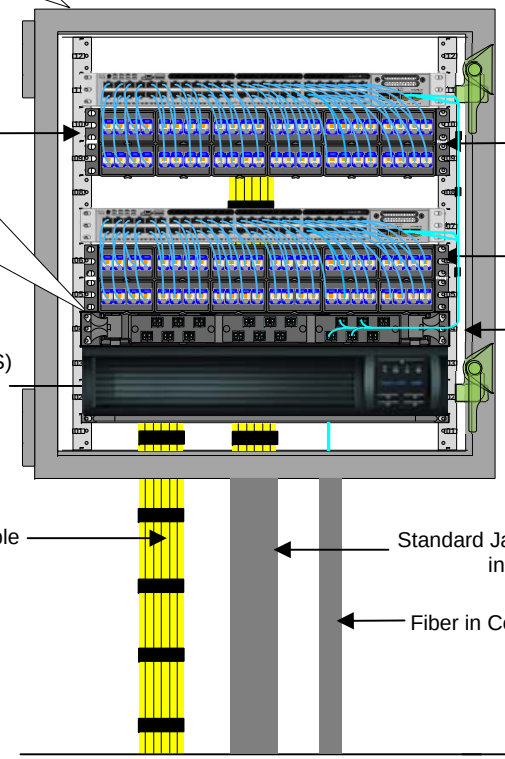
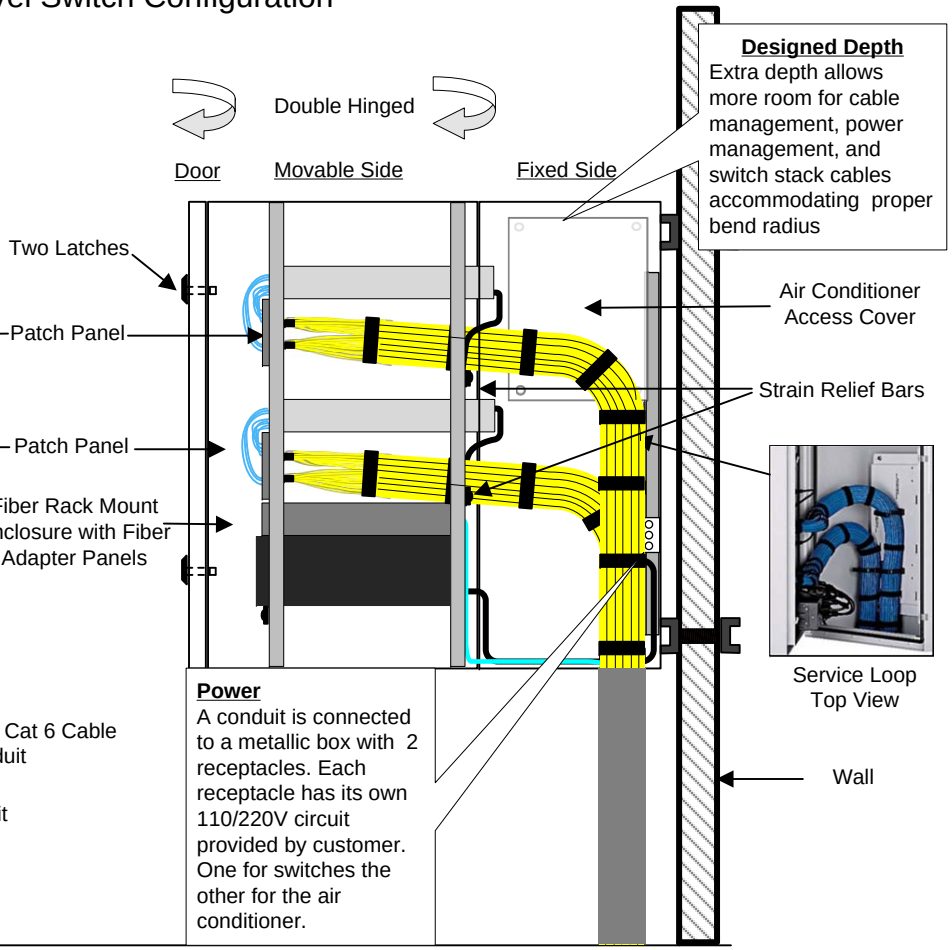
A Pre-Configured Industrial Distribution Frame (IDF) reduces deployment time and cost for high density 19" rack mounted network switches
2 – Copper Access Level Switch Configuration

Enclosure
A wall mount UL Type 4/4X/12, IP66 double-hinged enclosure ready for 2 copper 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.



