INTERNET OF THINGS
APPLICATION GUIDE



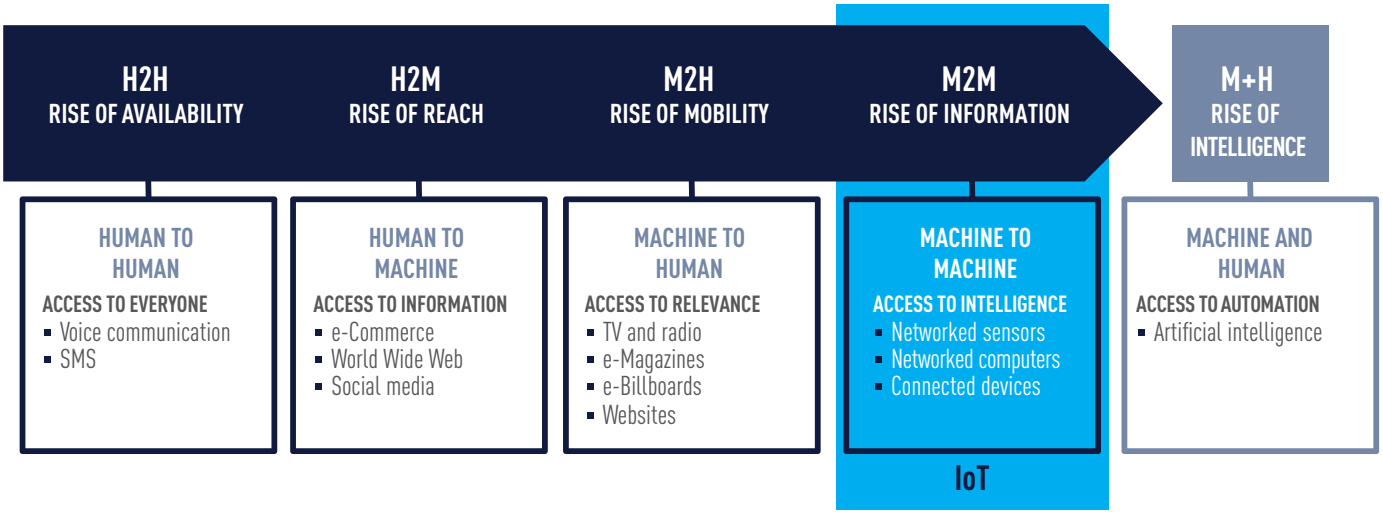
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THE INTERNET OF THINGS SIMPLY DEFINED

The world around us is changing rapidly. Technology is becoming increasingly intertwined with our day-to-day routine. With advancements in technology, not only have we become smarter, but so have the devices we rely on. Smarter devices enable a new type of infrastructure, an intelligent network built on the Internet of Things.

Simply defined, the Internet of Things (IoT) is a network of uniquely identifiable endpoints (or "things") that contain embedded technology to sense, collect and act on data locally or with external environments, without human interaction.



When looking at the landscape of technological innovation over the past 50 years, it's simple to see how quickly people have adapted to, and begun to rely on, the tools we've been given. Now we're entering a new age, an age where machines and humans work in tandem – an age where we have unprecedented access to automation and where devices can process information and make decisions on their own.



IoT DELIVERS NEW LEVELS OF EFFICIENCY TO BUILDINGS

The Internet of Things is making an unprecedented impact on how commercial buildings are managed and operated. In a building network environment, IoT enables workers responsible for various operations to be more effective and efficient through better delegation, faster responses and improved quality and control. In fact, according to Gartner, IoT can help reduce the cost of energy, spatial management and building maintenance by up to 30%. With an IoT-ready building design, the cost of system integration is greatly diminished, new hardware requirements are minimal and leading-edge apps or web-based software are becoming the norm.

The IoT evolution in building networks get us closer to the holy grail of facility management: more functional buildings, higher efficiency and a better workspace to educate, innovate and produce.

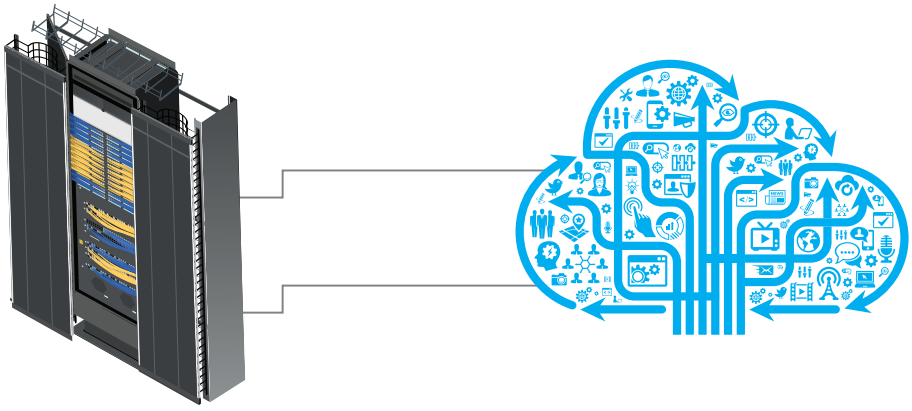


IoT IS ENABLED BY COMBINING CONNECTED DEVICES AND THE RIGHT INFRASTRUCTURE

The Internet Protocol (IP) has played a key role in the convergence of information and media delivery, and it will empower the Internet of Things era as well. IP convergence will be especially important within the next generation commercial building, an ecosystem of ubiquitous heterogeneous devices, people and systems that interact in real time. As we migrate towards an inevitable fully IoT-enabled building, we will see the convergence of power, light and data over a common cabling system for a variety of applications. It is important to understand the difference between the connected devices that are part of the Internet of Things and the infrastructure needed for IoT to operate.

- Connected Device: can refer to a wide variety of "Things" such as smart thermostats, telephones, security cameras, security badges, and more. These devices support various applications by collecting useful data with the help of various existing technologies and then autonomously communicating the data between other devices to make enhancements to the surrounding environment without human interaction. Connected devices often leverage IP and many are ready for power over ethernet (PoE).
- Enabling Infrastructure: refers to the structure beyond the "Things" that make the IoT philosophy possible. It includes the platforms which facilitate a common language for all devices to communicate freely, the "collect and act" scenarios that are the essence of the IoT movement and the "enablers," such as PoE delivery, WAPs, gateways and edge devices. The cabling infrastructure that makes up the "physical" deployment of the IoT installment is at the core of these systems. A structured cabling infrastructure provides the required foundation to support these applications.

"A STRUCTURED CABLING INFRASTRUCTURE PROVIDES THE REQUIRED FOUNDATION TO SUPPORT THESE APPLICATIONS"



INFRASTRUCTURE CONNECTED DEVICES

THE CONVERGENCE OF POWER, LIGHT AND DATA

DATA: ENABLING AN IoT INFRASTRUCTURE WITH ETHERNET

With devices and applications leveraging the IP for communication and the Ethernet providing a standard method for delivery, we are seeing the convergence of connected devices over Ethernet. This allows for IoT networks to be designed and managed alongside existing and evolving industry standards, including the TIA and IEEE, to ensure safe and consistent operation of devices on a common infrastructure.



APPLICATIONS THAT LEVERAGE INTERNET PROTOCOL:

1. Wireless Access Points
2. Security Cameras
3. IP Phones
4. Intelligent LED Lighting
5. Occupancy Sensors
6. Climate Sensors
7. Access/Building Automation Controls
8. Digital Signage
9. Sound Masking
10. Visible Light Communication (i.e. Li-Fi)

PoE: ETHERNET CABLING SYSTEMS ARE A VIABLE PATH FOR POWER

Applications converging over IP allow communications to occur over Ethernet, a common standard which has evolved to support both data and low voltage power over industry standard category cabling. Many of the applications mentioned previously are also leveraging devices, or "Things", that have become more power efficient. With these devices having lower power requirements, they are now able to be powered using low-voltage direct current (DC) over a single twisted pair cable. The IEEE sets the standard for Power over Ethernet (PoE) which allows for the simultaneous transmission of data and low-voltage power over twisted pair cabling. There are also other solutions in the market that support transmission of power and data, including Cisco's UPOE solution and the A/V industry's Power over HDBaseT (PoH).

Current IEEE PoE standards allow for devices under 30 watts to be powered and networked using a single category cable. This power and data delivery allows for the convergence onto traditional structured cabling infrastructures that are already being utilized in many commercial buildings today. Voice over IP Phones (VoIP) found in most offices today are already being powered using this method, where a single cable is providing both voice (data) and power. With the upcoming ratification of 4-Pair PoE, 802.3BT, the latest IEEE standard will allow up to 100 watts of DC power to be delivered from the power source equipment alongside data transmissions in a single category cable.

STANDARDS AND APPLICATIONS

ORGANIZATION/STANDARD	WATTS FROM POWER SOURCE EQUIPMENT	APPLICATIONS
IEEE 802.3AF 2-Pair PoE	Up to 15.4W	802.11n WAPs, Access Control, Thin Clients, IP Phones, Fixed IP Cameras
IEEE 802.3AT 2-Pair PoE+	Up to 30W	PTZ IP Cameras, Alarms, Video IP Phones, RFID Readers
IEEE 802.3BT (Type 3)* 4-Pair PoE	Up to 60W	Access Control, PTZ IP Cameras, 802.11ac WAPs, Point-of-Sale Readers
Cisco UPOE	Up to 60W	Access Control, PTZ IP Cameras, 802.11ac WAPs, Point-of-Sale Readers
IEEE 802.3BT (Type 4)* 4-Pair PoE	Up to 100W	Televisions, Desktop Computers
Power over HDBaseT (PoH) Draft IEEE 1911 Standard**	Up to 100W	Televisions, Computers, Projectors

Notes: *Proposed standards, not yet ratified. **Active IEEE working group on ratification of HDBaseT as an approved IEEE standard. See the full working group and active projects regarding HDBaseT on IEEE website under "HDBT5 - HDBaseT 5Play Working Group".





CABLING AND CONNECTIVITY CONSIDERATIONS

Cabling must support enough power throughput and efficiency in addition to the heat dissipation capabilities mentioned above.

Connectivity must be robust, durable and provide power headroom for current carrying capacity. Arcing is inevitable with PoE systems, but Legrand's connectivity locates the last point of contact away from the mated connection, protecting the critical area from spark gap erosion. 50 microinch gold plating of the full mated surfaces and maximum contact area in the full mated position extend the life and performance of the connection. In addition, the connector should have a minimum current carrying capacity of paired traces for structured cabling of 1 amp. Legrand's connectivity provides up to an additional amp of headroom for superior performance.

