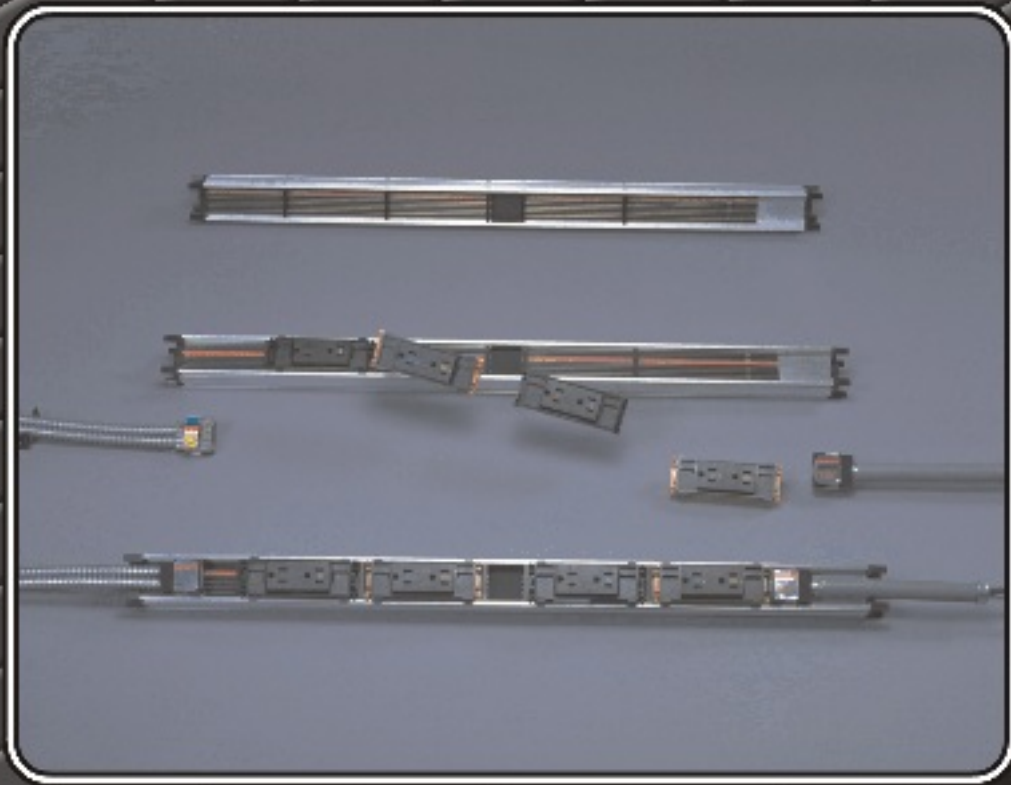


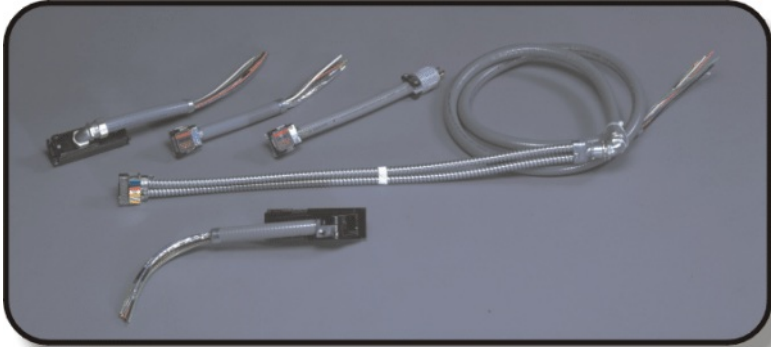
POWER FOR THE OFFICE



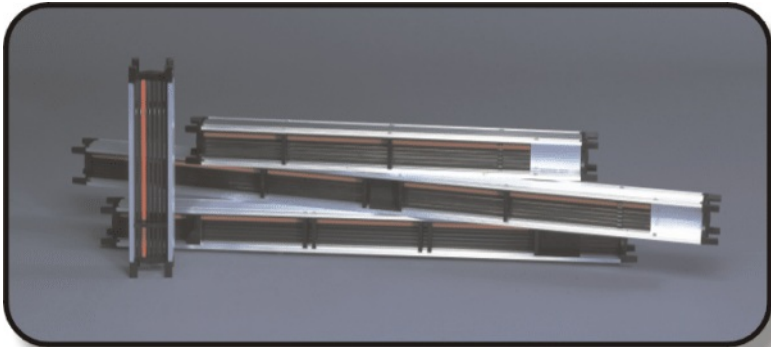
The
Trac Pac 8
Product Line

POWER FOR THE OFFICE

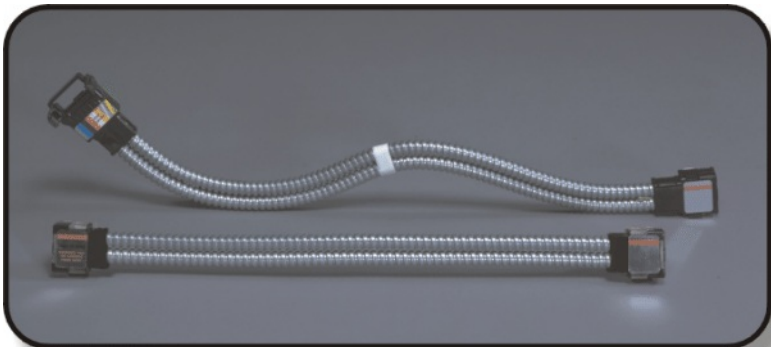
Trac Pac 8[®]



**Power
Entry
Cables**



Tracks



Cables



**Outlet
Option
Modules**

POWER FOR THE OFFICE

Trac Pac 8[®]

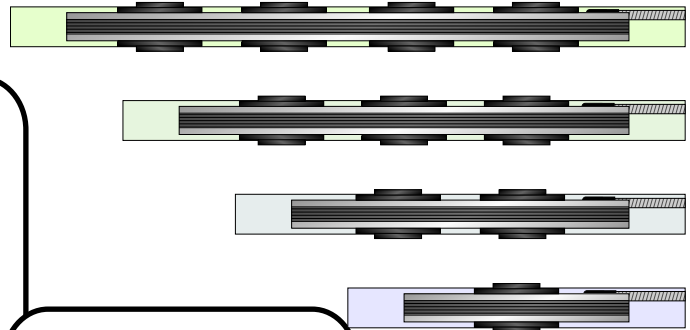
Track

The Track is the heart of the Trac Pac 8[®] System. It simply snaps into proper position to receive and distribute power. Extra openings for outlets lower overall cost by increasing duplex density.