Front View



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

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

Side View

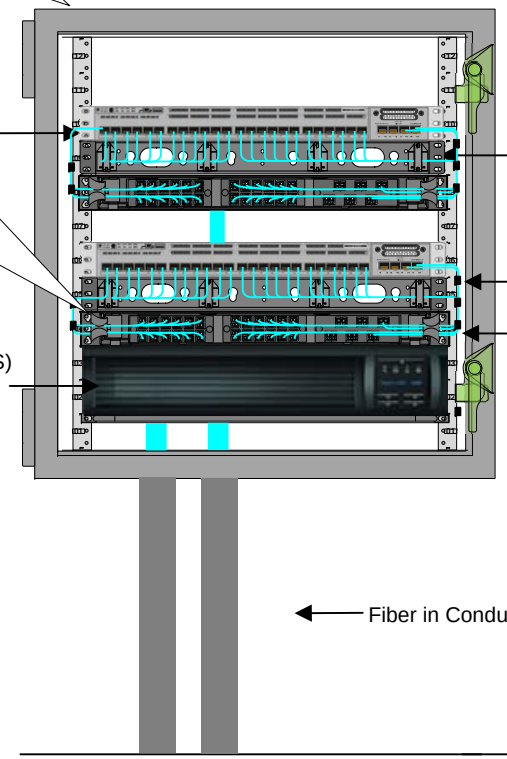
Use this drawing when:
- Deploying 19" rack mounted switches
- Network has numerous links
- Tying together a large installation

IN-ROUTE PCD013-AUG24 ENG	PANDUIT™	Pre-configured Industrial Distribution Frame Reference Design

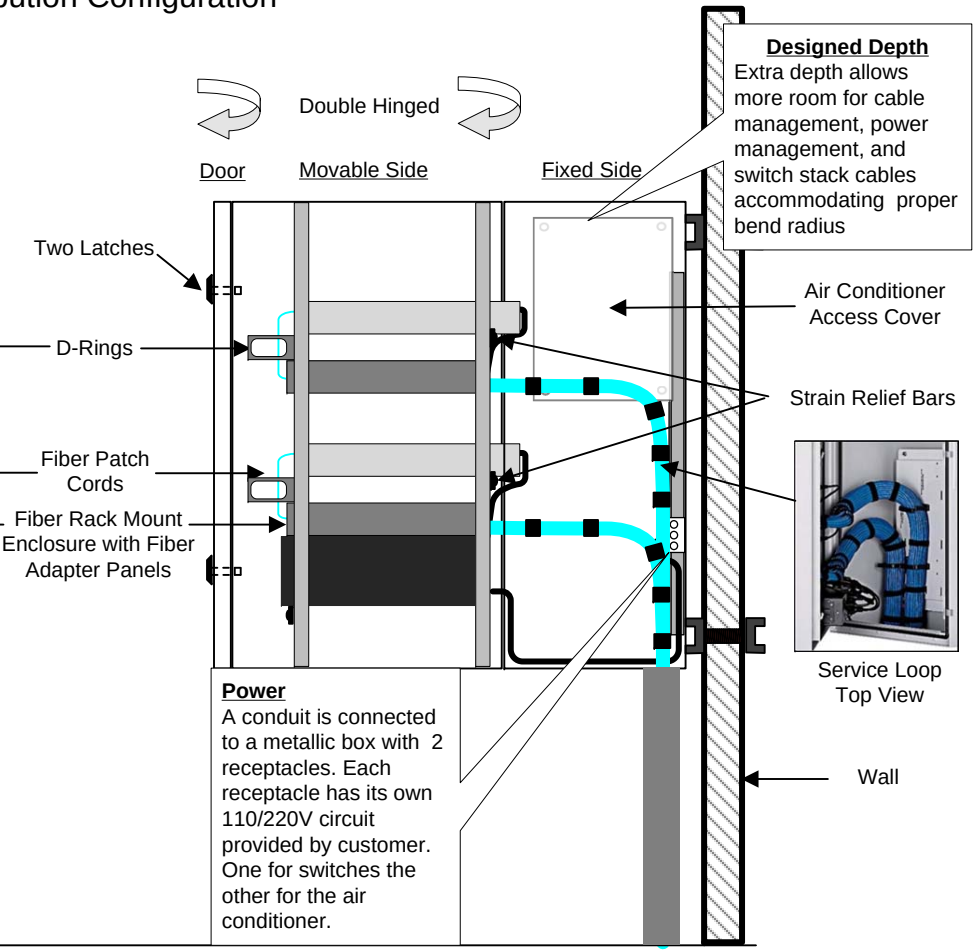
A Pre-Configured Industrial Distribution Frame (IDF) reduces deployment time and cost for high density 19" rack mounted network switches
2 – Fiber Distribution Configuration

