

Understanding Electrical Terms



HAWORTH®

Understanding Electrical Terms

In today's computer-intensive work environments, a critical issue is clean, reliable power. Haworth is the industry leader in furniture-based power solutions. The ability to handle any power requirement is an important component in Haworth's mission to completely satisfy customers' needs.

This booklet is designed to help you become familiar with electrical terms commonly used in the contract furniture industry. You'll find descriptions of specific Haworth electrical products as well. Having a working knowledge of these terms and descriptions will help you understand Haworth's furniture-based power capabilities. Remember, Haworth field sales engineers are also always ready and available to answer specific customer inquiries.

Use this booklet to become conversant in the language of power, and as a companion to the other Haworth booklets on electrical topics: "Using the 6-Circuit Power Base," "Complying with Electrical Standards," and "Interfacing with Building Power."



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International Power Receptacle	Powered Table System	Receptacle
Low Voltage Switching System	Raceway	
Pass-Through Cord	Raceway Trim Cover	

NOTE: Within each description, italicized type is used to denote terms that are described elsewhere in this booklet.

Industry-Common Electrical Terms

Access Flooring

A flooring system in which modular panels are raised above the floor slab, typically on 3" - to 12"-high supports. Electrical *conduit* and data cabling are routed beneath the flooring panels and connected to *floor monuments* (raised or flush). This type of flooring system can provide efficient access to wires and cables and can in some instances simplify reconfiguration.

Ampacity

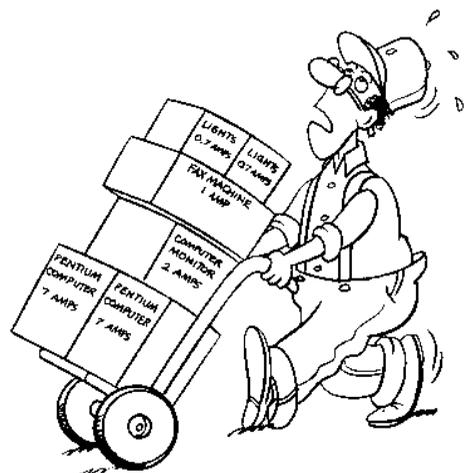
Ampacity refers to the maximum current, in *amperes*, that a *conductor* can carry three hours or more without exceeding the temperature rating of the electrical insulation. *Underwriters Laboratories (UL)* determines the ampacity of furniture power systems through testing; ampacity is listed on the power system's label. The *National Electrical Code (NEC)* does not calculate ampacity.

Amperage, Ampere, Amp

Amperage is the volume (or quantity) of electrical current flowing through a *circuit*. This volume is measured in amperes, otherwise referred to as amps. The amount of amps required by an electrical device to operate is usually listed on the equipment's electrical nameplate.

Balancing, Load Balancing

A planning practice in which the total *amperage* requirements of the electrical equipment in a *shared-neutral* installation is distributed equally among the number of available electrical *circuits* servicing the installation. For shared-neutral *three-phase* circuits, this refers to matching the current of circuits 1, 2, and 3 with respect to each other. *Separate-neutral* installations, such as those using Haworth's Power Base, do not require balancing within each furniture cluster.



Load Balancing in a Shared-Neutral Office Installation

Ballast

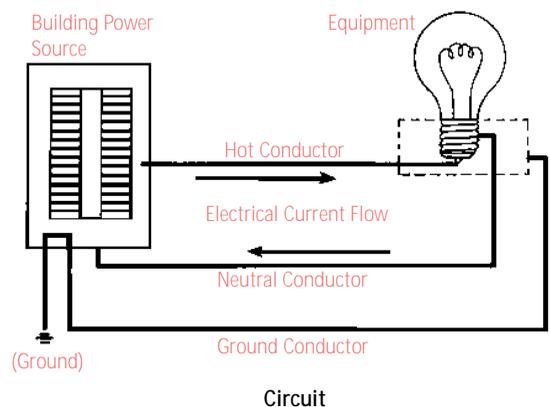
A device in fluorescent lamps that regulates the level (*amps*) of electrical current and voltage flowing through the fluorescent lamp tube. Ballasts may be magnetic or electronic, with electronic being slightly more energy efficient.

Branch Circuit

A single *circuit* carrying electrical current (usually limited to 20 *amps*) to office furniture and equipment. It consists of *conductors* (wires) connected between the building's electrical service panel (*circuit breakers*) and the electrical *outlets* (*power receptacles*).

Circuit

A complete path for electrical current flowing from the building power source to the equipment being powered and back to the power source. The "*hot*" *conductor* of a circuit carries 120-volt power to the equipment; the "*neutral*" *conductor* carries it back to the source. The "*ground*" *conductor* provides a safe escape route for power in the event of *short circuits* or other problems. Circuits are rated according to the number of *amps* they can accommodate. The total number of amps required by all of the equipment in a furniture installation will dictate the number of circuits required.



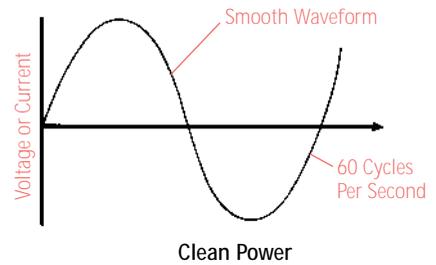
Circuit Breaker(s)

A safety device designed to automatically stop the flow of electricity whenever a *circuit* becomes overloaded, i.e. exceeds the number of *amps* that the wiring can accommodate. *Branch circuits* usually have 20-amp breakers (15-amp breakers in Canada). The *maximum continuous load* on a circuit breaker is permitted to be 80% (16 amps) of the rating, which prevents unnecessary power interruptions caused by operation too close to 100% capacity.

Industry-Common Electrical Terms

Clean Power

Power which has a smooth waveform with no spikes, notches or other irregularities; clean power also has a *voltage* within a range 10% above or below the standard 120 volts. Computers and peripheral equipment operate most reliably with clean power, which is free from electrical noise (spikes, drop-outs, surges, sags, etc.) and voltage variations generated by operating equipment. *Dedicated circuits* and/or an *isolated ground* are often specified in order to obtain clean power for sensitive electronic equipment. (See Dirty Power.)



Codes, Local Electrical Codes

Various government bodies have adopted minimum safety standards, or "codes," for the electrical wiring of furniture installations. The *National Electrical Code (NEC)* is the most widely recognized code, and it applies to most installations. Some municipalities, e.g. Chicago, New York, Miami, have their own codes. Since local codes are often more restrictive than the NEC, it's always important to check their requirements as well.



Common Ground

An electrical *circuit* that uses a variety of *conductors* for a ground path. Ground conductors include wire, *conduit*, the metal of a building, or water pipes. Because so much of a building's structure is grounded this way, a common ground is often electrically "noisy." Therefore, an *isolated ground* is more suitable for computers.

