INTRODUCTION TO POWER OPTIONS

Use the points below to determine the appropriate level of power needed based on the room layout and equipment needs.

LEVEL I **CUSTOMER REQUIREMENTS**

Power is intended for occasional charging access.

Users will need access near tabletop to plug in their equipment (laptops/tablets/phones).

Each electrical device can plug individually into a building receptacle, or one of the 10-wire electrical system receptacles.

Furniture must be highly flexible as space must accommodate consistent reconfigurations.

WARNING

Ashley Duo, Ashley Duo Under, Dean Clamp-On, Dean In-Surface, Dubbel, Nacre, Node, PowerUp, RPT, Snap-In RPT, Undermounted R8, Vault and Villa modules (daisy chained) to each other, plugged into extension cords or power strips.

PRODUCT RECOMMENDATIONS

PowerUp module with 3-prong plug.

- Villa power module with 3-prong plug.
- Ashley Duo or Ashley Duo Under with 3-prong plug.
- Dean In-Surface power module with 3-prong plug.
- Dean Clamp-On power module with 3-prong plug.
- Nacre In-Surface Pop-Up power module with 3-prong plug.
- Dubbel Undersurface power module with 3-prong plug.
- Node In-Surface power module with 3-prong plug.
- Vault power module with 3-prong plug.
- Undermounted R8 power module with 3-prong plug.
- RPT module with 3-prong plug.



POWER DISTRIBUTION SYSTEMS ACTIV8 ELECTRICAL SYSTEM

WHAT IS ACTIV8?

Activ8 is a single circuit, connectible power distribution system with a three-prong plug equipped infeed. Five module styles are available (see Statement of Line below).

HOW DOES ACTIV8 WORK?

Customers simply plug the power infeed into a wall or floor receptacle. No electrician is needed. Jumpers connect from table-to-table to carry power across multiple pieces of furniture.

IMPORTANT INFORMATION

Infeed can connect anywhere in the run, it does not have to be at one end.

All components are ordered separately. Don't forget infeeds, jumpers, and modules.

Activ8 is not sequenced, meaning other than the infeed, the furniture doesn't have to be configured in any specific order.

Use of a powered system, including Activ8, requires that the tables be mechanically ganged together.

Activ8 requires a wire management solution. Options include horizontal Velcro managers and under-surface troughs.

WARNINGS

Infeed plugs into a building receptacle.

Activ8 infeed cannot be used in conjunction with a ground fault interrupter. GFI/GFCI receptacles are found in locations near water, such as kitchens, bathrooms, laboratories, break rooms, etc.

Backup systems (i.e. uninterruptable power supply) may affect Activ8 functions, including devices that have built-in ground fault sensing systems.

Activ8 can connect a maximum of eight modules (above and below surface) or extend 40 feet after the infeed, whichever limit is reached first.

Activ8 is a 15-amp single circuit system, however continuous use load should not exceed 80%. Therefore, only load to 12 amps of draw if current is expected to continue for three or more hours at a time. See page 27 for average draw amounts by unit type.

Reconfigurations may need extra jumpers and infeeds to achieve various desired layouts.

If the room will have multiple layouts, verify building power source locations for each potential layout.

STATEMENT OF LINE



Activ8 Electrical Power Infeed



Jumper





PowerUp Module for Activ8 Electrical



Villa Power Module with Cover for Activ8 Electrical



Villa Power Module for Activ8 Electrical



Ashley Duo Power Module for Activ8 Electrical



Ashley Duo Under Power Module for Activ8 Electrical



RPT (Relocatable Power Tap) Module for Activ8 Electrical with RPT Bracket

POWER DISTRIBUTION SYSTEMS SINGLE CIRCUIT ACTIV8 & PATTERN ELECTRICAL SYSTEM -SPECIFICATION QUESTIONS

QUESTION

Do you have a building drawing/shell or furniture layout?

Where are the power sources located?

Does the site have the ability to add more power sources?

How many tables will be in the space? What sizes will they be?

What items will be using the power?

Does the furniture's power receptacles need to be above the surface, below the surface, or both?

How many modules will be needed total and how many per surface?

WHY WE ASK

Having a building shell to design around will make it more efficient for CAD to provide an appropriate layout. A shell should have accurate measurements and power source locations identified.

Power source locations affect the number of infeeds needed to achieve certain layouts.

New construction planning allows for the ability to install power sources where needed, vs. existing buildings which may or may not have the option of adding new power sources, or adding wires to existing location(s).

The number and size of tables to be used will determine how many infeeds, jumpers, and modules will be needed, as well as jumper lengths.

Activ8 and Pattern are 15-amp systems, which means the maximum continuous use load is no more than 12 amps of draw to the system. Occasional use can load up to 15 amps of draw. See page 27 for average draw amounts by unit type.

