
Understanding Thread



Statement of Line

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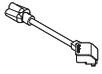
Product Details

Thread

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Thread

Statement of Line



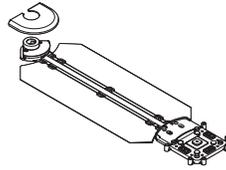
Three-Prong Plug Adapter

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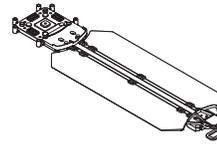
Power Hub

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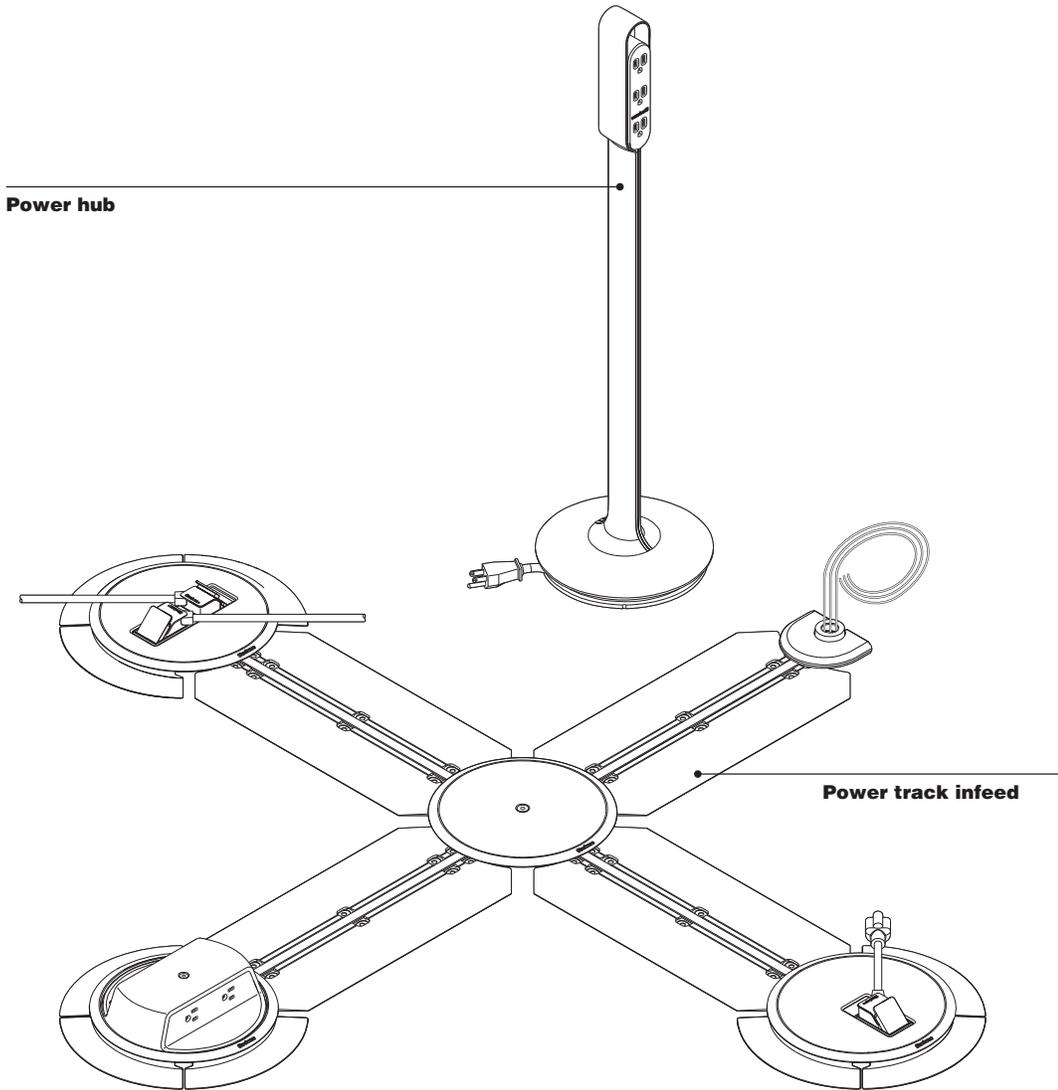


