

2010-13 Field Commander Wiring Manual

**Section 1 – Pages 2-4 – BASIC / ENHANCED SERVICE:
Pivot wiring NOT using start, theft
monitoring, or direction control**

**Section 2 – Pages 5-9 – PRO SERVICE:
Pivot wiring using start, theft monitoring,
or direction control**

**Section 3 – Page 10 – Simple on/off monitor only – no control
Features**

**Section 4 – Page 11-12 – Example Wiring of Field Commander
with Pro Service on Valley, and
Zimmatic End Towers.**

Section 5 – Page 13-14 – Specs. and Warranty Information.

Section 1 – BASIC / ENHANCED SERVICE WIRING

For pivots NOT using start, power monitoring, or direction:

Warning: unused wires must be capped or taped off individually to avoid damage to unit.

Each Feature AND Safety circuit must be tested by the installer before AND after installation is finished.

Only do steps 1-5 for basic stop feature and tape off unused wires.

Add steps 6 and 7 for speed control

Add steps 8 and 9 for end gun control

***NOTE* ON ALL UNITS – BLACK WIRE WITH RED STRIPE IS NOT USED**

Zimmatic:

1. Remove the Zimmatic brown (safety) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Black wire AND Red/Black wire in its place.
2. Use a wire nut to connect our Red wire to the Zimmatic brown (safety) wire that was removed from the terminal strip in step 1.
3. Install our Brown/Black wire into the terminal strip with the other white (neutral) wires.
4. Install our Orange wire into the tower terminal strip with the Zimmatic yellow wire. (Forward Run) – Note: Zimmatic wire color may differ depending on age of system.
5. Install our Orange/Black wire into the tower terminal strip with the Zimmatic pink wire. (Reverse Run) – Note: Zimmatic wire color may differ depending on age of system.
6. Remove the Zimmatic orange (percent timer) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Blue wire in its place.
7. Use a wire nut to connect our Blue/Black wire to the Zimmatic orange (percent timer) wire that was removed from the terminal strip in step 6.
8. Remove the Zimmatic purple (end gun) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Brown wire in its place.
9. Use a wire nut to cap the Zimmatic purple (end gun) wire that was removed from the terminal strip in step 8.

Valley:

1. Remove the Valley yellow (safety) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Black wire AND Red/Black wire in its place.
2. Use a wire nut to connect our Red wire to the Valley yellow (safety) wire that was removed from the terminal strip in step 1.
3. Install our Brown/Black wire into the terminal strip with the other white (neutral) wires.
4. Install our Orange wire into the tower terminal strip with the Valley brown wire. (Forward Run)
5. Install our Orange/Black wire into the tower terminal strip with the Valley Orange wire. (Reverse Run)
6. Remove the Valley purple (percent timer) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Blue wire in its place. (systems with TAG (Z Corners), refer to the schematic on Page 13 for proper wiring of the blue speed wires.)
7. Use a wire nut to connect our Blue/Black wire to the Valley purple (percent timer) wire that was removed from the terminal strip in step 6.
8. Remove the Valley pink (end gun) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Brown wire in its place.
9. Use a wire nut to cap the Valley pink (end gun) wire that was removed from the terminal strip in step 8.

Pierce (Newer systems, example - CP600 pivots):

1. Remove the Pierce yellow (safety) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Black wire AND Red/Black wire in its place.
2. Use a wire nut to connect our Red wire to the Pierce yellow (safety) wire that was removed from the terminal strip in step 1.
3. Install our Brown/Black wire into the terminal strip with the other white (neutral) wires.
4. Install our Orange wire into the tower terminal strip with the Pierce brown wire. (Forward Run)
5. Install our Orange/Black wire into the tower terminal strip with the Pierce Orange wire. (Reverse Run)
6. Remove the Pierce purple (percent timer) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Blue wire in its place.
7. Use a wire nut to connect our Blue/Black wire to the Pierce purple (percent timer) wire that was removed from the terminal strip in step 6.
8. Remove the Pierce pink (end gun) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Brown wire in its place.
9. Use a wire nut to cap the Pierce pink (end gun) wire that was removed from the terminal strip in step 8.

Pierce (Older systems, example - P.93 pivots):

1. Remove the Pierce brown (safety) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Black wire AND Red/Black wire in its place.
2. Use a wire nut to connect our Red wire to the Pierce brown (safety) wire that was removed from the terminal strip in step 1.
3. Install our Brown/Black wire into the terminal strip with the other white (neutral) wires.
4. Install our Orange wire into the tower terminal strip with the Pierce purple wire. (Forward Run)
5. Install our Orange/Black wire into the tower terminal strip with the Pierce yellow wire. (Reverse Run)
6. Remove the Pierce orange (percent timer) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Blue wire in its place.
7. Use a wire nut to connect our Blue/Black wire to the Pierce orange (percent timer) wire that was removed from the terminal strip in step 6.
8. Remove the Pierce tan (end gun) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Brown wire in its place.
9. Use a wire nut to cap the Pierce tan (end gun) wire that was removed from the terminal strip in step 8.