Conductor

In *branch circuits* and in furniture-based power systems, the conductor is more than just wire. It includes the electrical conductors (power infeed, *flexible power connectors*, etc.), *circuit breaker*, and wire nuts. All elements in a conductor should be *UL* tested, listed, and labeled for safety.

Conduit

Metal or non-metallic tubing — available in either rigid or flexible varieties — used to route and protect electrical wires and communication cables.

Connector, Terminal

Devices used to terminate or join two *conductors*. Connectors must be tested and labeled for safety. The *amp* rating of a power system is dictated by its connector or terminal *ampacity*, not the gauge of conductors within the system.

Continuous Load

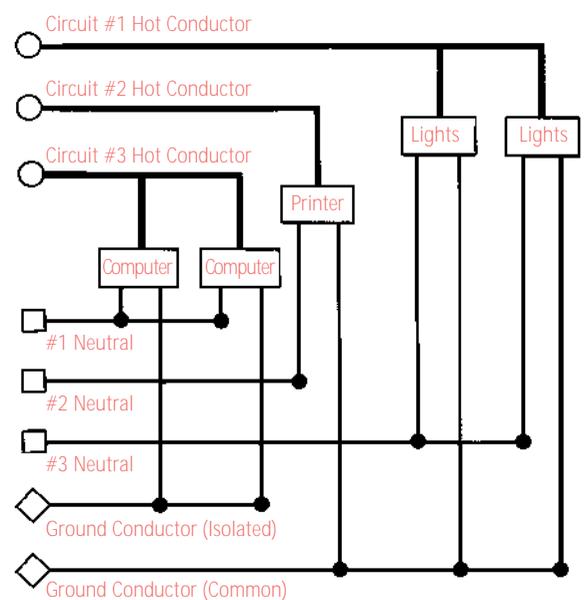
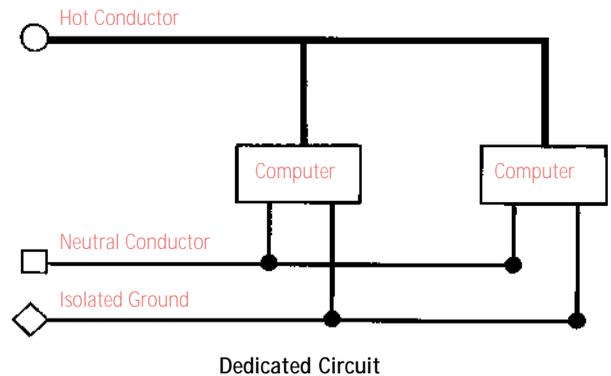
See Maximum Continuous Load.

Dedicated Circuit

A *circuit* with three *conductors* — consisting of hot, neutral, and ground — between the *circuit breaker* protecting the *branch circuit* and the *outlet* that is dedicated only for use with specific equipment. (Dedicated circuits are sometimes incorrectly referred to as isolated circuits.)

Designated Branch Circuit

A *branch circuit* with three *conductors* — consisting of hot, neutral, and ground — that is designated by the user for use with specific equipment. Either the neutral and ground, or both, may be shared with another branch circuit.

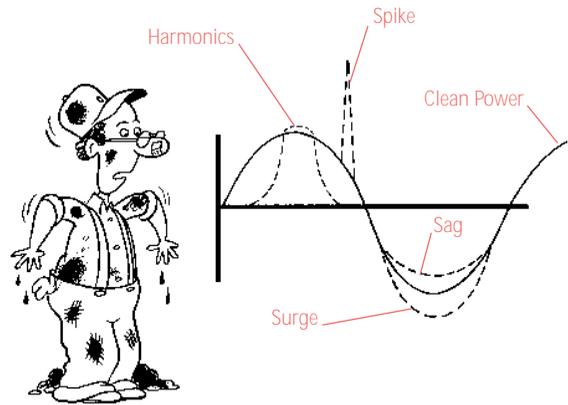


3 Designated Branch Circuits

Industry-Common Electrical Terms

Dirty Power

Unlike *clean power*, dirty power flows outside a range 10% above or below the standard 120 *volts*. Dirty power often results from electrical noise generated by the normal operation of electrical equipment. Dirty power is OK for lighting, fans, and other non-computer equipment. But it can adversely affect computers and other types of sensitive electronic equipment. Dirty power can be cleaned with protective devices such as *surge protectors* or *Uninterruptible Power Supplies*, either of which can be installed in a work station or at the building power source.



Electrical Test Laboratories

See UL Listed, ULc, CSA, ETL.

Electromagnetic Interference (EMI)

An electrical, magnetic, or electromatic, e.g. radio interference that causes an undesirable response, degradation, or failure in electronic equipment.

Flat Wiring

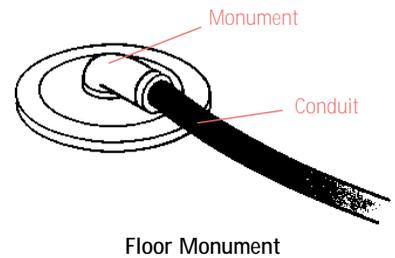
A special flat power cable that carries the *branch circuit* power between the building's floor slab and the carpet. The thin *conductors* are separated and enclosed within an insulating assembly (usually about 3" wide and less than 1/16" thick). The wiring system is accessed through specially designed *floor monuments* and *connectors*.

Floor Duct

An under-floor system of wireways (covered troughs) which brings electrical wires and data cabling to *floor monuments*. This system provides many of the benefits of *access flooring* but often costs less.

Floor Monument/Floor Access

An electrical *outlet*, located on or under the floor's surface, that is connected to *conduit* carrying power beneath the floor. Flush "under floor" access consists of a flush access door that may be lifted to access the electrical and/or data cable *junction boxes*.

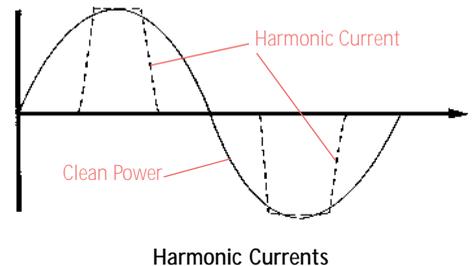


Ground Conductor

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 to the earth and represents a zero *volt* potential, thus reducing the shock hazard to persons if an electrical device ever fails or short-circuits.

Harmonic Currents, Harmonics

A distortion in electrical current caused by equipment that uses power in sharp pulses instead of in a smooth pattern. When electrical *circuits* share a common *neutral conductor*, harmonic currents can lead to an electrical overload, causing the neutral conductor to overheat. *The Power Base* from Haworth prevents this problem of overloading/overheating, because it provides a *dedicated neutral conductor* for each circuit.



