



AMPINERGY™ Modular Power Distribution System

A Manufactured Wiring System

December 5, 2007



AMPINNERGY Modular Power System – Overview

- What is AMPINNERGY?
- Features
- Component Overview
- Specifications/Agency Approvals
- Summary
- Additional Information and Resources

What is AMPINNERGY?

- A multi-circuit power distribution system that provides a feature-rich, flexible, and modular alternative to traditional hard wiring.
- Simplifies installation and reduces labor time by up to 70% as compared to hard wiring.
- Power quality is enhanced due to oversized neutral.
- Easily changeable and adaptable to meet new configuration and load balancing requirements...



What is AMPINNERGY?

Making changes is as easy as 1,2,3...

- ✓ *Step 1* = Disconnect (with Power OFF) the AFWM, PDM, Junction Box, or Power Strip from the Cable Assemblies.
- ✓ *Step 2* = Relocate the AFWM, PDM, Junction Box, Power Strip and Cable Assemblies.
- ✓ *Step 3* = Reconnect the AFWM, PDM, Junction Box, or Power Strip to the Cable Assemblies. Reconnect Power.

Presto! You're back in business

AMPINNERGY Modular Power System – Features

- Easily isolate various parts of the system.
 - Simply disconnect and reposition for end-user power changes.
- Easily re-balance the system by simply changing the receptacle.
 - No wiring changes necessary.
- No tooling required when mating components.
- All components keyed to maintain system polarity.
 - Prevents system from being installed incorrectly.



AMPINNERGY Modular Power System – Features

➤ 5-Wire System:

- 3 Circuits at 20 amps each
- One 10 AWG shared neutral
- One 12 AWG shared system ground
- 12 AWG for each of Lines 1, 2, and 3
- Can safely connect to 8-Wire System

➤ 8-Wire System:

- 4 Circuits at 20 amps each
- One 10 AWG shared neutral
- One 12 AWG dedicated neutral
- One 12 AWG shared system ground
- One 12 AWG isolated ground
- 12 AWG for each of Lines 1, 2, 3, and 4
- Can safely connect to 5-Wire System



AMPINNERGY Modular Power System – Features

- Oversized shared neutral conductor (10 AWG) accommodates higher currents caused by third-order harmonics.
- Cable assemblies are plug-to-plug compatible & polarized
 - Simplifies installation
 - No worries about which end goes where
- 20-amp rating per circuit Listed by Underwriters Laboratories Inc. (UL) under UL Standard 183, File Number E132626 as a manufactured wiring system.