Power Strip

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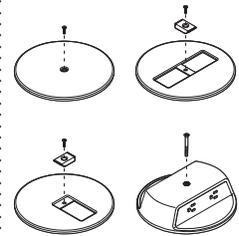
Power Track and Power Track Infeeds



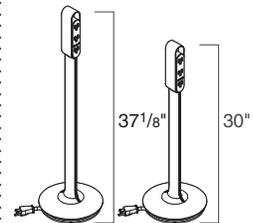
Product Details

Power track infeed lengths are available from 24" to 144" in 12" increments. Infeed is used to connect the Thread system to building power.

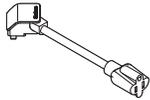
Power track lengths are available from 24" to 144" in 12" increments. It connects to an infeed to distribute power.



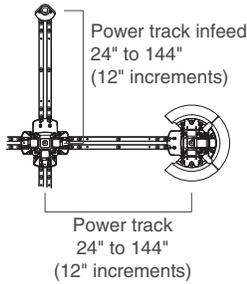
Connectors, four varieties: Blank (No power access), one-door low profile (provides one access point utilizing Steelcase's proprietary low profile plug), two-door low profile (provides two access points utilizing Steelcase's proprietary low profile plug), and the NEMA monument, which provides four standard three-prong plug (NEMA 5-15) receptacles.



Power hub is available in lounge height and desk height and with a standard three-prong plug or Steelcase's proprietary low-profile plug. The hub provides a user interface for power that is off the floor and capable of moving around the space. It features an integrated cord wrap in the design of the base.



Low-profile plug adapter is an 8³/₄" long adapter that allows a single three-prong plug to connect to Steelcase's proprietary low-profile connectors.



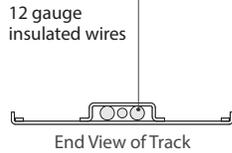
Thread power track and power track infeeds are prefabricated modular tracks capable of distributing up to 20 amps of power and come in lengths of 24" to 144" in 12" increments. These tracks must be fastened to subfloor, but can be reconfigured or removed without leaving substantial damage to the subfloor like more permanent solutions do.

► Please refer to page 260 for more information on applications and reconfiguration.

Proprietary low-profile plug can only be used with the Thread system and will not interface with existing receptacles. In order to achieve ADA compliance for connectors in an egress location, we developed our own plug design.

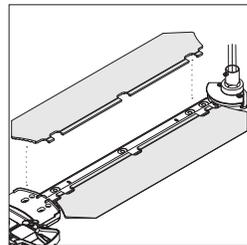
Note: Always consult your local inspector prior to purchasing the Thread system to ensure all local codes and ordinances are satisfied since local regulations may supersede those spelled out in the National Electric Code.

Connections

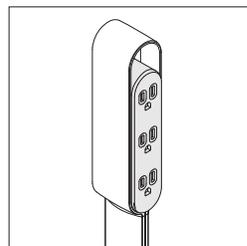


The power track and power track infeeds utilize three standard 12 gauge insulated wires encased in a riveted metal housing that stands 3³/₁₆" off the subfloor.

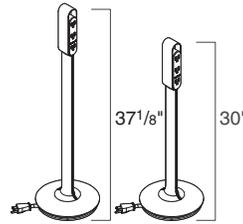
The infeed track comes with 12' of extra wiring to easily connect to the building power through a new or existing junction box. If longer infeed wiring is necessary, it may be submitted to specials.



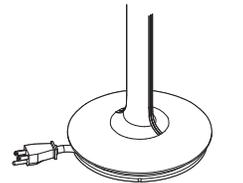
Each power track and infeed track comes with two flexible ramps that ease the transition between the subfloor and the height of the track. These ramps simply rest on top of the track and do not need to be adhered or fastened.