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.

Inspector

All *branch circuits* — carrying electrical current to office furniture and office equipment from the building power source — must be approved by an inspector affiliated with the governmental body having jurisdiction over the installation site.

Industry-Common Electrical Terms

Isolated Ground

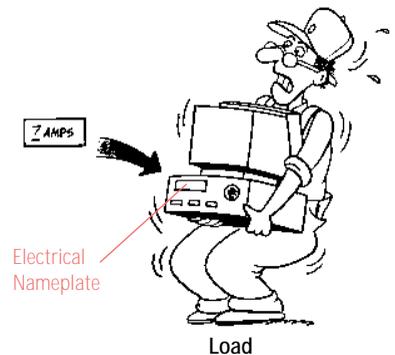
Serves the same safety and protection function as a *common ground* conductor, but it is run in a separate “isolated” *conductor*. This separation usually — but not always — enables the isolated ground to reduce the amount of electrical noise that’s introduced into an electrical *circuit*. Therefore, computers, *Uninterruptible Power Supplies*, and other electronic equipment are often connected to an isolated ground. More than one *hot/neutral conductor* combination may share an isolated ground and still maintain a lower level of electrical noise versus common ground usage.

Junction Box

An electrical construction box that provides a space for the connection or “splicing” of the electrical *conductors*. Connections inside the junction box are usually accomplished with twist-on electrical conductors, called wire nuts.

Load

Describes the amount of power (*amps*) consumed by an electrical *circuit* or device. Loads are usually expressed in amps, but sometimes in *watts*.



Load Balancing

See Balancing.

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

National Electrical Code (NEC)

A set of minimum standards and regulations that governs planning, construction, and installation of electrical *conductors* and equipment. The NEC is the basis for all electrical *codes* used in the United States. A governmental body having legal jurisdiction over an installation site could apply NEC regulations alone, or it could apply even more restrictive mandatory codes, e.g. local codes.

Neutral Conductor

The *conductor* that carries current back to the power source. It is always used with a *hot conductor* to complete a *circuit*. (See Separate Neutral, Shared Neutral.)

Ohm

Ohm is the measure of electrical resistance, or impedance, in a *circuit*. One *volt* will cause one *amp* to flow through one ohm of resistance.

Open Circuit

A condition where the current flow through a *conductor* is interrupted by a missing or damaged component.

Outlet

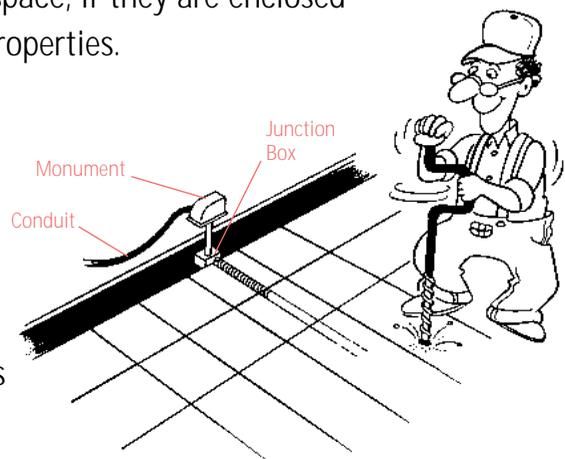
See Receptacle Outlet.

Plenum, Plenum-Rated

Plenum refers to an air chamber in a heating, ventilation, and air conditioning (HVAC) system or to the space between a dropped ceiling and the floor above. In many buildings, the plenum space is often used to route *conductors* and cables. Plenum-rated describes a special type of conductor or cable which is approved/rated for use in a building plenum space. These types of conductors are specially insulated, giving them low flame- and smoke-producing properties. Non-plenum rated cables may also be routed in a plenum space, if they are enclosed in *conduit* that provides fire-resistant properties.

Poke Through

A wiring access device that enables *conductors* located in the ceiling space of a building floor to be routed upward through holes in the floor above. The poke through device includes an electrical *junction box* and a floor trim/access plate; it also has a fire stop.

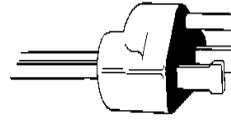


Poke Through

Industry-Common Electrical Terms

Polarized Plug, Grounded Plug, 3-Prong Plug

A plug designed to be inserted into a *receptacle* in one position only. All Haworth receptacles are designed for polarized, grounded plugs.



Power Outage

A sudden termination of power caused by problems at an electrical utility company or by a tripped *circuit breaker* in a building. A power outage will erase information in a computer's short-term-stored RAM (random access memory), if the equipment is not protected with a back-up power system or an *Uninterruptible Power Supply* device.

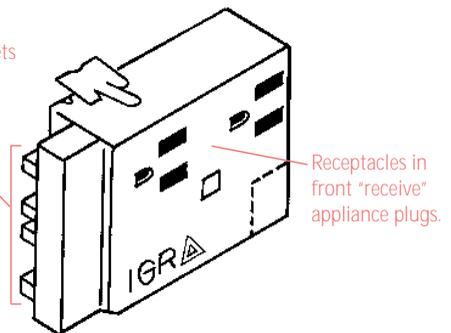
Power Zone

A function of *circuit* planning which defines each office area that is supplied by specific *circuit breakers*.

Receptacle Outlet

This unit provides one point of access to the *branch circuit* with places to plug in one, two or three cords. Though the words receptacle and outlet are often used interchangeably, the outlet is the single point of access to the branch circuit on the back of the unit. The front of the unit contains receptacles where computer, light, and office equipment plugs are inserted. Receptacle outlets are available with one (simplex), two (duplex), or three (triplex) receptacles where blades of the appliance plug fit. The distinction between outlet and receptacle becomes important to planners and electricians when the *National Electric Code* states that up to 13 outlets may be placed on a 20-*amp* branch circuit. For example, up to 13 triplex outlets are permitted to be plugged in to provide a total of 39 receptacles ($13 \times 3 = 39$), thus allowing enough places to plug in 39 cords.

The outlet is the rear access point which "lets out" power.

