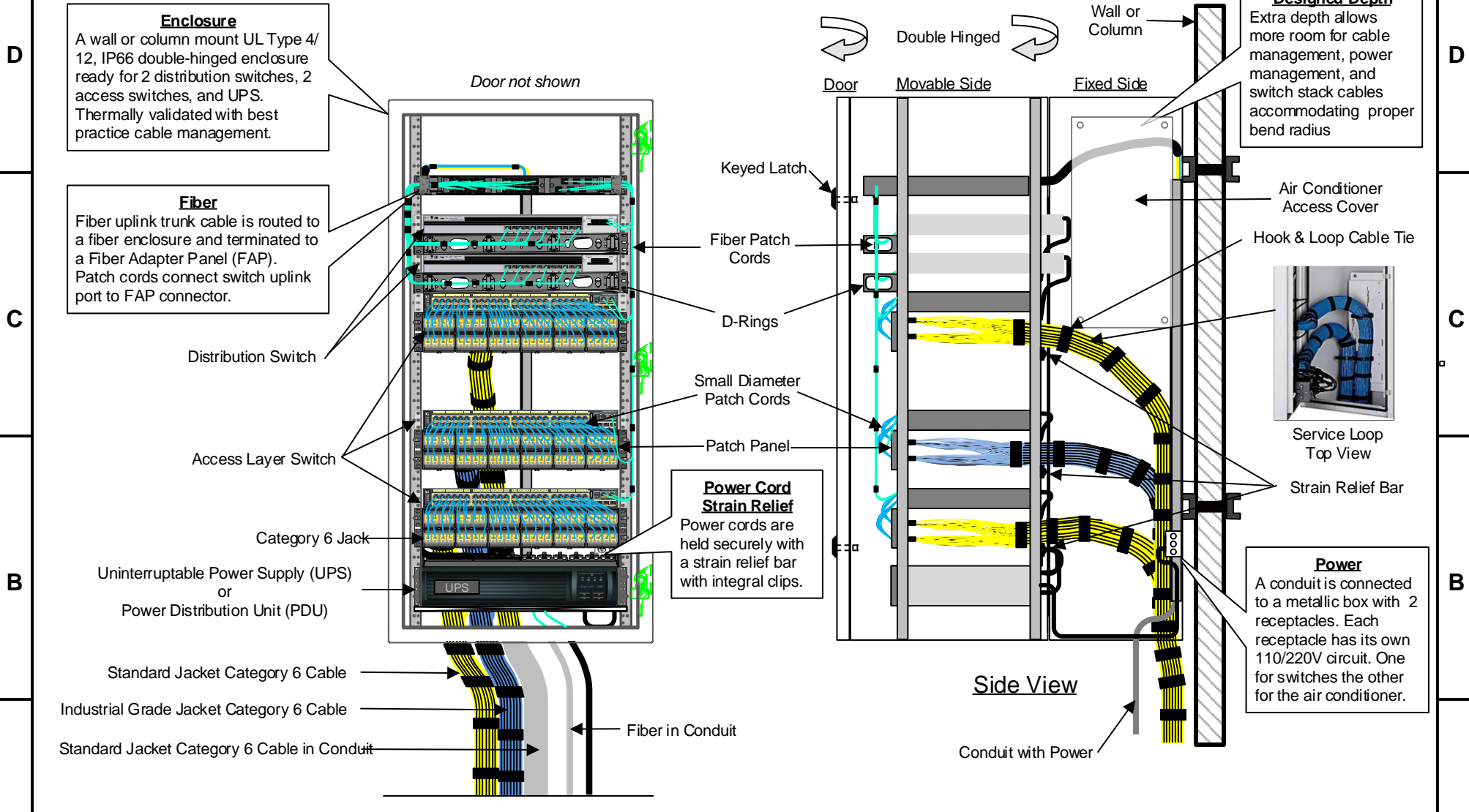


A Pre-Configured Industrial Distribution Frame (IDF) reduces deployment time and cost for high density 19" rack mounted network switches



Enclosure
A wall or column mount UL Type 4/12, IP66 double-hinged enclosure ready for 2 distribution switches, 2 access switches, and UPS. Thermally validated with best practice cable management.

Fiber
Fiber uplink trunk cable is routed to a fiber enclosure and terminated to a Fiber Adapter Panel (FAP). Patch cords connect switch uplink port to FAP connector.

Designed Depth
Extra depth allows more room for cable management, power management, and switch stack cables accommodating proper bend radius

Power Cord Strain Relief
Power cords are held securely with a strain relief bar with integral clips.

