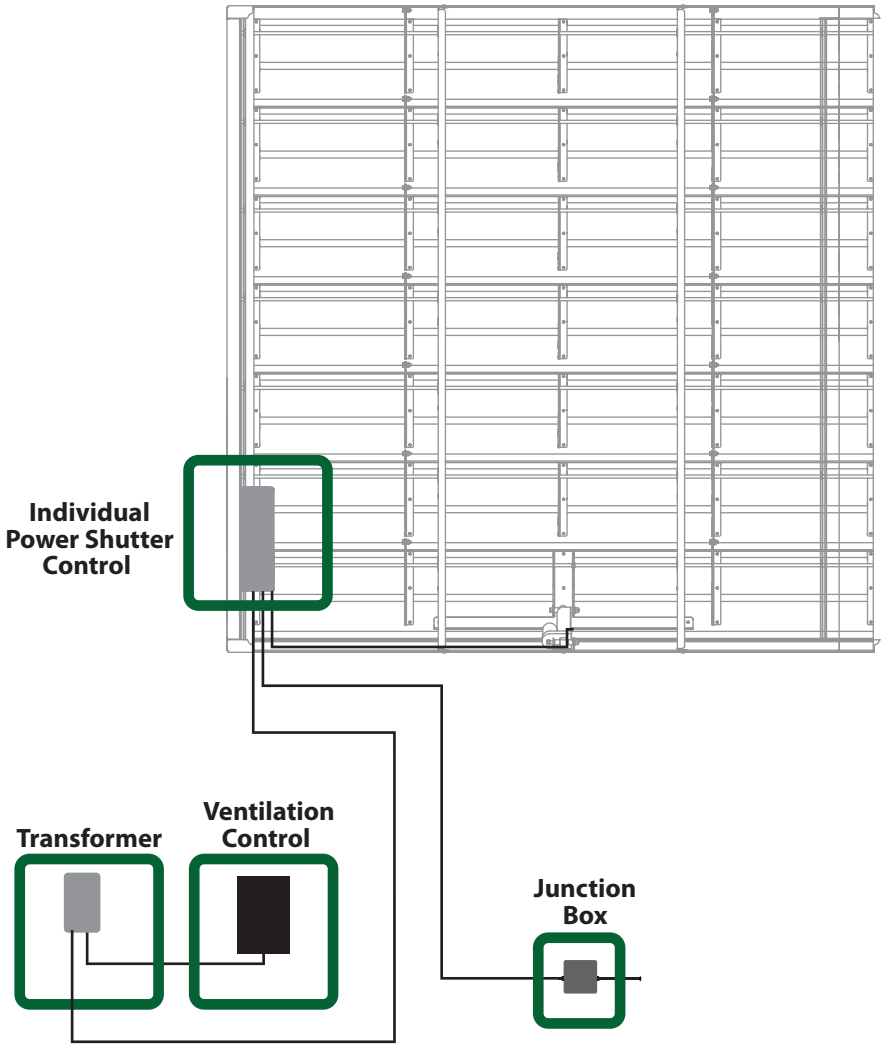
- A maximum quantity of 16 power shutters per transformer and ventilation control pairing.
- Power shutters can be arranged in any combination of groupings per ventilation control stage.



1

Identifying Components in Preparation for Wiring:

- Identify components, as shown below.



2

Connecting Wires From Ventilation Control To Individual Power Shutter Control:

- Connect ventilation control to power shutter control following wiring diagram, as shown below.
- Fill in table with wire colors to ensure correct connections in Ventilation Control.

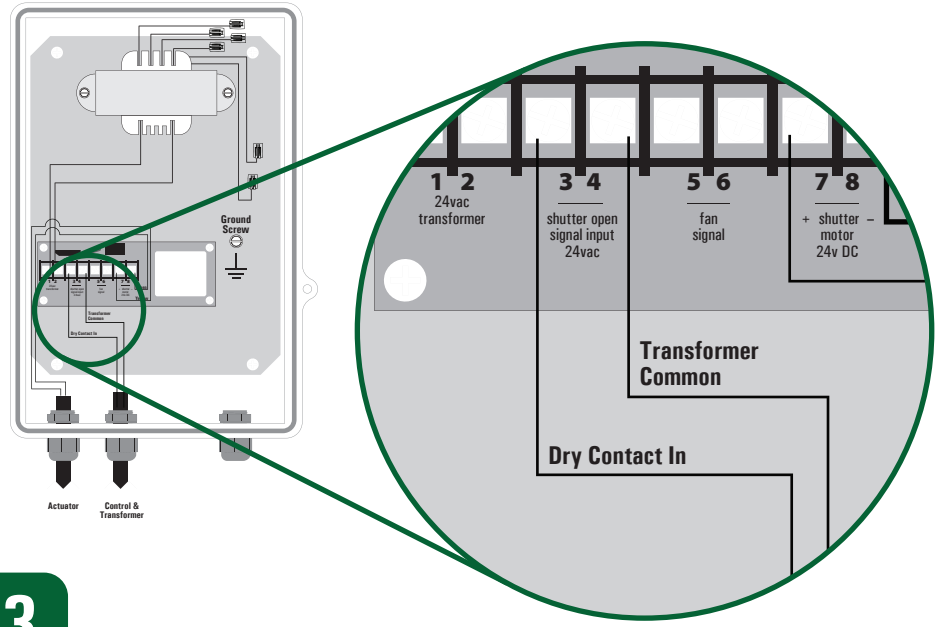
WARNING: ALL unused wires must be capped meeting required electrical codes.

