

POWERWHIPS™

an IMS Engineered Products Brand

DATA CENTER POWER DISTRIBUTION CABLE ASSEMBLIES



Designed and
Manufactured in the USA

ISO9001 Certified

POWERWHIPS
AN IMS ENGINEERED PRODUCTS BRAND
16575 West Small Road
New Berlin, WI 53151
www.powerwhips.com

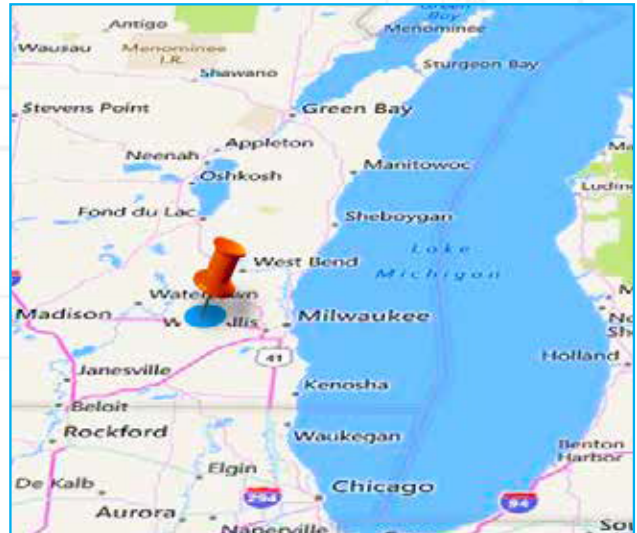


ABOUT POWERWHIPS...

For over five decades, PowerWhips an IMS Engineered Products Brand, has met the cabling and power needs for some of the world's largest companies. Our customers have trusted us to deliver quality products with zero failure expectation.

PowerWhips was originally under our IMS Electrol branch. IMS Electrol was established in 1961 and initially started out as a large panel builder for medical equipment. The company expanded into cable and harness assemblies throughout the 1960's, during this time they continued to expand their capabilities and customer base through strategic growth. PowerWhips an IMS Engineered Products Brand is currently produced in a 40,000 sq. ft. facility in New Berlin, Wisconsin.

Fortune 100 Companies have assigned us the mission critical task of supplying connectivity, power and cabling products to the IT, Medical, Government/Military and Communication markets. Our strategy is simple; we create and deliver value. As an ISO9001 company, PowerWhips continues to provide high-quality, practical, cable assemblies for today's most demanding applications.



PowerWhips is centrally located in the Midwest



Racks by
AMCO Enclosures

PRODUCT SYNERGY

Data Centers across the USA trust PowerWhips and AMCO Enclosures as an integral part of their design specifications.

OVERHEAD RACEWAY



SUB-FLOOR

POWERWHIPS and AMCO Enclosures are both IMS Engineered Products Brands



MADE IN THE USA

...AND WHY WE MATTER

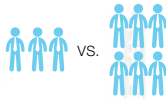


COST AND TIME MANAGEMENT SAVINGS

INVENTORY COST



DEDICATED PERSONNEL
Total No. of
Personnel Required



SIMPLE DESIGN
Configurator saves
design time



EASY INVENTORY
Inventory
Management

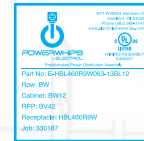


SHORTER LEAD TIME

Assembled faster and
ships quicker than building your own



QUICKER INSTALLATIONS
Faster Cable Whip Identification
at multiple points



CONSTANT SAFETY AND RELIABILITY

TESTED & WARRANTIED

100% TESTED



Approved &
Warranty

100% UL LISTED



WIRING ASSEMBLY
E466267

COMPLETE CUSTOMIZATION USING QUALITY COMPONENTS



POWERWHIPS PRODUCT CONFIGURATOR FASTER, SIMPLER, SAVES TIME & MONEY!

