

FineTune™ Controls

Applications and Wiring Guide



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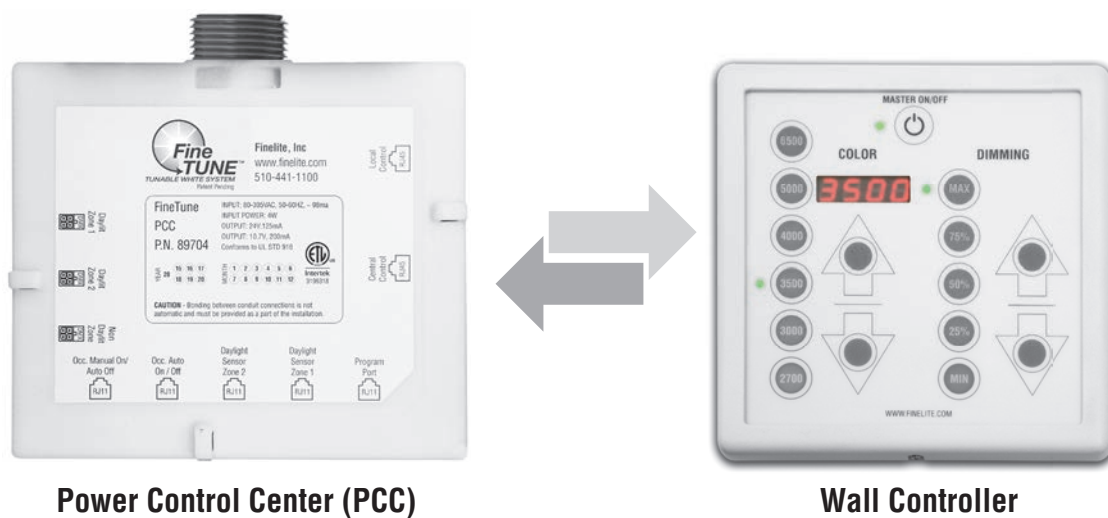
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Introduction

The FineTune™ system is a room based plug and play tunable white lighting control system. FineTune gives users the ability control the color temperature and the light levels of FineTune enabled luminaires. Three DMX outputs define general lighting and two optional daylight zones. Occupancy Sensors can be plugged into a “Auto On / OFF” port or a “Manual ON / Auto OFF” port for vacancy sensing. The system is Demand Response capable and is ETL Listed.

Features

- Color range of Finelite Tunable White luminaires: 2700K to 6500K
- Dimming down to 1%
- Plug and play connections, simplified commissioning
- Occupancy sensing or vacancy sensing
- Two (2) automatic daylight dimming zones; one (1) non-daylight zone
- Central Control enables remote DMX control
- Demand Response capable
- EM Option: Factory installed battery backup
- FineTune Mobile App: Wireless control of luminaires



System Components & Specs



Power Control Center (PCC)

This is the system hub that controls the color temperature and light level of the luminaires based on inputs from the Wall Controller, Daylight Sensors, Occupancy Sensors or Central Control commands.

- Powered via line voltage 120V / 277V VAC
- Plenum rated for installation above ceiling
- RDM enabled



Wall Controller

Users can tune the color temperature and dim the light levels of the FineTune™ enabled luminaires via presets or incremental controls through the wall controller.

- Color temperature presets: 2700K, 3000K, 3500K, 4000K, 5000K & 6500K
- Continuous dimming down to 1%, Master ON / OFF control
- One (1) Wall Controller per PCC
- Bluetooth chip embedded for communication to and from the FineTune mobile App
- RJ45 connection runs up to 300 feet



FineTune DMX Cables

FineTune enabled luminaires are daisy chained together with FineTune DMX cables. Each luminaire has an IN and an OUT DMX connection for the DMX cable lengths to connect to.

- No limit to the amount of fixtures the DMX cables can daisy chain together
- Plenum rated for above ceiling connections
- DMX connection runs up to 1,000 feet



Occupancy Sensors

FineTune utilizes ceiling mount or wall mount dual tech low voltage Occupancy Sensors with RJ11 plug and play connections to the PCC.

- Two (2) Occupancy Sensors per PCC
- Manual ON / Auto OFF: Vacancy Sensing
- Auto ON / OFF: Occupancy Sensing
- RJ11 connection runs up to 300 feet