Notes: For more information and topics related to cabling and connectivity, visit www.legrand.us.

INCREASED POWER, INCREASED HEAT ON THE CABLING INFRASTRUCTURE

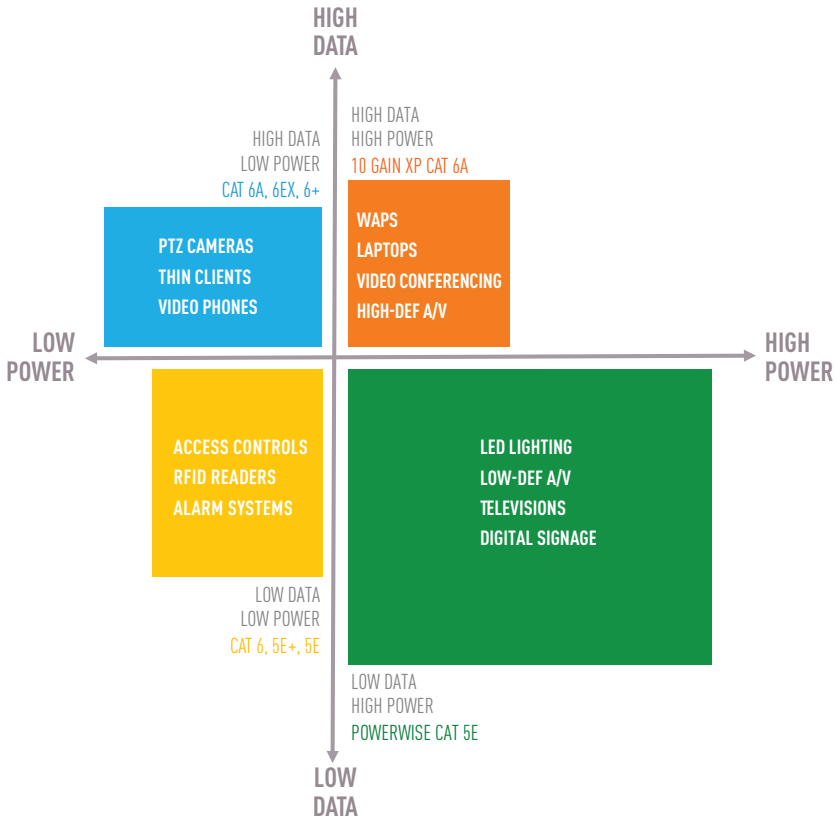
With the upcoming IEEE standard 802.3BT for 4-Pair PoE, the increase to 100 watt power delivery through twisted pair cabling will place additional requirements on the cabling and infrastructure used to support IoT applications.

With an increased power load, heat dissipation must happen efficiently to ensure proper performance of the cable. The ambient temperature of the pathway, as well as cabling temperature ratings must be taken into account.

The TIA recommends that a single cable delivering power and data not exceed an increase of 15° Celsius temperature from the ambient temperature around the cable. The amount of cables bundled together has a direct impact on the temperature rise. When evaluating your category cable, ensure it can provide enough temperature headroom in most cable bundle sizes to not exceed the 15° limit when 100W of power is being delivered.

POWER AND DATA CONSIDERATIONS

When deploying IoT applications that utilize twisted pair cable, it's important to take into consideration the mix of power and data that a device requires. Applications like LED lighting require higher power, but low data bandwidth. In contrast, applications like multi-band and multi-antenna Wireless Access Points require high bandwidth and high power throughput.



Notes: 10Gain and PowerWise are cabling products from Superior Essex.

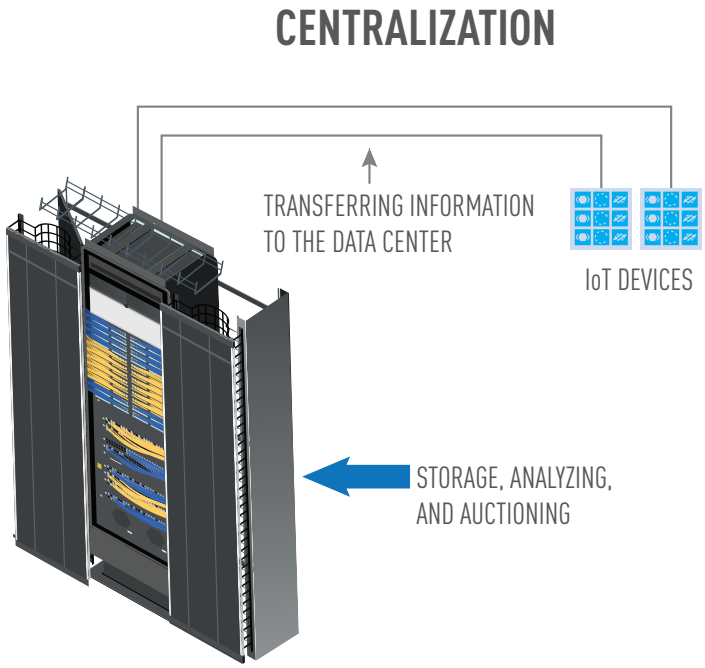
TWO APPROACHES TO AN IoT ENABLED INFRASTRUCTURE: CENTRALIZED AND DECENTRALIZED

CENTRALIZED DEPLOYMENT MODEL

A centralized approach utilizes a central location where analysis, storage and computing take place. IoT devices are individually connected back to the centralized location, most often through a telecom room, although a cloud service or remote data center can also be used. With the number of connected devices growing on a rapid scale, the central location will need to grow as well. Additional racks may need to be deployed to support these growing number of connections, with the opportunity to segregate out racks dedicated to different IoT applications and functions.

The majority of networked applications today utilize this approach and it is considered the proper deployment method for wireless access points. Some emerging LED lighting systems are using this method in deploying their PoE-powered lighting nodes.

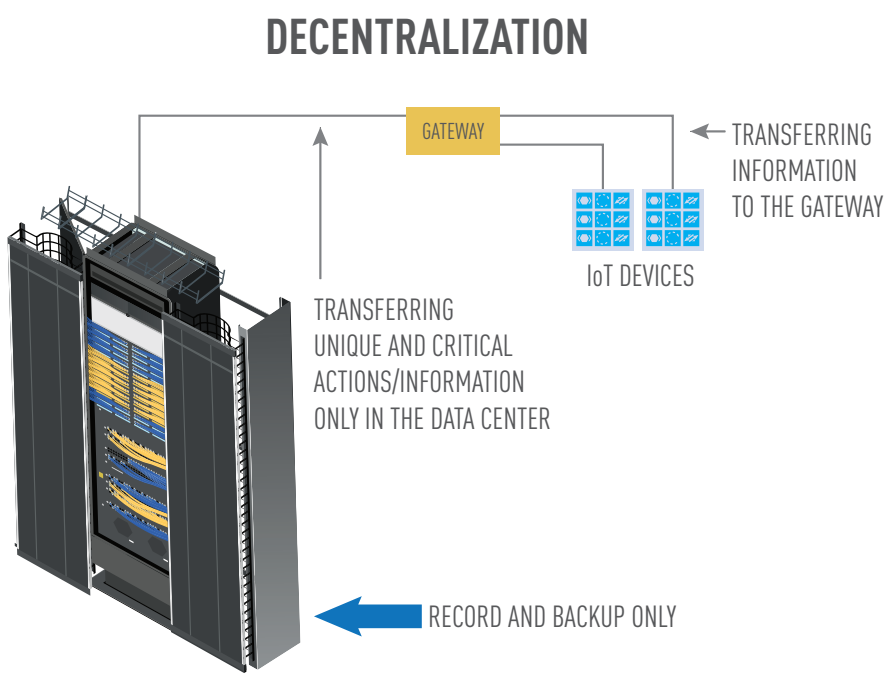
Centralizing data center functions in a single location allows for easier management of the active equipment, but may make it difficult to run new services and devices after the initial deployment has finished.



DECENTRALIZED DEPLOYMENT MODEL

A decentralized approach, sometimes referred to as a zone approach, employs the use of distributed equipment, often located in ceiling or wall enclosures, throughout the building to analyze, store and process data from nearby IoT devices. This contributes to decisions being made at a much more efficient rate with less distance to travel, as well as distributing workloads. Each zone may have one or many enclosures that house the networking, processing, storage and power components of that zone with only a single or few connections being sent back to the floor's telecom room. This reduces the number of long cable runs and makes it more efficient to add or remove devices from zones.

The distribution of the active equipment lends to shorter cable runs for applications that require greater power delivery and efficiency. The shorter the cable run, the more power that cable is able to provide to the end device. Intelligent LED lighting applications, security cameras and more can benefit from this model.



DID YOU KNOW? THERE ARE MANY CONSIDERATIONS TO MAKE WHEN CHOOSING THE RIGHT TOPOLOGY.

The location where data is scrutinized will impact network bandwidth and latency. It's important to consider the types of devices and applications that will be supported by the network. Low-latency applications will benefit from a decentralized topology because decisions are made and executed closer to the device. Configurability and cost of the network are also impacted by different topologies. The types of active devices storing, processing and controlling "Things" will differ depending on if they are stored in a ceiling, wall or floor enclosure, or a centralized data center. Securing the wealth of data created by connected devices is also a topology concern. A centralized data center provides a physically secure location with limited human access, while decentralized topologies may utilize closed loop zones with simpler devices, decreasing vulnerability.

A hybrid approach of both a centralized and decentralized deployment may be necessary to support the variety of applications and industry requirements.

LEGRAND PROVIDES THE INFRASTRUCTURE SOLUTIONS FOR IoT ENABLEMENT

Legrand® is an enabler that provides the physical infrastructure and connectivity required to support your IoT installation. With over 50 years of data communications excellence, our breadth of products position us as an all-in-one infrastructure provider to enable whatever IoT device you deploy, in any environment. At Legrand, our design philosophy is centered around Connected Infrastructure and the 5 elements which ultimately drive value to you, our customers.

Connected Infrastructure combines our solutions, industry leading customer advocacy, design and support teams, for a comprehensive approach to your network. Through Connected Infrastructure, we aim at delivering maximum performance, time savings, space optimization, superior customer experience and sustainability by design, to address your challenges, today and tomorrow.