Olson: (After 1980)

1. Remove the Olson yellow (safety) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Black wire AND Red/Black wire in its place.
2. Use a wire nut to connect our Red wire to the yellow (safety) wire that was removed from the terminal strip in step 1.
3. Install our Brown/Black wire into the terminal strip with the other white (neutral) wires.
4. Install our Orange wire into the tower terminal strip with the Olson brown wire. (Forward Run)
5. Install our Orange/Black wire into the tower terminal strip with the Olson white/black wire. (Reverse Run)
6. Remove the Olson grey (percent timer) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Blue wire in its place.
7. Use a wire nut to connect our Blue/Black wire to the Olson grey (percent timer) wire that was removed from the terminal strip in step 6.
8. Remove the Olson purple (end gun) wire from the terminal strip in the end tower box (Span cable wire coming from the center) and install our Brown wire in its place.
9. Use a wire nut to cap the Olson purple (end gun) wire that was removed from the terminal strip in step 8.

Lockwood with 16v safety system:

1. Remove the 120v wire going to the safety transformer at the end tower and connect our Black wire AND Red/Black wire to this 120v wire.
2. Use a wire nut to connect our Red wire to the wire that goes to the safety transformer (this is the wire that was removed in step 1.)
3. Install our Brown/Black wire in with the other neutral (white) wires. **-see note-**
4. Install our Orange wire into the tower terminal strip with the Lockwood yellow wire. (Forward Run)
5. Install our Orange/Black wire into the tower terminal strip with the Lockwood orange wire. (Reverse Run)
6. Remove the Lockwood purple (percent timer) wire from the terminal strip in the end tower box and install our Blue wire in its place.
7. Use a wire nut to connect our Blue/Black wire to the Lockwood purple (percent timer) wire that was removed from the terminal strip in step 6.
8. Remove the Lockwood brown (end gun) wire from the terminal strip in the end tower box and install our Brown wire in its place.
9. Use a wire nut to cap the Lockwood brown (end gun) wire that was removed from the terminal strip in step 8.

-note- on older Lockwood systems, the power to the safety transformer is flip-flopped depending on which direction the system is moving. **On these, change step 3 to this:**

Install our Brown/Black wire into the other 120v terminal on the safety transformer. (with the wire that was not disturbed in step 1 or 2)

-With the unit wired this way, the pivot point end gun control may only work in one direction-

Reinke Pivots – Please see the Reinke Manual available from AgSense, or view/print online at: www.wagnet.net – login and click help, then click on Reinke Manual.

Section 2 – PRO SERVICE WIRING:

For using Start, Power Monitoring, or Direction Control:

Warning: unused wires must be capped or taped off individually to avoid damage to unit.

Each Feature AND Safety circuit must be tested by the installer before AND after installation is finished.

In the Pivot Control Panel, remove end gun wire that goes out to the tower boxes and connect it to 120v directly from the transformer. (after the 120v fuse, or add a fuse as necessary) Also, remove any endgun stops/ramps/shutoffs. (End gun wire will have 120v at all times, even when pivot is idle)

Start Feature applies 120v to the safety circuit for 10 seconds to start the pivot – this may not work on all pivots to be able to start the pivot. To test this, use a fused jumper wire to connect 120v to the safety wire for 10 seconds to see if the pivot will start. Note: you may need to bypass the pressure switch in the panel with either a jumper wire or a timer to enable starting the pivot wet.

Direction Control will not work on all pivots! The direction control works by applying 120v to the wire opposite of the direction the pivot is currently moving for 10 seconds. – this will not work on all pivots and MUST be tested by the installer before adding this feature - Simply test by using a fused jumper wire to connect 120v to the direction wire opposite the direction the pivot is currently moving for 10 seconds. Test this for both directions. If the pivot changes direction and stays moving that direction, then proceed with adding this feature.

Perform steps 1 - 3 and 6 – 9 and cap off unused wires.
Add steps 4 – 5 for speed control

***NOTE* ON ALL UNITS – BLACK WIRE WITH RED STRIPE IS NOT USED**

Zimmatic: (Read beginning of Section 2 before proceeding)

1. Remove the Zimmatic brown (safety) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Red/Black wire in its place.
2. Use a wire nut to connect our Red wire to the Zimmatic brown (safety) wire that was removed from the terminal strip in step 1.
3. Install our Brown/Black wire into the terminal strip with the other white (neutral) wires.
4. Remove the Zimmatic orange (percent timer) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Blue wire in its place.
5. Use a wire nut to connect our Blue/Black wire to the Zimmatic orange (percent timer) wire that was removed from the terminal strip in step 4.
6. Remove the Zimmatic purple (end gun) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Brown wire in its place.
7. Use a wire nut to connect our Black wire to the Zimmatic purple (end gun wire coming from the control panel (120v all the time)) wire that was removed from the terminal strip in step 6.
8. Install our Orange wire into the tower terminal strip with the Zimmatic yellow wire. (Forward Run) – Note: Zimmatic wire color may differ depending on age of system.
9. Install our Orange/Black wire into the tower terminal strip with the Zimmatic pink wire. (Reverse Run) – Note: Zimmatic wire color may differ depending on age of system.