Fill out wire colors in the below table.

Use as a guide for wiring every power shutter to control.

Wire Color	
	Dry Contact Relay In to #3 Pin
	Transformer Common to #4 Pin

*** Unused wires must be capped**



3

If your power supply is single phase, proceed to Step 4.

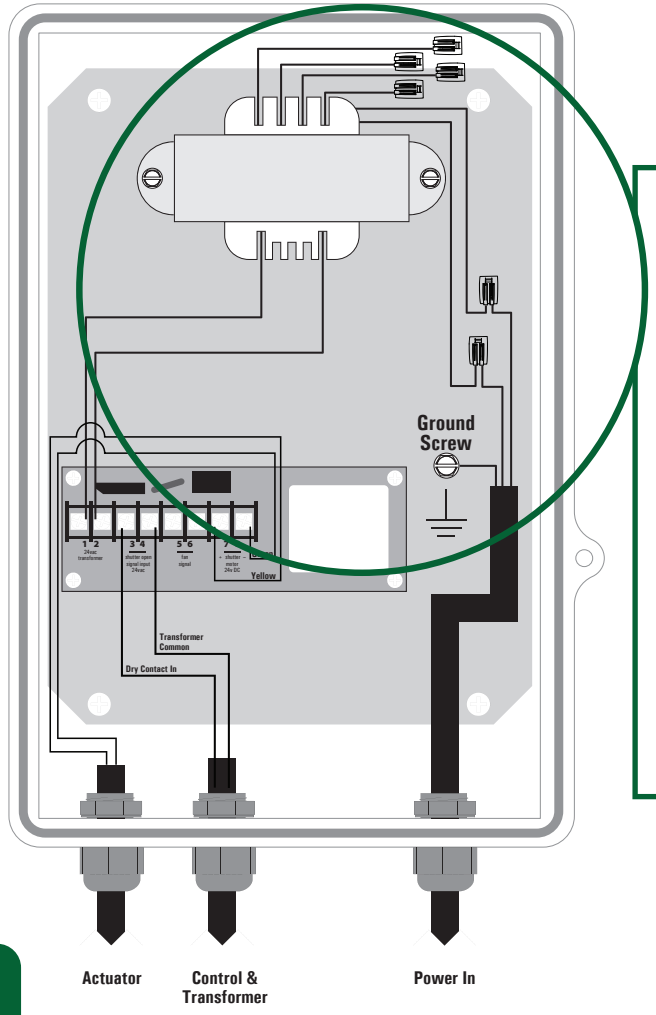
If your power supply is three phase, skip to Step 5.

SINGLE PHASE WIRING

Connecting Single Phase Power To Individual Power Shutter Control:

- Follow the wiring diagram that is compatible with the available single phase voltage.

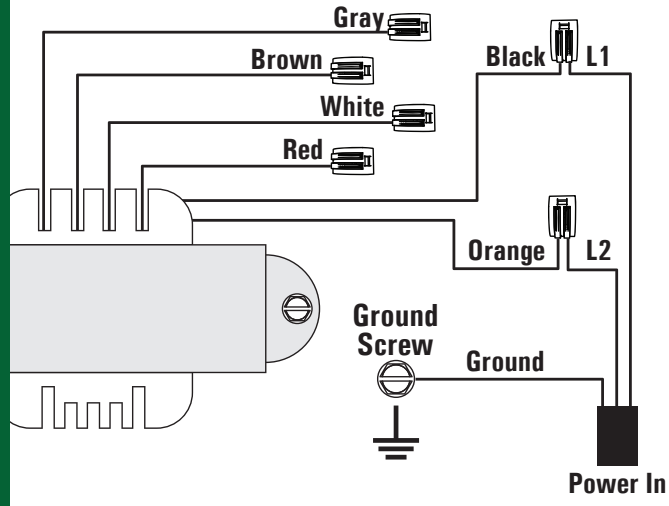
WARNING: ALL unused wires must be capped meeting required electrical codes.



Single Phase Wiring for 240v

Single Phase Wiring for 120v

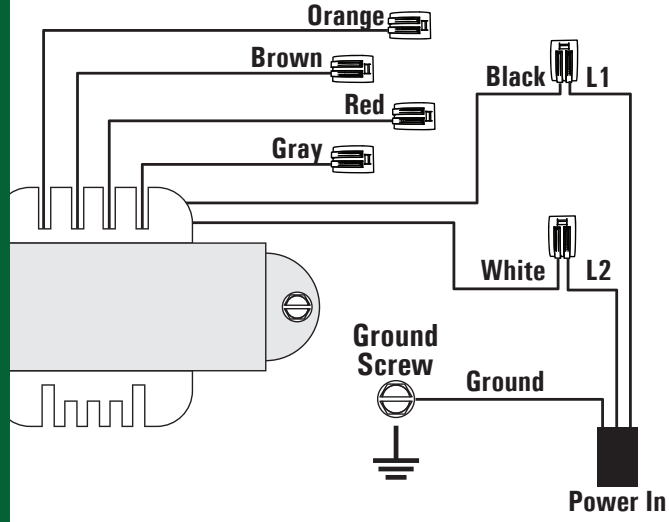
Single Phase Wired for 240v



Relay Control	Power In
Gray*	--
Brown*	--
White*	--
Red*	--
Ground Screw	Ground
Black	L1
Orange	L2