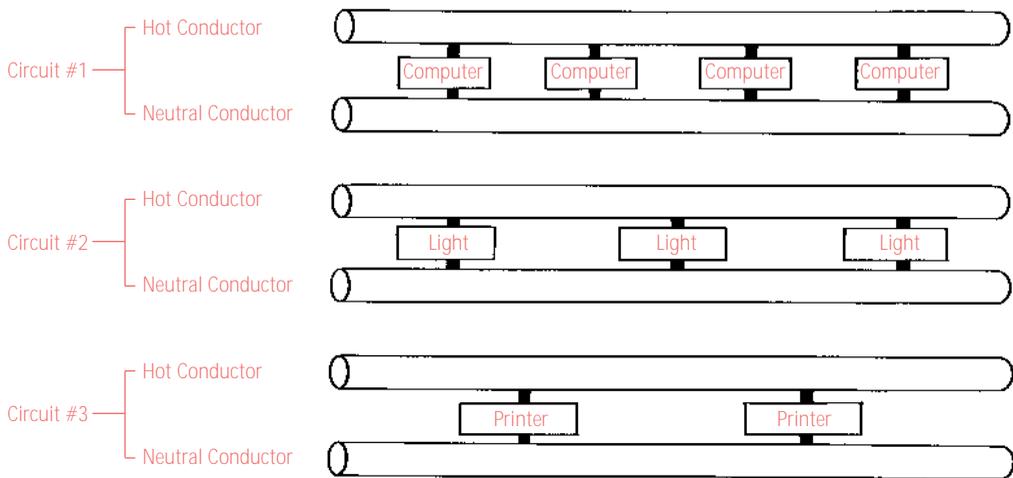


Receptacles in front "receive" appliance plugs.

Duplex Receptacle Outlet

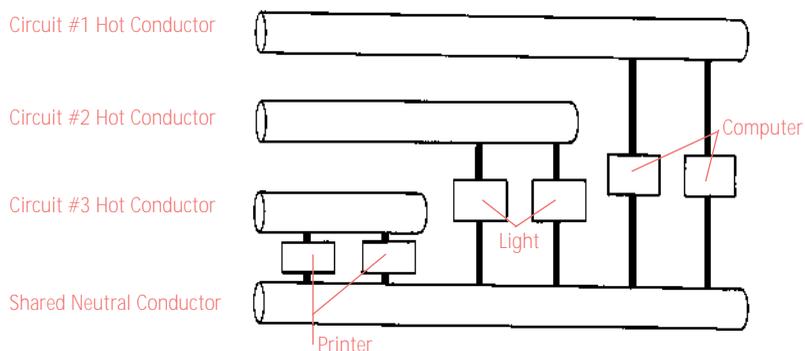
Separate Neutral

A Haworth-pioneered *circuit* design in furniture-based power systems which features the use of a separate *neutral conductor* for each *hot conductor*. This innovation provides separation of circuits and prevents neutral conductor overloading and overheating caused by *harmonic currents*.



Shared Neutral

A *circuit* design in which one of two conditions exist: all of the *hot conductors* share a *neutral conductor*, or separate neutral conductors exist for some – but not all – of the hot conductors. In equipment-intensive work environments, a shared neutral system can cause overloading/overheating of the neutral conductor and power quality issues. *The Power Base* by Haworth avoids this potential problem by offering separate neutral conductors for each hot conductor.



Industry-Common Electrical Terms

Short Circuit

A condition in which the *hot conductor* comes in contact with the *ground* or *neutral conductor*. A short circuit creates a spark or arc that often damages one or both of the *circuit* components and causes the *circuit breaker* to trip.



6-Circuit Configuration

See description on page 14.

Surge Protector, Spike Protector

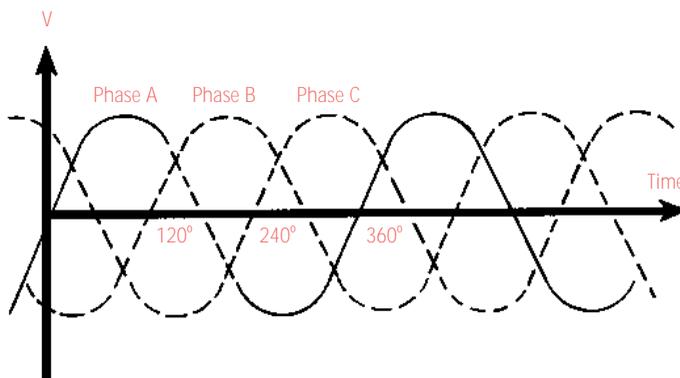
An electrical device that protects equipment from a sudden, high fluctuation in the level of *voltage* normally flowing during a period of time.

Terminal

See Connector.

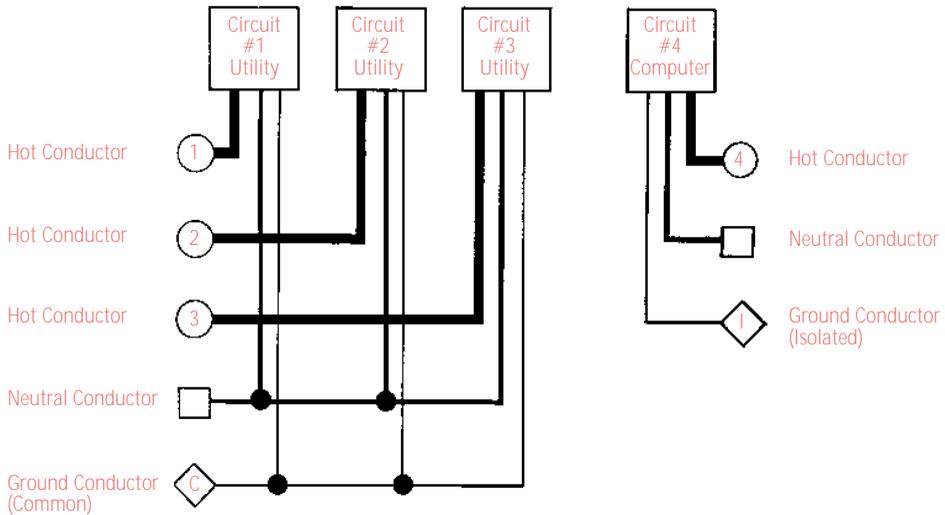
Three-Phase Power

A type of electrical system or *circuit* that utilizes three separate sources of alternating current. The three sources are electrically related to each other by a 120° phase separation. A 3-phase circuit — the most common type in the United States — may consist of four or more *conductors*.



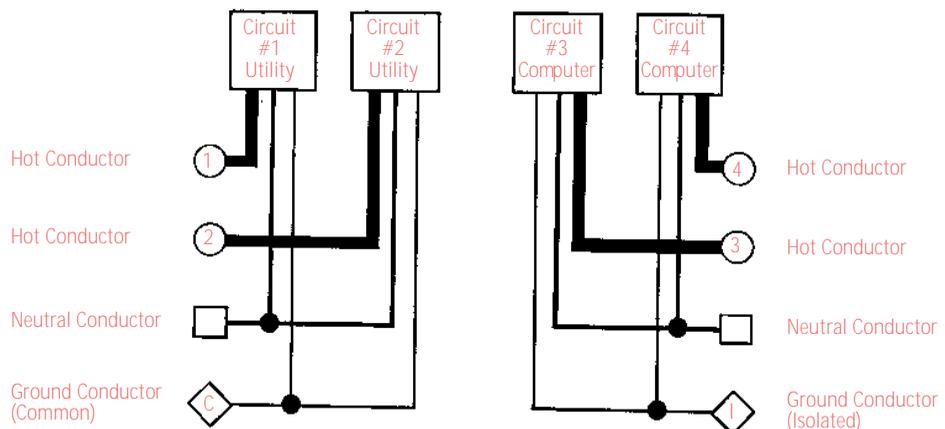
3+D Circuit Configuration

A configuration of four electrical *circuits* within a furniture power system. It's most commonly used for non-intensive computer work environments. Typically, one circuit is *dedicated* for use with computer equipment; the remaining three circuits are dedicated for non-computer equipment.