Valley: (Read beginning of Section 2 before proceeding)

Note: - On some Valley panels with SIS (stop-in-slot), moving the pink end gun wire to 120v all the time in the panel will cause the pivot to start without hitting the start button on the panel, and will cause the safety system to be hot all the time (pivot won't safety) You must check for this and fix it if needed. The fix for this will disable the SIS (stop-in-slot) feature of the pivot.

To check for this issue and correct it if needed:

1. Remove the top cover of the collector ring and find the wires coming out of the top of the collector ring. (these wires are coming from the control panel)
2. Find the Pink wire coming from the control panel at the top of the collector ring, and see what number wire is wire-nutted to that Pink wire. (usually #8) – do not disconnect this wire.
3. Find the brush that matches the wire number in step 2. (the brush will have a sticker with the same number on it)
 - a. If the Pink wire that goes out to the tower boxes is installed in that brush, no changes are needed, you can put the cover back on the collector ring, test the safety of the pivot and then proceed to wiring the Field Commander at the end tower. (step 1 below)
 - b. If the brush does not have the Pink wire that goes out to the towers installed in it (but has some other wire in it), proceed to the next step.
4. Remove the wire that is in the brush (the brush found in step 3) and cap it with a wire nut.
5. Find the Pink wire that goes out to the tower boxes. Disconnect it from the wire that it is currently wire-nutted to.
6. Install the Pink wire that goes out to the tower boxes into the brush (the brush found in step 3).
7. Cap off the unused wire from step 5 with a wire nut.

You should now have the Pink wire from the tower boxes installed into the brush that matches the wire number that the Pink wire from the control panel is connected to.

After completing this change, **TEST THE SAFETY AGAIN** before continuing to step 1 below.

Valley - Wiring the Field Commander at the end-tower:

1. Remove the Valley yellow (safety) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Red/Black wire in its place.
2. Use a wire nut to connect our Red wire to the Valley yellow (safety) wire that was removed from the terminal strip in step 1.
3. Install our Brown/Black wire into the terminal strip with the other white (neutral) wires.
4. Remove the Valley purple (percent timer) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Blue wire in its place. (systems with TAG (Z Corners), refer to the schematic on Page 13 for proper wiring of the blue speed wires.)
5. Use a wire nut to connect our Blue/Black wire to the Valley purple (percent timer) wire that was removed from the terminal strip in step 4.
6. Remove the Valley pink (end gun) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Brown wire in its place.
7. Use a wire nut to connect our Black wire to the Valley pink (end gun wire coming from the control panel (120v all the time)) wire that was removed from the terminal strip in step 6.
8. Install our Orange wire into the tower terminal strip with the Valley brown wire. (Forward Run)
9. Install our Orange/Black wire into the tower terminal strip with the Valley Orange wire. (Reverse Run)

NOTE – ON SOME VALLEY CORNER SYSTEMS: If start feature does not work correctly, use the Valley yellow-red wires in steps 1 and 2 instead of the Valley yellow wires.

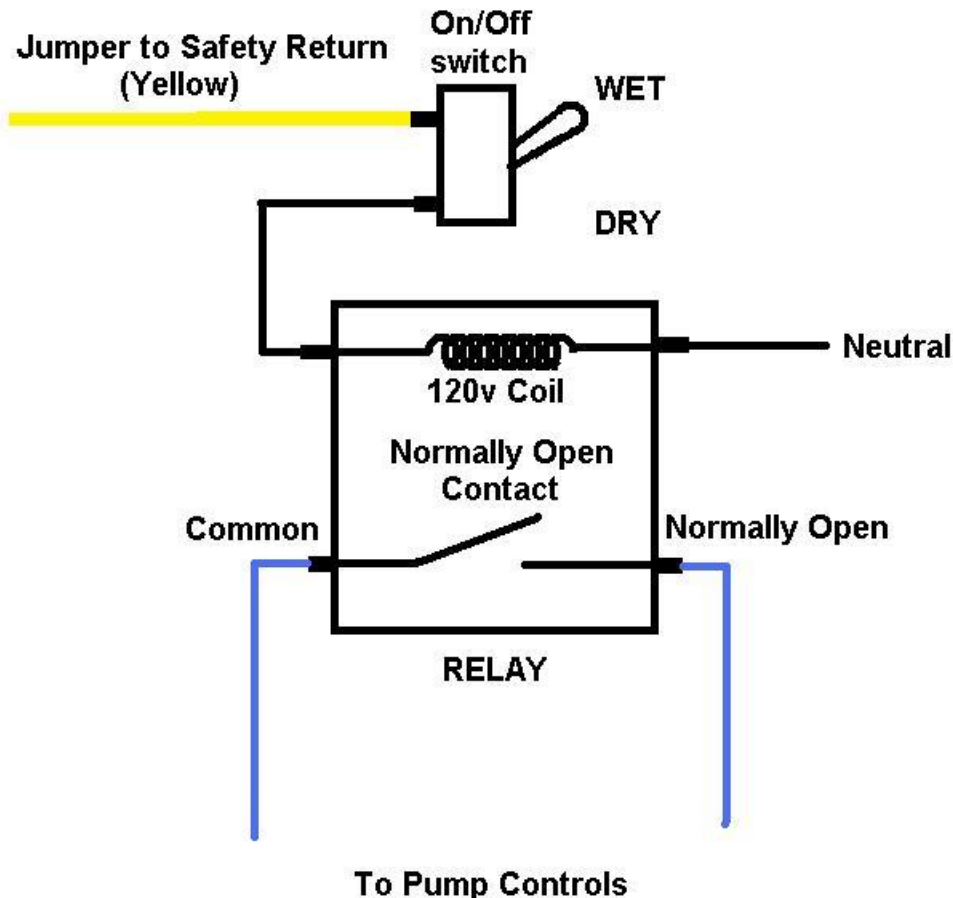
NOTE – ON MOST VALLEY SELECT PANELS:

On most Valley Select panels – the Field Commander cannot start the pivot if the panel is set to “wet”

Use these steps to make these panels work correctly:

1. At the Panel, run a jumper wire from Safety Return to an on/off switch. (see drawing below)
2. Run another wire from that on/off switch to the coil terminal of a new relay with Normally Open contacts – 120v coil. (see drawing below)
3. Run a jumper wire from the other coil terminal to Neutral.
4. Remove the pump control wires from the panel terminal strip labeled “Pump Control N.O.” and “Pump Control Common” and install them into the Common and Normally Open contacts of the new relay. (see drawing below)
5. Set the digital portion of the panel to “Dry” and leave it that way. – then use the new toggle switch to control wet/dry.

Valley Select Panel - Change for using Field Commander Start Feature.



Pierce (Newer systems, example - CP600 pivots) (Read beginning of Section 2 before proceeding):

1. Remove the Pierce yellow (safety) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Red/Black wire in its place.
2. Use a wire nut to connect our Red wire to the yellow (safety) wire that was removed from the terminal strip in step 1.
3. Install our Brown/Black wire into the terminal strip with the other white (neutral) wires.
4. Remove the Pierce purple (percent timer) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Blue wire in its place.
5. Use a wire nut to connect our Blue/Black wire to the Pierce purple (percent timer) wire that was removed from the terminal strip in step 4
6. Remove the Pierce pink (end gun) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Brown wire in its place.
7. Use a wire nut to connect our Black wire to the Pierce pink (end gun wire coming from the control panel (120v all the time)) wire that was removed from the terminal strip in step 6.
8. Install our Orange wire into the tower terminal strip with the Pierce brown wire. (Forward Run)
9. Install our Orange/Black wire into the tower terminal strip with the Pierce orange wire. (Reverse Run)

Pierce (Older systems, example - P.93 pivots) (Read beginning of Section 2 before proceeding):

1. Remove the Pierce brown (safety) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Red/Black wire in its place.
2. Use a wire nut to connect our Red wire to the brown (safety) wire that was removed from the terminal strip in step 1.
3. Install our Brown/Black wire into the terminal strip with the other white (neutral) wires.
4. Remove the Pierce orange (percent timer) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Blue wire in its place.
5. Use a wire nut to connect our Blue/Black wire to the Pierce orange (percent timer) wire that was removed from the terminal strip in step 4
6. Remove the Pierce tan (end gun) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Brown wire in its place.
7. Use a wire nut to connect our Black wire to the Pierce tan (end gun wire coming from the control panel (120v all the time)) wire that was removed from the terminal strip in step 6.
8. Install our Orange wire into the tower terminal strip with the Pierce purple wire. (Forward Run)
9. Install our Orange/Black wire into the tower terminal strip with the Pierce yellow wire. (Reverse Run)

Olson: (After 1980) (Read beginning of Section 2 before proceeding)

1. Remove the Olson yellow (safety) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Red/Black wire in its place.
2. Use a wire nut to connect our Red wire to the yellow (safety) wire that was removed from the terminal strip in step 1.
3. Install our Brown/Black wire into the terminal strip with the other white (neutral) wires.
4. Remove the Olson grey (percent timer) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Blue wire in its place.
5. Use a wire nut to connect our Blue/Black wire to the Olson grey (percent timer) wire that was removed from the terminal strip in step 4
6. Remove the Olson purple (end gun) wire from the terminal strip in the end tower box (Span cable wire coming from the center) , and install our Brown wire in its place.
7. Use a wire nut to connect our Black wire to the Olson purple (end gun wire coming from the control panel (120v all the time)) wire that was removed from the terminal strip in step 6.
8. Install our Orange wire into the tower terminal strip with the Olson brown wire. (Forward Run)
9. Install our Orange/Black wire into the tower terminal strip with the Olson white/black wire. (Reverse Run)

Lockwood with 16v safety system: - only works on newer systems that do not flip-flop the 120v and Neutral going to the safety transformer. (Read beginning of Section 2 before proceeding)