* Unused wires must be capped

Single Phase Wired for 120v



Relay Control	Power In
Orange*	--
Brown*	--
Red*	--
Gray*	--
Ground Screw	Ground
Black	L1
White	L2

* Unused wires must be capped

4

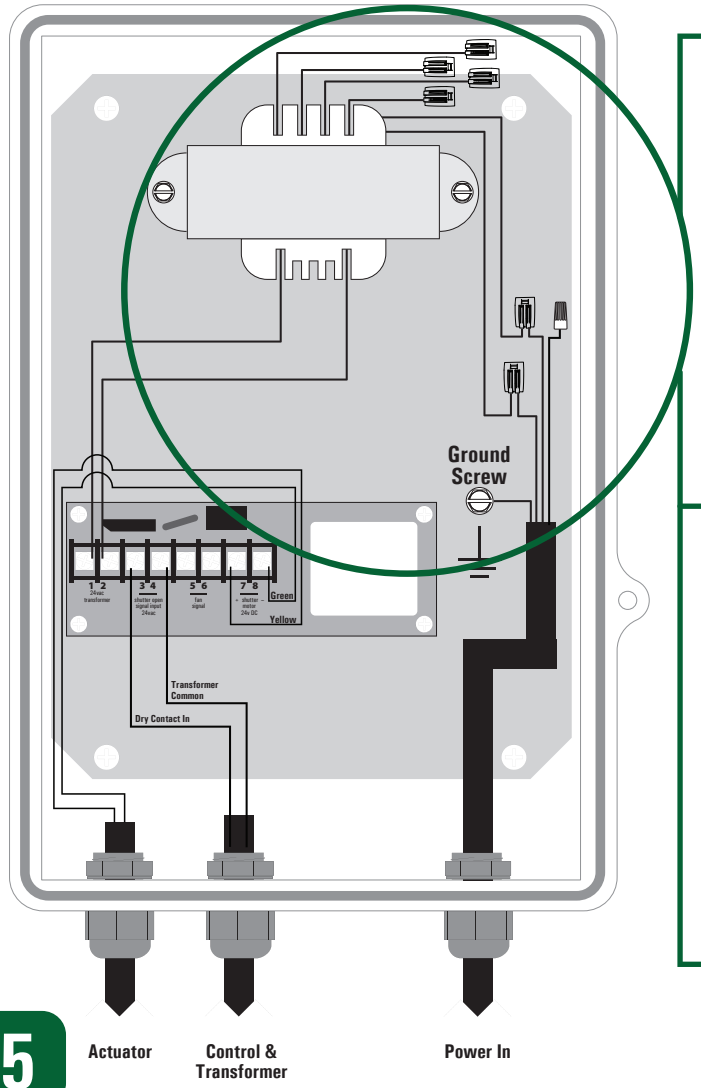
Once single phase wiring is complete, skip to Step 6.

THREE PHASE WIRING

Connecting Three Phase Power To Individual Power Shutter Control:

- Follow the wiring diagram that is compatible with the available three phase voltage.

WARNING: ALL unused wires must be capped meeting required electrical codes.

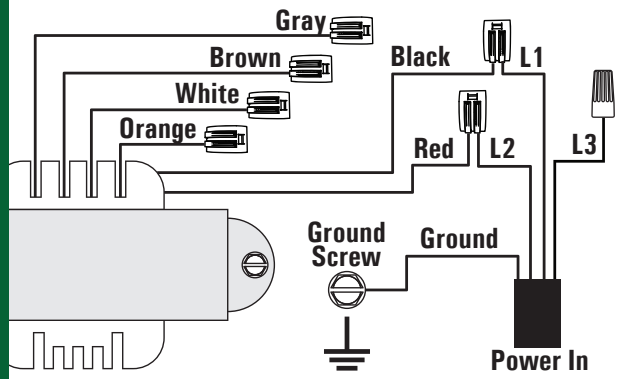


Three Phase Wiring for 208v

Three Phase Wiring for 240v

Three Phase Wiring for 480v

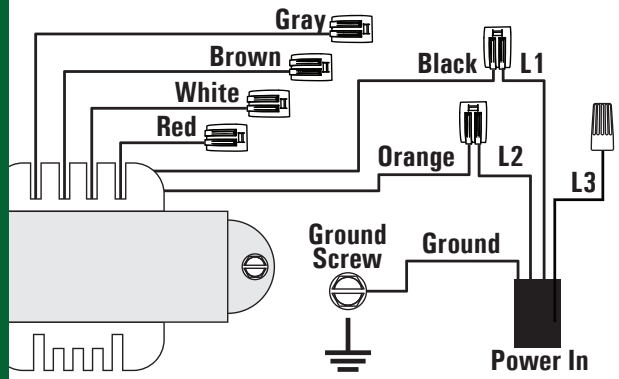
Three Phase Wired for 208v



Relay Control	Power In
Gray*	--
Brown*	--
White*	--
Orange*	--
Ground Screw	Ground
Black	L1
Red	L2
--	L3*