PERFORMANCE

- Efficient Power Delivery
- Robust Current Carrying Capacity
- Arcing Protection

TIME

- Automated Control
- Efficient Moves, Adds or Changes
- Easy Installation and Deployment

SPACE

- Support Any Density
- Flexible Design
- Support for Centralized or Decentralized Models

EXPERIENCE

- Application Tested Solutions
- Complete Library of Resources and White Papers
- Partnerships with Industry Leaders

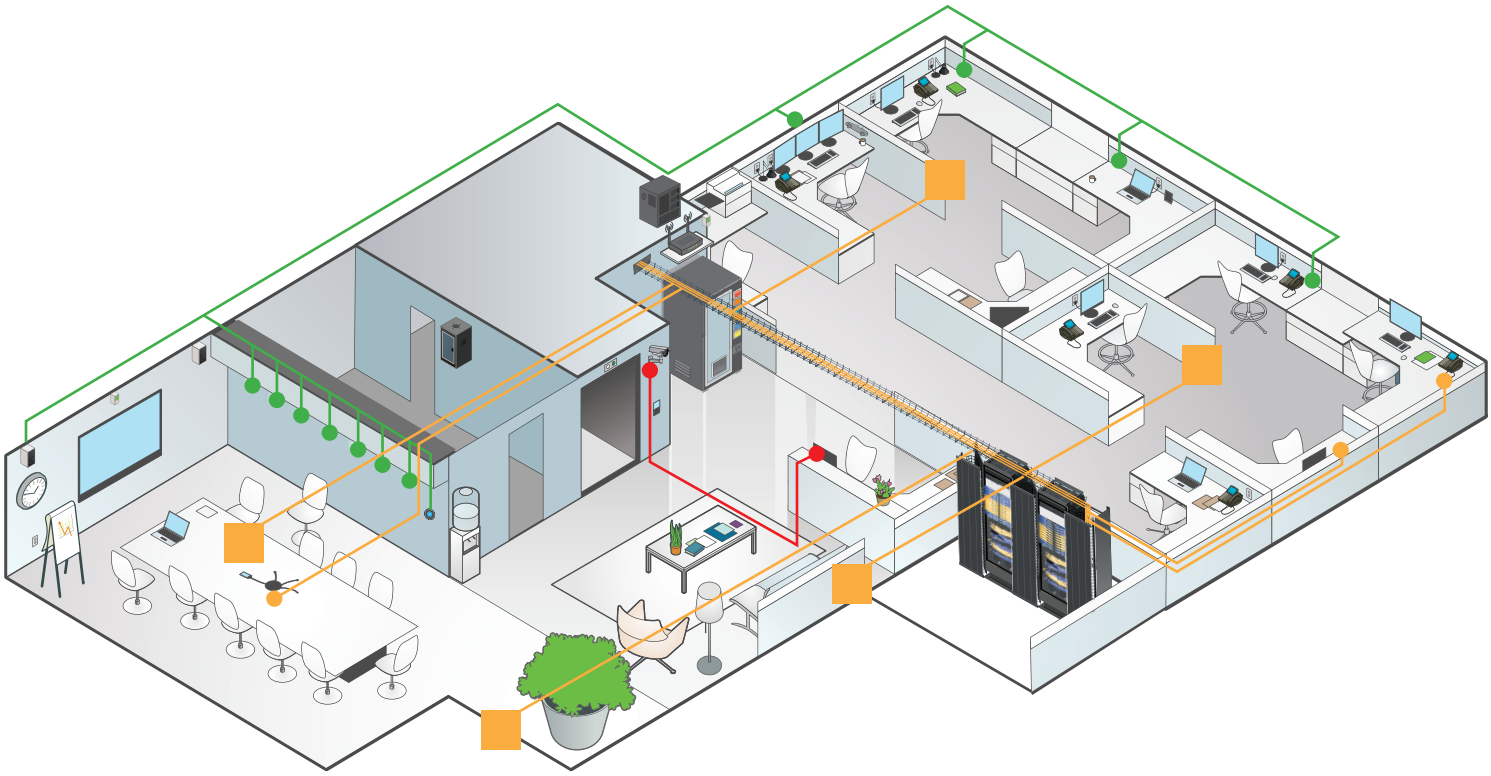
SUSTAINABILITY

- PEPs Contribute Toward LEED
- Legrand is a Sustainability Leader
- Expertise in Power Efficiency



TRADITIONAL BUILDING INFRASTRUCTURE

The commercial building often contains a number of disparate infrastructures to enable common building functions and applications, including network access, security, lighting, occupancy and access control. These different infrastructures are often installed at different times throughout the construction of a new building and are managed by varying trades and occupations. This further complicates the management of these applications. The pathways shown in the below graphic are just a small representation of these different infrastructures.

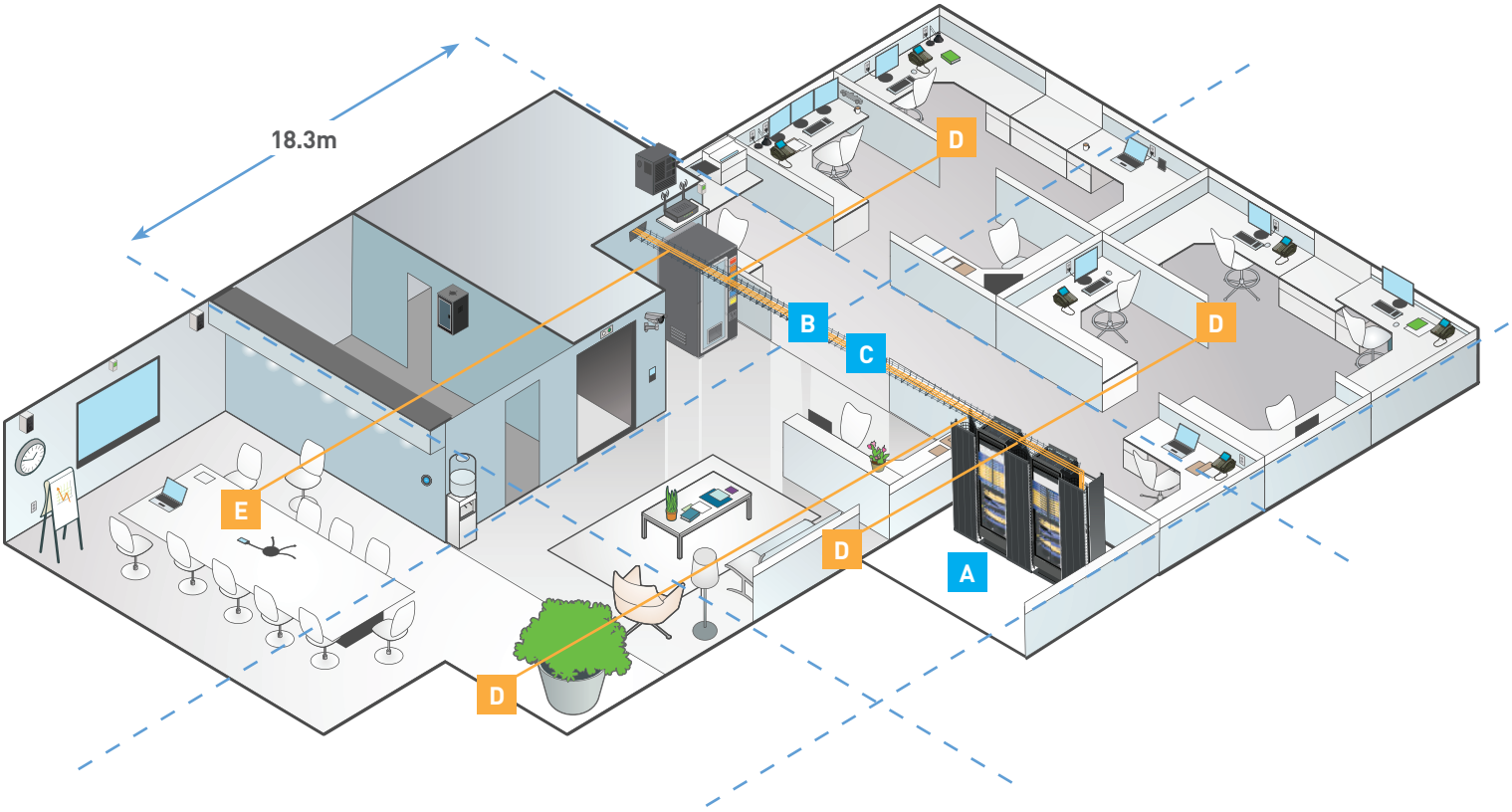


KEY:

- Lighting
- CCTV Camera/Monitor
- Network Jacks
- Wireless Access Point
- Twisted-Pair Cabling
- AC Power
- Video Feed Cable

IoT ENABLEMENT THROUGH A WIRELESS INFRASTRUCTURE

Many Wireless Access Points are PoE-ready devices – rather than being powered by an AC power outlet, they can be powered by a power supply located in the telecom room over twisted-pair cabling. TIA recommends using a Category 6A cable run to each wireless enclosure, which should be deployed in a grid layout with a maximum 18.3m square cell. Deploying WAPs with CAT 6A allows enough power and data throughput to support higher bandwidths while eliminating the need for an electrician to drop an outlet at each access point. Each channel should not exceed 100m max. In-ceiling WAP enclosures can be used where security or aesthetics are a concern.



Notes: Representative image only. Refer to the latest standards.

KEY:

Wireless Access Point

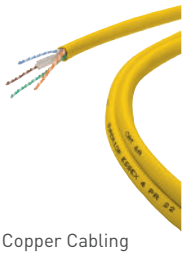
Twisted-Pair Cabling



Mighty Mo® Racks



Tubular Runway



Copper Cabling



WAP Enclosures



Surface Mount Box

ENABLING INFRASTRUCTURE FOR WAP DEPLOYMENT (CENTRALIZED):

A Telecommunications Room

- Racks (see page 18)
- Cabinets (see page 19)
- Wire Mesh Cable Tray (see page 29)
- Patch Panels (see page 20)
- Copper Jacks (see page 20)
- Patch Cords (see page 21)
- Fiber Cable (see page 26)
- Fiber Connectivity (see page 24)

B Pathways

- Wire Mesh Cable Tray (see page 29)
- Tubular Runway (see page 29)

C Cabling

- Category 6A (see page 22)

D WAP Connection Point

- Plenum Rated Surface Mount Box (see page 21)
- Category 6A Patch Cord (see page 21)