This will determine the type of module used. The above surface power will use Ashley Duo, PowerUp or Villa style receptacles for Activ8 Electrical and Dean In-Surface, Dean Clamp-On, Nacre In-Surface Pop-Up and Node In-Surface for Pattern Electrical. Below surface will use the Ashley Duo Under or RPT for Activ8 Electrical and Dubbel Undersurface and Snap-In RPT for Pattern Electrical.

Activ8 and Pattern have some limitations. Activ8 offers up to eight modules total to connect to each infeed, or extend to 40 feet, whichever comes first. Pattern offers up to ten distribution blocks to connect to each infeed, and up to 600" of power jumpers from the power infeed (in either direction), whichever comes first. Number of above surface modules will also determine the cutouts needed in the surface.

POWER DISTRIBUTION SYSTEMS SINGLE CIRCUIT ACTIV8 & PATTERN ELECTRICAL SYSTEM -COMPARISON

	Activ8	Pattern	
Amperage	15-amp, single circuit. *Continuous use load should not exceed 80% (12 amps).	15-amp, single circuit. *Continuous use load should not exceed 80% (12 amps).	
Construction	Power jumper and infeed connectors built into the power modules.	Power jumper and infeed connectors (distribution blocks) are separate components. Distribution blocks do not need to be specified separately and are included with table-to-table power jumper and infeed kits.	
System Limitations	Eight modules or 40' total of table-to-table power jumpers, whichever comes first.	Ten distribution blocks or 600" (50') of table-to-table power jumpers from the infeed, so up to 600" (50') each direction, whichever comes first.	
Power Module Styles	 PowerUp Villa Ashley Duo Clamp-On Ashley Duo Under Surface RPT (below surface) 	 Dean[®] In-Surface Dean Clamp-On Nacre[®] In-Surface Pop-Up Dubbel Undersurface Node In-Surface Snap-In RPT (below surface) 	
Infeed can Connect Anywhere in Run?	Yes	Yes	
Table-to-Table Jumper Lengths	29", 53", 77", IOI "	29", 53", 75", 101"	
GFCI Compatible Infeed?	No	Yes	
Backup System Compatible? (i.e. UPS)	No	Yes	
Compliance Certification	UL Recognized Electrical Components (USA/Canada). UL Listed Electrical System - when evaluated with UL Listed end product (USA/Canada).	Intertek (ETL) Listed Furniture Power Distribution Unit System (USA/Canada).	

*UL and Intertek (ETL) are both OSHA approved Nationally Recognized Testing Laboratories (NTRL's) providing certification for products in the furniture industry. Intertek evaluates products to the same safety standards as UL. Both are accepted by Authority's Having Jurisdictions (Inspectors).

POWER MODULES POWERUP

PowerUp is a surface mounted power and data module, which when closed is nearly flush with the tabletop. When opened, the module flips up providing easy plug-in access to angled receptacles and data ports.

The PowerUp module's closed plastic cover has a finger indent on it which can be pushed to activate a dampened, spring-loaded mechanism and flip the module open for use. Press at the detent to close and it snaps into place for storage.

Module fits securely into a $6^{1}/_{4}$ x 3" cut out, still allowing removal without tools.

Two power receptacles and two openings for customer provided data jacks per module.

Constructed of polycarbonate with a textured finish.

PowerUp is available in two versions, one with a connector end for the Activ8 electrical system and a power cord version with 3-prong plug (for connection to a building receptacle or to 10-wire electrical system).

The 3-prong plug is oriented on a 90 degree angle and offers modules with either 36", 108" or 180" power cords.

A drop-in USB charging port can fit into data opening see page 27 for Drop-In USB Charger (must be plugged into a separate power source).

Snap-in data adaptor brackets are supplied to hold the most common data connectors. The data connectors are purchased by the customer.





WARNING

PowerUp modules with 3-prong plug are not intended to be series connected (daisy chained) to each other, plugged into extension cords or power strips.

DATA ADAPTER BRACKET TREE

Customer selects the appropriate data plate for the phone/data jack to be used (see chart). Jacks are sold by separate companies and not supplied with the module. The chart below is a guide listing some of the more common jacks, and not intended to be all-inclusive.

Data Plate Letter	Opening Size	Phone/Data Jack
А	None	Blank
В	0.635" x 0.730"	Panduit "CJ"
С	0.670" × 0.929"	Ortronics "TrakJack"
D	0.585" × 0.780"	Panduit "KJ" and "KJA", AMP CAT-3 and CAT-5, Hubbel "HD5", Otronics "OR-6295003-T568B" and "OR-6295004-T568A", Krone, Leviton "41108-RE5"
E	0.680" × 0.710"	AT&T



(Part # for Data Tree is #46.0151. Data Tree is automatically included with PowerUp modules and Sequence Power & Data modules.