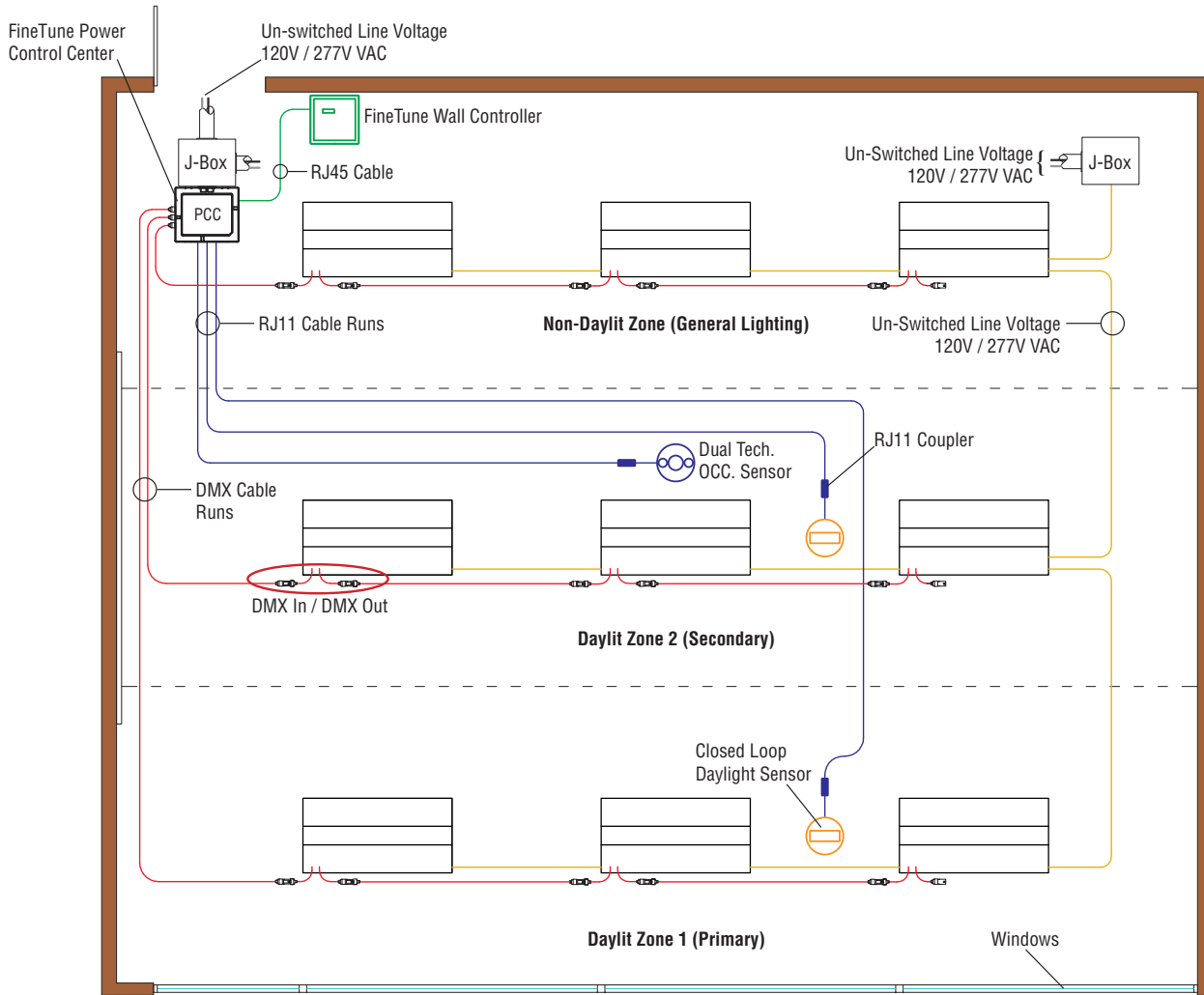


Daylight Sensors

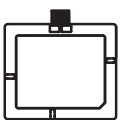
Ceiling mount closed loop low voltage automatic daylight dimming sensor with a RJ11 plug and play connections to the PCC.

- Two (2) Daylight Sensors per PCC
- Setup performed with hand-held remote
- RJ11 connection runs up to 300 feet

Installed Architecture

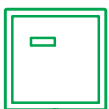


Installed FineTune™ Hardware



Power Control Center (PCC)

A system hub that regulates the color and dimming of the luminaires via the Wall Controller. It also manages the inputs from the Occupancy Sensors and Daylight Sensors to meet code requirements. Made to mount to a J-box above the ceiling.



Wall Controller

The Wall Controller allows for dimming in 1% increments and control of the CCT in steps of 25. It also comes standard with color and light level presets. Fits in any 2-gang switch box.



Dual Technology Occupancy Sensors

Occupancy Sensors allow for significant energy savings, as well as meet many new emerging energy codes. The FineTune system allows for Auto ON / OFF, or Manual ON / Auto OFF (Vacancy Sensing). Available in ceiling mount or wall mount.



Closed Loop Daylight Sensors

For spaces with large windows and lots of natural light, Daylight Sensors provide the ability to top trim the maximum light output for compelling energy saving. Available in ceiling mount only.

LOW VOLTAGE CABLES:

DMX Cable Runs available lengths: 12', 30', 50'

Male



Female



RJ11 Cable Runs available lengths: 30', 50'



RJ45 Cable Runs available lengths: 25', 50'

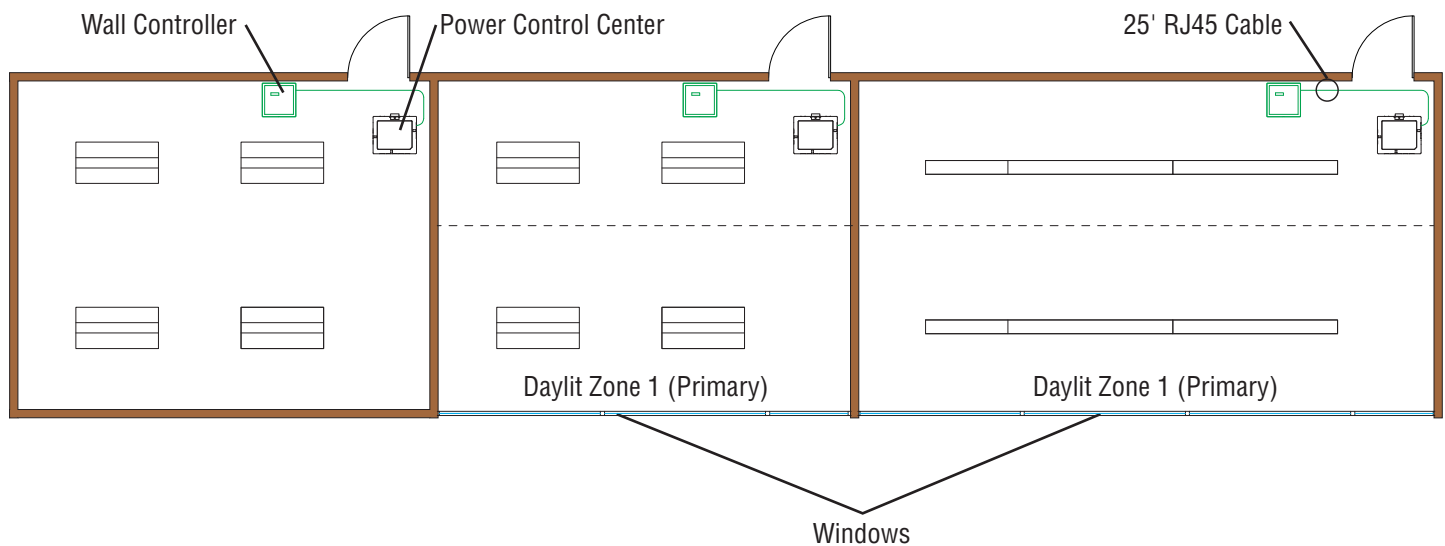


Quick Design Guide

The following steps will guide you through the specification process for the FineTune™ lighting control system using one room layout.

STEP 1 - Place Controls

Select the number of FineTune control systems that are needed for your project.