2+2 Circuit Configuration

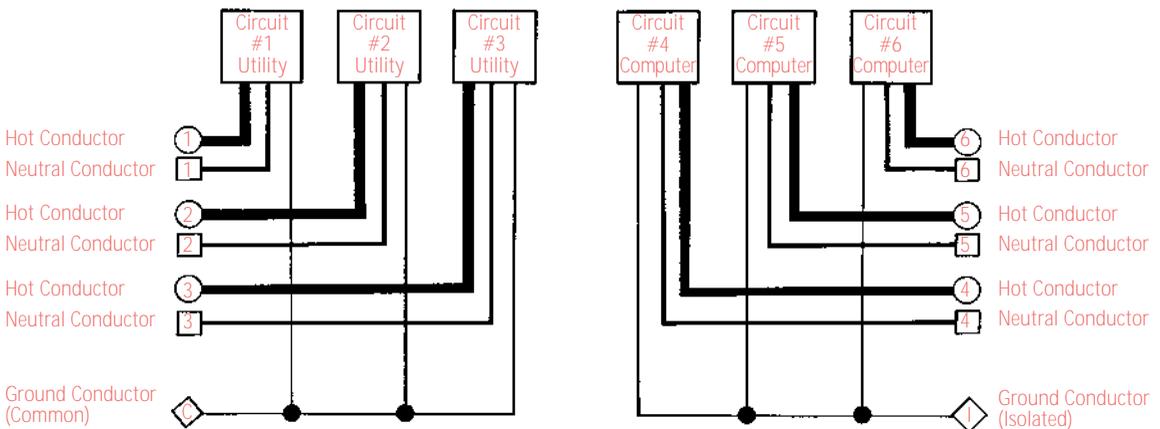
A configuration of four electrical *circuits* within a furniture power system. It's most commonly used for moderately-intensive computer work environments. Typically, two circuits are *designated* for use with computer equipment; the remaining two circuits are designated for non-computer equipment.



Industry-Common Electrical Terms

6-Circuit Configuration

A configuration of six electrical *circuits* within a furniture power system which is most commonly used for intensive computer and peripheral equipment applications. Typically, three circuits are *designated* for use with computer equipment; the remaining three circuits are designated for non-computer equipment. *The Power Base* from Haworth has six electrical circuits, each with its own separate neutral.



UL Listed, ULc, CSA, ETL

UL Listed refers to electrical/mechanical equipment or materials tested and listed under the standards of Underwriters' Laboratories, Inc. (UL), a private laboratory. The UL symbol identifies listed products. ULc is the Canadian equivalent of UL; the ULc symbol is also marked on products listed for use in Canada. A CSA mark appears on products tested by the Canadian Standards Association. The ETL listing mark appears on products tested by Electrical Test Laboratories, Inc., which is a lab equivalent to UL.

Uninterruptible Power Supply (UPS)

An electrical device that supplies separate or supplemental power to equipment in the event of a *power outage*. The UPS uses a battery and electronic *voltage*-generating *circuits* to supply power during brief power interruptions, usually up to 10 minutes.



Voltage, Volts

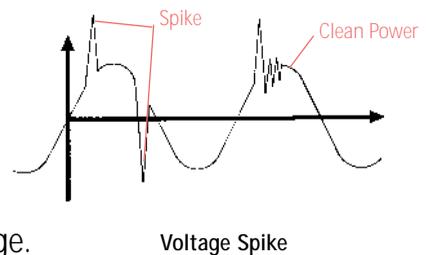
The measure of electrical pressure in a *circuit*. One volt of pressure is required to push one *amp* of current through a *conductor* with one *ohm* of resistance.

Voltage Fluctuation

A deviation — either up or down — in the otherwise stable *voltage* level of 115 volts. A voltage “sag,” usually 108 volts or less, can occur during a brown-out, when the demand for power exceeds supply. A voltage “surge,” usually 126 volts or more, can occur when power usage is suddenly reduced, such as at night. Devices like voltage regulators or stabilizers can be installed in an office to keep voltage levels close to a stable 115 volts.

Voltage Spike

A sudden, extreme surge in *voltage*. A voltage spike can be caused by lightning striking near a power line, or the activation and deactivation of large equipment *loads*, such as air conditioners and elevators, in an office setting. *Surge protectors* are specified to control voltage spikes and protect equipment from damage.

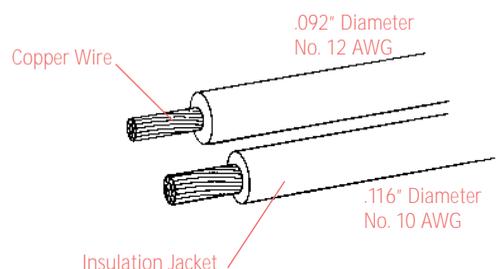


Wattage, Watts

The amount of power used by an electrical device. Wattage can be calculated by multiplying *voltage* and *amperage*. Watts can be converted to amps with this calculation: watts divided by volts equals amps.

Wire Gauge

The diameter of a wire, measured in numbers. In furniture power systems, wire gauge does not determine the system's *amp* rating due to the existence of *connectors*, *terminals*, and the product's modular construction. The proper amp rating can only be determined through *UL* testing, listing, and product labeling.



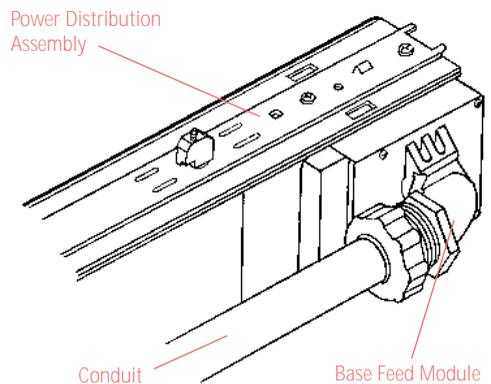
Haworth Electrical Product Terms

Ambient Lighting Fixture

A lighting fixture that provides upward-directed, ambient light via a fluorescent lamp source. Haworth fixtures can be mounted from a PLACES® or UniGroup® panel's top cap or hung from the panel's side rail reveal. The fixtures are available in four-, five-, and six-foot lengths.