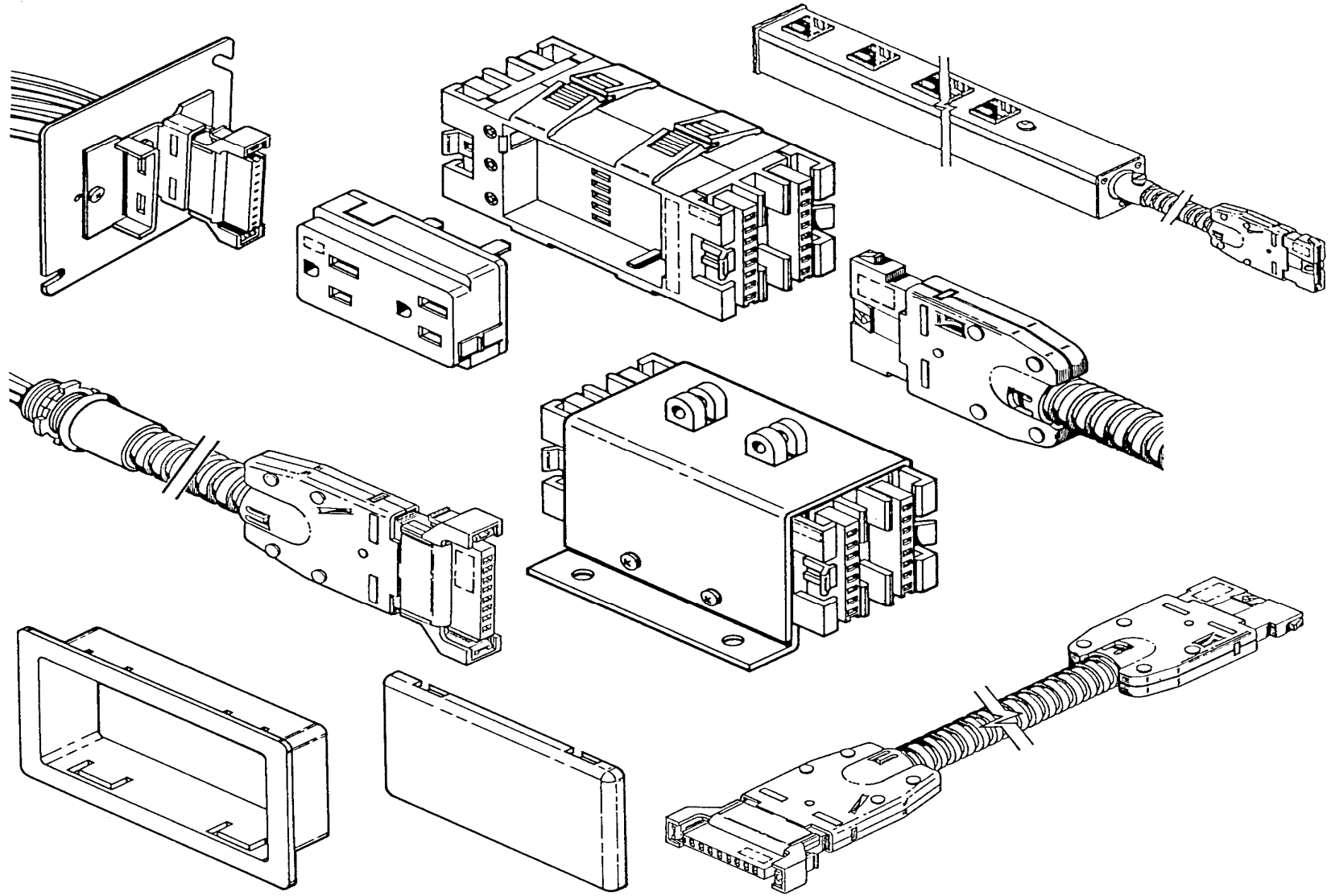


AMPINNERGY Modular Power System – Features

- Compatible with Communications
 - Uses close-twist extra flexible steel conduit
 - Metal conduit provides EMI noise shield for Enhanced Category 5 and Category 6 data communications
- NEC Approved per Article 800-52.2
- EIA/TIA 569 – Table 10.4-1
 - ✓ *Enables running both power and data cables in same raceway or duct system without a separator plate!*



AMPINNERGY Modular Power System – Component Overview



AMPINNERGY Modular Power System – Component List

- Power Transition Unit (PTU)
- Zone Wiring Box
- Cable Assemblies:
 - Line Entry
 - Power Entry
 - Power To Power
 - Power To Line
- Power Distribution Modules (PDMs)
- Power Junction Boxes/Power Strips
- Duplex Receptacles
- Desktop Outlets

AMPINNERGY Modular Power System – Power Transition Unit (PTU)

- Provides an interface for connecting building power to AMPINNERGY.
- Consists of a faceplate equipped with one or two hard-wired line connectors.
- Polarized to mate with power connector cable assemblies.
- Mounts to a standard 4” electrical junction box (provided by others).
- Available in a 5- or 8-Wire configuration.



AMPINNERGY Modular Power System – Zone Wiring Box

- Distributes power from building power source to zone.
- Three 8-wire feeds for 12 circuit capacity.
- Factory assembled and tested per UL 183.
- All connectors clearly identified with connector and schematic labels.
- Each connector includes a removable strain relief.
- Mounting legs secure box to floor



AMPINNERGY Modular Power System – Cable Assemblies

- Four configurations:
 - Power to Power
 - Power to Line
 - Line Entry
 - Power Entry
- 5- or 8-Wire, Color-coded housings:
 - White: 5-wire
 - Black: 8-wire
- Lengths from 12-in to 50-ft
- Superior flexibility
 - Stranded wire (THHN)
 - AFS Grade Super Flex Conduit