PowerUp Module with **3-Prong Plug**

PowerUp Module for Activ8 Electrical



Data Adapter Bracket Tree (Part # 46.0151)



RESOURCES ELECTRICAL OPTIONS BY PRODUCT

PRODUCT	ACTIV8 I CIRCUIT (15-AMP)	PATTERN I CIRCUIT (15-AMP)	10-WIRE 6-2-2 6 CIRCUIT (20-AMP)	10-WIRE 4-4-2 4 CIRCUIT (20-AMP)	HARDWIRE (CHICAGO CODE)	
Develop R-Base	×	×				
StyleLinks	×	×	X	Х	Х	

PRODUCT	POWERUP (ACTIV8)	VILLA (ACTIV8)
Develop R-Base	X	X
StyleLinks	Х	Х

Each product line accommodates these electrical options differently.

Tables are specified non-powered (i.e. no 10-wire) with Activ8 components ordered separately, with the exception of Develop R-Base which can be ordered/configured with a number of Activ8 and Pattern electrical options. Ashley Duo, Ashley Duo Under, PowerUp or Villa (3-prong plug) modules can be specified along with 10-wire or for individual use. Refer to Power Options on pages 2 thru 4 for examples.

RESOURCES ELECTRICAL ACCESSORIES BY PRODUCT

PRODUCT	POWERUP (3-PRONG PLUG)	VILLA (3-PRONG PLUG)	ASHLEY DUO (3-PRONG PLUG & ACTIV8)	ASHLEY DUO UNDER (3-PRONG PLUG & ACTIV8)	RPT (ACTIV8)
Develop R-Base	X	×	Х	X	×
StyleLinks	Х	×		×	×

PRODUCT	DEAN IN- SURFACE (3-PRONG PLUG & PATTERN)	DEAN UNDER CLAMP-ON (3-PRONG PLUG & PATTERN)	NACRE (3-PRONG PLUG & PATTERN)	DUBBEL (3-PRONG PLUG & PATTERN)	SNAP-IN RPT (PATTERN)
Develop R-Base	×	Х	Х	Х	X
StyleLinks	×		×		×

Each product line accommodates these electrical options differently.

Tables are specified non-powered (i.e. no 10-wire) with Activ8 components ordered separately, with the exception of Develop R-Base which can be ordered/configured with a number of Activ8 and Pattern electrical options. Ashley Duo, Ashley Duo Under, PowerUp or Villa (3-prong plug) modules can be specified along with 10-wire or for individual use. Refer to Power Options on pages 2 thru 4 for examples.

GLOSSARY ELECTRICAL TERMS

IO-WIRE

6-2-2 (or T6): 6 hot wires, 2 shared oversized neutral wires, 2 separate ground wires (one isolated ground, and one building ground).

4-4-2 (or T4): 4 hot wires, 4 independent neutral wires, 2 ground wires (one isolated ground and one building ground).

AMPS

The quantity of electrical current flowing through a circuit. To calculate amps from watts, divide watts by 120.

BEZEL

A plastic or metal piece that frames the opening used for receptacle attachment.

CHASE

A plastic or metal channel used to carry wires or cables from one point to another.

CHICAGO ELECTRICAL CODE

Municipal electrical code for the City of Chicago. Relative to contract furniture, this code generally means all furniture is provided without modular power distribution components. Furniture is specified as "Hardwired Electrical" (absent of electrical components but ready to receive field added electrical) and electrical distribution is provided by customer's licensed electrician.

CIRCUIT

A complete electrical path for electrical current flowing from the building power source to the equipment being powered and back to the power source. Which requires a hot, a neutral and a ground conductor.

CIRCUIT BREAKER

A safety device designed to automatically stop the flow of electricity whenever a circuit becomes overloaded or faulty (shorted out).

CONDUIT

Tubing, available in either rigid (EMT) or flexible varieties, used to route and protect electrical wires and cables.

CONTINUOUS LOAD

A load where the current is expected to continue static for three hours or more.

CURRENT

The rate of electricity flow.

DAISY CHAIN

A wiring scheme in which multiple devices are electrically connected together from one power infeed.

DEDICATED CIRCUIT

A circuit with three conductors – consisting of hot, a unique neutral, and unique ground. This type of circuit greatly reduces 'noise' from other circuits, which can cause problems with sensitive equipment.

DUPLEX RECEPTACLE

A receptacle with two "plug-in" openings which accept two 120-volt three-prong grounded plugs.

FLEXIBLE METAL CONDUIT

Hollow flexible metal tubing designed expressly for holding wires or cables.