The screenshot shows the Powerwhips Product Configurator interface. It includes a header with the Powerwhips logo and a navigation bar with buttons for 'Required', 'Optional', 'Recommended', and 'Extra'. The main area is a table with 16 steps for configuration. The steps are: Step 1 (Industry Standard), Step 2 (Isolated Ground), Step 3 (Receptacle Type), Step 4 (Connector / Receptacle Manufacturer), Step 5 (Wire Material), Step 6 (Wire Length (Feet)), Step 7 (Wire Gauge (AWG)), Step 8 (Wire Color), Step 9 (Wire Length (Feet)), Step 10 (Order Quantity), Step 11 (Mounting Kit), Step 12 (Enter Custom Description (e.g. 100ft)), Step 13 (Enter Custom Description (e.g. 100ft)), Step 14 (Enter Custom Description (e.g. 100ft)), Step 15 (Enter Custom Description (e.g. 100ft)), and Step 16 (Enter Custom Description (e.g. 100ft)). The table has columns for 'Line', 'Step', and 'Description'. A yellow banner at the bottom of the table reads: 'These columns of information that will appear on the Power Whip Label (in order from step 11 to 16)'. To the right of the table is a large image of a blue and black cable whip assembly.

WHY POWERWHIPS

PowerWhips understands that there is no room for product failure in mission critical data centers. The higher levels of quality components, precision manufacturing and testing – along with the special care and attention to detail that we build into our POWERWHIP products, assures you that each whip will meet or exceed the high levels of reliability and performance standards they have been designed for.

FULL CUSTOMIZATION

- ✓ 11 Conduit Colors
- ✓ Wire Bundling/Phasing
- ✓ Labels
- ✓ Device Types
- ✓ Extensive Selection of Mounting Kits that Maintain UL Listing Without Drilling the Box
- ✓ Painted iBoxes/Covers

BENEFITS

- ✓ Cost Effective
- ✓ Shorter Lead-Times
- ✓ 100% Tested and Certified
- ✓ Warranty
- ✓ Faster Design Time
- ✓ Engineering Support
- ✓ Use of LFMC Approved for use Under Raised Floors NEC Section 645.5 (E) & (F)

Device Options IEC

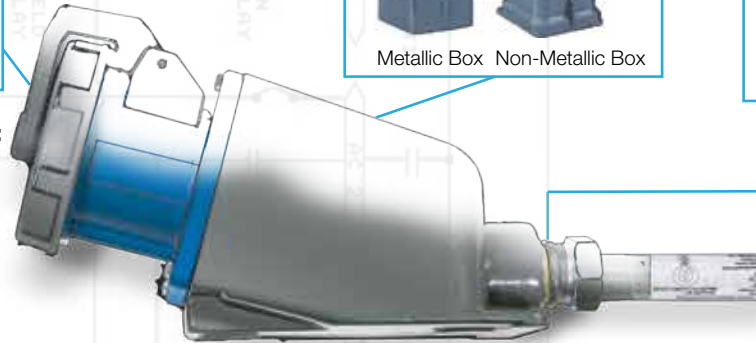


Box Options IEC



Device types available in:

- Connector
- Receptacles
- Plugs
- Inlets



Labeling

Customer Provided Receptacle Schedule									
Electrical Part Number	Row	Cabinet	Receptacle Type	Job Number	"LL" Length (Cable) Feet	CD Conduit Diameter Inches	CC Conduit Color	WT Length (Whip Tail) FT	Order Quantity
E-HLL4009W03-130L12	DW	DW12	DW42	HLL4009W	330187	63	1.00	BLUE	12

Phasing Options

Phase	Wire Color	Wire Size	Wire Type	Wire Length	Wire Quantity
A	Red	14	THHN	12	1
B	Blue	14	THHN	12	1
C	Green	14	THHN	12	1
Ground	Green/White	14	THHN	12	1

Accessories



Wire Bundling



Why Build When You Can Buy?