1. Remove the 120v wire going to the safety transformer and connect our Red/Black wire in its place.
2. Use a wire nut to connect our Red wire to the wire that goes to the safety transformer (this is the wire that was removed in step 1.)
3. Install our Brown/Black wire in with the Neutral wire that goes to the safety transformer.
4. Remove the Lockwood purple (percent timer) wire from the terminal strip in the end tower box and install our Blue wire in its place.
5. Use a wire nut to connect our Blue/Black wire to the Lockwood purple (percent timer) wire that was removed from the terminal strip in step 4.
6. Remove the Lockwood brown (end gun) wire from the terminal strip in the end tower box and install our Brown wire in its place.
7. Use a wire nut to connect our Black wire to the Lockwood brown (end gun wire coming from the control panel (120v all the time)) wire that was removed from the terminal strip in step 6.
8. Install our Orange wire into the tower terminal strip with the Lockwood yellow wire. (Forward Run)
9. Install our Orange/Black wire into the tower terminal strip with the Lockwood orange wire. (Reverse Run)

Reinke Pivots – Please see the Reinke Manual available from AgSense, or view/print online at: www.wagnet.net – login and click help, then click on Reinke Manual.

Section 3

Simple Power On/Off Monitor Wiring:

This is only to monitor if Power to a device is on or off – there are no controls.

***NOTE* ON ALL UNITS – BLACK WIRE WITH RED STRIPE IS NOT USED**

120v AC Device Monitor system:

Brown/Black – Neutral

Black Wire – 120v AC

OR

7-40v DC Device Monitor system:

Yellow/Black – Ground

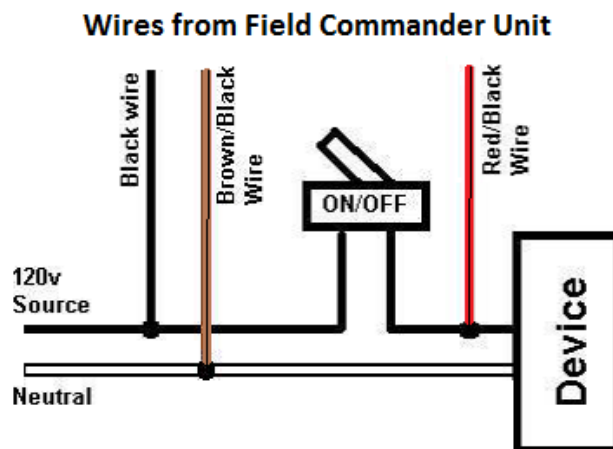
Yellow – 7-40v DC

Monitor Incoming Power AND Device On/Off Wiring:

This is to monitor the incoming power to a device, and to monitor if the device is on or off – there are no controls.

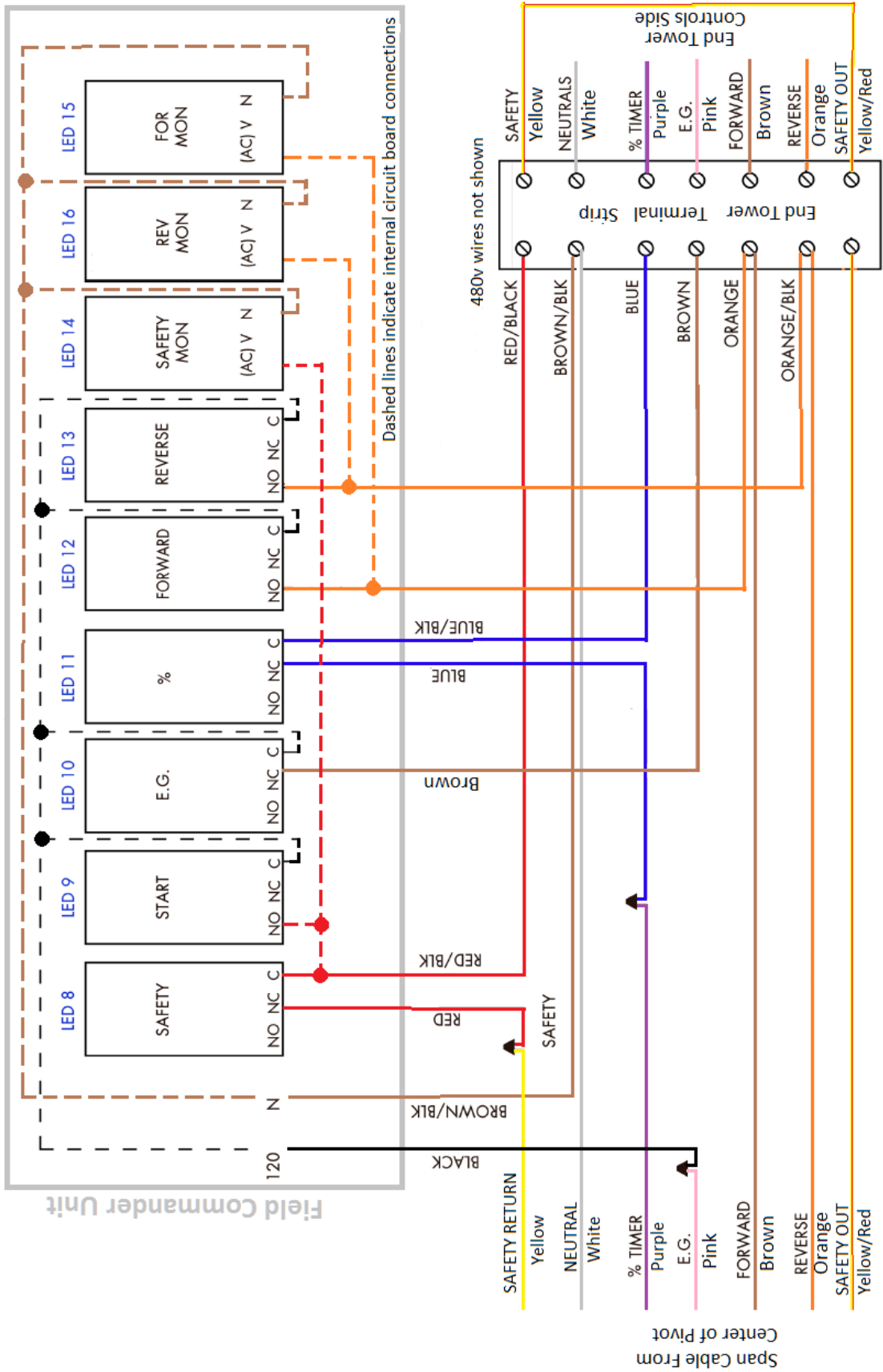
NOTE: The power being monitored and the power from the device being monitored as on/off must be coming from the same source / same phase and share a common neutral.
(see drawing below)