GAUGE

The measure of the size of a wire. The smaller the number, the thicker the wire and the higher the amperage load.

GFI/GFCI

(Ground Fault Interrupter/Ground Fault Circuit Interrupter) A device designed to interrupt the flow of power when an imbalance is detected between the flow and return of current.

GROMMET

A metal or plastic insert to line a cutout in the worksurface.

GROUND CONDUCTOR

The conductor of a circuit that provides safety from fire and electrical shock in cases of short circuits and other electrical problems. The conductor is physically attached and is used to conduct stray electrical current safely back to earth.

HARD WIRE

Connection of electrical components directly to the buildings power supply. Requires a certified electrician to install a hard wire connection. Note: Do not confuse with "Hardwired Electrical" (See Chicago Electrical Code definition).

GLOSSARY ELECTRICAL TERMS

HOT CONDUCTOR

The conductor that carries current from the power source to the equipment. For a complete circuit, the hot conductor requires a neutral conductor to carry the current back to the power source. Hot conductors usually have black or red insulation.

INFEED

An electrical component that allows for the connection of power from the building source power to the furniture's electrical system.

INTERTEK

Intertek delivers Assurance, Testing, Inspection and Certification solutions. The Intertek ETL Mark is proof of product compliance to published industry standards. Intertek is an OSHA Recognized NRTL.

JUMPER

A cable used to pass power from one receptacle-carrying furniture unit to another; does not allow for receptacle attachment to itself.

JUNCTION BOX

A box containing connections of electrical wires and/ or receptacles. Has a removable cover that must be accessible (cannot be buried in ceilings and walls). Also called a J-box.

LIQUID-TIGHT FLEXIBLE CONDUIT

Flexible conduit covered by an outer liquid-tight (waterproof), nonmetallic, sunlight-resistant jacket over an inner flexible core with associated couplings, connectors and fittings. Approved for the installation of electric conductors.

MAXIMUM CONTINUOUS LOAD

The maximum electrical current in a circuit expected to be in constant use for three hours or more. For safety considerations, a continuous load must not exceed 80% of the maximum electrical rating, per the National Electric Code (NEC).

NEUTRAL CONDUCTOR

The return conductor in a circuit. It usually has white insulation. More properly called the grounded conductor because it returns current to ground at the service panel.

NEW YORK ELECTRICAL CODE

Municipal electrical code for the City of New York. Relative to contract furniture, this code generally means electrical infeed connections must be made inside the furniture with a junction box wired by a licensed electrician. Modular electrical distribution can be used beyond the initial NY Code infeed.

OSHA'S NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL) PROGRAM

Recognizes private sector organizations to perform certification for certain products to ensure that they meet the requirements of both the construction and general industry OSHA electrical standards. After certifying a product, the NRTL authorizes the manufacturer to apply a registered certification mark to the product.

OVERLOAD

To run equipment or wire in excess of its normal full-load rating.

PIGTAIL

A short length of individual wire(s) that is attached to an electric device. Typically refers to the building connection end of an infeed.

POWER MODULE

An electrical component consisting of a combination of receptacles, data ports, and/or USB ports, to make access to power convenient for the users. Usually mounted into a worksurface cutout, or under surface mounted.

RACEWAY

A plastic or metal channel used as a chase to run wires or cables from one point to another.

RECEPTACLE

A contact device installed at the outlet for the connection of an attachment plug, or for the direct connection of electrical utilization equipment designed to mate with the corresponding contact device. Labeled with the circuit number when in furniture. Receptacles are either 15-amp or 20-amp.

RIGID WIREWAY

Contains the wires and provides access to receptacles.

GLOSSARY ELECTRICAL TERMS

SHORT CIRCUIT

An accidental connection between two conductors or between a conductor and ground, or some other unintended grounded surface. A short circuit creates a spark and causes the circuit breaker to trip.

SIMPLEX RECEPTACLE

A receptacle with one plug opening which will accept one 120-volt three-prong grounded plug. Usually used in fixed seating applications.

SURGE PROTECTION

Protection against a fluctuation of the circuit voltage above a normal level over a period of time.

THREE PHASE

Three-phase electric power is a common method of alternating current electric power generation, transmission, and distribution. It is a type of polyphase system and is the most common method used by electrical grids worldwide to transfer power.

UL (UNDERWRITER'S LABORATORIES)

UL certifies, validates, tests, verifies, inspects, audits, advises and educates. The UL Mark is proof of product compliance to published industry standards. UL is an OSHA Recognized NRTL.

VOLT

The measure of electrical potential, or the force that moves an electrical current. (Amp is the measure of electrical current).

WATT

The amount of power used by an electrical device. A function of volts and amperes.

WHIP

The bundle of wires in conduit (power infeed) that connects the building's main power supply to the electrical system.