Bill of Materials (BOM)

- Qty. 3 - Power Control Center
- Qty. 3 - Wall Controller
- Qty. 3 - 25' RJ45 Cable

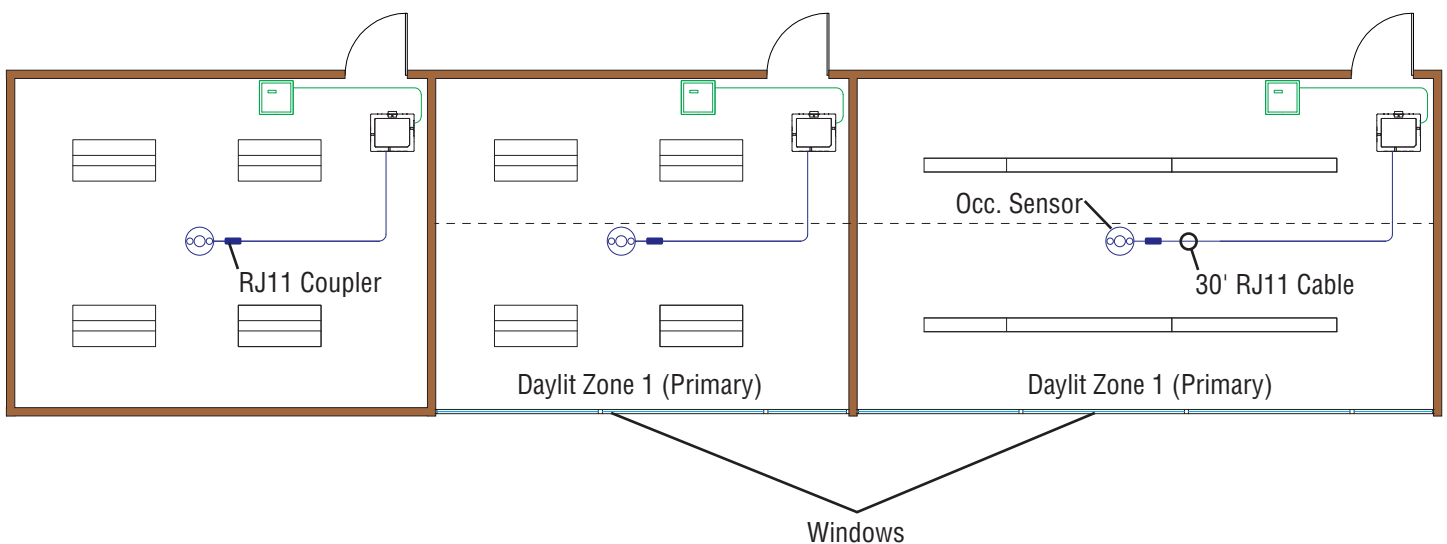
Tips

- FineTune controls will always consist of one (1) Power Control Center, one (1) Wall Controller, and one (1) 25' RJ45 cable. 50' RJ45 cables available.
- The FineTune control system operates a space as a single control zone for both dimming and color with the ability to define two daylight zones and one non-daylight zone. Generally one FineTune control system is needed per room or area.

Quick Design Guide

STEP 2 - Place Occupancy Sensors

Choose the number of Occupancy Sensors required per space: Up to two (2) Occupancy Sensors can be used per PCC.



Bill of Materials (BOM)

- Qty. 3 - Occupancy Sensor
- Qty. 3 - 30' RJ11 Cable
- Qty. 3 - RJ11 Coupler

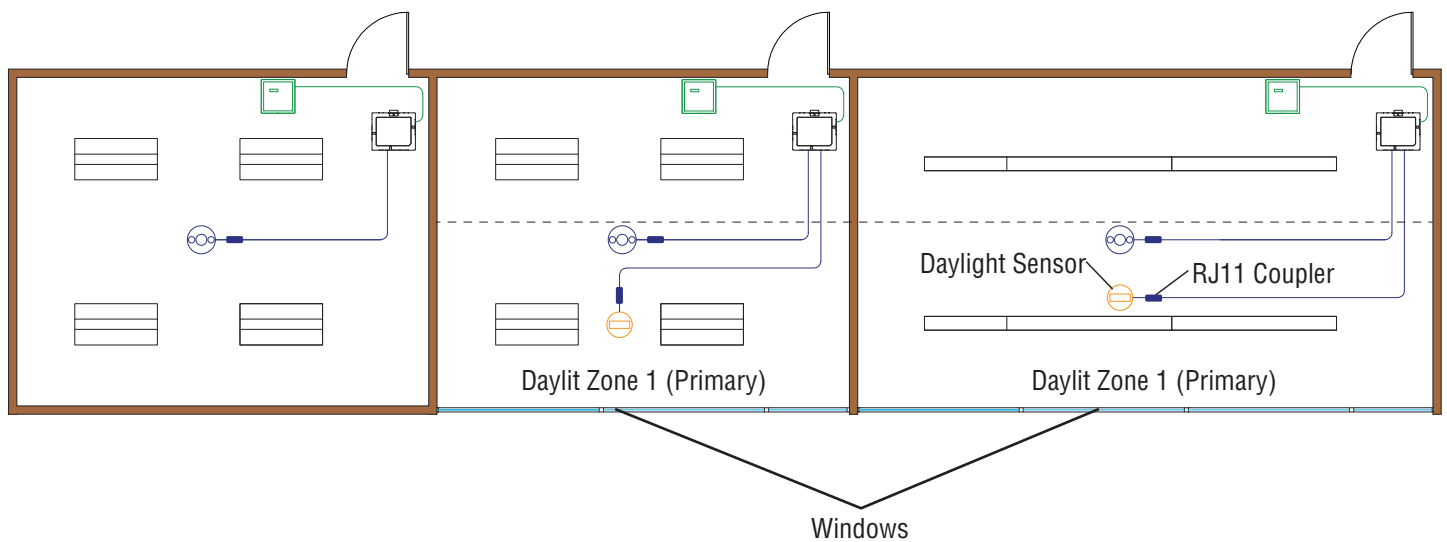
Tips

- FineTune will provide 30' RJ11 cables and RJ11 cable couplers and RJ11 cable splitters based on the total number of sensors required. 50' RJ11 cables available.

Quick Design Guide

STEP 3 - Place Daylight Sensors

Choose the number of Daylight Sensors required per space: Up to two (2) Daylight Sensors can be used per space.