Base Feed Module

A component that routes electricity from the building's floor-, wall-, or column-based power source to a furniture-based power system. The base feed module consists of a four- to six-foot-long piece of *conduit* with an electrical power *connector*. Building power is hardwired into the base feed module, which in turn connects to the panel's base *raceway* at any of the four available *outlet* sites. Special base feed modules are available for conformance to specific local and international *codes*, and flatwire power applications.



Beltline Panel

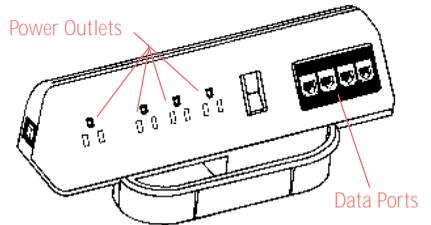
A specially designed panel that provides power and data connections above the work surface via a "beltline" raceway. Beltline panels feature a full-panel width, hinged fold-down *raceway cover* on both sides. The cover has two *outlet* sites for *receptacles* and one opening for a data plate/module per panel side. Building power can be accessed via *top feed* or *base feed modules*. The panel's beltline and base raceways are available powered or non-powered.

Concealed Base Feed Module

A type of base feed module used for concealed hardwire and flatwire connections to a furniture-based power system. The concealed feature conforms to the New York City electrical *code*. However, it can also be specified as an alternative to the *conduit/connector*-type base feed module, providing a clean appearance on the panel's *raceway cover*.

Docking Module

A component providing work surface height access to power and data plug-ins. The module features four plug-in sites for power cords, four plug-in sites for data cables, a master control switch for the power outlets, a surge suppression option, and an area for cable routing. Available on PLACES, PREMISE®, UniGroup, and several casegood products, the module can be factory- or field-installed.

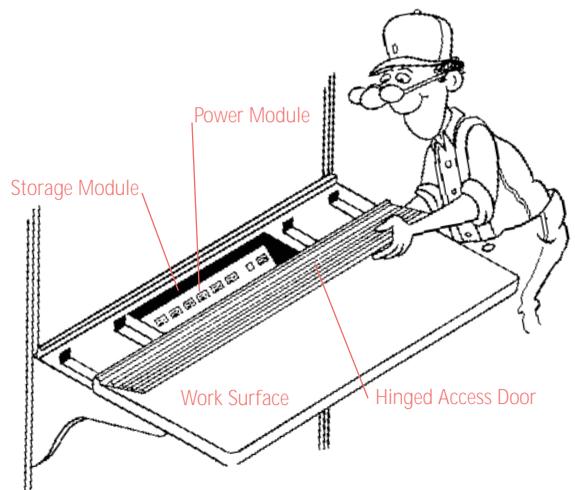


Electrical Cord and Receptacles

A nine-foot-long power cord with three electrical *receptacles*. The power cord can plug into a panel's *power receptacle* or into the *outlet* of a building column or wall. Some electrical inspectors prohibit use of extension cords, so consult with a Haworth field sales engineer.

Electronic Work Surface

A specially designed work surface that enables the user to conveniently plug in electrical equipment at work surface height rather than at the panel's base *raceway*. The work surface features a full-width hinged access door along the rear edge. An opening beneath the work surface accepts a separately-specified cord/cable storage module, which in turn accepts a separately-specified surge-suppressor *power module*.



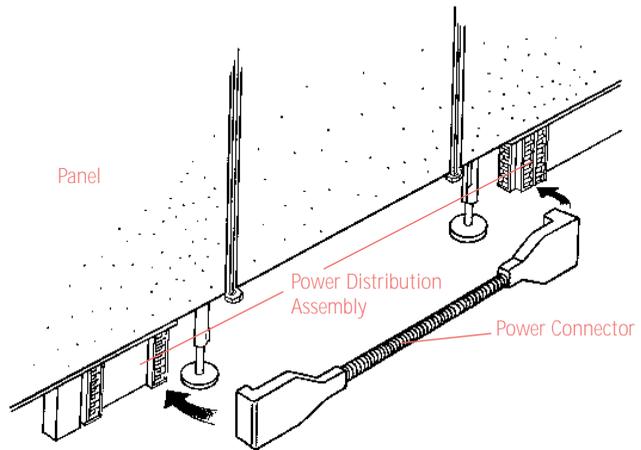
End Cap

A small trim cover used to cover the open end of a panel *raceway cover*, at the end of a panel run. *Underwriters Laboratories* requires end cap specification whenever a panel is equipped with a *power distribution assembly*.

Haworth Electrical Product Terms

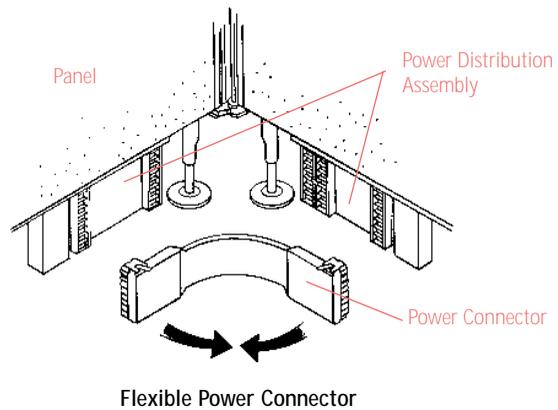
Extended Power Connector

When powered panels are separated by a non-powered panel, the extended power connector is used to route power through the non-powered panel. The connector is available in short, medium, and long widths — each designated for a specific type of panel condition (straight-span, 90-degree, three-way, U, Z, etc).



Flexible Power Connector

A component used to route power between adjacent powered panels in straight or angled conditions.



Horizontal Wire Manager

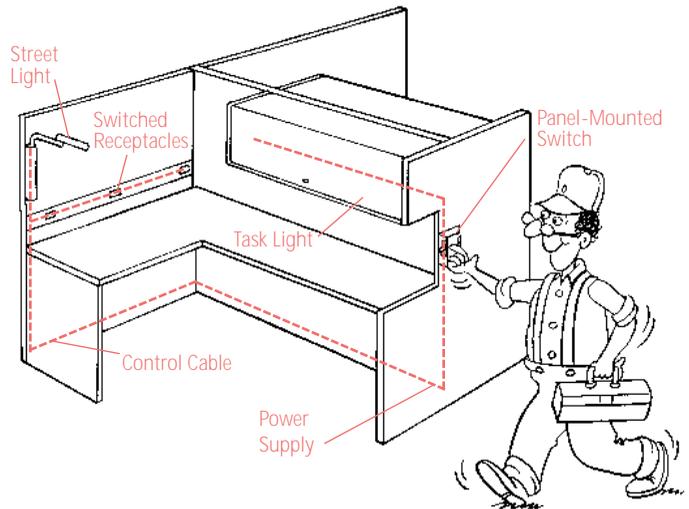
An accessory that routes and conceals electrical cords beneath the work surface.

