



SPECS

4-2-2 Wiring Schematic

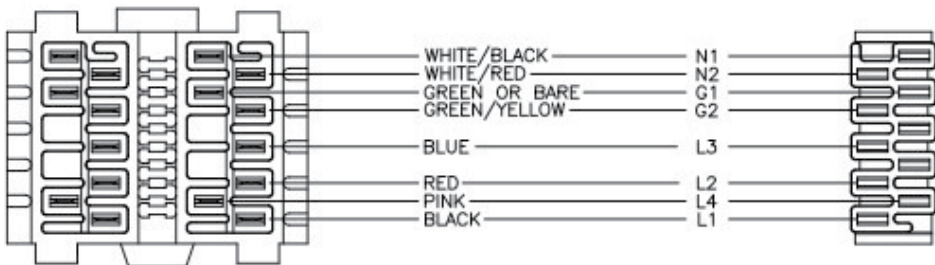
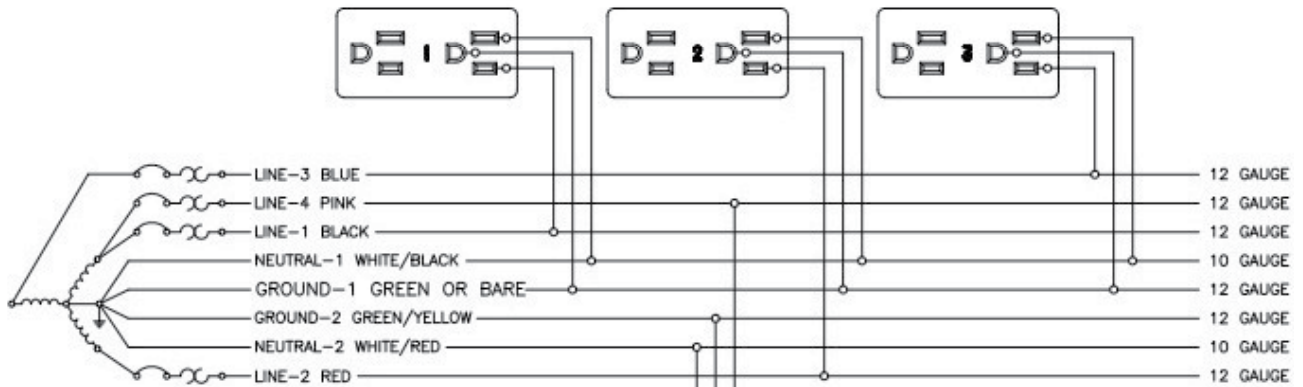
8-Wire Shared Neutral

3 + 1 (3 Utility Circuits, 1 Dedicated)

120/208V WYE, 15-Amp Circuits

Below-, Above-, and In-Surface Accessibility, Title 24 Compliant

Delta Connections and Other Receptacle Configurations Available Upon Request



WIRING ORDER 8-WIRE  
4-2-2 (3 + 1)  
DISTRIBUTION END VIEW

WIRING ORDER 8-WIRE  
4-2-2 (3 + 1)  
PLUG END VIEW



### Building Wiring

Wiring must be done by a qualified electrician according to national, state, & local codes.



### Components

Never connect components while system is under load. Failure may cause injury.



### Supply Source

Do not electrically connect a distribution harness to more than one supply source.

## DETAILS

### Duplex Recepticals

Duplex recepticals are designated as circuit 1, 2, 3, or 4—the number is printed on each duplex. Circuit 4 is the sensor-activated control circuit.

### Amperage Notes

The electrical engineer is responsible for the final determination of the number of stations/duplexes per circuit, in compliance with the corresponding city/building codes. We do not recommend the usage of space heaters and other high-amperage equipment on the integrated power system.

### Title 24 Compliance

When installing this power system within the state of California, you must comply with Title 24 regulations. This requires half of the duplexes on each harness to be C4 control circuits.