Bill of Materials (BOM)

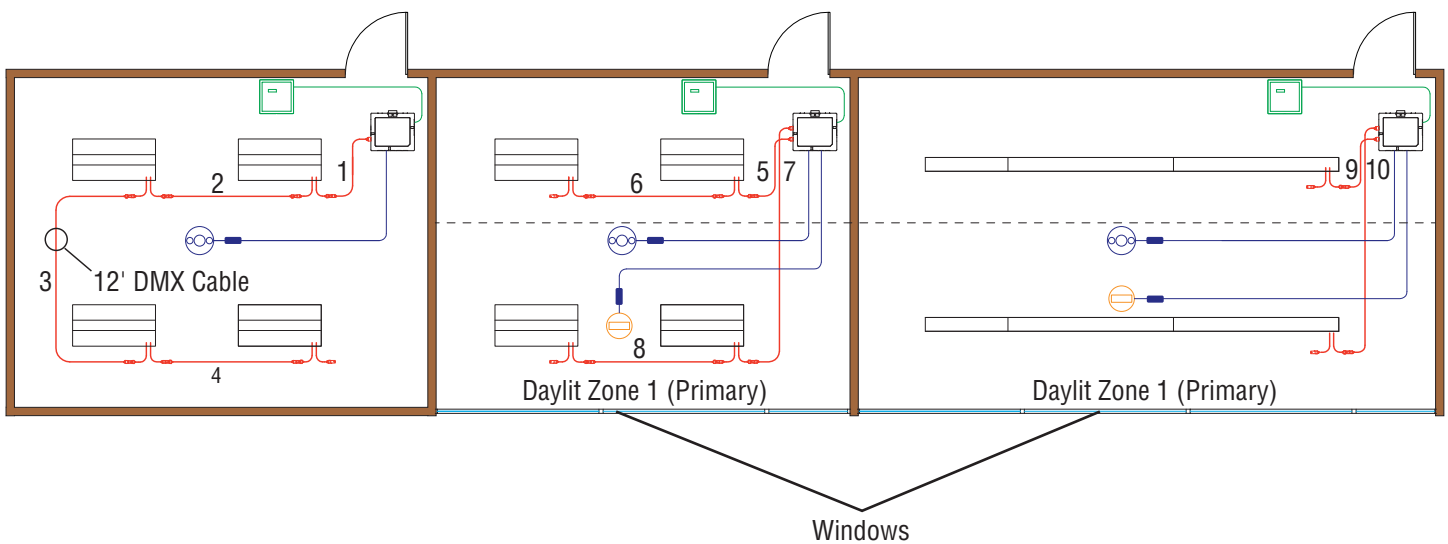
- Qty. 2 - Daylight Sensor
- Qty. 2 - 30' RJ11 Cable
- Qty. 2 - RJ11 Coupler

Tips

- FineTune will provide 30' RJ11 cables and RJ11 cable couplers based on the total number of sensors required. 50' RJ11 cables available.

STEP 4 - Determine Cable Lengths

Choose the lengths and number of DMX cables required to daisy chain the DMX control signal: 12', 30', and 50' cable lengths available.



Bill of Materials (BOM)

- Qty. 10 - 12' DMX Cable

Tips

- Each project is unique and will require a different number of cables based on the mounting location of the luminaires, controls and specific site conditions. Be sure to review the lighting plan and choose the cables according to your specific project.
- Finelite DMX cables plug together end to end to make longer runs.

Complete Project BOM

- Qty. 3 — Power Control Center
- Qty. 3 — Wall Controller
- Qty. 3 — Occupancy Sensor
- Qty. 2 — Daylight Sensor
- Qty. 5 — RJ11 Coupler
- Qty. 3 — 25' RJ45 Cable
- Qty. 5 — 30' RJ11 Cable
- Qty. 10 — 12' DMX Cable

FineTune System: List of Components

FineTune™ Driver

- PN: 89661 — Finelite DMX Driver, 120V/277V VAC 50-60 Hz, 40W

FineTune Controls System

- PN: 89704 — Power Control Center, Plenum Rated, 120V/277V VAC, 60 Hz
- PN: 89703 — Wall Controller, White Nylon

DMX Cables

- PN: 89648 — 50' DMX Cable, Plenum Rated
- PN: 89647 — 30' DMX Cable, Plenum Rated
- PN: 89646 — 12' DMX Cable, Plenum Rated

RJ45 Cables

- PN: 58100 — 50' RJ45 Cable, Plenum Rated
- PN: 58106 — 25' RJ45 Cable, Plenum Rated
- PN: 58466 — RJ45 Splitter
- PN: 58462 — RJ45 Coupler

RJ11 Cables & Connectors

- PN: 89652 — 50' RJ11 Cable, Plenum Rated
- PN: 89651 — 30' RJ11 Cable, Plenum Rated
- PN: 62164 — RJ11 Splitter
- PN: 62163 — RJ11 Coupler

Occupancy & Daylight Sensor

- PN: 89730 — Occupancy Sensor – Dual Technology
- PN: 89705 — Wall Mount Occupancy Sensor – Dual Technology
- PN: 89662 — Daylight Sensor – Closed Loop
- PN: 58036 — Daylight Sensor Remote (One Per Project)

Typical Wiring Diagrams

DMX Output

Daylit Zone 1 - Primary Daylit Zone

Automatic daylight dimming

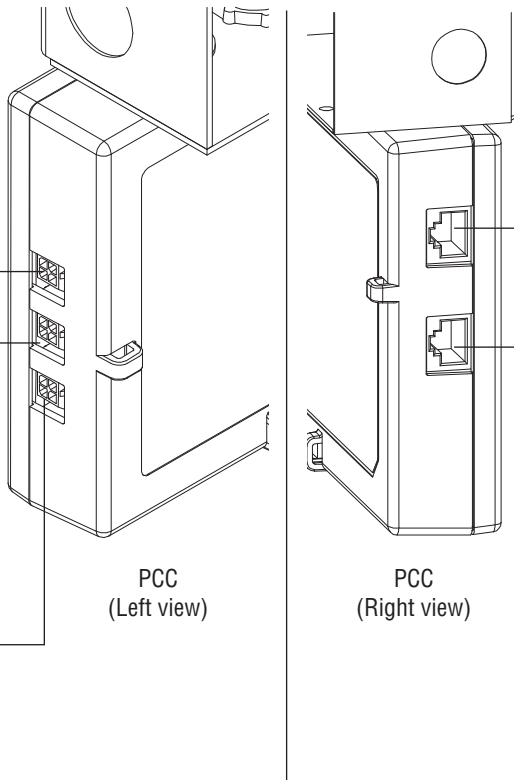
Daylit Zone 2 - Secondary Daylit Zone

Automatic daylight dimming

Non-Daylit Zone 1 - General Lighting

Not affected by daylight.