* Unused wires must be capped

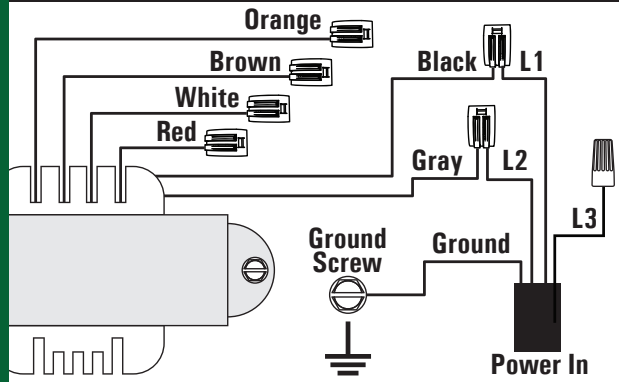
Three Phase Wired for 240v



Relay Control	Power In
Gray*	--
Brown*	--
White*	--
Red*	--
Ground Screw	Ground
Black	L1
Orange	L2
--	L3*

* Unused wires must be capped

Three Phase Wired for 480v



Relay Control	Power In
Orange*	--
Brown*	--
White*	--
Red*	--
Ground Screw	Ground
Black	L1
Gray	L2
--	L3*

* Unused wires must be capped

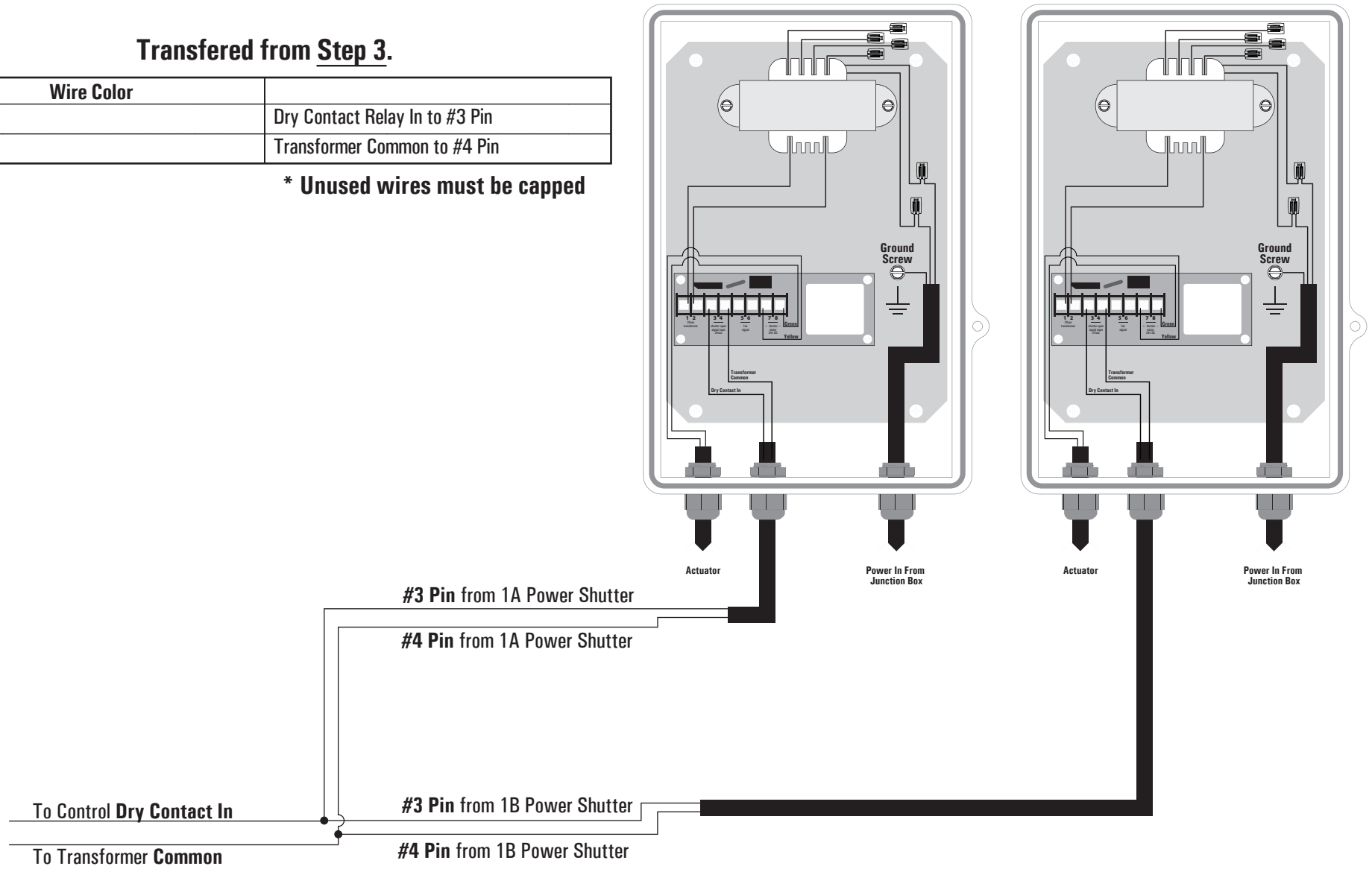
Connecting Multiple Power Shutter Controls to Ventilation Control Stage:

- Using the table you filled out in **Step 3** splice/connect same colored wires with lead to connect to desired stage in ventilation control.

Transfered from Step 3.