Longer Tracks offer 4 or more outlet locations per side. The extra access eliminates pesky wiring of wing walls. More access from fewer components means lower installed cost.

Sizes

Tracks are manufactured in custom proportional lengths to fit a given raceway cavity. These lengths correlate with dimensional differences in the furniture. The rigid Track length varies, while the standard, flexible Track To Track Cable reaches back into the prior raceway to receive power.



Adjustable

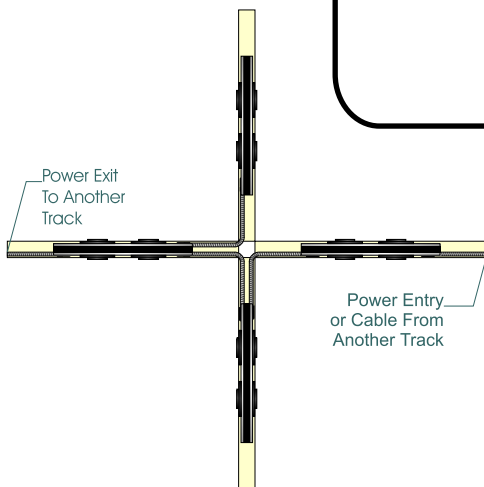
The Track permits the male connectors to plug in anywhere along a given area. This means only one cable is required for panel to panel connection, left or right corners, and crossing "X", "T", or "Y" plan view configurations.