Operate based on Wall Controller and Occupancy Sensors (if connected).



Wall Controller (User Interface)

This port is dedicated to the Wall Controller with connects via RJ45 cable. The Local Control port allows users to change the color and light level of the luminaires connected to the Power Control Center within the space it is installed.

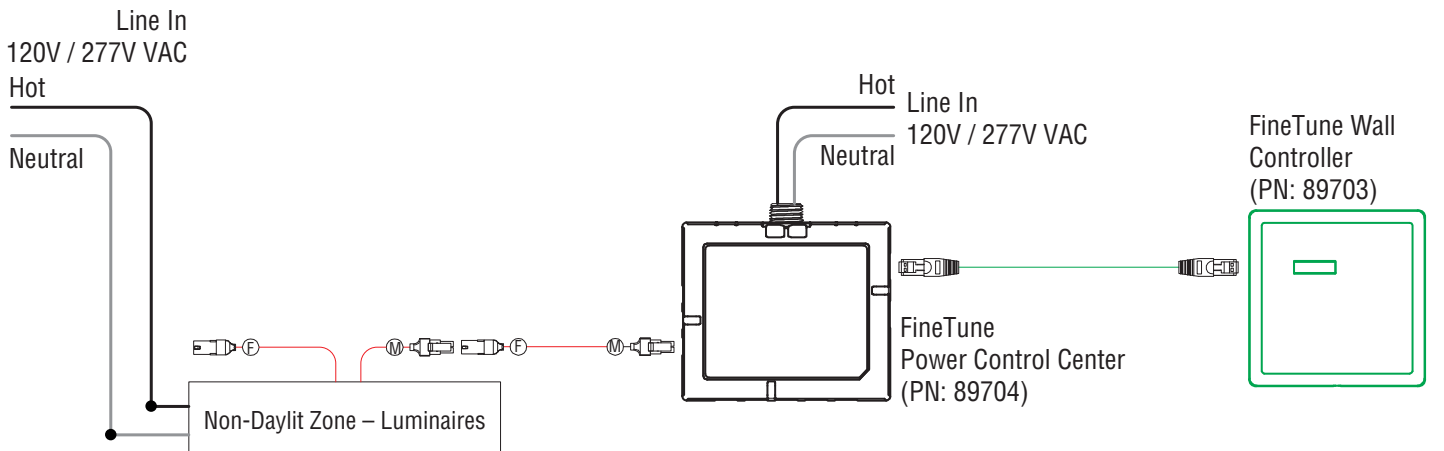
Central Control

Connection into the Central Control port allows for remote DMX control of the FineTune system. This port can be daisy chained together along with other Power Control Centers to control multiple spaces at once.

Basic FineTune™ Layout

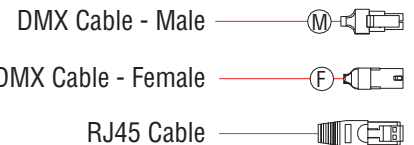
NOTE: Provide un-switched circuits to the FineTune Power Control Center as well as the FineTune enabled luminaires being controlled.

NOTE: Plug the RJ45 from the Wall Controller into the "Wall Control" port.



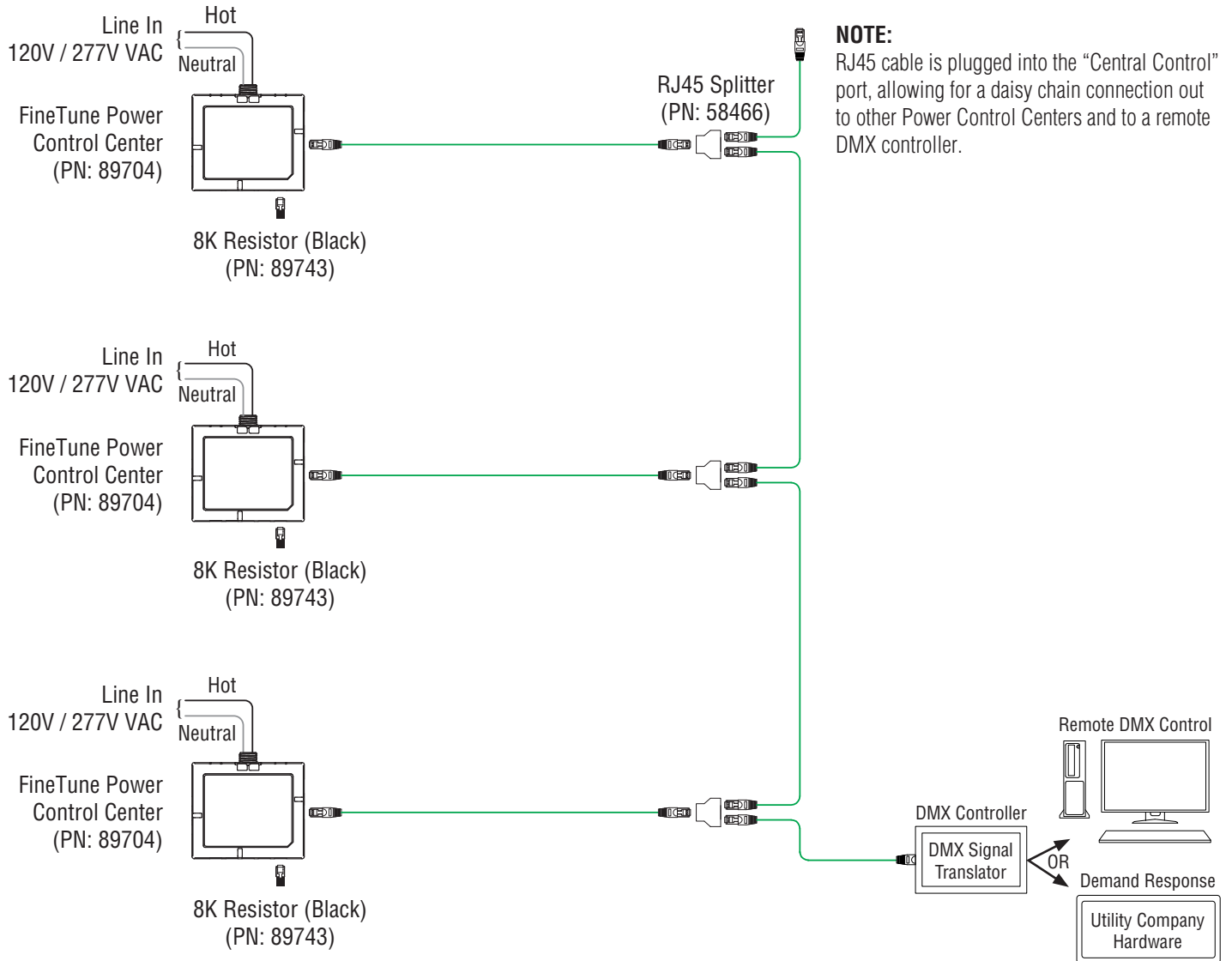
NOTE:

- There is no limit to the amount of FineTune luminaires that can be daisy chained together.
- An additional DMX cable length connects the luminaires together.