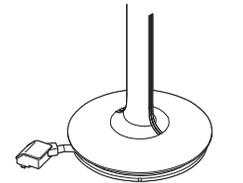
The Thread power hub provides six standard three-prong (NEMA 5-15) receptacles to provide power access where users need it. (indoor dry locations only).



The power hub is available in two heights, lounge height and desk height. The lounge height hub is 30" tall overall with the user interface starting at 22". The desk height hub is 37¹/₈" tall overall with the user interface starting at 28".

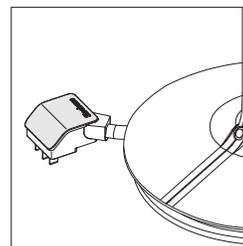


Standard three-prong plug

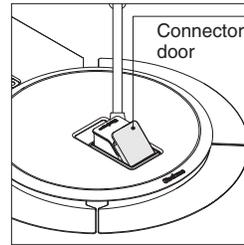


Low-profile plug

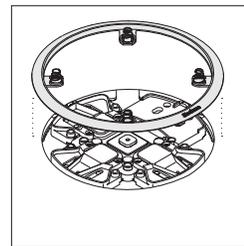
The cord is 5' long and is available with either a standard three-prong plug for use with standard receptacles or with Steelcase's proprietary low-profile plug for use with one-door and two-door low-profile connectors.



The metal connector cover on the low-profile connectors is a stamped, painted steel plate. This connector cover is ADA compliant for egress locations.

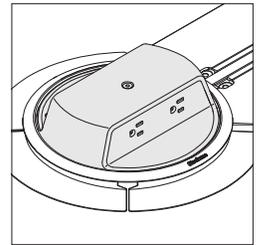


The low-profile connector doors are made of cast zinc. They are spring loaded and gasketed to ensure compliance with small liquid spill requirements. The system is not fully waterproof and is only acceptable for use indoors in dry locations.



The plastic trim ring is spring loaded to provide a tight fit against the carpet. It provides a simple ramp transition to the 1¹/₂" maximum height of the connector cover and hides any imperfections in the access hole cut in the carpet.

NEMA connector is designed to accept most standard NEMA three-prong plug and cord orientations. If cord exits in a non-standard fashion, please check for fit before ordering. A low-profile connector and adapter should be utilized for non-standard configurations.



The NEMA monument is made of a two piece plastic housing that provides access to four standard three-prong receptacles. This connector is not ADA compliant for egress locations.

When planning a power network, you must calculate the amperage requirements of all your electrical components so you can provide sufficient electricity to power them.

Thread, Power Track and Power Track Infeeds, continued

Technical Electrical Information and Power Planning

The Thread system is listed as a 20 amp branch circuit. It utilizes three standard 12 gauge wires (hot, neutral, and ground). When more than one circuit is required to support a space or application, additional circuits will need to be provided using Thread power track infeeds connected to other circuits in the building. The number of circuits available to pull from will be determined by building construction. Please consult your electrician if you are unsure of the building power capabilities.

The Thread power track infeed begins with a universal connector that is capable of connecting to any standard 1/2" conduit or other listed product such as Wiremold or Panduit. The building electrical supply connection must be performed by a licensed electrician. Please consult with your electrician if you have questions regarding what type of conduit will be used.

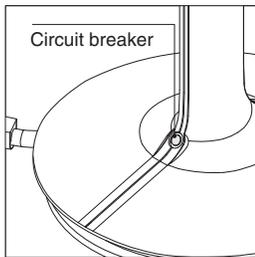
UL limits the number of outlets on a single circuit to 10, but our connectors count differently than typical wall mounted receptacles.

- Blank covers do not count towards the number of receptacles because no access points are present.
- One-door and two-door low-profile connectors each count as a single receptacle.
- NEMA monument counts as two receptacles.
- Hub counts as zero receptacles.