Wire Color	
	Dry Contact Relay In to #3 Pin
	Transformer Common to #4 Pin

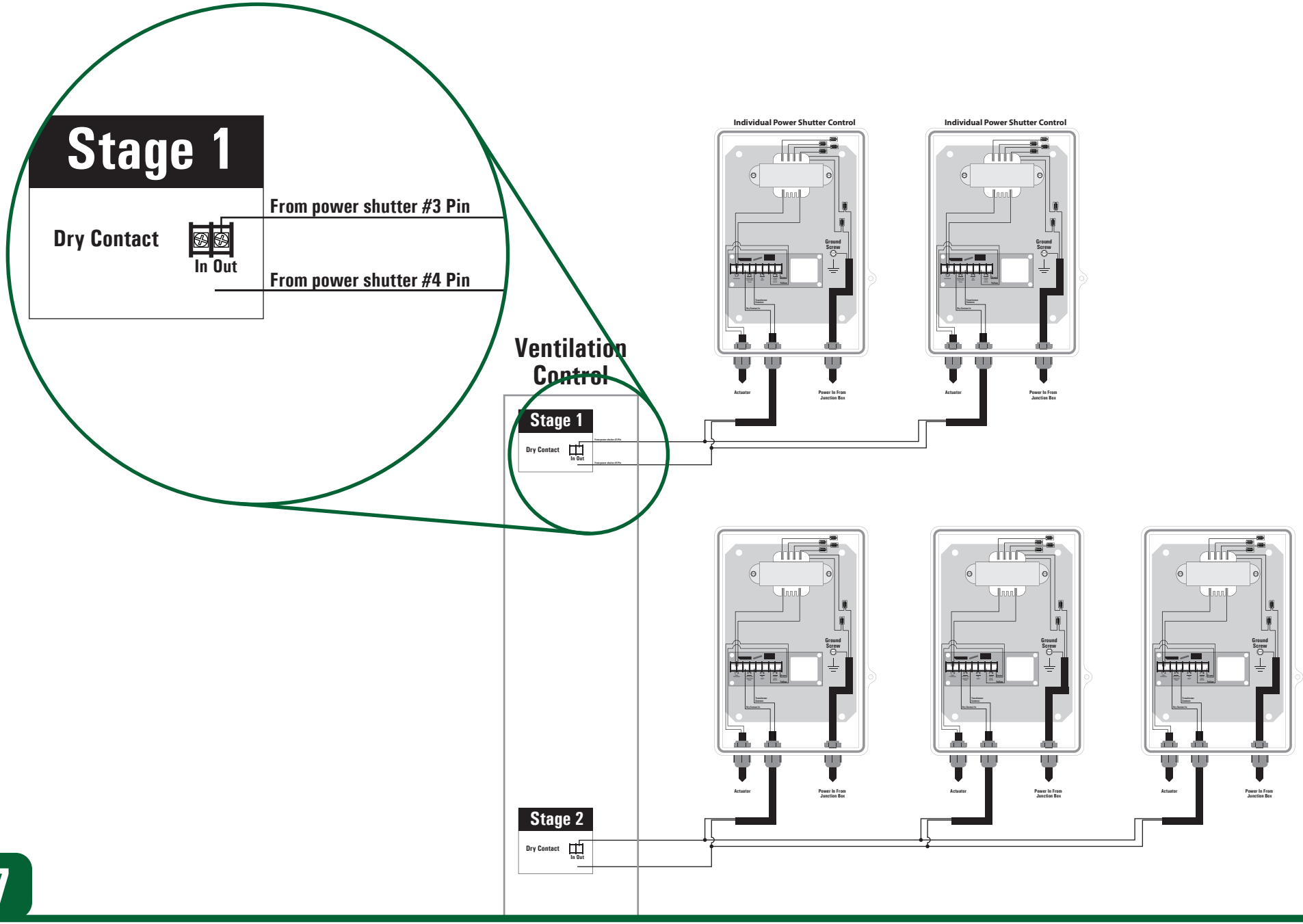
*** Unused wires must be capped**



6

• Connect 3 of the 4 leads created and identified in **Step 6** to desired stage in ventilation control, as shown below.

NOTE: Lead from #4 Pin will be connected in future step.



7

Wiring Transformer to Connect to Control Wires:

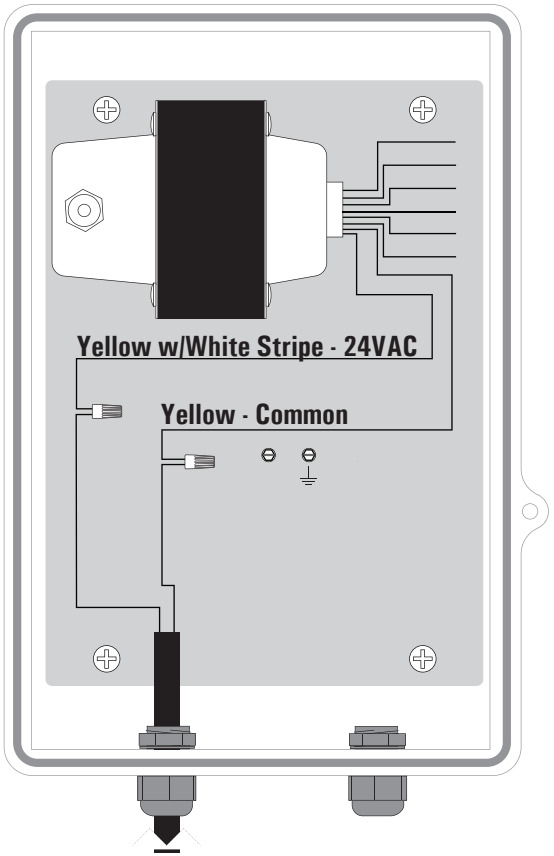
- Follow wiring diagram, as shown below.
- Fill in table with wire colors to ensure correct connections in Ventilation Control.