Enclosure
A wall mount UL Type 4/4X/12, IP66 double-hinged enclosure ready for 2 fiber distribution 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.



Front View



Side View

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

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

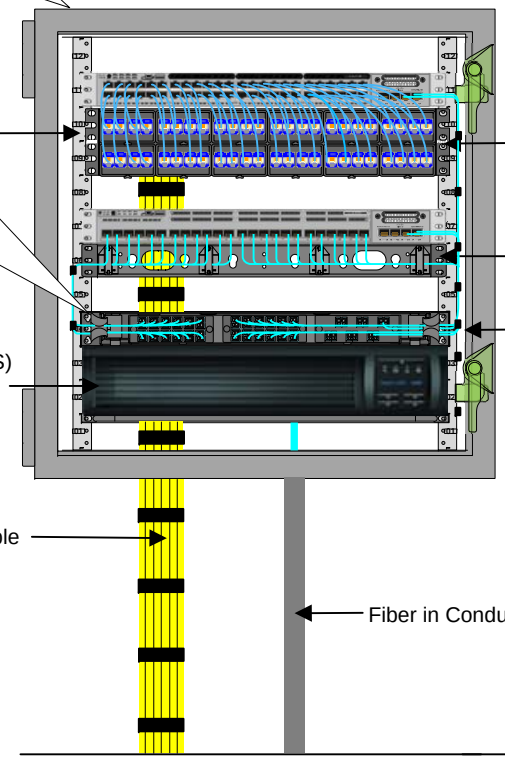
Use this drawing when:
- Deploying 19" rack mounted switches
- Network has numerous links
- Tying together a large installation