International Power Receptacle

Haworth manufactures specially designed *power receptacles* that accommodate the electrical cord plug/prong configurations used in international applications, i.e. British, French, German, Australian, Swiss.

Low-Voltage Switching System

A system that allows users to control up to six duplex *power receptacles* – plus one simplex receptacle on the system's power supply – with a single, convenient panel-mounted switch. The system consists of the switch, a low-*voltage* control cable, the power supply control device, and up to six *common-* or *isolated-ground* switched duplex receptacles.



Pass-Through Cord

A six-foot-long cord that routes power between multiple task lights, allowing them to be powered via a single plug-in. Up to four adjacent task lights can be connected using three pass-through cords. Each task light connected by a pass-through cord must be switched on or off individually.

Pivot-Head Task Lighting

A small, 17"-high lighting fixture that directs light downward to the work surface. These fixtures are available as freestanding, panel-hung, and grid-mounted units.

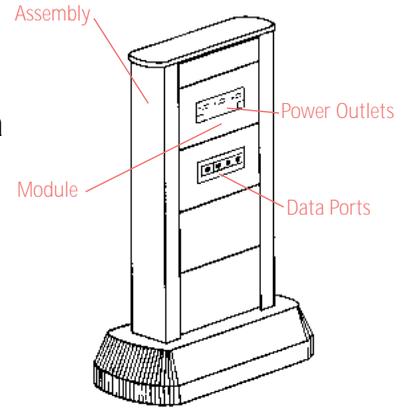
Ported Panel Kit

A separately-specified component that mounts flush to the surface of a PREMISE powered panel. The component provides access to electrical plug-in sites or data ports above or below a panel-mounted work surface. Installation of a ported panel kit requires field-modification of a powered panel. The kit itself includes a *junction box*, cover plate, hardwire *connector* with plug, duplex *power receptacle*, and a mounting template. A maximum of two ports can be installed on each panel, on opposite sides if desired. They cannot be installed back-to-back, however.

Haworth Electrical Product Terms

Power & Communications Elements

A series of products providing access to power and communications in Haworth Crossings™ installations. The PCM assembly is a 26" - or 39"-high unit that accepts power infeeds from the floor, ceiling, or wall via *floor duct*, *flatwire*, *conduit*, or *top feed* connections. PCM modules are available prewired to accept one triplex *power receptacle* on each side of the assembly, or hardwired to accept two duplex receptacles on each side; there's also a communications module providing two access ports with covers on each side. Another Element, the spur, provides six 15-amp outlets.

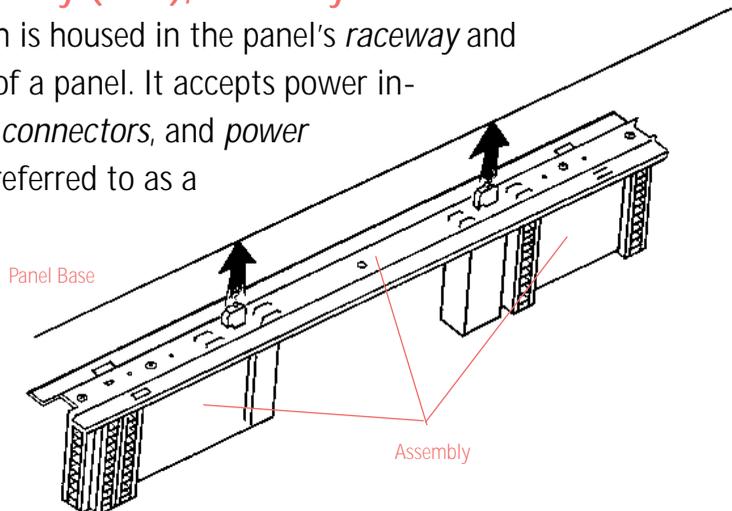


Power Conditioning Receptacle (PCR)

A *power receptacle* specifically designed to protect computers and peripheral equipment from the hazardous effects of *electromagnetic interference* and transient *voltage* surges. The PCR features integral *surge suppression*, EMI filtering, thermal circuitry protection, an *isolated ground*, and a visible protection indicator light. The receptacle is programmable to any of three *circuits*.

Power Distribution Assembly (PDA), Raceway

The electrical assembly which is housed in the panel's *raceway* and distributes power the width of a panel. It accepts power in-feed modules, *flexible power connectors*, and *power receptacles*. The PDA is also referred to as a powered raceway.

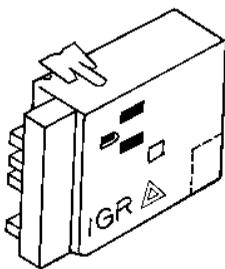


Power Module, Smart Power Module, Storage Module

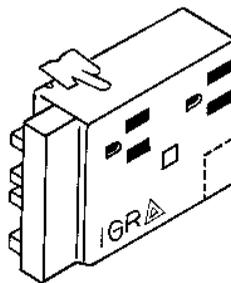
The power module is a separately-specified *surge-suppressor* unit that provides access to six unswitched, clean *power receptacles* at work surface height. The smart power module is a version of the power module that includes three clean surge-suppressor switched receptacles, two non-surge-suppressed unswitched receptacles, and a “smart” receptacle that automatically controls the three switched receptacles. (NOTE: The smart power module should not be used in conjunction with energy-saving computers, because the module defeats the computer’s energy program and may discharge the memory back-up battery.) The storage module must be specified in order to house the power module in *electronic work surface* applications only.

Power Receptacle

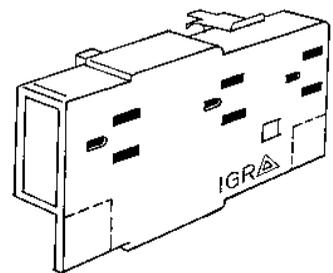
An electrical *outlet* that accesses power from the furniture system’s *power distribution assembly*. Receptacles on PLACES and UniGroup product lines are designed to accommodate one (simplex) or two (duplex) plug-ins for electrical equipment. Receptacles on PREMISE and RACE® product lines accommodate three (triplex) plug-ins. Any type of receptacle is available with an integral *isolated ground* for protection of computer equipment. A PLACES, UniGroup, and RACE receptacle is also available with integral power-conditioning *surge suppression* for protection against *voltage spikes*. (See Receptacle Outlet.)