The Track allows the male Track To Track Cable connector to slide, or track, to a location where the conduit lays perfectly flat with no snaking or pressure against the side cover plates.

Branching

The Track provides an area to reverse direction and carry power in all branches of "X", "T", or "Y" configurations. The tracking feature permits all cables to lay flat.

The branching feature is much easier to use and understand than left or right spanner cables, or putting unnecessary power in a panel to cross a "T."



Electromagnetic Control

Every load line, whether hard-wired, or in any electrical system, can electromagnetically induce power currents in adjacent conductors, be they grounds, neutrals, or data cables. These transient currents choose the easiest path to ground. They are naturally self draining. Trac Pac 8[®] arranges three alternating phase lines to run in one of twin conduits. Phases mutually self-cancel EMI. Metal exterior surfaces of Trac Pac 8[®] permit data and communications cables to freely run in the same space, with no interference. The metal also blocks radio frequency from reaching interior conductors. Single conduits are occasionally used to comply with local code requirements. Although not as efficient, they aid in mutual self-cancellation as well.

POWER FOR THE OFFICE

Trac Pac 8[®]

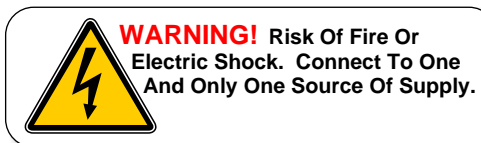
Power Entries Will Not Interconnect

Trac Pac 8[®] has an exclusive safety feature that overwhelms all the other exciting and innovating product details:

NO COMPONENT, COMBINATION OF COMPONENTS, OR CLUSTER OF WORKSTATIONS CAN BE ENERGIZED BY MORE THAN ONE SOURCE OF SUPPLY.

Overcurrent protectors can not accidentally aggregate in the panel box. Although power can be carried in all directions, this unique feature does not allow every mechanically connected panel to be electrically connected. Directional power prevents inadvertent, and dangerous, interconnection of multiple power sources.

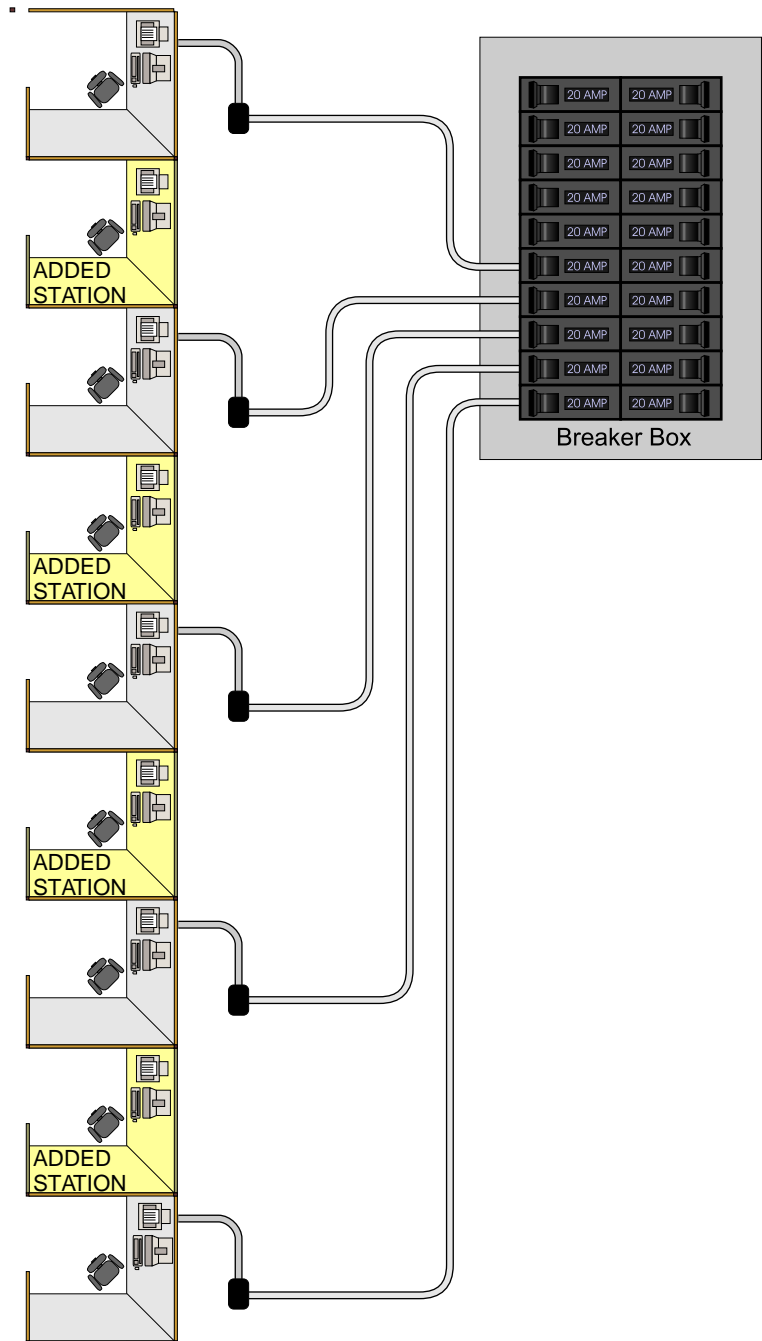
Underwriters Laboratories, Inc. and the Canadian Standards Association require non-directional power packages to carry a warning label as follows:



Trac Pac 8[®] is exempt from the warning label. It's directional nature prevents multiple power supply.

Multiple power supply rarely happens on installation because of the warning label on the power cable. But this label is often missing or obscured during reconfiguration. The illustration (left) illustrates how added work stations could align circuit breakers in a panel box and raise the 20 amp safety threshold to over 100 amps. The single neutral wire in panel wiring is also forced to carry the imbalance of three 100 amp circuits with no breaker at all.

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POWER FOR THE OFFICE

Trac Pac 8[®]



Technology

Trac Pac 8[®] is a powerful panel power package. It offers four or more outlets on each side of longer Tracks. It has eight wires, four circuits, automatic length adjustment, multiple power entry devices, and a multitude of outlet options. Just four basic parts install quickly without tools.

Circuitry includes isolated circuit(s) for technology use. Isolated circuits provide clean power for digital equipment, like desktop and laptop computers, digital cameras, and printers. Other circuits provide utility power for ambient light, space heaters, and other specialized equipment.

**Higher Duplex Density
Lowers Overall Cost**

Flexibility

The interconnecting length will adjust to a precise need using a unique track feature. Interconnecting cables always lay perfectly flat, with no snaking, straining, or pressure on side cover plates. They cross posts, round corners, and make adjacent panel connections with equal ease.

Adaptability

Power entry will never be a problem with our selection of power entry methods. Any panel will accept power from the wall, floor, column, or ceiling. A unique 180 rotating power entry even passes through a receptacle size opening.

The Outlet Option Module presents the end user with an unmatched variety of devices and circuit access. Adapting to future demands is a snap by releasing each module and replacing it with the one precisely tailored to the need.

Simplicity

Trac Pac 8[®] provides four basic parts which adapt to match the manufactured modularity of the furniture. It answers an engineer's toughest problems. Trac Pac 8 is pleasing to the designer's eye and surpasses a specifier's special requirements. It is an installer's dream and fulfill's a user's future demand. It is simple sophistication.

**EASY ASSEMBLY
No Tools Required
Trac Pac 8
Makes It Simple
With Only Four Parts**

Trac Pac 8[®]

Harmonics Protection Provided

To Harmonize Is Sometimes Bad

Harmonics is a great word to describe an undesirable effect. Alternating load lines are designed to share a neutral return path. The neutral is not even necessary when alternating loads are balanced. In fact, a neutral is commonly not provided, for example, to 220 volt cloths dryers or industrial 208 volt motors.

The neutral is necessary when two or three 120 volt alternating load lines are used for office power. Balance is not assured because of spasmodic daily use, and additions and deletions of equipment.