1. Connect our Black wire to the 120v source being monitored.
2. Connect our Brown/Black wire to the Neutral of the 120v source being monitored.
3. Connect our Red/Black wire to the 120v from the device that is being turned on/off.



EXAMPLE WIRING SHOWN IS SYSTEMS WITHOUT CORNERS OR MODIFIED WIRING

Example: Wiring of Field Commander with "PRO" service to Valley Tower Box



Notes: This drawing assumes that the End Gun wire is connected to the 120v transformer in the irrigation control panel as indicated in the installation instructions for "pro" type wiring/service.

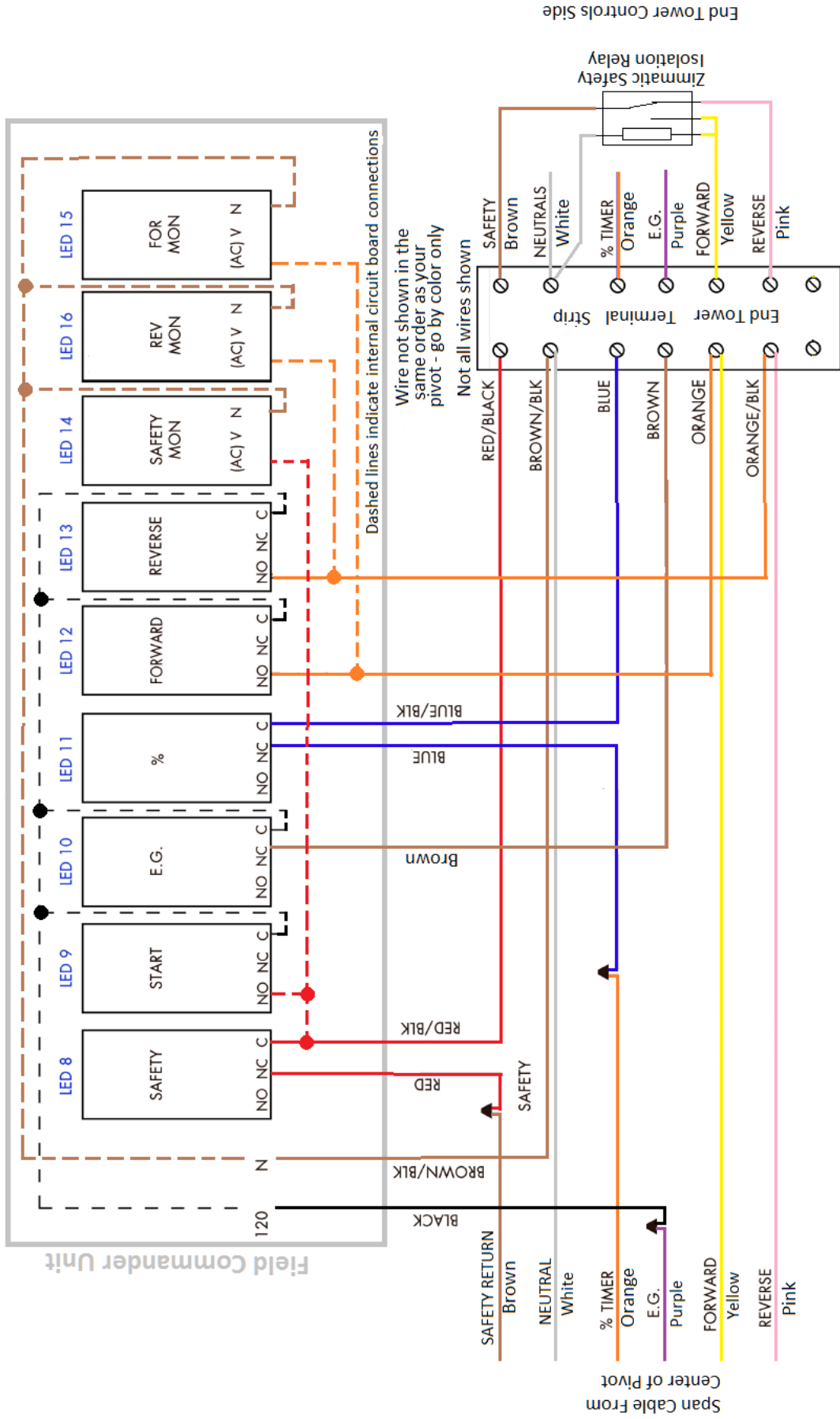
For "Basic or Enhanced" wiring/service, the Field Commander black wire would be connected with the Red/Black wire.