Custom Design, Enhanced Reliability, Quicker Turnaround, 100% Tested
ALL Products are UL Listed, Pre-Fabricated, Power Distribution Assemblies

Choice of Conduit Colors and Diameter



Connectors



Liquidtight Conduit

"LLL" CONDUIT LENGTH (FT)

"WT" WHIP TAIL LENGTH (FT)

Device types available in:

- Connector
- Receptacles
- Plugs

Device Options NEMA



Other Options NEMA

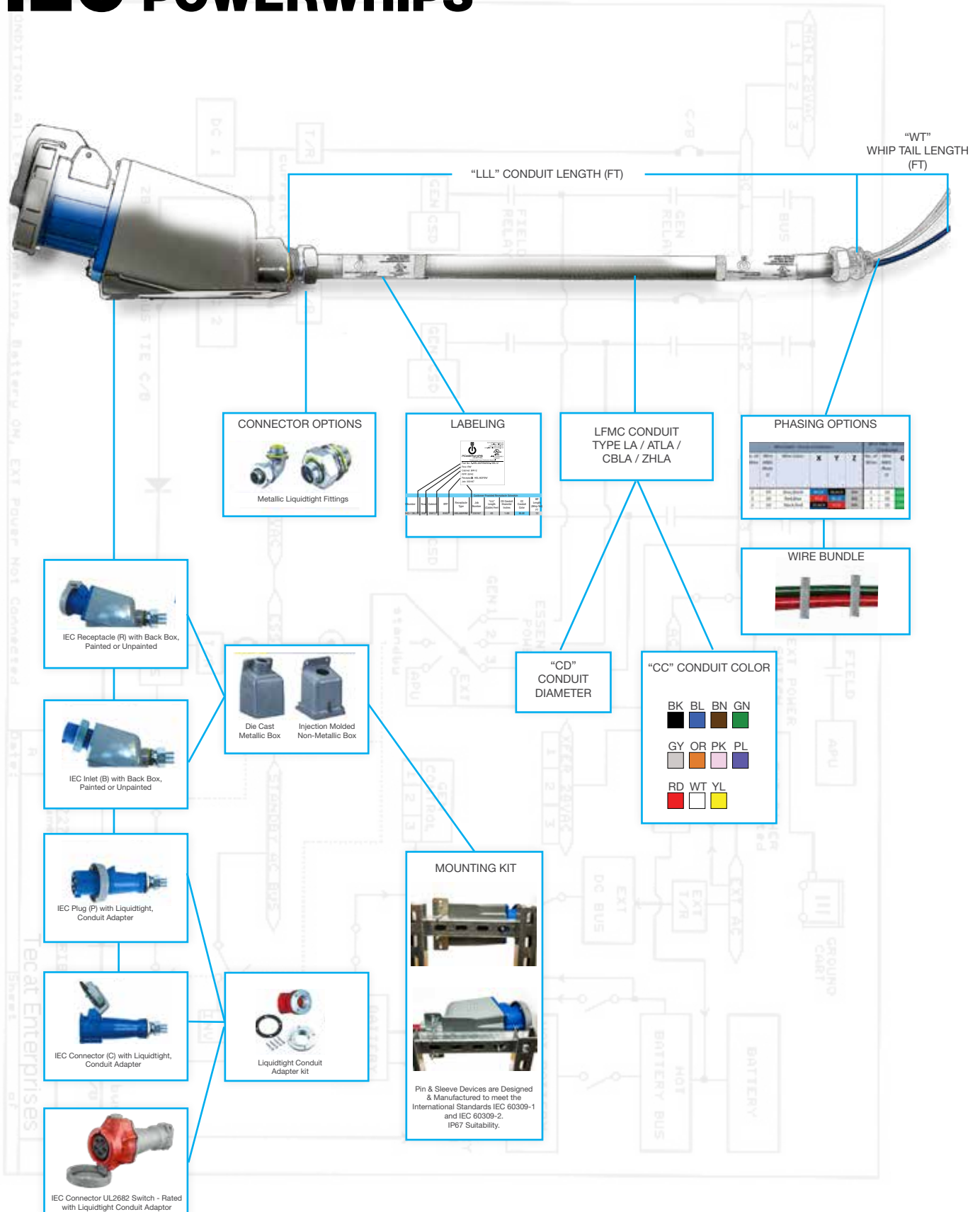


Box Options NEMA



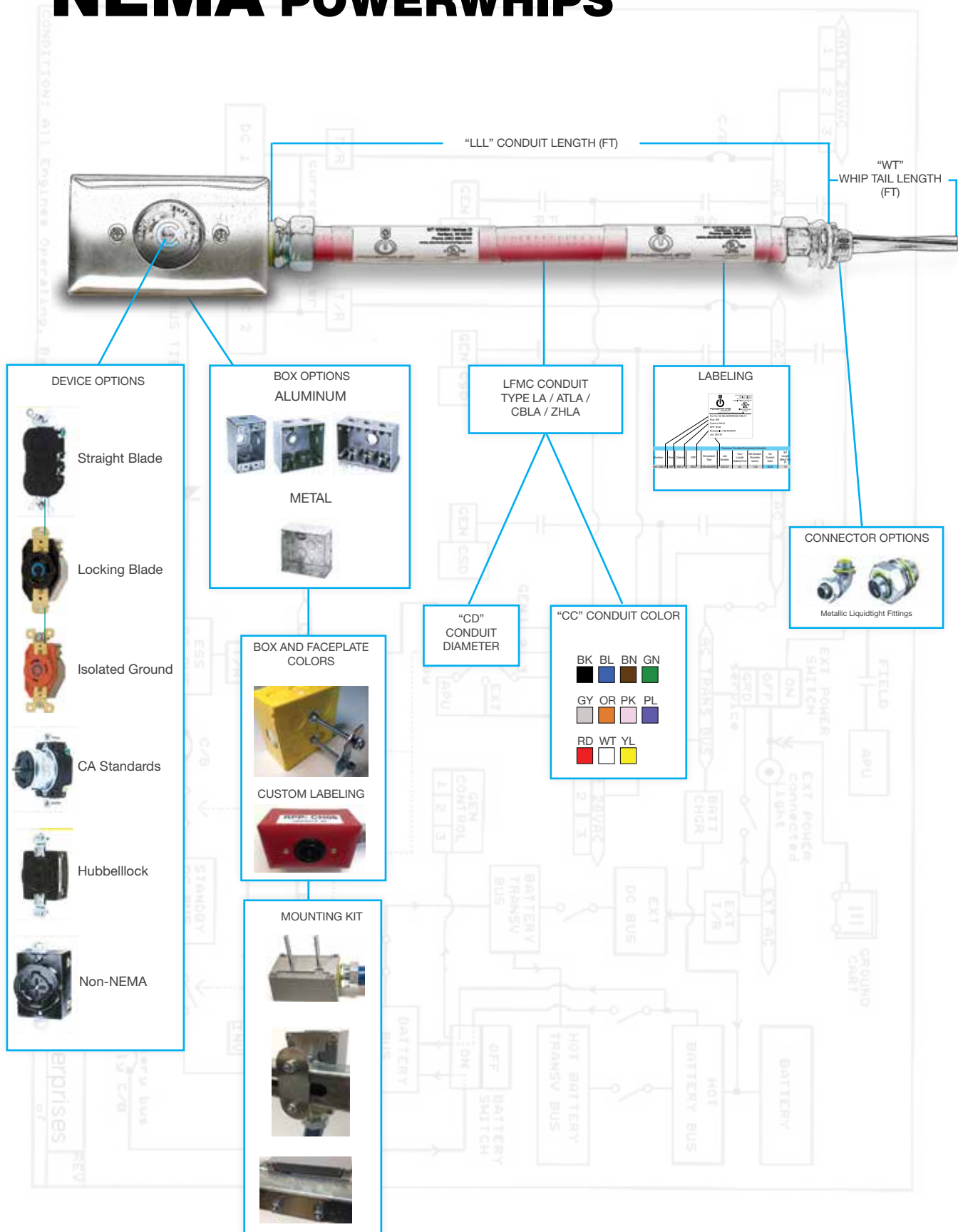


IEC POWERWHIPS



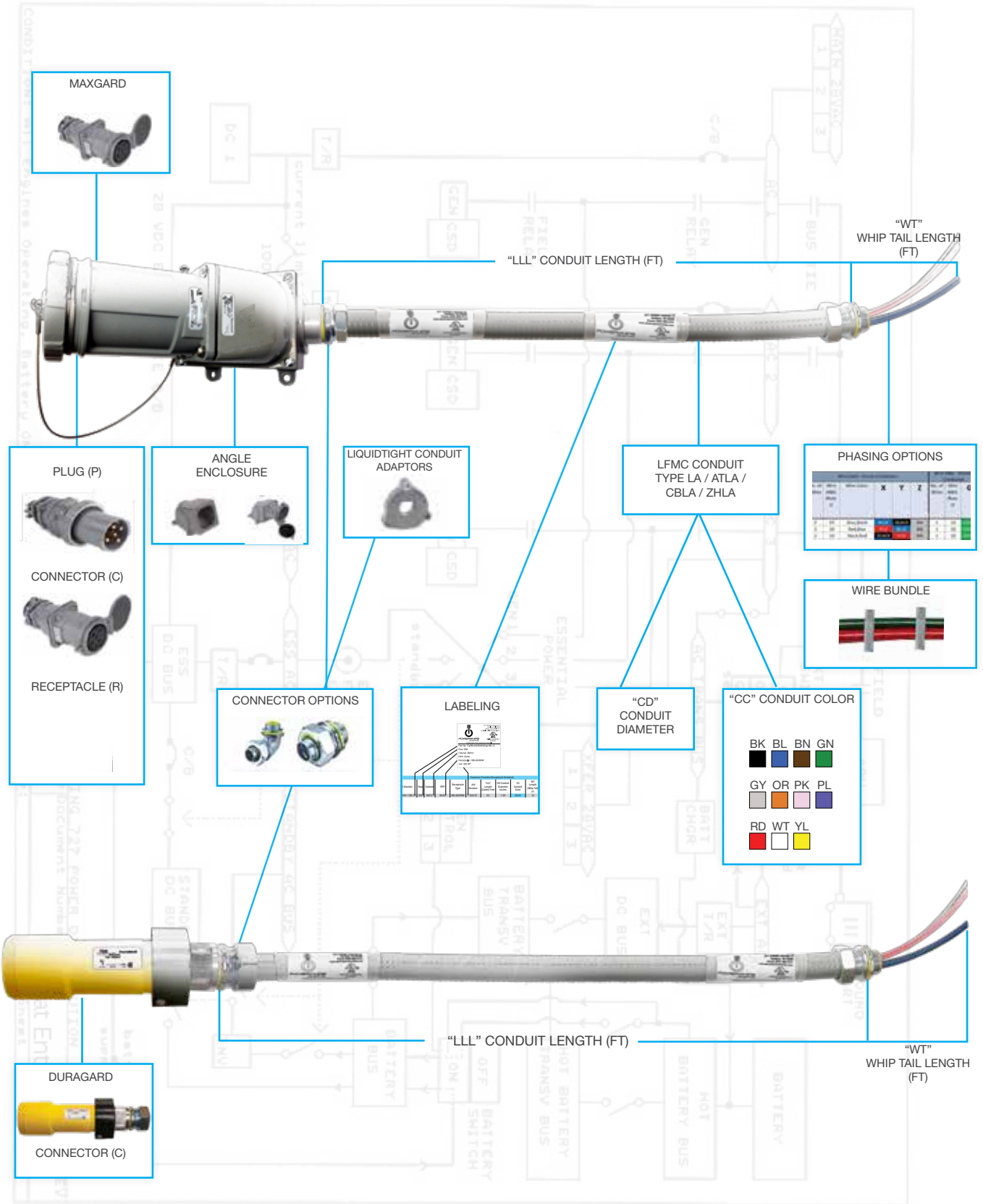


NEMA POWERWHIPS





RUSSELL STOLL POWERWHIPS

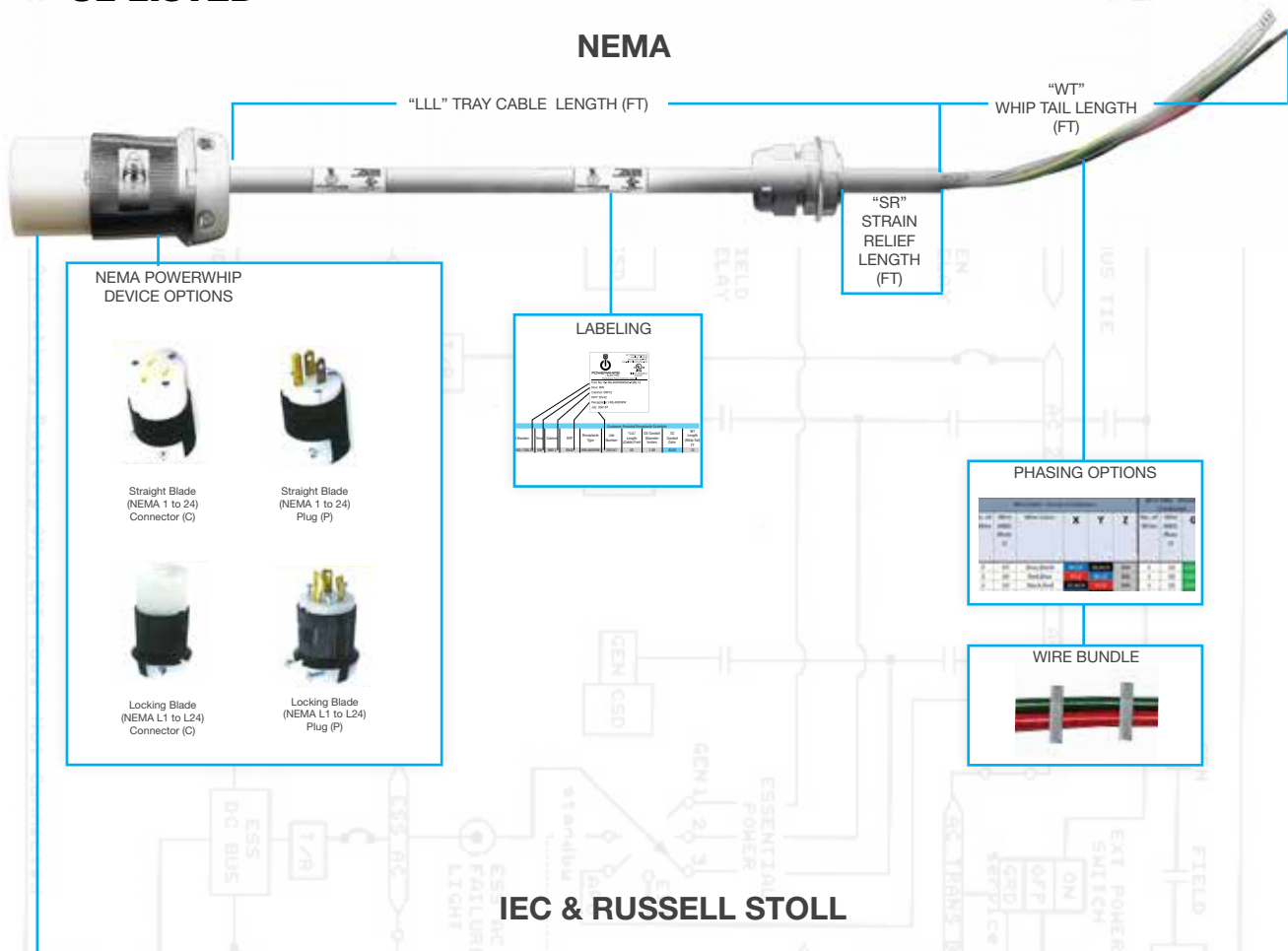




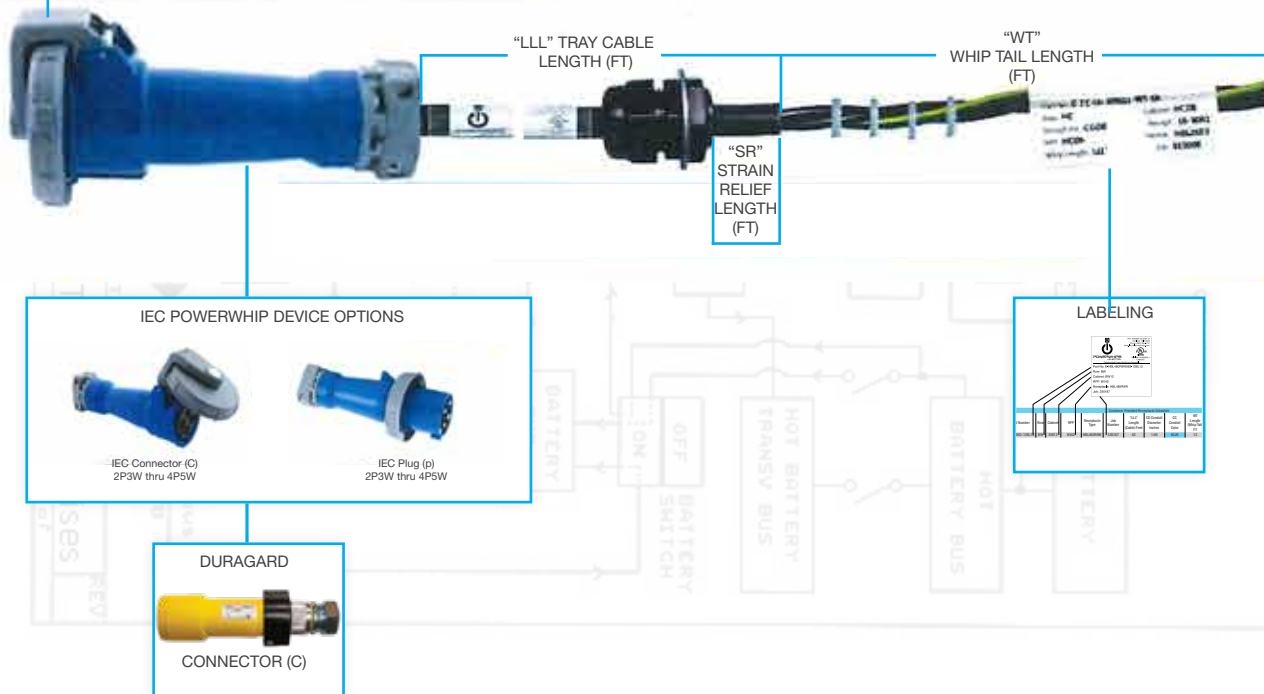
TRAY CABLE POWERWHIPS

UL LISTED

NEMA



IEC & RUSSELL STOLL





IN HOUSE TESTING/QUALITY



Testing - UL safety standard

Dielectric Strength

- A dielectric strength test, commonly called a “dielectric withstand”, “high potential”, or “hipot” test, is a stress test of the insulation of a device under test (DUT).
- Such a test applies a voltage to the DUT that is much higher than normal operating voltage, 1000V plus twice the normal operating voltage.

Ground Continuity

- The purpose of a ground continuity test is to verify that all conductive parts of a product that are exposed to user contact are connected to the power line ground (the “green” wire).
- The theory is that if an insulation failure occurs that connects power line voltage to an exposed part and a user then comes into contact with that part, current will flow through the low resistance ground path to the green wire, tripping a circuit breaker or blowing a fuse, rather than flowing through the higher resistance of the user’s body.