Fill out wire colors in the below table.

Use as a guide for wiring transformer to controls.

Wire Color	
	Yellow w/White Stripe Transformer 24VAC to Ventilation Control Dry Contact Relay In
	Yellow Transformer Common to Power Shutter #4 Pin

Transformer for Power Shutters



If your power supply is single phase, proceed to Step 9.

If your power supply is three phase, skip to Step 10.

8

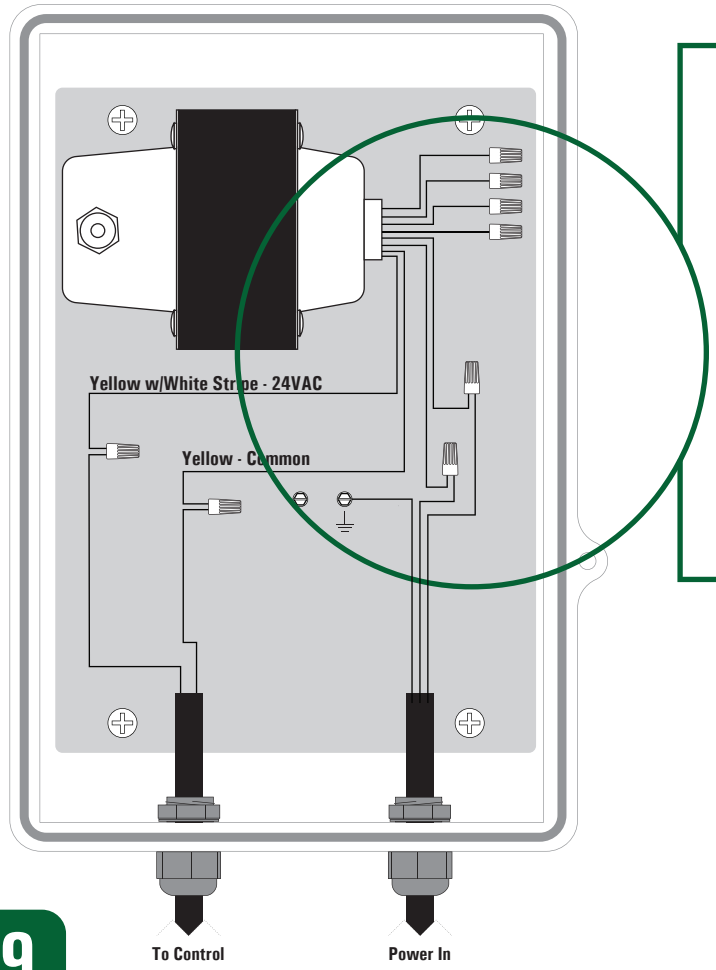
SINGLE PHASE WIRING

Connecting Single Phase Power To Transformer:

- Follow the wiring diagram that is compatible with the available single phase voltage.

WARNING: ALL unused wires must be capped meeting required electrical codes.

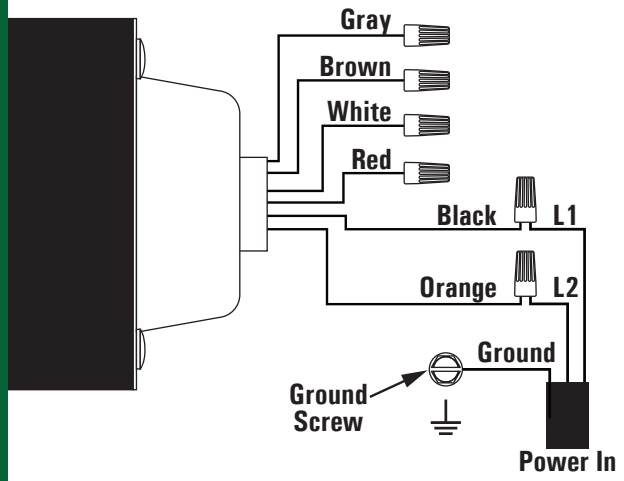
Transformer for Power Shutter



Single Phase Wiring for 240v

Single Phase Wiring for 120v

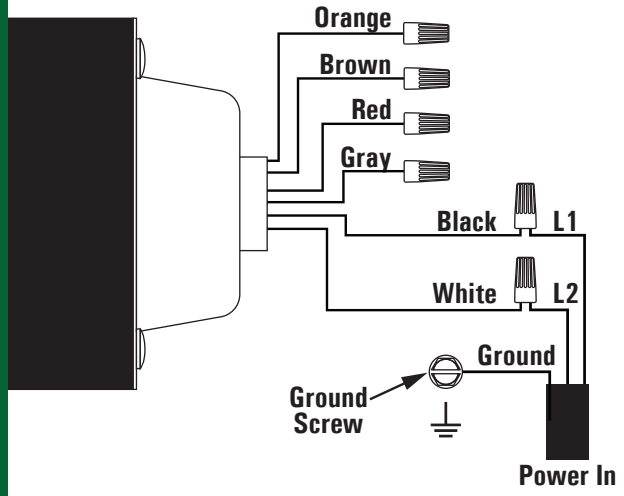
Single Phase Wired for 240v



Relay Control	Power In
Gray*	--
Brown*	--
White*	--
Red*	--
Ground Screw	Ground
Black	L1
Orange	L2

* Unused wires must be capped

Single Phase Wired for 120v



Relay Control	Power In
Orange*	--
Brown*	--
Red*	--
Gray*	--
Ground Screw	Ground
Black	L1
White	L2

* Unused wires must be capped

9

Once single phase wiring is complete, skip to Step 11.