For "Enhanced" wiring/service, the span cable End Gun wire (pink) would be capped and unused.

For "Basic" wiring/service, the span cable End Gun wire (pink) and the % Timer wire (purple) would remain in the end tower terminal strip, and the Field Commander brown wire and blue wires would be unused/capped individually.

EXAMPLE WIRING SHOWN IS SYSTEMS WITHOUT CORNERS OR MODIFIED WIRING

Example: Wiring of Field Commander with "PRO" service to ZIMMATIC End Tower Box



Notes: This drawing assumes that the End Gun wire is connected to the 120v transformer in the irrigation control panel as indicated in the installation instructions for "pro" type wiring/service.

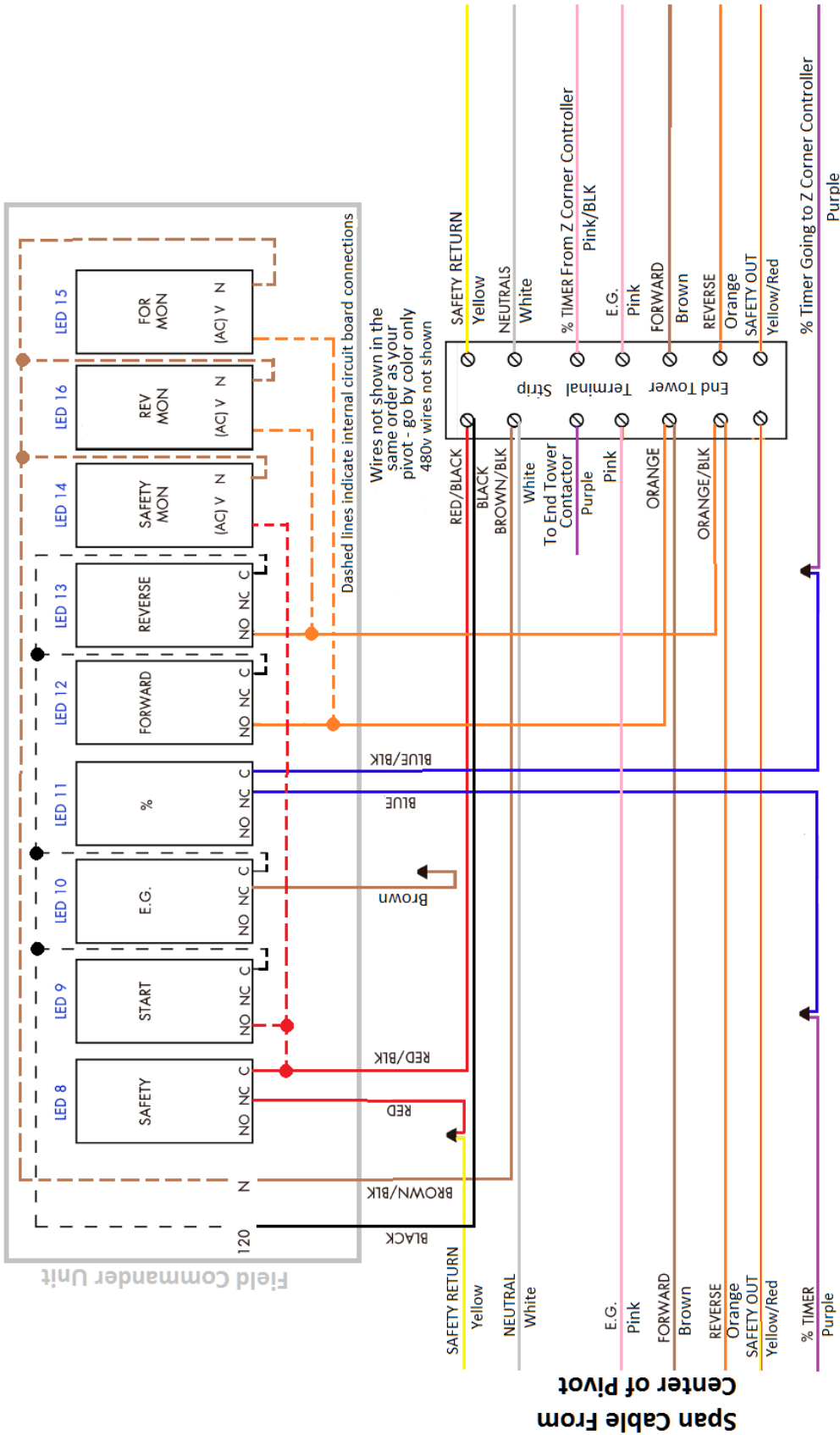
For "Basic or Enhanced" wiring/service, the Field Commander black wire would be connected with the Red/Black wire.