Power Entry



Power to Power



Power to Line

AMPINNERGY Modular Power System - Power Distribution Modules (PDMs)

- Available in 4-Port or 6-Port:
 - Splits a branch circuit into 3 or 5 directions and accepts feed-through cable as well as branch power cable assemblies.
- All power port connections are bi-directional.
- Power connector cables easily plug in, pass power, to/from several locations:
 - PTU
 - Another PDM
 - AFWM
 - Whip Kit (interface with Undercarpet Cabling)
 - Junction Box or Power Strip
- Available in standard, low profile, or extra-low profile design.
- Available in 5- or 8-wire configuration.



Low Profile, 4-Port PDM



Low Profile, 6-Port PDM



Extra-Low Profile, 6-Port PDM

AMPINNERGY Modular Power System – Power Junction Box/Power Strip

- Performs two main functions at each location:
 - Provides electrical service via integral duplex receptacles
 - Supplies feed–thru capabilities to and from other locations
- Hard bus design
 - No wires, wire nuts or crimp connections.
- Contains 8 contacts at each plug
- Provides 3- or 4-circuit options:
 - Nine different duplex receptacle types available for balancing load
- Single, Multiplex, Triplex, and Quadplex available



- ✓ Available in:
 - *Snap–in mount*
 - *Bracket mount*
 - *Lug mount*

AMPINNERGY Modular Power System – Duplex Receptacles

- Pluggable modules snap into Power Junction Box assembly with ease
- Standard ground or isolated ground
- Active line clearly indicated
 - Alpha-numeric characters indicate Line
 - Isolated ground marked in orange
- Fully polarized and keyed
- Available in six thicknesses to accommodate modular furniture raceway widths
- NEMA 5-15R or 5-20R available
- Available for any of the 3- or 4- circuit configurations



AMPINNERGY Modular Power System – Desktop Outlets

- Simply clamps onto work surface, no holes to drill!
- Separate outlets for power and telecommunications.
- Power
 - Duplex 15 ampere receptacle
 - 8 ft. rubber power cord plugs into standard receptacle
- Telecommunications (Voice/Data)
 - Available in 2 configurations
 - Category 3 accepts standard jacks
 - Category 5E and 6, requires Flex Mode plate with selected connectors; 4-Port capacity



✓ **UL Listed and CSA Certified**

AMPINNERGY Modular Power System – Agency Approvals

- Compatible with 1999, 2002 and 2005 National Electrical Code Sections 604 and 605

- Third-Party Certified under Underwriters Laboratories Inc.
 - Manufactured Wiring Systems (UL File E132626)
 - UL 1286 – Office Furniture
 - UL 183 – Manufactured Wiring (allows for field installation)
 - UL 498 – Receptacles
 - UL 514A – Metallic Outlet Boxes
 - UL 514C – Non-Metallic Outlet Boxes

- Certified to Canadian Standards Association
 - Manufactured Wiring Systems (CSA File 7189)
 - CSA Standard C22.2 No. 203.1 – Manufactured Wiring Products
 - CSA Standard C22.2 No. 203-M – Modular Wiring Systems for Office Furniture

AMPINNERGY Modular Power System – Summary

- Change circuit arrangement and balance loads with ease
- 5-Wire (3-circuit) or 8-Wire (4-circuit) systems available
- Oversized neutral conductor for power quality
- Extra flexible metal conduit
- Bi-directional system
- Specification Grade Receptacles are easily interchangeable
- Ratings – 300 volts, 20-amps
- Approved by NEC, UL, and CSA

AMPINNERGY Modular Power System – Additional Information and Resources

- Conforms to **2005 National Electrical Code** (NFPA 70), Article 604 and Article 605
- **UL Listed:** File Number E132626
- Conforms to CAN/CSA-C22.2, "Canadian Electrical Code, Part II" (CEC)
- **CSA Certified:** File Number LR 7189
- **Product Information Center: (800) 522-6752**
- Customer Service (Pricing Inquiries): (800) 553-0938
- AMPINNERGY Layout and Planning Manual, #124235
- Application Specification for AMPINNERGY, #114-6039