Power
A conduit is connected to a metallic box with 2 receptacles. Each receptacle has its own 110/220V circuit. One for switches the other for the air conditioner.

Use this drawing when:

- Deploying 19" rack mounted switches
- Network has numerous links
- Tying together a large installation

PCD010-JUNE18-ENG



Industrial Distribution Frame
(Cabling Subsystems 3-2)

Bill of Materials

Part Number	Description
Pre-Configured Industrial Distribution Frames	
ZDF48-RA	Pre-configured industrial distribution frame enclosure ready for two access and two distribution switches.
ZDF48-EA	Pre-configured industrial distribution frame enclosure ready for two access and two distribution switches for EMEA/APJ.
Connectivity and Patching	
CJ688TGBL	Category 6, RJ45, 8-position, 8-wire, UTP Mini-Com universal jack module, TG-style termination, black.
UTP28SP8INBU	Category 6 Performance, 28 AWG UTP patch cord with TX6™ Modular Plugs on each end. Blue, 8 in.
PUR6004BU-W	Enhanced Category 6 (riser CMR) U/UTP, 4-pair copper cable with conductors that are 23 AWG construction with polyethylene insulation. The cable is twisted in pairs, separated by an integrated pair divider, and protected by a flame-retardant PVC jacket.
IUC6C04ABL-CEG	Category 6 U/UTP, industrial, 4-pair, copper cable, conductors are 24/7 AWG construction with HDPE insulation, twisted in pairs, surrounded by a PVC jacket.
FAP12WAQDLCZ	Fiber adapter panel with 12 LC duplex mm adapters (AQ) zirconia
FX2ERLNLNSNM002	2 fiber OM3 LC duplex to LC duplex patch cord OFNR (riser) rated, 16mm jacketed cable Std IL 2 meters
FOPPX12Y	50um OM3 12 Fiber Indoor Armored Cable, Plenum (OFCP), 900um buffered fibers
FODRX12Y	50um OM3 12 Fiber Indoor Distribution Cable, Riser (OFNR), 900um buffered fibers
FLCDMCXAQY	LC OptiCam OM3/OM4 10Gig 50/125µm multimode duplex fiber optic connector, intended for 900-micron tight-buffered fiber installations, aqua

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About this Configuration

The Panduit pre-configured Industrial Distribution Frame (IDF) is specifically engineered to deploy and protect rack mount Ethernet switches in industrial applications.

Industrial Distribution Frame

Using rack mount access switches, an IDF is intended for high-density industrial star networks that are connected to numerous HMIs, PLCs, Drives, or I/O blocks in harsh environments to keep traffic local. An IDF can also house distribution switches to efficiently route traffic between access switches that are often DIN-mounted switches in a control panel.

Horizontal Cable Service Loop

Since the horizontal cabling is extended when opening the IDF, a cable service loop is needed for both fiber and copper. There needs to be slack to fully open the enclosure but not too much as the extra cabling consumes excess space and can act as a spring when closing. Also, the cable length increases from the first to the last copper port. The IDF stationary section has hook & loop ties in the back to secure cabling. The copper cabling is also secured with hook & loop ties to strain relief bars on the movable side to minimize tugging on the jack when opening the enclosure. Horizontal fiber cable is channeled through a duct and loom tube then into a fiber enclosure for protection.

Thermal Management

For this configuration with (2) Cisco 3750X and (2) Cisco 2960S switches, the IDF can operate with an ambient temperature up to 25° C (77° F) without an air conditioner. An optional air conditioner, Pentair AC Unit: N28, will allow the IDF to operate up to 50° C (122° F) ambient air temperature.

Connectivity and Patching

Typically, switch uplinks are fiber as it converges switches the fastest after an interrupt to re-establish connection and can handle aggregated switch traffic. Also, an IDF may be more than 100 meters (maximum distance for solid copper) from the main distribution frame (MDF), data center, or core switch. This drawing features multimode OM3 fiber. Single mode can be used for long distances or high bandwidth needs. Different multimode can be used as well (OM1, OM2, OM3, or OM4) to match switch transceiver.

Copper downlinks are impacted by environment and traffic. This drawing shows various unshielded (UTP) copper cabling constructions ranging from standard to industrial. Cabling may need a harsh rating or to be protected in conduit depending on the environment. Also, shielded (STP) cable may need to be considered for high EMI environments.

The IDF is designed with switches and patch panels in close proximity. A short (8") small diameter patch cord is recommended to reduce space with easier handling.