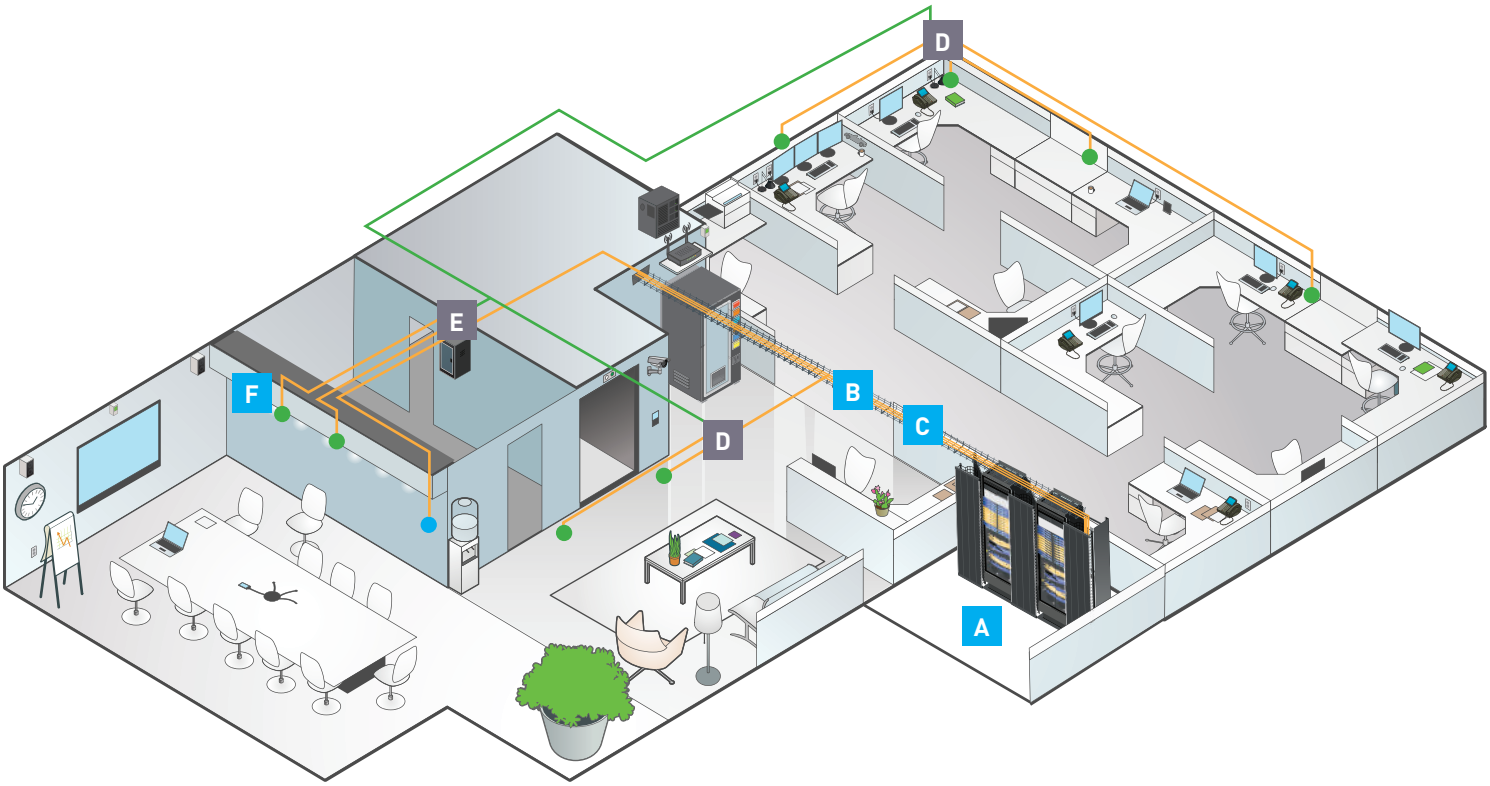
ADDITIONAL OPTIONS:

E Enclosures

- WAP Enclosures (see page 28)

PoE LIGHTING WITH A DECENTRALIZED MODEL

Enabling PoE lighting with a decentralized approach has many benefits. For applications that utilize a sensor to turn lights on and off, latency can be reduced when the active equipment is stored closer to the sensor. In addition, lighting will require many runs of cable. Using a Consolidation Point or a Wall Mount Cabinet will reduce the number of home runs that will need to extend back to the central telecom room or closet. It should be noted that the switches required to power the lights will need a local AC power source, as these switches draw a current much greater than what the proposed PoE standards allow (often 1100WAC). Because lighting requires less data throughput, a lower category cable may be used for cost savings, such as Superior Essex PowerWise™ Category 5e. It should be noted that according to TIA standards, a consolidation point should be located at least 15m from the telecom room or closet.



KEY:

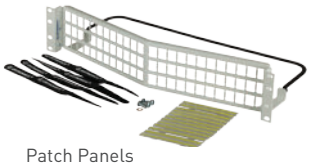
- PoE Lighting
- PoE Light Switch
- Twisted-Pair Cabling
- AC Power



Mighty Mo® Racks



Wall Mount Cabinets



Patch Panels



Patch Cords



Wire Mesh Cable Tray



Tubular Runway

ENABLING INFRASTRUCTURE FOR PoE LIGHTING DEPLOYMENT (DECENTRALIZED):

A Telecommunications Room

- Racks (see page 18)
- Cabinets (see page 19)
- Wire Mesh Cable Tray (see page 29)
- Patch Panels (see page 20)
- Copper Jacks (see page 20)
- Patch Cords (see page 21)

B Pathways

- Wire Mesh Cable Tray (see page 29)
- Tubular Runway (see page 29)

C Cabling

- Copper Cable (see page 22)

D Consolidation Points

- Enclosures (see page 28)
- Patch Panels (see page 20)
- Jacks (see page 20)

E Wall Mount Cabinets

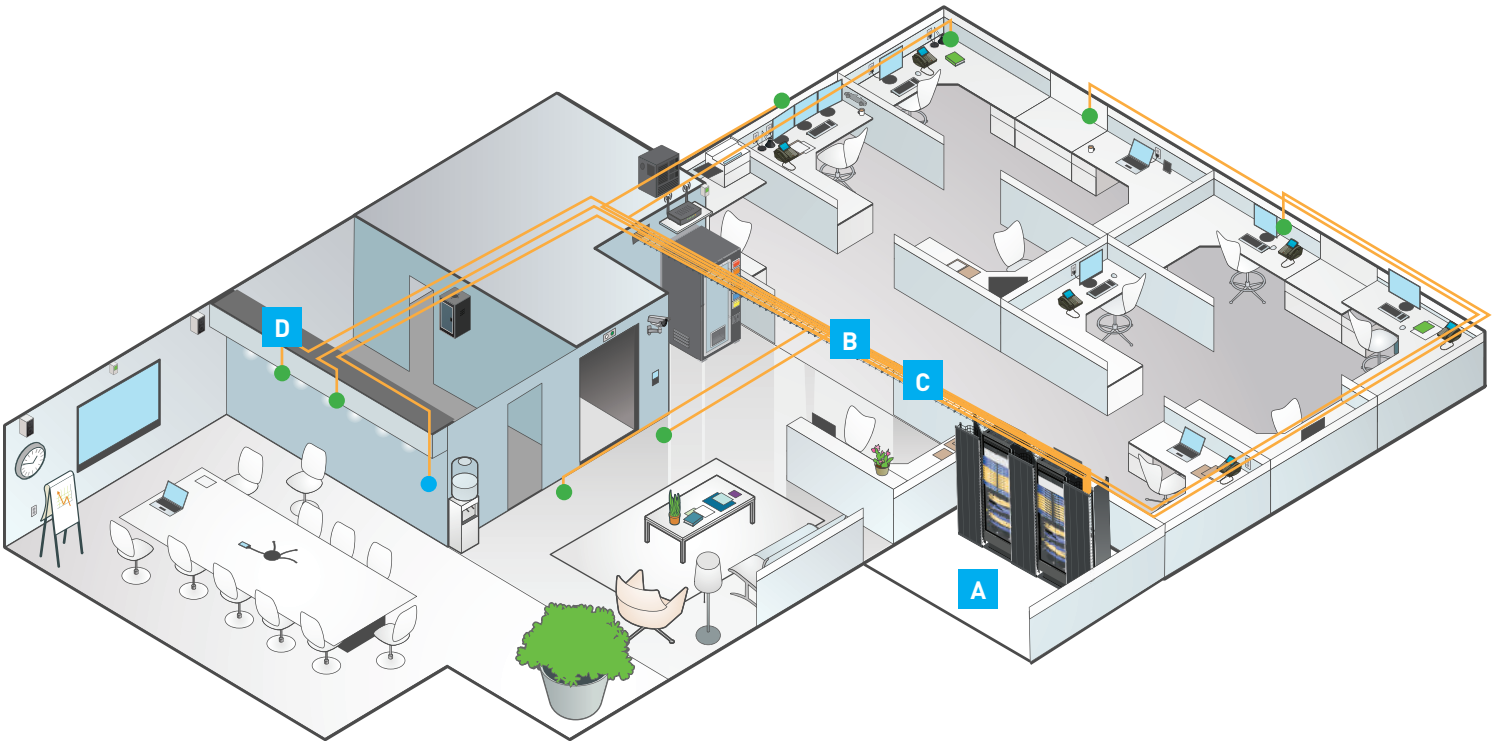
- Wall Mount Cabinets (see page 19)
- Patch Panels (see page 20)
- Jacks (see page 20)

F Device Termination Point

- Plenum Rated Surface Mount Box (see page 21)
- Patch Cords (see page 21)

PoE LIGHTING WITH A CENTRALIZED MODEL

An IoT enabled infrastructure using a centralized approach allows a fully connected building while cutting back the need for AC power. With a centralized approach, it is recommended to follow the TIA standard star topology. Each channel should not exceed 100m, with 90m being a permanent link. It is recommended to take the color of your cables in to consideration, selecting different colors based on the application or device that they are supporting. This will allow for easier maintenance of your system. Also consider the ratio of power and data that a device will draw when selecting the right cabling for each application. A centralized approach requires a more robust telecommunications closet. It's important to consider cooling implications, or even segregated racks dedicated to unique applications.