For "Enhanced" wiring/service, the span cable End Gun wire (Purple) would be capped and unused.

For "Basic" wiring/service, the span cable End Gun wire (Purple) and the % Timer wire (orange) would remain in the end tower terminal strip, and the Field Commander brown wire and blue wires would be unused/capped individually.

**Wiring Speed Control on TAG (Z Corner – Double Corner) Field Commander Blue Wires.
 (Enhanced wiring style shown, please refer to PRO instructions for the differences in the wiring other than speed.)**

Example: Wiring of Field Commander with Stop and Speed Control at the End Tower (Pivot has Z-Corner (TAG))



Power Requirements for these units:

DC Powered Unit 7-40V DC:

At 12v DC: 1.0A MAX
0.1A - 0.5A during normal operation

120vAC Powered Unit:

At 120v AC: 0.25A MAX
0.05A - 0.15A during normal operation

The above numbers are the current required for our unit to operate. Below is the current the relays in our box can control:

On both AC and DC units, each relay can handle a peak max of 5A, 3A constant (at a max voltage of 120vAC, or 30vDC).

Warranty Information:

All warranty service provided by the AgSense service center, or an authorized technician.

**Warranty repairs require a Return Merchandise Authorization Number (RMA);
Have your dealer contact AgSense to obtain this RMA number.**

For the Period of :	AgSense will:
60 Days	Money back Guarantee if not satisfied with product.
2 Years	Repair on any unit that fails due to defect in materials or workmanship. AgSense labor and parts would be provided free of charge during the warranty period. (This does not include dealer labor.)

What is not covered:

- Service trips to your home to teach you how to use the product.
- Improper installation, delivery or maintenance. If you have an installation problem contact your dealer or installer.
- Failure of product resulting from modification to product or due to unreasonable failure to provide reasonable and necessary maintenance.
- Labor necessary to move device from one location to another.
- Improper installation of battery.
- Failure due to corrosion or water damage.
 - Units installed in direct contact with sprinklers require a tower box or other watertight protection.
- Damage to the product caused by improper power supply voltage, accident, fire, floods or acts of God.
- Damage caused after delivery.

Exclusion of implied warranties – Your sole and exclusive remedy is product repair as provided in this Limited Warranty. Any implied warranties, including the implied warranties of merchantability or fitness for a particular purpose, are limited to two years or the shortest period allowed by law.

This warranty is extended to the original purchaser and any succeeding owner for the products purchased for use within the USA.

Some states do not allow the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights, and you may also have the other rights which vary from state to state. To know what your legal rights are, consult your local or state consumer affairs office or your state's Attorney General.

DISCLAIMER: The use of Field Commander/Crop Link/Aqua Trac shall not be utilized by customer as a substitute for the Customer's personal observation of the manner in which Customer's irrigation equipment is functioning. AgSense specifically advises Customer that this product is designed to enhance Customer's ability to control existing irrigation equipment and to provide the Customer with additional information about existing irrigation equipment. Field Commander/Crop Link/Aqua Trac relies upon GPS, Satellite and Internet technology which not always functions properly, accordingly, AgSense disclaims any and all responsibility for the reliability of this technology. Customer acknowledges that AgSense does not have the ability to control the reliability of GPS, Satellite and Internet Technology. AgSense specifically disclaims any and all liability for Customer's failure to personally determine whether or not the irrigation equipment that belongs to Customer is functioning properly. AgSense, its agents, members or officers will not be liable for Customer's loss of profits, business interruption, or any other type of consequential damages arising because of the failure to Customer's equipment, GPS, Satellite or Internet to function properly.

CUSTOMER'S RESPONSIBILITIES: Customer agrees to keep the irrigation equipment upon which Field Commander/Crop Link/Aqua Trac is installed in good repair and maintenance. Customer acknowledges the importance of and agrees to keep all safety devices which came with Customer's irrigation equipment in working order. Customer agrees to keep an end field stop and barricades in place to prevent damage to the irrigation equipment in the event that Field Commander/Crop Link/Aqua Trac malfunctions. Customer agrees that Field Commander/Crop Link/Aqua Trac cannot solely replace the personal monitoring of the operation of irrigation equipment.

REMEDY: Customer acknowledges that Field Commander/Crop Link/Aqua Trac's sole obligation and Customer's exclusive remedy in the event of any material and continuing nonconformity, defect, or error in the information service shall be to take reasonable corrective actions upon discovery of the problem.