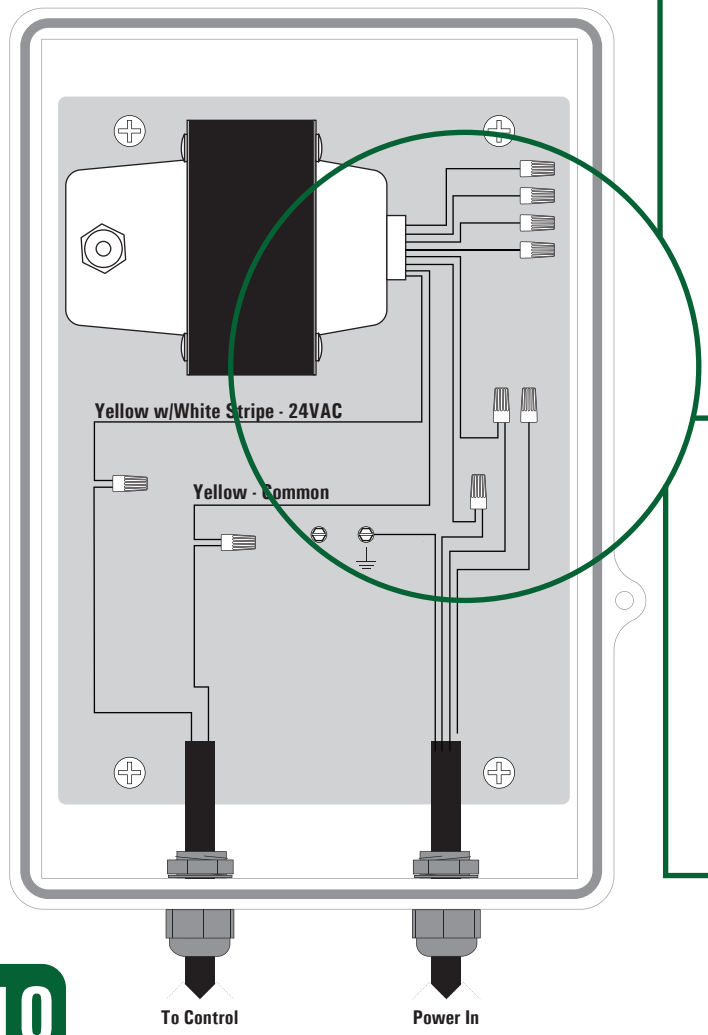
THREE PHASE WIRING

Connecting Three Phase Power To Transformer:

- Follow the wiring diagram that is compatible with the available three phase voltage.

WARNING: ALL unused wires must be capped meeting required electrical codes.

Transformer for Power Shutter

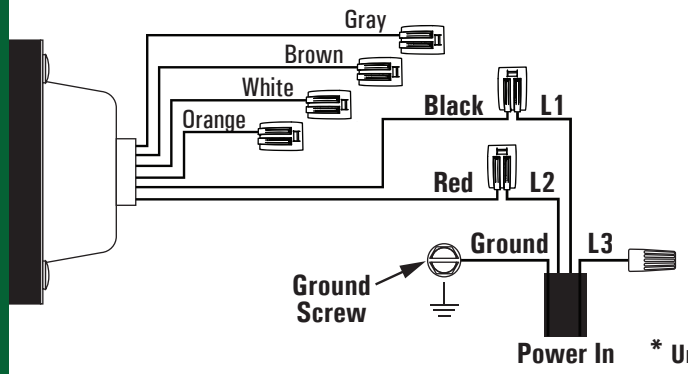


Three Phase Wiring for 208v

Three Phase Wiring for 240v

Three Phase Wiring for 480v

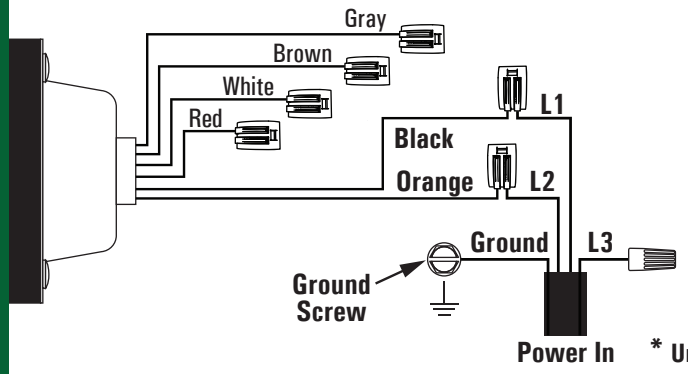
Three Phase Wired for 208v



Relay Control	Power In
Gray*	--
Brown*	--
White*	--
Orange*	--
Ground Screw	Ground
Black	L1
Red	L2
--	L3*