KEY:

- PoE Lighting
- PoE Light Switch
- Twisted-Pair Cabling



Mighty Mo® Racks



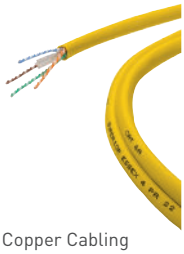
GX Cabinets



Copper Jacks



Surface Mount Box



Copper Cabling



Tubular Runway

ENABLING INFRASTRUCTURE FOR PoE LIGHTING (CENTRALIZED):

A Telecommunications Room

- Racks (see page 18)
- Cabinets (see page 19)
- Wire Mesh Cable Tray (see page 29)
- Patch Panels (see page 20)
- Copper Jacks (see page 20)
- Patch Cords (see page 21)

B Pathways

- Wire Mesh Cable Tray (see page 29)
- Tubular Runway (see page 29)

C Cabling

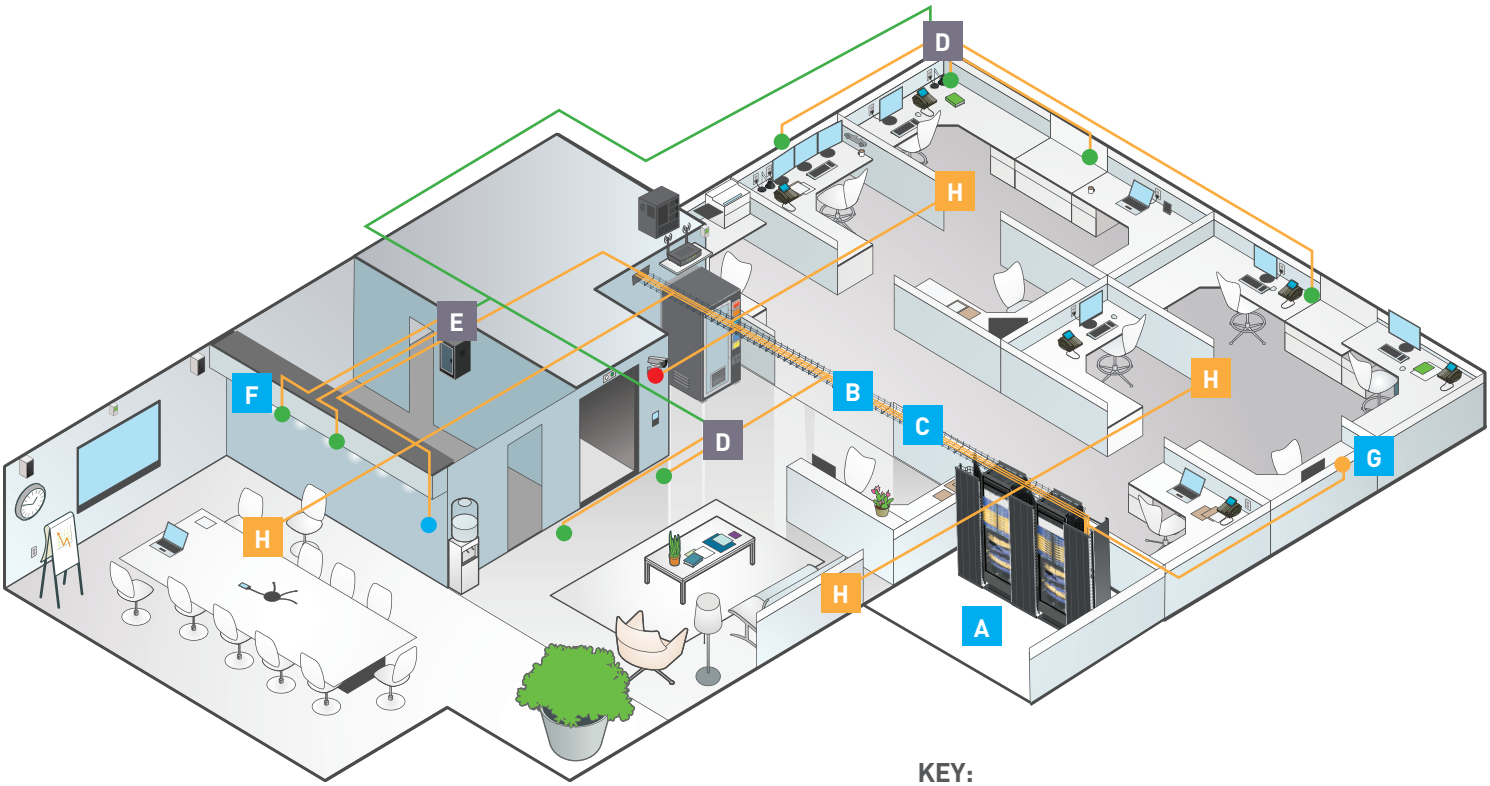
- Copper Cable (see page 22)

D Device Termination Point

- Plenum Rated Surface Mount Box (see page 21)
- Patch Cords (see page 21)

IoT APPLICATIONS WITH A HYBRID MODEL

A hybrid model allows for the benefits of both centralized and decentralized models to be realized within the building's infrastructure. The centralized model will enable applications, such as wireless access in which the standards specifically call for centralization, to be deployed in the building environment. Meanwhile a decentralized model will coexist, allowing for the migration of processing closer to the source of the data where latency considerations are paramount. When delivering a decentralized model, secure wall-mount, free-standing cabinets or ceiling enclosures can be used at the edge with a just single network connection and AC power being provided to the enclosure. Networking, processing, storage, power and backup capabilities can be provided closer to the data source, distributing the load of the building across multiple zones.



KEY:

- PoE Lighting
- PoE Light Switch
- CCTV Camera
- Network Jacks
- Wireless Access Point
- Twisted-Pair Cabling
- AC Power

ENABLING INFRASTRUCTURE FOR IoT APPLICATIONS (HYBRID):



Mighty Mo® Racks



Q-Series Cabinets



Wall Mount Cabinets



Wall Plates



Copper Jacks



Patch Cords

A Telecommunications Room

- Racks (see page 18)
- Cabinets (see page 19)
- Wire Mesh Cable Tray (see page 29)
- Patch Panels (see page 20)
- Copper Jacks (see page 20)
- Patch Cords (see page 21)
- Fiber Cable (see page 26)
- Fiber Connectivity (see page 24)

B Pathways

- Wire Mesh Cable Tray (see page 29)
- Tubular Runway (see page 29)

C Cabling

- Copper Cable (see page 22)

D Consolidation Point

- Enclosures (see page 28)
- Patch Panels (see page 20)
- Jacks (see page 20)

E Wall Mount Cabinets

- Patch Panels (see page 20)
- Jacks (see page 20)
- Wall Mount Cabinets (see page 19)

F Device Termination Point

- Plenum Rated Surface Mount Box (see page 21)
- Jacks (see page 20)

G Workstation Outlets

- Wall Plates (see page 21)
- Jacks (see page 20)
- Patch Cords (see page 21)

H WAP Enclosures and Connection Points

- Plenum Rated Surface Mount Box (see page 21)
- Category 6A Patch Cord (see page 21)
- WAP Enclosures (see page 28)

RACKS

Support active equipment and cabling with racks and cabinets from the Ortronics® product line. Utilize Mighty Mo® 20 two or four-post racks with its industry-leading cable management features and accessories to ensure your equipment, cables and connections are protected at all points.

MIGHTY MO 20 CHANNEL RACKS

PART NO.	DESCRIPTION
OR-MM20716-X	16.25"D channel, 7'H, 45 RU, tapped #12-24
OR-MM20724-X	24"D channel, 7'H, 45 RU, tapped #12-24
OR-MM20730-X	30"D channel, 7'H, 45 RU, tapped #12-24
OR-MM20816-X	16.25"D channel, 8'H, 51 RU, tapped #12-24
OR-MM20824-X	24"D channel, 8'H, 51 RU, tapped #12-24
OR-MM20830-X	30"D channel, 8'H, 51 RU, tapped #12-24

MIGHTY MO 20 4-POST RACKS

OR-MM20736ADJ12-X	36"D adjustable, 7'H 45 RU, tapped #12-24
OR-MM20736ADJ38-X	36"D adjustable, 7'H, 45 RU, punched 3/8" square
OR-MM20742ADJ12-X	42"D adjustable, 7'H, 45 RU, tapped #12-24
OR-MM20742ADJ38-X	42"D adjustable, 7'H, 45 RU, punched 3/8" square
OR-MM20836ADJ12-X	36"D adjustable, 8'H, 51 RU, tapped #12-24
OR-MM20836ADJ38-X	36"D adjustable, 8'H, 51 RU, punched 3/8" square
OR-MM20842ADJ12-X	42"D adjustable, 8'H, 51 RU, tapped #12-24
OR-MM20842ADJ38-X	42"D adjustable, 8'H, 51 RU, punched 3/8" square

MIGHTY MO 20 4-POST FIXED RAILS

OR-MM20730FXD12-X	30"D fixed, 7'H, 45 RU, tapped #12-24
OR-MM20730FXD38-X	30"D fixed, 7'H, 45 RU, punched 3/8" square
OR-MM20830FXD12-X	30"D fixed, 8'H, 51 RU, tapped #12-24
OR-MM20830FXD38-X	30"D fixed, 8' H, 51 RU, punched 3/8" square

MIGHTY MO 20 VERTICAL MANAGER WITH DOOR

OR-MM20VMD706-X	6.5"W x 10.25"D for 7' MM20 racks
OR-MM20VMD710-X	10.5"W x 15"D for 7' MM20 racks
OR-MM20VMD712-X	12.25"W x 15"D for 7' MM20 racks
OR-MM20VMD806-X	6.5"W x 10.25"D for 8' MM20 racks
OR-MM20VMD810-X	10.5"W x 15"D for 8' MM20 racks
OR-MM20VMD812-X	12.25"W x 15"D for 8' MM20 racks

Notes: Replace the"X" tail code with "B" for black or "W" for white.

MIGHTY MO 20 VERTICAL MANAGER WITH COVER

PART NO.	DESCRIPTION
OR-MM20VMS704-X	3.75"W x 8.62"D for 7' MM20 racks
OR-MM20VMS706-X	6"W x 8.62"D for 7' MM20 racks
OR-MM20VMS710-X	10"W x 13.62"D for 7' MM20 racks
OR-MM20VMS804-X	3.75"W x 8.62"D for 8' MM20 racks
OR-MM20VMS806-X	6"W x 8.62"D for 8' MM20 racks
OR-MM20VMS810-X	10"W x 13.62"D for 8' MM20 racks

MIGHTY MO 20 VERTICAL MANAGER WITH COVER

OR-MM20VCT70206-X	2"W x 6"D for 7' MM20 4-post racks
OR-MM20FCT70212-X	2"W x 12"D for 7' MM20 4-post racks
OR-MM20VCT80206-X	2"W x 6"D for 8' MM20 4-post racks
OR-MM20FCT80212-X	2"W x 12"D for 8' MM20 4-post racks

Notes: Replace the"X" tail code with "B" for black or "W" for white.

STANDARD 2-POST RACK

OR-23-72-T2SD	72"H x 24.19"W x 15.00"D, 38 RU, channel width: 3", load rating: 750 lbs.
OR-19-84-T2SD	84"H x 20.19"W x 15"D, 45 RU, channel width: 3", load rating: 750 lbs.
OR-23-84-T2SD	84"H x 24.19"W x 15"D, 45 RU, channel width: 3", load rating: 750 lbs.
OR-19-72-T2SD	72"H x 20.19"W x 15"D, 38 RU, channel width: 3", load rating: 750 lbs.