Due to voltage drop, the National Electric Code (NEC) recommends that the distance between the building circuit box and the user access point not exceed 75–150 feet (depending on gauge of wires running from the building circuit box to the Thread infeed junction). Since the distance from the Thread infeed junction to the building circuit box may be difficult to ascertain, we recommend planning conservatively for the total distance of any individual Thread branch and keep it as short as possible. Thread branches longer than 70 feet may risk contributing to voltage drop exceeding acceptable levels.

Listing categories: Thread power track is listed as a multi-outlet assembly and is considered a 20 amp branch circuit, which means it meets the same requirements as the hard wire outlets in the wall. The power hub is listed as a relocatable power tap (RPT, which means it is treated the same as a typical power strip). The plug adapter is listed as an accessory to the Thread system.

UL 5 is the standard for multi-outlet assembly (which correlates to article 380 in the National Electric Code) and UL1363 is the standard for RPT, but has no direct correlation in the NEC.



The power hub has a circuit breaker in the base that is intended to trip should excessive power draw occur. If the total draw from all receptacles on a hub exceed 15 amps, the breaker will trip and a black button will pop out of the base where it meets the stalk. Pressing the black button back in will reset the circuit.

It is important to plan for expected power consumption in a given application to ensure enough infeeds are present to prevent tripping the circuit breaker either at a hub or at the building circuit box.

Building construction varies and there may be components hidden below the floor surface that must be avoided when drilling holes to anchor the power track infeed and power track. Sub-flooring, including concrete, may contain electrical wiring, structural cabling, radiant heating lines, etc. To avoid potential property damage or unsafe conditions, consult with the building architect or Engineer of Record to plan accordingly.

The building electrical supply connection must be performed by a licensed electrician. Only connect this system to a dedicated 120-127 V~ 60Hz 20A single phase GFCI protected building power circuit.

Codes Information

Thread is UL certified as a multi-outlet assembly and not a manufactured wiring assembly. Manufactured wiring systems are defined in Article 604 of the NEC and provide very clear guidelines regarding construction methods. Thread is constructed in a manner not consistent with any defined method in this section of the NEC and because of this, cannot be considered a manufactured wiring system. It is consistent with the definition for multi-outlet assemblies as defined in Article 380.

The system is capable of distributing 20 amps of power. Power planning to 80% consumption means the system is not designed to deliver more than 16 amps total. Thread was not designed as a dedicated single outlet (it is a modular, multi outlet assembly), which would then not allow us to utilize a 20 amp receptacle. Thread is compatible with 5-15 plug types, not 5-20 plug types.

The NEC does not permit plugging an extension cord or relocatable power tap (RPT) into another extension cord or RPT. Many of the power units embedded in furniture are listed as a RPT and, per the NEC, are required to be plugged into a building hardwired receptacle. The Thread cord adapter is a listed multi outlet accessory and as such, is not considered an RPT, extension cord or a building receptacle. We recommend the NEMA monument for any Thread application where furniture-hosted power will be plugged in but some may desire to use the low profile connector with an adapter for this application. Please note that while it is not a safety hazard, a local inspector may not approve because of the definitions and restrictions mentioned above.

Thread is listed as a multi outlet assembly in accordance with Article 380 of the NEC; it is not a flat conductor cable system (FCC) as identified in Article 324. FCC is not permitted in education, healthcare, or residential facilities.

The intent of this requirement within the code is that outlets are not to be covered by carpet. The traditional multi outlet assembly design was covered with receptacles across the entire face and field wired. With that type of design, it is easy to understand it applies to the entire product. Thread is a new design, yet certified as a multi outlet assembly. The raceway is factory wired and able to be covered with carpet, but the connector/receptacle still cannot.

Applications

Floor Specifications

The Thread power distribution system is intended for indoor use/dry locations only. It is designed to be used with carpet and works best with carpet tiles, though broadloom carpet may also be used. Each connector in the system will require a hole to be cut in the carpet to permit access to the system. This is true for every connection point, even if only using a blank cover where no power access is needed. For this reason, we strongly recommend carpet tile over broadloom carpet. See installation guide for tools and direction.