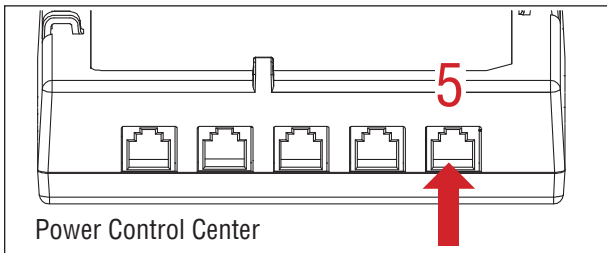
Typical Wiring Diagrams

FineTune™ Central Control Networking



Typical Wiring Diagrams

Programming Port (Port 5)



8K Resistor (Black)

Central Control can now control color and light intensity. Wall Controller overrides color and light intensity of the Central Control for 1 hour.



8K Resistor (Black)
(PN: 89743)

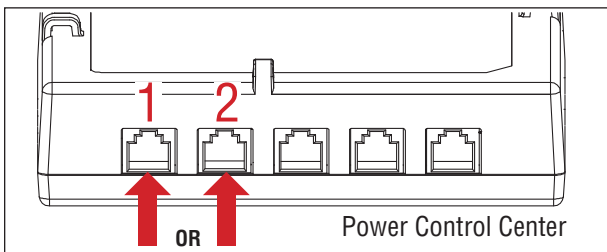
10K Resistor (White)

Central Control can now control color and light intensity. Wall Controller can only control light intensity. Wall Controller cannot adjust the color. Used for Demand Response.



10K Resistor (White)
(PN: 89744)

Occupancy Sensor Inputs



There are two optional ports for Occupancy Sensor functionality.

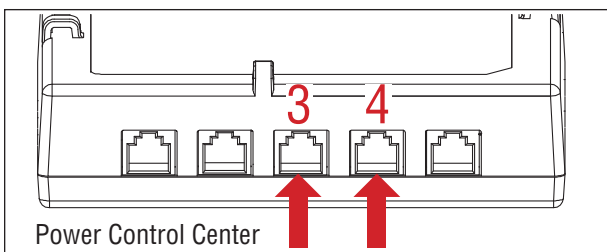
Option 1: Manual ON/ Auto OFF (Port 1)

This port makes the Occupancy Sensor(s) into a vacancy sensor so that the Wall Controller must be used to turn the lights ON in that space.

Option 2: Auto ON / OFF (Port 2)

Placing the RJ11 cable from the Occupancy Sensor(s) into port 2 allows the lights to turn ON or OFF automatically due to occupancy of the space.

Daylight Sensor Inputs



There are two inputs that allow for two Daylight Sensors.

Daylight Sensor Zone 2 (Port 3)

Connecting the RJ11 cable from the Daylight Sensor to this port will control the DMX output "Daylit Zone 2" for automatic daylight dimming.

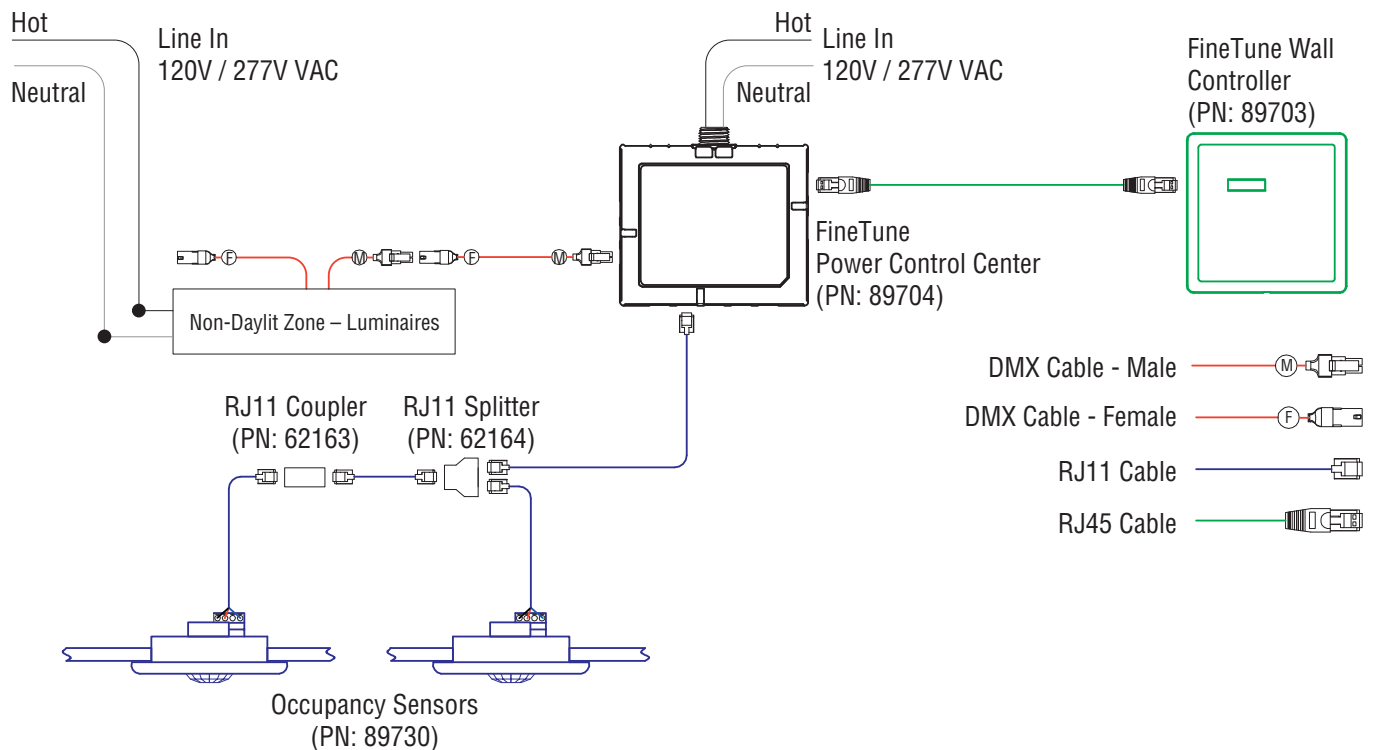
Daylight Sensor Zone 1 (Port 4)

Connecting the RJ11 cable from the Daylight Sensor to this port will control the DMX output "Daylit Zone 1" for automatic daylight dimming.