STANDARD 4-POST RACK

OR-19-84-T4SDA1520	84"H x 20.19"W x 15"-20"D, 45 RU (1.75"), load rating: 1,000 lbs.
OR-19-84-T4SDA2132	84"H x 20.19"W x 21"-32"D, 45 RU (1.75"), load rating: 1,000 lbs.
OR-19-96-T4SDA2132	96"H x 20.19"W x 21"-32"D, 51 RU (1.75"), load rating: 1,000 lbs.

STANDARD VERTICAL CABLE MANAGEMENT WITH CAGE COVER

OR-SVMS704	3.75"W x 6.58"D x 7'H
OR-SVMS706	6"W x 6.58"D x 7'H
OR-SVMS804	3.75"W x 6.58"D x 8'H
OR-SVMS806	6"W x 6.58"D x 8'H
OR-DVMS704	3.75"W x 13.17"D x 7'H
OR-DVMS706	6.00"W x 13.17"D x 7'H
OR-DVMS804	3.75"W x 13.17"D x 8'H
OR-DVMS806	6.00"W x 13.17"D x 8'H

CABINETS

Support a decentralized approach with wall-mount cabinets or secure critical IoT equipment in a free-standing cabinets from the Ortronics® product line.

WALL MOUNT CABINETS	
PART NO.	DESCRIPTION
OR-MMW122426P-B	12U x 24"W x 26"D, Plexiglas® door, 23.50"H, 150 lbs. capacity, black
OR-MMW122420P-B	12U x 24"W x 20"D, Plexiglas® door, 23.50"H, 150 lbs. capacity, black
OR-MMW192420P-B	19U x 24"W x 20"D, Plexiglas® door, 35.75"H, 200 lbs. capacity, black
OR-MMW262420P-B	26U x 24"W x 20"D, Plexiglas® door, 48.00"H, 300 lbs. capacity, black
OR-MMW192426P-B	19U x 24"W x 26"D, Plexiglas® door, 35.75"H, 200 lbs. capacity, black
OR-MMW262426P-B	26U x 24"W x 26"D, Plexiglas® door, 48.00"H, 300 lbs. capacity, black
Q-SERIES CABINETS	
OR-QC422442	Q-Series server cabinet, 42U x 600mmW x 1,000mmD, black
OR-QC422942	Q-Series network cabinet, 42U x 750mmW x 1,000mmD, black
GX CABINETS	
OR-GXC422442-A1-B	Server, cabinet assembly 42U (80.45"H), 24"W, 42"D, black
OR-GXC422942-A1-B	Network, cabinet assembly 42U (80.45"H), 29.5"W, 42"D, black



Q-Series Cabinets



GX Cabinets

designed to be better.™

COPPER CONNECTIVITY

Legrand's copper connectivity enables PoE and other networked devices to connect with industry-leading performance at the workstation, in a ceiling enclosure, floor box, table box, rack or cabinet.

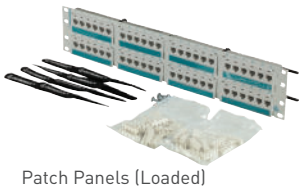


Copper Jacks

COPPER JACKS

PART NO.	DESCRIPTION
OR-HDJ5E	Clarity HDJ Category 5e jack, 8 position, T568A/B, fog white
OR-HDJ6	Clarity HDJ Category 6 jack, 8 position, T568A/B, fog white
OR-HDJ6A	Clarity HDJ Category 6a jack, 8 position, T568A/B, fog white
OR-KT2J5E	Category 5e Keystone jack, lacing cap termination
OR-KT2J6	Category 6 Keystone jack, lacing cap termination
OR-KT2J6A	Category 6A Keystone jack, lacing cap termination

Notes: For other colors add one of the following suffixes: -00 black, -36 blue, -42 red, -43 orange, -44 yellow, -45 green, -88 white, -13 ivory, -27 violet, -78 gray.



Patch Panels (Loaded)

PATCH PANELS (LOADED)

24-PORT PART NO.	48-PORT PART NO.	DESCRIPTION
OR-SP5EU24	OR-SP5EU48	Flat patch panel CAT 5e U/UTP
OR-SPA5EU24	OR-SPA5EU48	Angled patch panel CAT 5e U/UTP
OR-PHA5E6U24	OR-PHA5E6U48	Angled patch panel Clarity 5E
OR-PHD5E6U24	OR-PHD5E6U48	Flat patch panel Clarity 5E
OR-SP6U24	OR-SP6U48	Flat patch panel CAT 6 U/UTP
OR-SPA6U24	OR-SPA6U48	Angled patch panel CAT 6 U/UTP
OR-PHD610U24	OR-PHD610U48	Flat patch panel 610 Series CAT 6A U/UTP
OR-PHA610U24	OR-PHA610U48	Angled patch panel 610 Series CAT 6A U/UTP
OR-PHA66U24	OR-PHA66U48	Angled patch panel Clarity 6
OR-PHD66U24	OR-PHD66U48	Flat patch panel Clarity 6
OR-PHA6AU24	OR-PHA6AU48	Angled patch panel Clarity 6A/10G
OR-PHD6AU24	OR-PHD6AU48	Flat patch panel Clarity 6A/10G



Patch Panels (Unloaded)

PATCH PANELS (UNLOADED)

OR-SPKSU24	OR-SPKSU48	Flat panel kit unloaded for keystone
OR-SPAKSU24	OR-SPAKSU48	Angled panel kit unloaded for keystone
OR-SPKFU24	OR-SPKFU48	Flush load flat panel kit unloaded for keystone
OR-SPAKFU24	OR-SPAKFU48	Flush load angled panel kit unloaded for keystone
OR-PHAHJU24	OR-PHAHJU48	Angled HDJ panel unloaded
OR-PHDHJU24	OR-PHDHJU48	Flat HDJ panel unloaded

COPPER CONNECTIVITY



Patch Cords

PATCH CORDS

CAT 5E PART NO.	CAT 6 PART NO.	CAT 6A PART NO.	DESCRIPTION
OR-MC5Exx-yy	OR-MC6xx-yy	OR-MC6Axx-yy	Clarity modular patch cord
OR-SPCA5Exx-yy	OR-SPCA6xx-yy	–	TechChoice modular patch cord

Notes: xx = Length (03), (05), (07), (09), (15), (20) or (25) feet. yy= Patch cord color. -02 = red,-04 = yellow, -05 = green, -06 = blue, -08 = gray, -09 = white, -00=black.



Wall Plates

FACEPLATES

PART NO.	DESCRIPTION
OR-403HDJ11	HDJ single-gang plastic faceplate with label field, 1-port
OR-KSFP1	Keystone single-gang plastic faceplate with label field, 1-port
OR-KSSS1	Keystone single-gang stainless steel faceplate with label field, 1-port
OR-KSFPR1	Keystone single-gang plastic faceplate without label field, 1-port
OR-403HDJ12	HDJ single-gang plastic faceplate with label field, 2-port
OR-KSFP2	Keystone single-gang plastic faceplate with label field, 2-port
OR-KSSS2	Keystone single-gang stainless steel faceplate with label field, 2-port
OR-KSFPR2	Keystone single-gang plastic faceplate without label field, 2-port
OR-403HDJ13	HDJ single-gang plastic faceplate with label field, 3-port
OR-KSFP3	Keystone single-gang plastic faceplate with label field, 3-port
OR-KSSS3	Keystone single-gang stainless steel faceplate with label field, 3-port
OR-KSFPR3	Keystone single-gang plastic faceplate without label field, 3-port
OR-403HDJ14	HDJ single-gang plastic faceplate with label field, 4-port
OR-KSFP4	Keystone single-gang plastic faceplate with label field, 4-port
OR-KSSS4	Keystone single-gang stainless steel faceplate with label field, 4-port
OR-KSFPR4	Keystone single-gang plastic faceplate without label field, 4-port
OR-403HDJ16	HDJ single-gang plastic faceplate with label field, 6-port
OR-KSFP6	Keystone single-gang plastic faceplate with label field, 6-port
OR-KSSS6	Keystone single-gang stainless steel faceplate with label field, 6-port
OR-KSFPR6	Keystone single-gang plastic faceplate without label field, 6-port



Surface Mount Box

SURFACE HOUSING

OR-404HDJ2	HDJ surface housing, 2-port
OR-404HDJ4	HDJ Surface housing, 4-port
OR-KSSMB2	Keystone surface housing, 2-port
OR-KSSMB4	Keystone surface housing, 4-port
OR-KSSMB6	Keystone surface housing, 6-port

COPPER CABLE

Through nCompass™ Systems, specified Legrand® connectivity and Superior Essex® cabling products can be combined to provide a limited lifetime warranty on a structured cabling system. Superior Essex copper cabling allows devices to be placed and connected in any number of locations with industry-leading performance. Superior Essex PowerWise™ Category 5e cabling provides 88% power efficiency for PoE+ and future 4PPoE applications over 100 meter distances for current and future IoT deployments.

PREMISE COPPER

PRODUCT NAME	LISTING	PART NO.	PACKAGING
10Gain® XP CAT 6A	CMR	6H-272-xA	1,000' Reel
	CMP	6H-272-xB	
10Gain CAT 6A	CMR	6A-272-xA	1,000' Reel
	CMP	6A-272-xB	
DataGain® CAT 6+	CMR	66-246-xA	1,000' BrakeBox
		66-240-xA	1,000' POP box
	CMP	66-246-xB	1,000' BrakeBox
		66-240-xB	1,000' POP box
CAT 6	CMR	77-246-xA	1,000 BrakeBox
		77-240-xA	1,000' POP box
	CMP	77-2460xB	1,000' BrakeBox
		77-240-xB	1,000' POP Box
PowerWise Category 5e	CMR	PW52-H46-x5	1,000' BrakeBox
		PW52-H72-x5	1,000' Plywood Reel
	CMP	PW52-H46-x8	1,000' BrakeBox
		PW52-H72-x8	1,000' Plywood Reel
Cobra CAT 5e+	CMR	52-200-x5	1,000' Reel-in-a-Box
		52-240-x5	1,000' POP Box
	CMP	52-200-x8	1,000' Reel-in-a-Box
		52-241-x8	1,000' POP Box

Notes: For other jacket colors replace"x" with one of the following suffixes: **standard color** 2=blue, 3=gray, 4=white, **non-standard color** 5=green, 6=yellow, 7=purple, 9=red, D=orange, E=black. Non-standard jacket colors and other packaging options (types and lengths) available with minimum order quantity and lead time.