Certain types of equipment (i.e. desktop computers) change raw power and add to the load carried by the neutral return path. Then alternating load lines do not take their turns in time. When two or three load lines harmonize power to be returned via the neutral, harmonics have been created.

The Worst Possible Is 35 Amperes

The worst case harmonic neutral load was again confirmed by Underwriters Laboratories in a 1992 study. They confirm U.S. Government research and private sector findings.

The results say that three alternating load lines, in perfect unbalance, can place up to 173% of the standard amperage on the neutral. Two similarly unbalanced load lines can place 142% of the standard line load on the neutral.

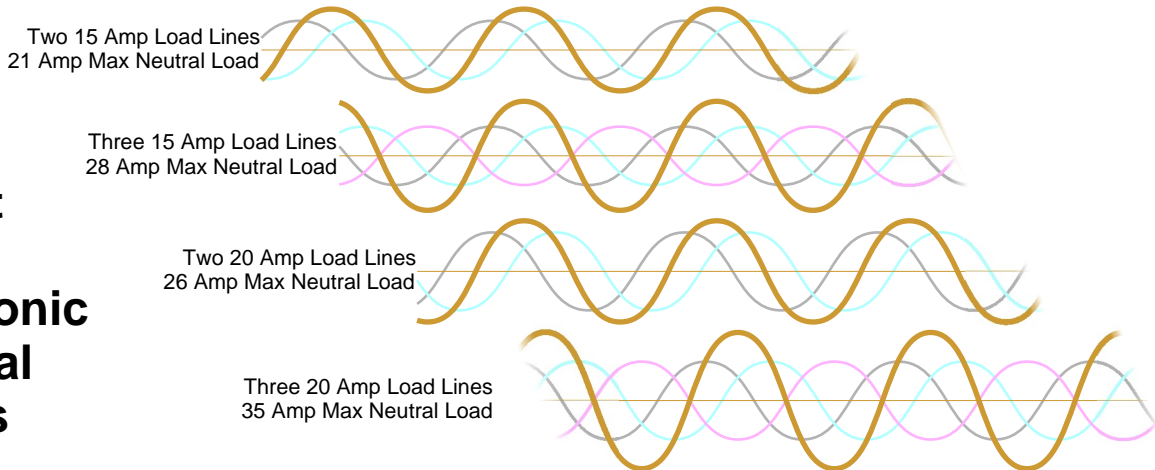
To create worst case, each load line must be continuously, perfectly harmonically imbalanced, and fully loaded to the breaker threshold of 15 amperes in Canada, or 20 amperes in the United States. Three alternating, harmonically imbalanced 20 amp loads can place up to 35 amperes on a shared neutral.

Worst Case vs. Real Life

Three fully loaded 20 ampere, harmonically imbalanced, and continuously used circuits is highly doubtful in real offices. Furthermore, simple methods are available to eliminate the unlikely problem. Safety codes rate commonly used #12 Gauge building wire for use at 30 amperes.*

All codes provide a margin of safety to allow for start up loads, et cetera. The National Electric Code specifies that this #12 gauge wire be used for 20 ampere, harmonically imbalanced loads. The larger #10 gauge wire, rated for 40 amperes, may be specified when three 20 ampere computer lines share one neutral.