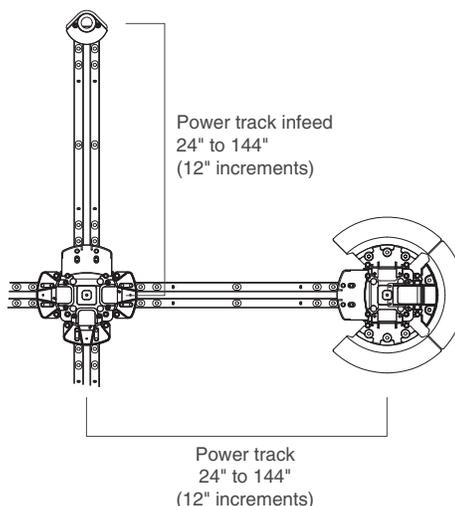
Each piece of Thread power track or power track infeed must be fastened to the subfloor using one screw at each end of the track and one additional screw every 48". This means for power tracks that are shorter than 48" only two screws are required. For tracks 60" to 96" in length, three screws are required and for tracks longer than 96", four screws are required. Connectors require additional screws in to the subfloor. The track itself has multiple holes to allow it to be screwed down and has many more holes than are needed. For example, at the end of each track you will find four holes placed closely together but only one screw needs to be used. The extra holes are available in case of a damaged screw or some form of interference in the subfloor (like a rock in concrete) that might prevent a hole from being used. The same is true for holes all the rest of the way down the track; there are holes on both sides of the track and they are placed approximately every 12" to provide multiple options in case of interference in the subfloor. Please see installation guide for detailed instructions regarding this topic, including recommended types of fasteners and locating pilot holes.

A power track infeed may be installed perpendicular to a wall or at any angle between 45° and 135°. However, it should be noted that once the infeed track is installed, all subsequent track connections will be either inline or at right angles to this track. There is no ability to create an angled connection between two tracks. Please refer to the installation guide for detailed instructions and drawings.

The Thread system does have some flexibility to accommodate uneven floors, however flooring elevation changes greater than 1/8" must be filled in or sanded down to even out the surface. The area underneath and immediately surrounding a junction (connector of any type, including a blank) must be flat within 1/16" in a 9" radius from the center of the junction. The Thread system is not designed for use on raised floors, across building expansion joints, or in areas where it will be subject to constant or rolling loads heavier than people. Please refer to the installation guide for additional details.

For connectors that will be in an ADA defined egress location, in order for the low-profile connector to be considered ADA compliant, the carpet thickness (including pad) must be between 0.225" and 0.450". Carpets thicker than 0.450" will not work with the Thread system and carpets thinner than 0.225" may be used but will not be ADA compliant in egress locations.

Floor covering materials such as tile or wood are not compatible with the Thread system.



The length of a track is measured from the center of one connector to the center of another connector; a 24" power track by itself may not be precisely 24". This is intended to simplify planning and layouts.

Note: While this system has been developed to minimize its impact on the physical environment and to work with a broad range of existing furniture, certain conditions exist that may create undesirable interactions with other products. One example is the use of sled-base chairs since it may not sit flat when interacting with the track or connectors. Chairs utilizing pneumatic cylinders with minimum clearance of less than 1/2" should be used with care as the bottom of the cylinder can catch on a connector cover or on the slightly raised profile of the track beneath the carpet. Steelcase always strives to exceed the 1/2" clearance on our seating products but if you identify a seating product that does not have this level of clearance, a spacer ring is available from our service parts that can be placed between the cylinder and the base to increase the clearance. Please see part number 895446201SR in the Service Parts catalog, or part number 895446201MP for a quantity of 10 spacers.

Notice Regarding Installation: Thread must be anchored to the building floor for safe and proper use. Building construction varies and there may be components hidden below the floor surface that must be avoided when drilling holes to anchor the power track infeed and power track. Sub-flooring, including concrete, may contain electrical wiring, structural cabling, radiant heating lines, etc. To avoid potential property damage or unsafe conditions, consult with the building's architect or Engineer of Record to plan accordingly.