Phase Rotation

- Wiring continuity check.
- A main purpose of such a test is to ensure that the line and neutral conductors are not interchanged.

Insulation Resistance

- This test measures the total resistance between any two points separated by electrical insulation.
- The test determines how effective the dielectric (insulation) is in resisting the flow of electrical current.



Test Report ships with every order!

Customer - Pallet 1 of 1											
RPP RPP10-1A & RPP10-1B											
NOTICE - READ BEFORE INSTALLING THIS DEVICE. GENERAL INFORMATION: 1. NOTICE: For installation by a qualified electrician in accordance with national and local electrical codes and the following instructions. 2. CAUTION: RISK OF ELECTRIC SHOCK. Disconnect power before installing. Never wire energized electrical components. 3. CAUTION: USE COPPER CONDUCTORS ONLY. 4. CHECK: that the device's type and rating are suitable for the application. 5. WARNING: conductors having 90°C or higher rated insulation.											
											
Test Report											
Electrical Part Number	Size	Breaker	RPP	Repack Type	Lot No.	"ALL" length (ft)	"100" length (ft)	"100" length (ft)	"100" length (ft)	Order Qty	Test Results
1-125-308028-128K10	A27	3A, 5A, 30	RPP10-1A	125-308	000000	28	0.75"	Black	30	1	QA PASSED TESTED BY: J049
1-125-308028-128K10	A26	6, 10, 15	RPP10-1B	125-308	000000	30	0.75"	Black	30	1	QA PASSED TESTED BY: J049

LIMITED WARRANTY:

PowerWhips an IMS Engineered Products Brand sells this product with the understanding that the user will perform all necessary tests to determine the suitability of this product for the end user's intended application. PowerWhips warrants that this product will be free from defects in material and workmanship for a period of two (2) years following the date of purchase. Upon prompt notification of any warranted defect, PowerWhips will, at its option, repair or replace the defective product or refund the purchase price. Proof of purchase is required. Misuse or unauthorized modification of this product voids all warranties.

LIMITATIONS AND EXCLUSIONS: THE ABOVE WARRANTY IS THE SOLE WARRANTY CONCERNING THIS PRODUCT, AND IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE SPECIFICALLY DISCLAIMED. LIABILITY FOR BREACH OF THE ABOVE WARRANTY IS LIMITED TO COST OF REPAIR OR REPLACEMENT OF THE PRODUCT, AND UNDER NO CIRCUMSTANCES WILL POWERWHIPS BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

INVENTORY PROGRAMS/PACKAGING

Inventory Programs

- Through the use of PowerWhips' ERP software, a custom inventory plan can be accomplished to meet a customer's specific needs, reducing Total Cost of Ownership, lead-time and inventory levels.
- Consigned raw material is stored at "point of use".
- Kitting programs are available to reduce handling / motion time by installers. Maximize value add time of installers.
- Reduced WIP and lead time.

Packaging

Box, Drum and Gaylord

- Each box, drum, gaylord is labeled with a packing list that identifies contents.
- Delivery is simple since whips are packaged in batches for each RPP and clearly labelled with location. Unpacking is simple and clean, with little construction debris.
- Through the use of PowerWhips' ERP software, a custom inventory plan can be accomplished reducing Total Cost of Ownership, lead-time and inventory levels.
- Consigned raw material is stored at "point of use" allowing for orders to typically ship in 1 to 3 days.



Customer Name - Pallet 14 of 23											
RPP ZZZ											
NOTICE - READ BEFORE INSTALLING THIS DEVICE. GENERAL INFORMATION: 1. NOTICE: For installation by a qualified electrician in accordance with national and local electrical codes and the following instructions. 2. CAUTION: RISK OF ELECTRIC SHOCK. Disconnect power before installing. Never wire energized electrical components. 3. CAUTION: USE COPPER CONDUCTORS ONLY. 4. CHECK: that the device's type and rating are suitable for the application. 5. WARNING: conductors having 90°C or higher rated insulation.											
											
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