Worst Case Harmonic Neutral Loads



*National Electric Code, Article 310, Table 310-16

Circuit Balance Assured

Two Plus Two In Only Two Devices

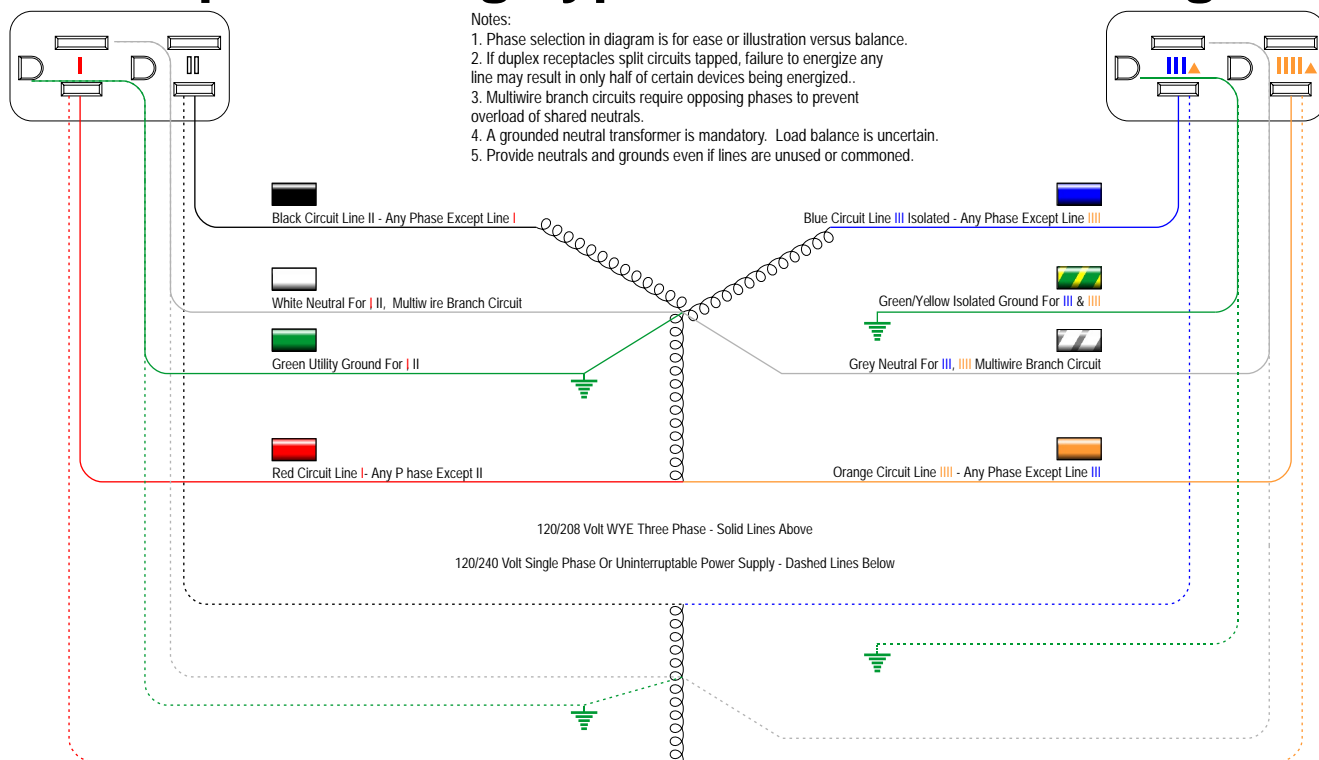
Trac Pac 8[®] has a patented feature embodied in two duplex devices:

Only two circuits share each neutral. The worst case load is 28 amperes in a #12 gauge neutral. These two devices greatly simplify specification, ordering, inventory, use, and understanding. Four circuits make choosing confusing. These two devices make the choice simple - computer or utility?

Two split duplexes give each user access to four circuits. Occasional breaker overloads call for simply unplugging offending equipment. Rewiring, new access, new duplexes, or reconfiguration of power can commonly be avoided.

The split duplex also encourages balance by providing each receptacle with two balancing circuits. If the two plug-ins on a duplex are used, the neutral returns of the two devices will, at least partially, cancel each other out.

Duplex Wiring Typical Of 2 + 2 Planning



Trac Pac 8

Another Quality Product
Proudly Manufactured In
The United States Of America
By The People Of:

**UNION
PRODUCTS
INTERNATIONAL**
INCORPORATED

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gps coordinates: N 41° 24.5' W 85° 36.5'

The people of Union Products International, Incorporated build high value, quality electrical products for a worldwide market of discriminating customers in office furnishings and commercial architecture.

The work is never at the expense of personal pride or dignity. Each person is key to overall success and is treated with respect, fairness, and given equal opportunity. Our unique product designs lead us into markets and new opportunities. Our customer service, demanding quality, excellent delivery, and outstanding technical support follow product lead to make our value overwhelming when sold at competitive prices.