### North Direction

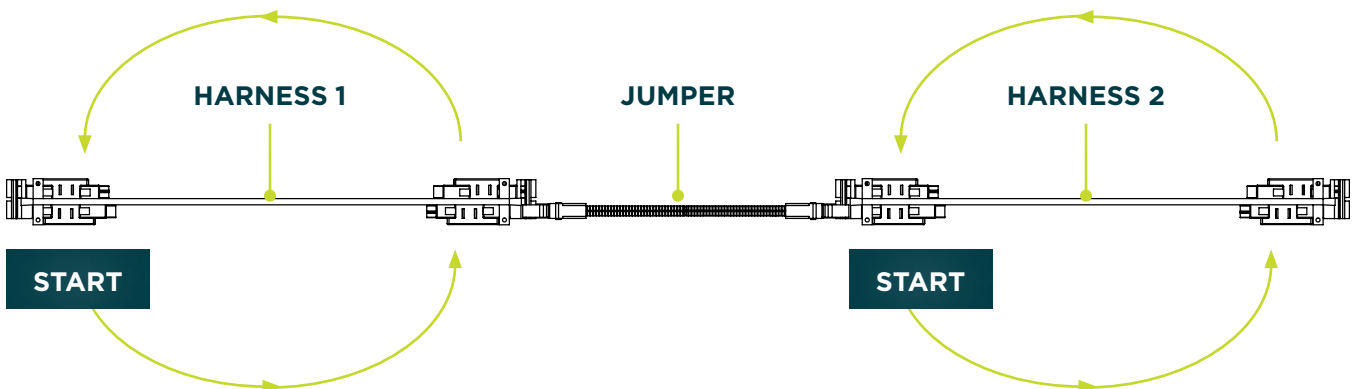
Every duplex, harness, jumper, and in-feed displays a North arrow. The North arrows must point the same direction on all parts.

### Duplex Sequences

The duplexes must be attached to the harness in a specific order. Arrange the duplexes in the correct order by following the sequence.

Standard: C1 » C2 » C3 » C4 » Repeat

Title 24: C1 » C4 » C2 » C4 » C3 » C4 » Repeat



## GENERAL

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The primary electrical code used in the United States is the National Electrical Code (NEC) (NFPA70). While most states and cities use the NEC as is, some have created their own electrical code using the NEC as the basis for the requirements. There are 3 cities that have unique requirements that directly affect office furnishings installations: New York, Chicago, and San Francisco. These unique requirements are detailed below.

## NEW YORK CITY

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- Allows the use of Office Furnishings Systems (as permitted by Article 605 of the NEC) but requires that licensed electricians install the electrical components into the furniture.
- Does not allow the use of any non-metallic liquid tight conduit.
- Metallic liquid tight conduit can only be 18" long.
- Flexible metal conduit used on in-feeds can only be 6' long.
- Does not allow Manufactured Wiring Systems in furniture.

As of 2009, New York City allows the use of Relocatable Power Taps in office environments.

The New York Electric Code exception of Article 604 for Manufactured Wiring Systems includes Article 604(3) Such wiring may only be used for general lighting circuits above the hung ceiling line.

Until now, this statement was interpreted as lighting circuits must be above the ceiling, while other Manufactured Wiring Systems can be used below the ceiling line.

The new official interpretation requested by BIFMA indicates Manufactured Wiring Systems can only be used for lighting and must be above the ceiling. This applies to Byrne 8-Trac, Byrne 4-Trac and Byrne Phase 3 product lines. This interpretation has not been published on the official NYC Codes site even though more recent interpretations have been. BIFMA continues to work on a resolution to this issue.

## **CHICAGO**

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Chicago has their own electrical code based on the NEC.

Chicago does not allow the use of any modular systems. All electrical must be hardwired by a licensed electrician. The specific wording of the 2009 Chicago Electrical Code is as follows:

18-27-605.2. General. Wiring in and on office partitions shall conform to all applicable chapter provisions. Relocatable wired partitions are not considered portable and, as such, plug and jack connections are not acceptable. All wiring is to be contained in listed and labeled electrical raceways and outlet boxes.

(a) Use. Wired relocatable office partitions shall be installed and used only as provided for by this Article. The biggest ambiguity is what product types will require TR receptacle for code compliance applications. For example, the NEC TR code dwelling requirements specify “appliances” as exempt from the scope of TR receptacles. Relocatable Power Taps are often grouped into this category.

Hardwire accessories can be used in Chicago if they have a metallic enclosure. This includes Mho, Assemble, Axil, Glenbeigh, and Wonderbar product lines. These hardwire units can be provided as a Chicago version which includes 15” of conduit and a 4X4 junction box.

## **SAN FRANCISCO**

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San Francisco uses the California Electrical Code which in turn uses the NEC. San Francisco has additional/revised requirements that are called out as an addendum to the code. San Francisco does not allow the use of non-metallic liquid tight conduit and only metallic liquid tight conduit is permitted.



DESKTOP POWER UNIT

INFEED



OPTIMA's plug-and-play electrical system consists of a daisy-chain configuration. Cable clips are used to manage wires.

The standard electrical component sequence is:

**A » B » C » B » C » B » C » B » C » B » C » B » C » B » C » B**

**A** = Infeed

**B** = Desktop Power Unit

**C** = Jumper



**INFEED:** Powers up to 8 connected desktop power units. Plugs into a regular wall power outlet.



**DESKTOP POWER UNIT:** Brings power to the surface. Must be connected to an Infeed, jumper, or both.



**JUMPER:** Links 2 desktop power units together. Length required will depend on the size of the surface.



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