Simplex



Duplex

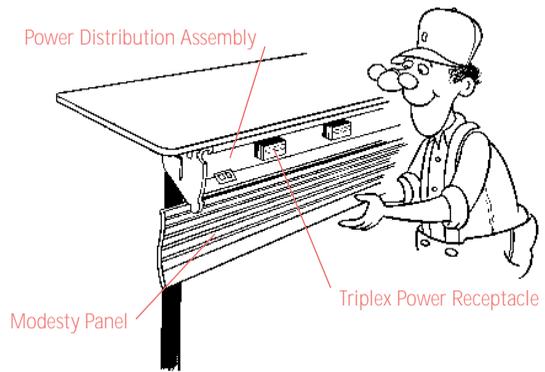


Triplex

Haworth Electrical Product Terms

Powered Table System

Table systems which can be specified with *The Power Base power distribution assembly (PDA)*. The modesty panel available with Tactics™ T- and C-leg table styles has a PDA providing access to two triplex *power receptacle* sites, as well as segregated channels for routing and storage of power cords and data cables.



Raceway

See Power Distribution Assembly.

Raceway Trim Cover

The enclosed channel, located at the base of all Haworth panels, that houses the *power distribution assembly* and serves as a pathway for communications cables.

Raceway Retrofit Kit

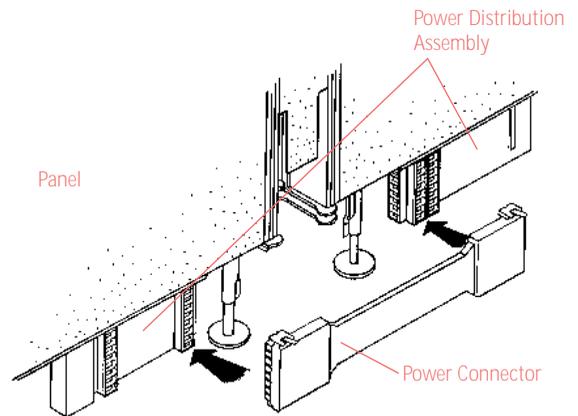
A component designed for field-conversion of a non-powered panel to a powered panel or a powered panel to a non-powered panel.

Street Light

A fixture used to direct light downward to the work surface. Street lights mount to a PLACES or UniGroup panel's top cap.

Straight-Span Power Connector

A component used to route power, in a straight panel run, between two powered panels that are separated 2" (PLACES, UniGroup) or 3" (PREMISE) from each other by non-powered panel(s) configured in a three- or four-way panel junction. This connector also makes "outside turns" on 6-circuit power corners.



Task Lighting Fixture

A fixture that directs light downward to the work surface via a fluorescent lamp source. Task lighting fixtures can be mounted under a shelf unit, flipper door unit, overhead storage unit, or counter top; they are available in several widths. Options also include an electronic *ballast* and a variable-intensity dimming control.

The Power Base™

Introduced by Haworth in 1986, The Power Base was the industry's first panel-based electrical distribution system designed to provide a *separate neutral conductor* for each *hot conductor* — a key protective and high-performance-achieving benefit for sensitive computer equipment. In 1995, The Power Base was further enhanced to provide optional *six-circuit* power-handling capabilities for equipment-intensive installations. The three- and six-circuit system configurations can be interconnected, providing an even greater degree of flexibility and versatility in work station and equipment planning.

Top Feed Module

A component used to route power from the building's ceiling (*plenum* space) to the panel system. The power in-feed is shipped with the vertical raceway, a top-mounted electrical *junction box*, a ceiling trim bezel, the power plug sub-assembly, and panel trim *end cap*. The top feed module routes power inside the panel's vertical channel, thereby eliminating "panel creep" concerns in furniture layout planning.

Haworth Electrical Product Terms

Vertical Wire Channel

An external component designed to route equipment cords and cables vertically alongside a panel. The channel mounts to the panel's side rail reveal.

Wire Basket

A cord and cable storage/management unit, designed for use under any desk or work surface. The wire basket is often used with a separately-specified *power module*. The wire basket is attached beneath the work surface or desk with screws.

Wire Management Loop

A screw-in metal loop for cord/cable routing, designed for use under any desk top or work surface.

Work Surface Grommet

A factory- or field-installed component for wood-core desk and work surface laminate tops. Equipment cords and data cables are routed downward through the grommet. Grommets can be used in conjunction with *horizontal* and/or *vertical wire managers* to keep cords and cables off the floor.

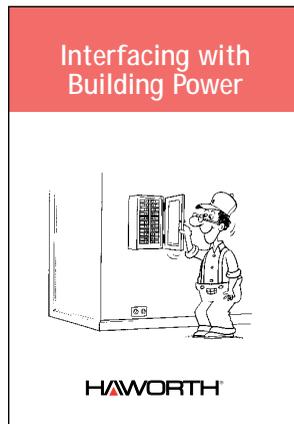
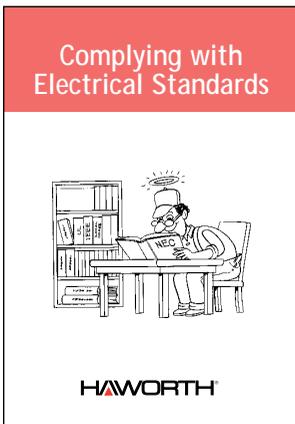
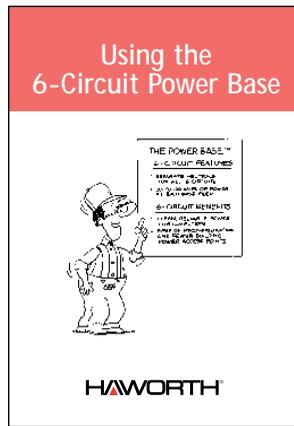
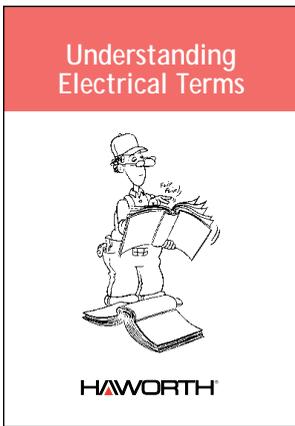
Work-Surface-Height Duplex Receptacle

An extension cord with two (duplex) *receptacle* plug-ins mounted atop a work surface for convenient power access. The receptacle end is placed into a rectangular hole that is factory- or field-cut in the top of any type of work surface. Power is carried to the receptacles through a six-foot-long power cord. A flexible, liquid-tight *conduit* is available for hardwired applications.



Haworth Booklets on Electrical Topics

This is one of four booklets providing information on electrical topics. The complete series is shown below. For more information about Haworth products and services, call us at 1-800-344-2600, or visit our Internet World Wide Web site – www.haworth-furn.com.



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