

MODULAR WIRING SYSTEM

ACCESS FLOOR

1.01 GENERAL:

Modular wiring solutions are modular “plug and play” systems, integrating power and telecommunications wiring systems for the commercial office environment.

1.02 SECTION INCLUDES:

- A. Power Distribution Boxes
- B. Multi-Conductor Home Run Cables
- C. Plug-in Cable Sets
- D. Access Floor Workstation Modules

1.03 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION:

- A. Distribution panels, circuit breakers and associated connections to panels.
- B. Telecommunications Racks and Patch Panels and associated connections.
- C. Telecommunication cabling and all associated connectors.

1.04 RELATED SECTIONS:

1.05 CODES AND STANDARDS

- A. N.F.P.A.
- B. C.S.A. U.S.
- C. U.L.

1.06 SUBMITTALS:

- A. Product Data: Specifications for each cable, fitting and accessory type.
- B. Record Drawings: Pre-installation and As-Built drawings of all components associated with the Manufactured Wiring System.

1.07 OPERATION AND MAINTENANCE DATA

- A. Maintenance Data

A complete replacement parts list will be provided with the as-built package.

- B. Warranty Requirements (provided as applicable)

1.08 PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. Deliver, store, handle and install all materials and equipment in such a manner as not to degrade quality, serviceability or appearance.
- B. Store materials in secure and dry facility and in original packaging in a manner to prevent soiling, physical damage, wetting or corrosion prior to installation.
- C. Materials shall be delivered in the manufacturer's original unopened, protective packages.

1.09 GENERAL REQUIREMENTS:

- A. The modular power system is based on zone wiring architecture. Power system cable management is achieved through the use of multi-conductor cables, run from the power panel to pre-wired power distribution boxes. The power distribution boxes branch out with factory pre-fabricated plug-in cable sets to send power to any point under the floor surface, servicing end users via access floor workstation modules.

The modular power system shall be in accordance with all applicable U.L. and C.S.A. U.S. standards. All components shall be labeled with voltage ratings and installation information. The system shall be designed and keyed to prevent backfeeding. All devices and wiring shall be rated for 20 amperes and 600 volt insulation.

The connector grounding pin on each modular assembly shall be so designed that the grounding connection is made prior to the contact made within the current carrying conductors.

PART 2 – PRODUCTS:

Standard Products:

2.01 ACCESS FLOOR MODULAR WIRING SYSTEM

A. **Home Run Cable (Power)**

The Cable shall be type “MC” consisting of Multiple #12 AWG, THHN 90°c insulation. The cable is to be equipped with super neutral conductors of #10 AWG.

B. **Power Distribution Box**

A **P**ower **D**istribution **B**ox (PDB) with 6 or 9 ports will provide 3 phase, 208/120 volts power. The PDB will include a Home-run as specified in 2.01 A. Ground conductors are added as required by the Electrical Code.

The PDB shall be constructed of cold-rolled steel conforming to ASTM A596. Minimum thickness shall be 16 gauge or .060+/- .005, with powder-coated finish, screwed covers, and four leg mounting supports. The 5 pin bulkhead connectors shall be secured by rivets.

Each PDB shall be equipped with a mechanical type grounding lug attachment of the equipment ground conductor. The equipment ground conductor shall be extended to each connector housing and connected to each ground pin position.

The PDB shall be U.L. or C.S.A. U.S. listed and identified as such on each cover.

C. Plug-in Cable Sets (Power)

Plug-in Cable Sets, as required, will interface with the Power Distribution Box and feed to the Access Floor Workstation Modules.

Plug-in Cable Sets shall be type “MC” consisting of 90°C, insulated, #12 AWG solid, copper conductors, accompanied by a #12 AWG solid copper ground conductor.

The Plug-in Cable Sets shall have line side (power out) and load side (power in) connectors. The connectors shall be capable of having 5 pins (contacts) for the distribution of 3 phase, 4 wire 208/120 volt Isolated Ground power.

The contacts shall be male pin and female receptacle type with minimum conductivity of .60. The contacts shall be manufactured of .016 tinned copper alloy #194.

The plastic which encases the contacts shall be General Electric Lexan #141 with a UL standard rating of 94V2. The plastic shall be keyed differently to prevent mismatching of voltages/use. The connector housing shall be of all steel construction.

The plastic shall be color coded to identify voltage and use.

- a. Clear plastic – 208/120 V General Purpose Power
- b. Orange plastic – 208/120 V Isolated Ground Power

The latching mechanisms shall be of an all-steel construction and different design so that engagement of dissimilar voltages is not possible.

Labels shall be permanently attached to both the load (power in) side connector and the line (power out) side connector. The labels shall be color coded to differentiate the General Purpose Power and the Isolated Ground Power.

2.02 GENERAL DESIGN

Power

- A. Shall provide a complete, factory assembled, under floor electrical distribution system for the electrification of workstation power modules in raised floor environments.
- B. System shall provide isolated ground power with shared neutrals for each of the 5 wire, 2 circuit, 20 AMP rated cable sets that feed the Access Floor Workstation Modules.
- C. Power modules shall be equipped with “plug and play” modular wiring outlets to permit quick disconnect of power.
- D. The entire modular electrical distribution system shall be factory assembled. Each conductor of the Home Run Cable shall be color identified and numbered.
- E. Access Floor Workstation Module

The body of the Access Floor module is fabricated of sixteen (16) gauge steel, conforming to ASTM A569 with protective powder coated finish.

The Access Floor Workstation Module provides for the unobstructed installation of:

- 1. Standard and Isolated Ground power.
- 2. Copper and Fiber Optic voice and data communication cabling.

Access Floor Workstation Modules will be factory wired with Power-in connector ports.

The Access Floor Workstation Modules will be capable of providing General Purpose and Isolated ground electrical outlets for power, as well as mounting plates for E1A/T1A RJ type jacks or fiber optic ports, as per design, for communications.

A. MATERIALS

Fabricated of steel conforming to ASTM A569 min. 16 ga.
Protective coating shall conform to ASTM A525 G90.
Hinged lid shall be reinforced with a welded steel bar.

B. GENERAL DESIGN

Shall provide an all steel enclosure for the installation of power receptacles, along with telephone, computer and other electronic equipment flush mounted to access floor panel. Enclosure shall have a power compartment for receptacle mount that isolates power wiring from other cables.

C. Enclosure shall have plates for the mounting of data/communication devices such as modular telephone jacks, fibre optic connectors, and coaxial jacks.

D. Shall permit removal of module from the access floor without disturbing floor panels.

E. Shall accept modular wiring whips for quick disconnect of power.

F. When hinged cover is closed, there shall be no obstructions above the floor.

G. Optional lid recess hinged cover shall accept carpet tile.

H. DESIGN DIMENSIONS

Square module, [10" x 10"], [8" x 8"].
Overall depth (incl. modular connector) 4-1/2". Low profile box to have maximum depth of 2 1/2".
Accepts two, three, or four duplex receptacles and various combinations of voice/data connectors.
Model No. [SDR 120-4D], [SDR 120-2D], [SDR 120-2D-LP]
manufactured by Camino Modular Systems Inc. 1-800-370-0226.

PART 3 – EXECUTION:

3.01 GENERAL

- A. Install the complete modular wiring system in accordance with manufacturer's recommendations and system design drawings.

- B. Modular wiring system shall be manufactured by Camino Modular Systems Inc., Tel: 1-800-370-0226 or pre-approved equal.

END OF SECTION

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