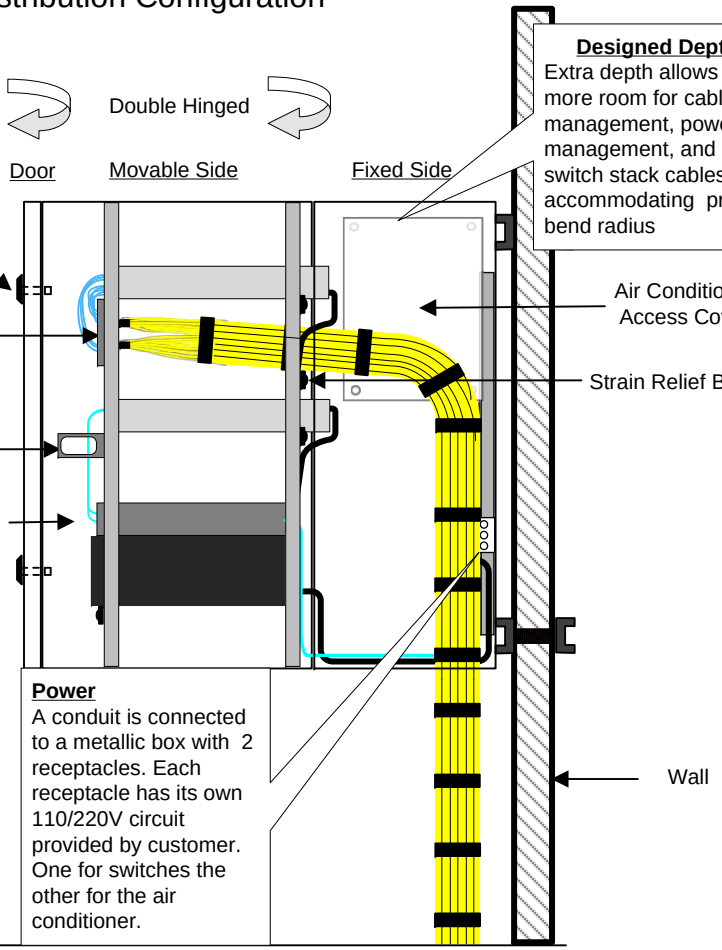
IN-ROUTE PCD013-AUG24 ENG	PANDUIT™	Pre-configured Industrial Distribution Frame Reference Design

A Pre-Configured Industrial Distribution Frame (IDF) reduces deployment time and cost for high density 19" rack mounted network switches
1 – Copper Access Level Switch, 1 – Fiber Distribution Configuration

Enclosure
A wall mount UL Type 4/4X/12, IP66 double-hinged enclosure ready for 1 distribution switches, 1 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
A conduit is connected to a metallic box with 2 receptacles. Each receptacle has its own 110/220V circuit provided by customer. One for switches the other for the air conditioner.

Front View **Side View**

Use this drawing when:
- Deploying 19" rack mounted switches
- Network has numerous links
- Tying together a large installation

IN-ROUTE PCD013-AUG24 ENG	PANDUIT™	Pre-configured Industrial Distribution Frame Reference Design

Panduit Products, Ordered Separately

Part Number	Description
	Industrial Distribution Frame
ZDF242430	Pre-configured industrial distribution frame enclosure, 12U, ready for two access or two distribution switches. Mild steel enclosure
ZDF242430-6	316L stainless steel enclosure
	Connectivity and Patching
CJ688TGBU	Cat 6, RJ45, UTP Mini-Com® jack
UTP28SP8INBU	Cat 6, small diameter, UTP, RJ45, 8", blue patch cord
PUR6004BU-UY	Cat 6, UTP, Riser (CMR), 4 pair, solid
FAP12WAQDLCZ	LC 10Gig™ OM3/OM4 FAP with 12 LC duplex multimode fiber optic adapters, zirconia ceramic split sleeve
FX2ERLNLNSNM001	2-fiber OM3 10 GbE LC duplex patch cord, 1 meter
FODRX24Y	24-fiber OM3 10 GbE multimode riser-rated distribution cable
FLCDMCXAQY	LC OptiCam® 10Gig™ 50/125µm OM3/OM4 multimode duplex fiber optic connector for 900µm.
CPPL48WBLY	48-port, 2 RU, includes twelve CFFPL4 faceplates
FRME1U	Opticom ® Rack Mount Enclosures 1 RU, holds 3 FAPs
CPPL48WBLY	1 Rack Space Panel, Front Only 19" 1.5 x 3 D-rings
	Power
PL1A1C0BA08E1	PanView iQ™ Networked Environmental Power Outlet Unit (Americas)
P1L2B1L2N16BQA0	PanView iQ™ Networked Environmental Power Outlet Unit (Global)

For More Information

For more information, contact your local distributor, Panduit Sales Representative, or Rockwell Automation Sales Representative.
www.panduit.com/ia
iai@panduit.com

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.

About Panduit 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 these configurations with copper access level switches and/or fiber distribution 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: T20, 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.

PANDUIT™