FIBER CONNECTIVITY

Legrand® fiber optic solutions from the Ortronics® product line support common, convenient approaches to fiber optic cabling. Support your building's backbone with highly reliable, error-proof fiber cassettes and adapter panels to ensure the optimal performance of your network with the increased bandwidth being placed on it every day.

RACK MOUNT FIBER ENCLOSURES

PART NO.	DESCRIPTION
OR-FC01U-P	Rack-mount fiber enclosures, standard density, 1RU
OR-FC01U-C	Rack-mount fiber patch and splice enclosures, 1RU
OR-FC02U-P	Rack-mount fiber enclosures, standard density, 2RU
OR-FC02U-C	Rack-mount fiber patch and splice enclosures, 2RU
OR-FC03U-P	Rack-mount fiber enclosures, standard density, 3RU
OR-FC03U-C	Rack-mount fiber patch and splice enclosures, 3RU
OR-FC04U-P	Rack-mount fiber enclosures, standard density, 4RU
OR-FC04U-C	Rack-mount fiber patch and splice enclosures, 4RU

ADAPTER PANELS

OR-OFP-MPA96LA	Standard density adapter panel, (8) MPO, MM, aqua
OR-OFP-MPA72LA	Standard density adapter panel, (6) MPO, MM, aqua
OR-OFP-LCQ24LC	Standard density adapter panel, 6-LC quad, MM, aqua
OR-OFP-LCD12LC	Standard density adapter panel, 6-LC duplex, MM, aqua
OR-OFP-SCD06LC	Standard density adapter panel, 3-SC duplex, MM, aqua
OR-OFP-SCD08LC	Standard density adapter panel, 4-SC duplex, MM, aqua
OR-OFP-SCD12LC	Standard density adapter panel, 6-SC duplex, MM, aqua
OR-OFP-SCS06LC	Standard density adapter panel, 6-SC simplex, MM, aqua
OR-OFP-MPA96MA	Standard density adapter panel, (8) MPO, MM, beige
OR-OFP-MPA72MA	Standard density adapter panel, (6) MPO, MM, beige
OR-OFP-LCQ24MB	Standard density adapter panel, 6-LC quad, MM, beige
OR-OFP-LCD12MB	Standard density adapter panel, 6-LC duplex, MM, beige
OR-OFP-SCD06MB	Standard density adapter panel, 3-SC duplex, MM, beige
OR-OFP-SCD08MB	Standard density adapter panel, 4-SC duplex, MM, beige
OR-OFP-SCD12MB	Standard density adapter panel, 6-SC duplex, MM, beige
OR-OFP-SCS06MB	Standard density adapter panel, 6-SC simplex, MM, beige

HIGH DENSITY FIBER MODULES FOR MIXED MEDIA PANELS

OR-HDFM-FLC2CL-00	High density fiber module, duplex LC, aqua
OR-HDFM-FSC1CL-00	High density fiber module, simplex SC, aqua
OR-HDFM-FLC2CA-00	High density fiber module, duplex LC, blue
OR-HDFM-FSC1CA-00	High density fiber module, simplex SC, blue
OR-HDFM-FLC2CC-00	High density fiber module, duplex LC, green
OR-HDFM-FSC1CC-00	High density fiber module, simplex SC, green
OR-HDFM-FLC2CM-00	High density fiber module, duplex LC, beige
OR-HDFM-FSC1CM-00	High density fiber module, simplex SC, beige

HIGH DENSITY FIBER MODULES FOR MIXED MEDIA PANELS (cont)

PART NO.	DESCRIPTION
OR-HDFM-FLC2CG-00	High density fiber module, duplex LC, red
OR-HDFM-FSC1CG-00	High density fiber module, simplex SC, red
OR-HDFM-FLC2CI-00	High density fiber module, duplex LC, yellow
OR-HDFM-FSC1CI-00	High density fiber module, simplex SC, yellow

HIGH DENSITY FIBER MODULES FOR MIXED MEDIA PANELS, MPO

OR-HDFM-FMTZNL-00	High density fiber module, MPO, Type A, aqua
OR-HDFM-FMTZNC-00	High density fiber module, MPO, Type A, green
OR-HDFM-FMTZNM-00	High density fiber module, MPO, Type A, beige
OR-HDFM-FMTZNH-00	High density fiber module, MPO, Type A, black
OR-HDFM-FMTZNN-00	High density fiber module, MPO, Type A, magenta
OR-HDFM-FMTZNG-00	High density fiber module, MPO, Type A, red
OR-HDFM-FMTZNA-00	High density fiber module, MPO, Type A, blue
OR-HDFM-FMTZNE-00	High density fiber module, MPO, Type B, gray

MIXED MEDIA PATCH PANELS FOR HD FIBER MODULES

OR-PHAHJU24	High density panel, angled, 24-port, 1RU
OR-PHAHJU48	High density panel, angled, 48-port, 1RU
OR-PHAHJU72	High density panel, angled, 72-port, 2RU
OR-PHDHJU24	High density panel, flat, 24-port, 1RU
OR-PHDHJU48	High density panel, flat, 48-port, 1RU
OR-PHDHJU72	High density panel, flat, 72-port, 2RU
OR-HDCM-001	High density cable manager

FIBER CASSETTES

OR-M2LCQ24-50E3A1	LC quad, 24-fiber, 50-micron LOMF, (2) MTP(M), premium performance, single-unit
OR-M2LCQ24-50E	LC quad, 24-fiber, 50-micron LOMF, (2) MTP(M), high performance, single-unit
OR-M2LCD12-50E	LC duplex, 12-fiber, 50-micron LOMF, (1) MTP(M), high performance, single-unit
OR-M2SCD12-50E	SC duplex, 12-fiber, 50-micron LOMF, (1) MTP(M), high performance, single-unit
OR-HDCA6LC12AH	High density cassette assembly, 50 LOMF (OM4+), 12-fiber, 1-MTP(M), 6-LC DX, 0.5dB max cassette insertion loss

Notes: MTP® is a registered trademark of US Conec, Ltd.

FIBER CONNECTIVITY



Fiber Connectors



Space Saver Fiber Patch Cords

FIBER CONNECTORS

PART NO.	DESCRIPTION
OR-205KNT9GA-50T	Reusable connector, 50/125 LOMF, LC PC, aqua
OR-205KNT9FA-50T	Reusable connector, 50/125 LOMF, SC PC, aqua

FIBER PATCH CORDS, DUPLEX

OR-P3DG8LPAZAZxxxM	Space Saver Premium Performance Laser Optimized (50/125), A-B, OM4, LC-PC, OFNP
OR-P3RG8LPAZAZxxxM	Space Saver Premium Performance Laser Optimized (50/125), A-A, OM4, LC-PC, OFNP
OR-P3DG8LPWZWZxxxM	Space Saver Premium Performance Laser Optimized (50/125), configurable, OM4, reconfigurable LC (RLC)-PC, OFNP
OR-P3DF8LPAZAZxxxM	Space Saver Premium Performance Laser Optimized (50/125), A-B, OM3, LC-PC, OFNP
OR-P3RF8LPAZAZxxxM	Space Saver Premium Performance Laser Optimized (50/125), A-A, OM3, LC-PC, OFNP
OR-P3DF8LPWZWZxxxM	Space Saver Premium Performance Laser Optimized (50/125), configurable, OM3, RLC-PC, OFNP
OR-P0DG8LPAZAZxxxM	Space Saver Standard Performance Laser Optimized (50/125), A-B, OM4, LC-PC, OFNP
OR-P0RG8LPAZAZxxxM	Space Saver Standard Performance Laser Optimized (50/125), A-A, OM4, LC-PC, OFNP
OR-P0DG8LPWZWZxxxM	Space Saver Standard Performance Laser Optimized (50/125), configurable, OM4, RLC-PC, OFNP
OR-P0DF8LPAZAZxxxM	Space Saver Standard Performance Laser Optimized (50/125), A-B, OM3, LC-PC, OFNP
OR-P0RF8LPAZAZxxxM	Space Saver Standard Performance Laser Optimized (50/125), A-A, OM3, LC-PC, OFNP
OR-P0DF8LPWZWZxxxM	Space Saver Standard Performance Laser Optimized (50/125), configurable, OM3, RLC-PC, OFNP
OR-P3DG2LRGZGZxxxM	2mm Zip Cord Premium and High Performance Laser Optimized (50/125), configurable, OM4, LC-PC to LC-PC, OFNR
OR-P3DG2LRFZFZxxxM	2mm Zip Cord Premium and High Performance Laser Optimized (50/125), configurable, OM4, SC-PC to SC-PC, OFNR
OR-P3DG2LRFZGZxxxM	2mm Zip Cord Premium and High Performance Laser Optimized (50/125), configurable, OM4, SC-PC to LC-PC, OFNR
OR-P3DF2LRGZGZxxxM	2mm Zip Cord Premium and High Performance Laser Optimized (50/125), configurable, OM3, LC-PC to LC-PC, OFNR
OR-P3DF2LRFZFZxxxM	2mm Zip Cord Premium and High Performance Laser Optimized (50/125), configurable, OM3, SC-PC to SC-PC, OFNR
OR-P3DF2LRFZGZxxxM	2mm Zip Cord Premium and High Performance Laser Optimized (50/125), configurable, OM3, SC-PC to LC-PC, OFNR

FIBER CONNECTIVITY



Fiber Patch Cords

FIBER PATCH CORDS, DUPLEX (cont)

PART NO.	DESCRIPTION
OR-P0DG2LRGZGZxxxM	Standard Performance Laser Optimized (50/125), configurable, OM4, LC-PC to LC-PC, OFNR
OR-P0DG2LRFZFZxxxM	Standard Performance Laser Optimized (50/125, configurable, OM4, SC-PC to SC-PC, OFNR)
OR-P0DG2LRFZGZxxxM	Standard Performance Laser Optimized (50/125), configurable, OM4, SC-PC to LC-PC, OFNR
OR-P0DF2LRGZGZxxxM	2mm Zip Cord Standard Performance Laser Optimized (50/125), configurable, OM3, LC-PC to LC-PC, OFNR
OR-P0DF2LRFZFZxxxM	2mm Zip Cord Standard Performance Laser Optimized (50/125), configurable, OM3, SC-PC to SC-PC, OFNR
OR-P0DF2LRFZGZxxxM	2mm Zip Cord Standard Performance Laser Optimized (50/125), configurable, OM3, SC-PC to LC-PC, OFNR

Notes: xxx = length in meters. Space Saver configurable patch cords ship A-B from factory.