Typical Wiring Diagrams

FineTune™ Layout With Occupancy Sensors

NOTE: Provide un-switched circuits to the FineTune Power Control Center as well as the FineTune enabled luminaires being controlled.

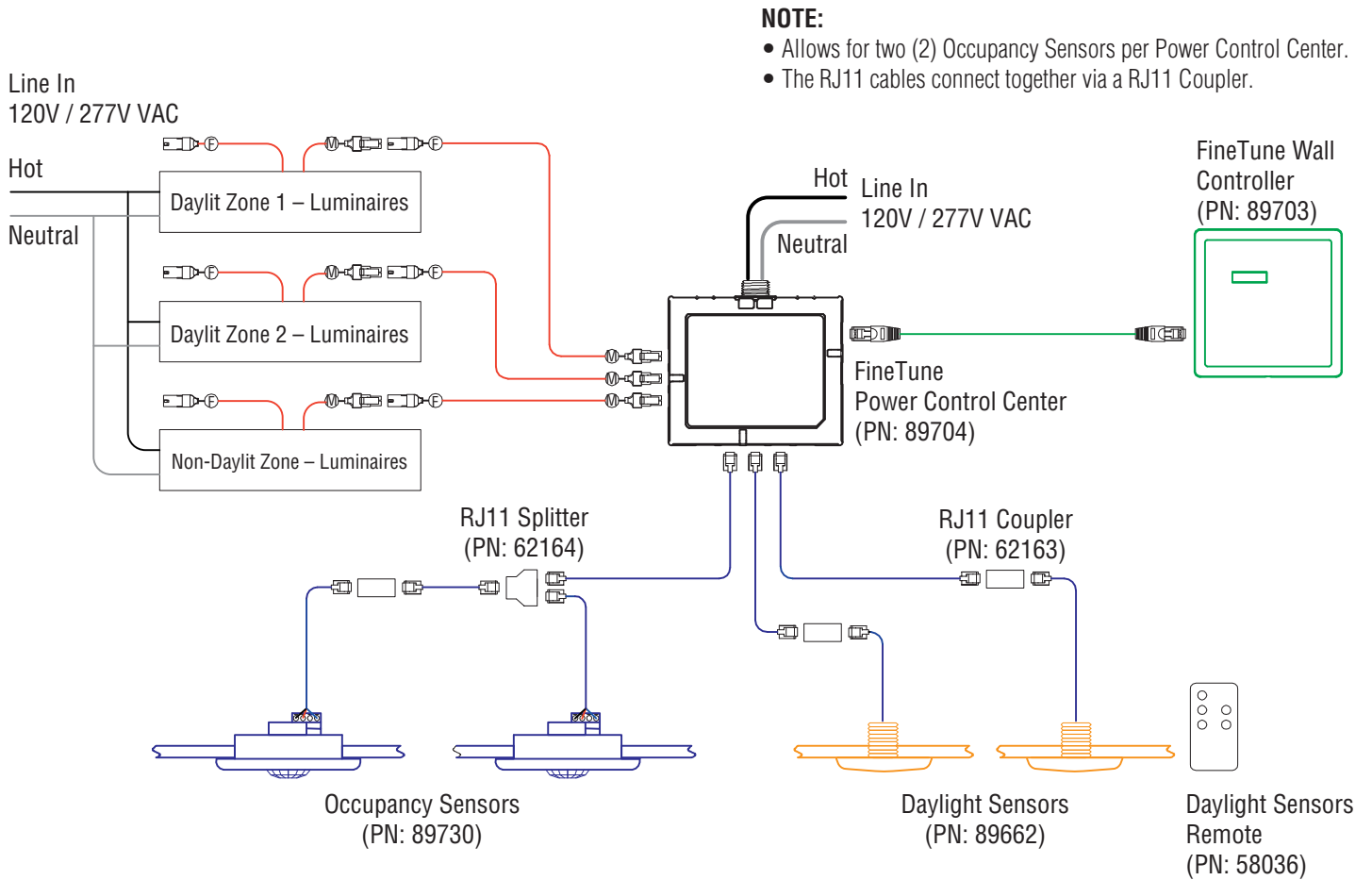


NOTE:

- Allows for two (2) Occupancy Sensors per Power Control Center.
- The RJ11 cables connect together via a RJ11 Coupler or a RJ11 Splitter if two Occupancy Sensors are used.