* Unused wires must be capped

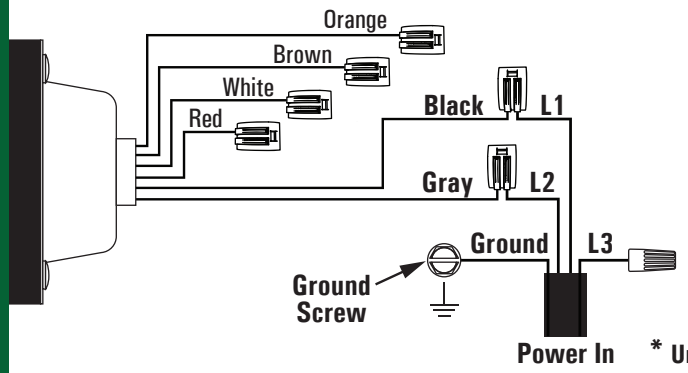
Three Phase Wired for 240v



Relay Control	Power In
Gray*	--
Brown*	--
White*	--
Red*	--
Ground Screw	Ground
Black	L1
Orange	L2
--	L3*

* Unused wires must be capped

Three Phase Wired for 480v



Relay Control	Power In
Orange*	--
Brown*	--
White*	--
Red*	--
Ground Screw	Ground
Black	L1
Gray	L2
--	L3*

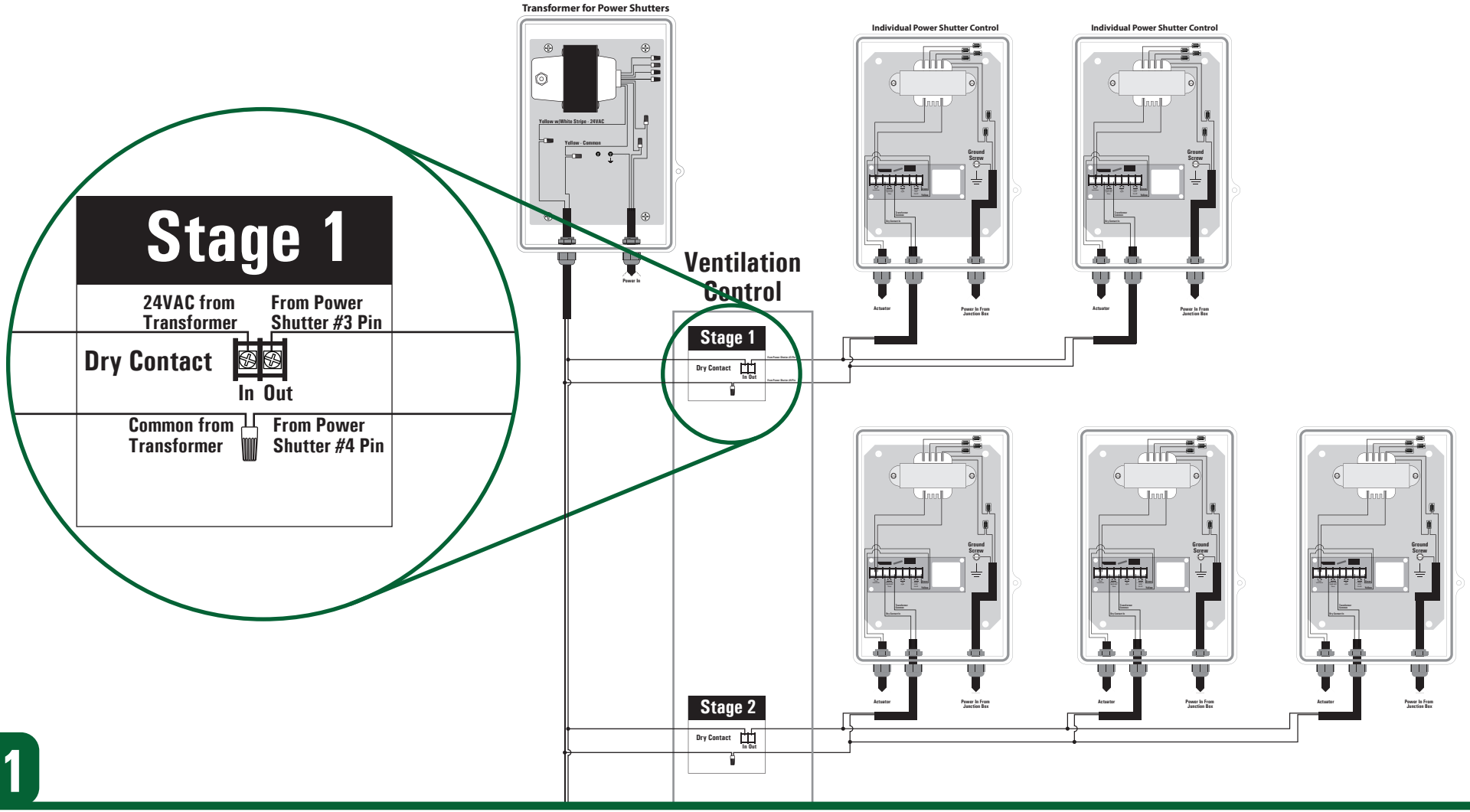
* Unused wires must be capped

Connecting Transformer Wires to Control Wires:

- Follow wiring diagram, as shown below.
- Refer to table from **Step 8** to ensure correct connections in Ventilation Control.

Transfered from Step 8.

Wire Color	
	Yellow w/White Stripe Transformer 24VAC to Ventilation Control Dry Contact Relay In
	Yellow Transformer Common to Power Shutter #4 Pin



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