FIBER CABLE

Through nCompass™ Systems, specified Legrand® connectivity and Superior Essex® cabling products can be combined to provide a limited lifetime warranty on a structured cabling system. Superior Essex fiber cabling allows devices to be placed and connected in any number of locations with industry-leading performance. Superior Essex PowerWise™ fiber cable is designed for premises applications where either the distance or the power requirements of the end device exceed what Power over Ethernet is capable of reaching or supplying.

POWERWISE FIBER CABLE

PRODUCT NAME	PART NO.	FIBER COUNT	CONDUCTOR COUNT	AWG (MM)	JACKET COLOR	NOMINAL DIAMETER	PACKAGE
PowerWise Fiber Cable	F3C3-002U15-6991-CE9	2	2	16 (1.47)	Yellow	0.26 (6.6)	Plywood Reel

PREMISES FIBER (LOOSE TUBE)

PRODUCT NAME	PART NO.	LISTING	CONFIGURATION	FIBER COUNT	PACKAGE
Microarray Data Center Interconnect	P3***xx01	OFNR	3 mm Round	2 - 12	Reel
	P3024xxA1		Duplex	24	
	V4***xx01	OFNP	2 mm Round	2 - 12	
	P4***xx01		3 mm Round	2 - 12	
	P4024xxC1		3.8 mm Round	24	
	P4024xxA1		Duplex	24	
2 mm Microarray Breakout	V4***xxB1	OFNP	Multi-unit	24, 36	
	V4***xx01		Multi-unit	48, 144	
2 mm Interlock Armored, Microarray Breakout	L4***xVB1	OFCP	Multi-unit	24, 36	
	L4***xV01		Multi-unit	48, 144	
3 mm Microarray Breakout	P3024xxB1	OFNR	Multi-unit	24	
	P3***xx01		Multi-unit	48 - 144	
	P4024xxB1	OFNP	Multi-unit	24	
	P4***xx01		Multi-unit	48-144	
3 mm Interlock Armored, Microarray Breakout	L3024xPB1	OFCR	Multi-unit	24	
	L3***xP01		Multi-unit	48 - 144	
	L4024xPB1	OFCP	Multi-unit	24	
	L4***xP01		Multi-unit	48 - 144	

Notes: Where "***" = fiber count (i.e. 002, 004, 006, 008, 012, 018, 024, 036, 048, 060, 072, 096, 144) and "x" or "xx" = fiber type (refer to key).

KEY

MULTIMODE FIBER (MMF) TYPES			
	TeraFlex Bend Resistant Laser Optimized 50/125		
	10G/150	10G/300	10G/550
Replace "x" with:	M	N	P
Replace "xx" with:	MG	NG	PG
Premises Jacket Color	Aqua		

PREMISES FIBER (TIGHT BUFFER)

PRODUCT NAME	PART NO.	LISTING	CONFIGURATION	FIBER COUNT	PACKAGE
Simplex, Duplex and Quad Interconnect	33***xx01	OFNR	3 mm Round	1	Reel
	A3001x001		2 mm Round	1	Reel
	B3002x001		3 mm Zip	2	Reel
	C3002x001		2 mm Zip	2	Reel
	33***xxyy		2 mm Zip	2	Refer to Key
	34***xx01	OFNP	3 mm Round	1	Reel
	A4001x01		2 mm Round	1	Reel
	B4002x01		3 mm Zip	2	Reel
	C4002xx01		2 mm Zip	2	Reel
	34**xxyy		Round	2, 4	Refer to Key
Single Unit Distribution	43***xxyy	OFNR	Single Unit	6, 8, 12	Refer to Key
	43***xK01			18, 24	Reel
	44***xxyy	OFNP		6, 8, 12	Refer to Key
	44***xK01			18, 24	Reel
Rugged Indoor/Outdoor MDU	D5001L5yy	OFNR	Round	1	Refer to Key
Indoor/Outdoor Sunlight Resistant	W4***xxyy	OFNP	Single Unit	2 - 12	Refer to Key
	W5025xK01			24	Reel
	24***xx01		Multi-Unit	18 - 72	
Single Unit, Interlock Armored, Tight Buffer	L3***x301	OFCR	Single Unit	2, 4	Reel
	L3***xK1Q			6, 8, 12	
	L3***x401			18, 24	
	L4***x301	OFCP		2, 4	
	L4***x401			6, 8, 12	
	L4***xK1Q			18, 24	

Notes: Where "***" = fiber count (i.e. 002, 004, 006, 008, 012, 018, 024, 036, 048, 060, 072, 096, 144) and "x" or "xx" = fiber type (refer to key).

KEY

MULTIMODE FIBER (MMF) TYPES				
	TeraGain 62.5/125	TeraFlex Bend Resistant Laser Optimized 50/125		
		10G/150	10G/300	10G/550
Replace "x" with:	6	M	N	P
Replace "xx" with:	6G	MG	NG	PG
Premises Jacket Color	Orange	Aqua		
I/O Jacket Color	Black			

PACKAGING OPTIONS		
	Cut to Length Plywood Reel	1,000 ft BrakeBox
Replace "yy" with:	1	BB
	1,500 ft BrakeBox	2,000 ft BrakeBox
Replace "yy" with:	BD	BC

CEILING ENCLOSURES (WAP AND ACTIVE EQUIPMENT)

The Wiremold® product line of Legrand provides enclosures for WAPs and active equipment for ceiling installations, enabling the installation and distribution of wireless access and other active equipment to a variety of connected devices.



WAP Enclosures

WIRELESS ACCESS POINTS – OVERHEAD AND WALL

PART NO.	DESCRIPTION
WAPBRKT	Overhead WAP Bracket can be mounted directly to wire mesh tray or to threaded rods attached to cable tray
NME1250AP	Nonmetallic WAP wall enclosure

WIRELESS ACCESS POINTS – CEILING WAP ENCLOSURES

WAPE5-BLKIT	Enclosure, blank cover, 5"D x 12"W x 14"L
WAPE10-BLKIT	Enclosure, blank cover, 10"D x 12"W x 14"L
WAPE5-UNIKIT	Enclosure, universal faceplate, 5"D x 12"W x 14"L
WAPE10-UNIKIT	Enclosure, universal faceplate, 10"D x 12"W x 14"L
WAPE10-DOME	Enclosure, 14" diameter by 6-1/2" deep transmission dome, 3"D
WAPENCL	Enclosure, cover with knockouts, 4"D x 13.375"W x 13.5"L
WAPENCL-24-24-4	Enclosure, cover with knockouts, 4"D x 24"W x 24"L

EVOLUTION™ SERIES CEILING BOX

PART NO.	ECB2S	ECB2SP	ECB2S-CR	ECB2SP-CR	ECB2S-RLNK	ECB2SP-RLNK
Box Size	23.75" x 23.75" x 6.75" (603mm x 603mm x 171mm)					
False Ceiling Install	YES	YES	YES	YES	YES	YES
Hard Ceiling Install	YES	YES	YES	YES	YES	YES
Shelf Capacity	2RU	2RU	2RU	2RU	2RU	2RU
Receptacles	6	7	(4) Controlled, (2) Uncontrolled	(4) Controlled, (3) Uncontrolled	(4) Controlled, (2) Uncontrolled	(4) Controlled, (3) Uncontrolled
Removable Shelves	YES	YES	YES	YES	YES	YES
Projector Mount	NO	YES (up to 50 lbs.)	NO	YES (up to 50 lbs.)	NO	YES (up to 50 lbs.)
Cover Colors	White	White	White	White	White	White
Knockout Size Range (trade size)	.5" to 2"	.5" to 2"	.5" to 2"	.5" to 2"	.5" to 2"	.5" to 2"

PATHWAYS

Legrand's cable pathways allows for efficient routing of data communications cable in any building environment. Find the right solution for your installation with a variety of options from industry-leading wire-mesh cable tray with the Cablofil® product line to tubular runway from the Ortronics® product line.



Wire Mesh Cable Tray

WIRE MESH CABLE TRAY

PART NO.	DESCRIPTION
CF 30	1"D, widths from 2" to 12"
CF 54	2"D, widths from 2" to 24"
CF 105	4"D, widths from 4" to 24"
CF 150	6"D, widths from 6" to 24"

Notes: Multiple finish options are available. See catalog for complete product information.



Tubular Runway

TUBULAR RUNWAY

OR-TR6-6B	6"W x 5'-11"L, load rating: 115 lbs.
OR-TR6-12B	12"W x 5'-11"L, load rating: 115 lbs.
OR-TR6-18B	18"W x 5'-11"L, load rating: 115 lbs.
OR-TR6-24B	24"W x 5'-11"L, load rating: 115 lbs.
OR-TR10-6B	6"W x 9' 8.5"L, load rating: 115 lbs.
OR-TR10-12B	12 W x 9'-8.5"L, load rating: 115 lbs.
OR-TR10-18B	18"W x 9'-8.5"L, load rating: 115 lbs.
OR-TR10-24B	24"W x 9'-8.5"L, load rating: 115 lbs.

HORIZONTAL RADIUS RUNWAY

OR-TRHR12B	12"W x 18.03"IR x 29.66"OR*
OR-TRHR18B	18"W x 18.03"IR x 35.66"OR*

UNIVERSAL STYLE TUBULAR RUNWAY

OR-URT10-6B	6"W x 9'-11"L, black
OR-URT10-12B	12"W x 9'-11"L, black
OR-URT10-18B	18"W x 9'-11"L, black
OR-URT10-24B	24"W x 9'-11"L, black

TELCO STYLE TUBULAR RUNWAY

OR-TRT10-6B	6"W x 9' 8.5"L, load rating: 115 lbs.
OR-TRT10-12B	12"W x 9' 8.5"L, load rating: 115 lbs.
OR-TRT10-18B	18"W x 9' 8.5"L, load rating: 115 lbs.
OR-TRT10-24B	24"W x 9' 8.5"L, load rating: 115 lbs.

TELCO STYLE CURVED RUNWAY

OR-TRTC-6B	11.5"H x 6"W x 11.5"D
OR-TRTC-12B	11.5"H x 12"W x 11.5"D
OR-TRTC-18B	11.5"H x 18"W x 11.5"D
OR-TRTC-24B	11.5"H x 24"W x 11.5"D
OR-TRTCI-6B	11.5"H x 6"W x 11.5"D
OR-TRTCI-12B	11.5"H x 12"W x 11.5"D
OR-TRTCI-18B	11.5"H x 18"W x 11.5"D
OR-TRTCI-24B	11.5"H x 24"W x 11.5"D

Notes: *IR= inside radius; OR= outside radius. Replace "B" (black), with "D" for dove gray.



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