Typical Wiring Diagrams

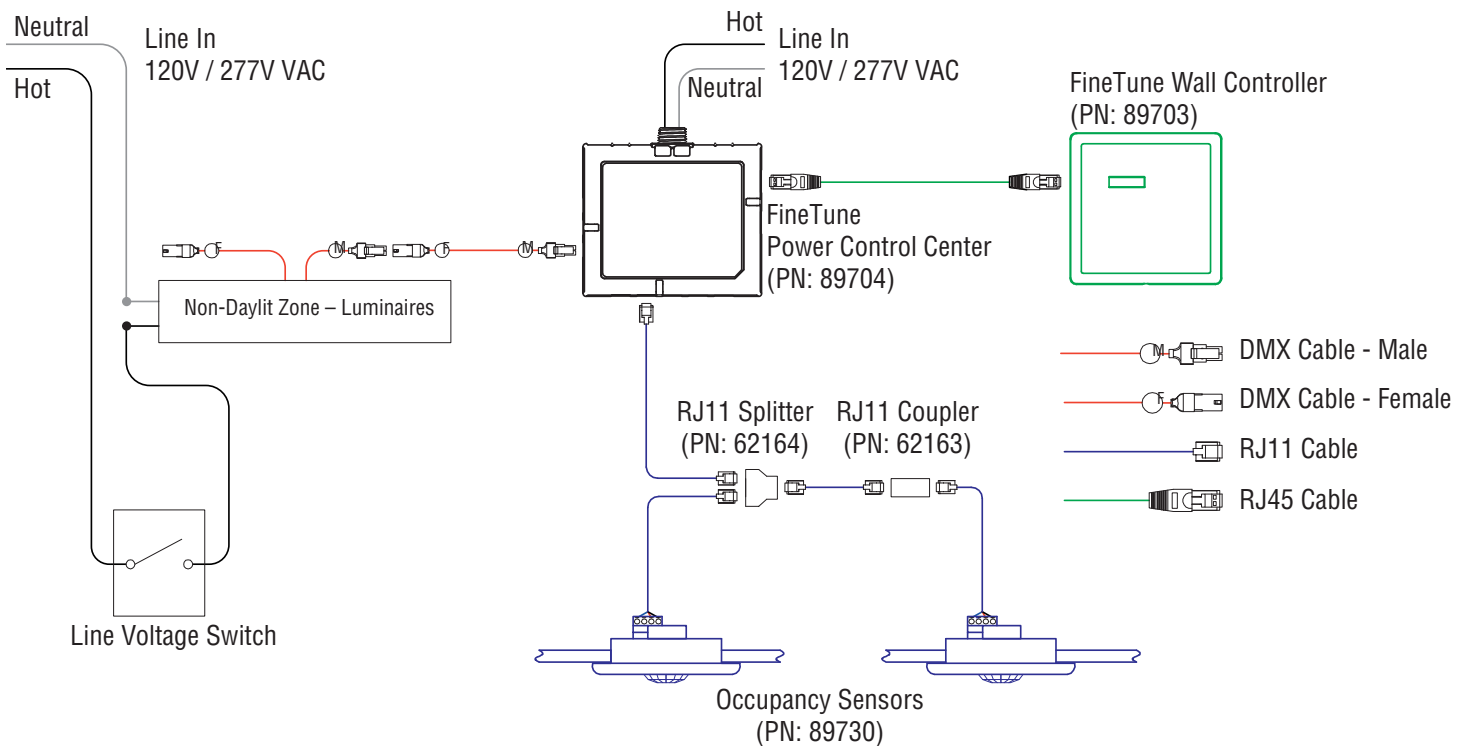
FineTune™ Layout With Occupancy Sensors & Daylight Sensors



Single Line Voltage Switching

FineTune™ Layout With Single Line Voltage Switch

NOTE: Provide un-switched circuits to the FineTune Power Control Center



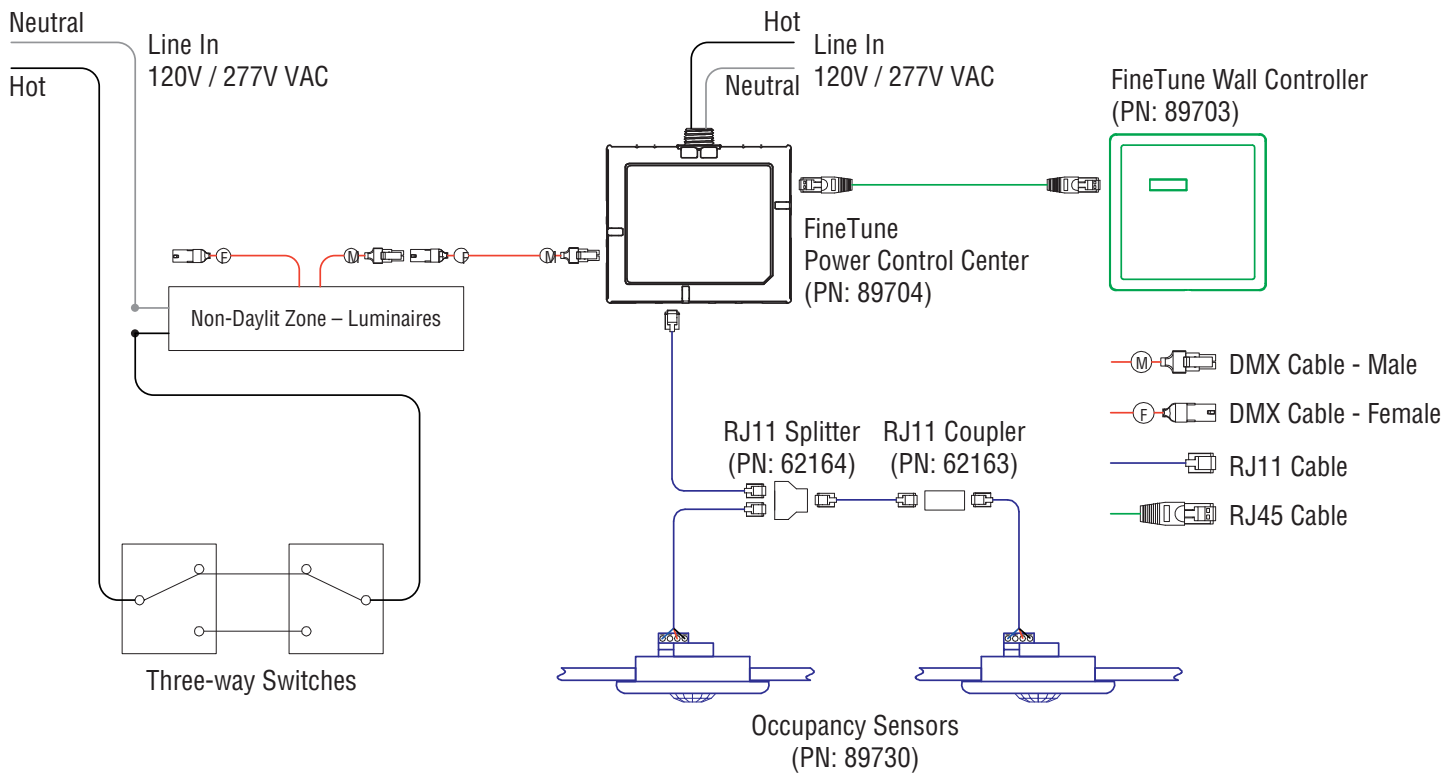
IMPORTANT:

For line voltage switching, the FineTune system must have Occupancy Sensors and they must be in the Auto ON / OFF port.

3-Way Line Voltage Switching

FineTune™ Layout With 3-way Line Voltage Switching

NOTE: Provide un-switched circuits to the FineTune Power Control Center



IMPORTANT:

For line voltage switching, the FineTune system must have Occupancy Sensors and they must be in the Auto ON / OFF port.

