

LCS 3

3 DIMENSIONS OF EXCELLENCE

◆ PERFORMANCE ◆ SCALABILITY ◆ EFFICIENCY



DATA CENTER
LOCAL AREA NETWORK

THE GLOBAL SPECIALIST IN ELECTRICAL AND DIGITAL BUILDING INFRASTRUCTURES



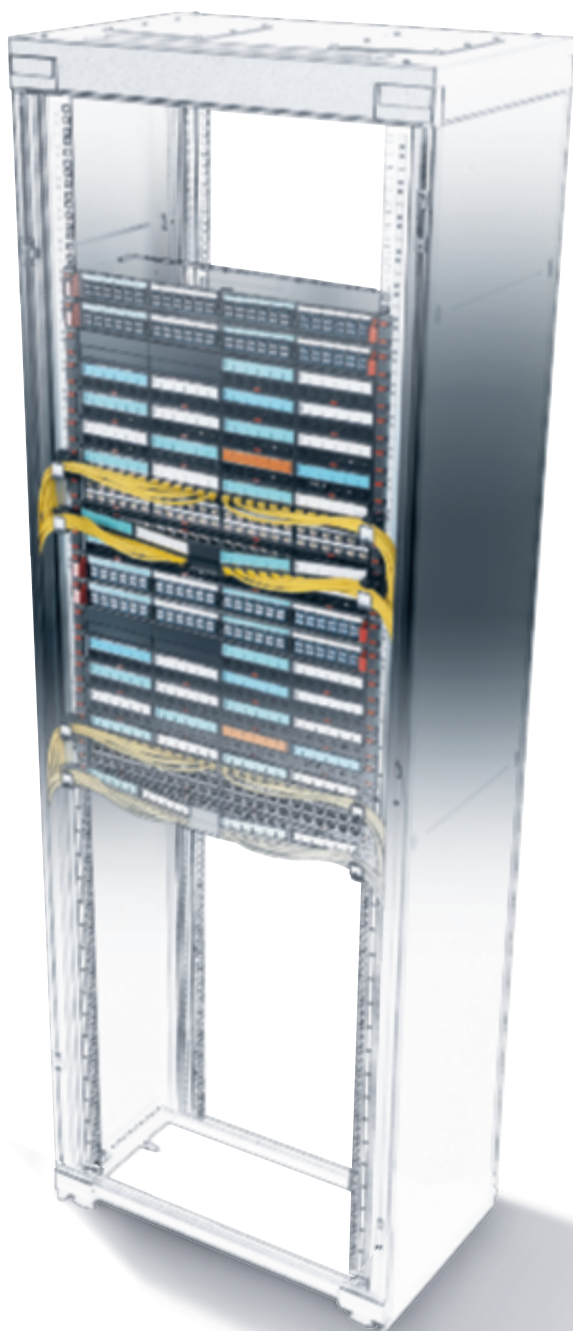
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3 DIMENSIONS
OF EXCELLENCE

● PERFORMANCE ● SCALABILITY ● EFFICIENCY





3 DIMENSIONS OF EXCELLENCE

◆ PERFORMANCE ◆ SCALABILITY ◆ EFFICIENCY

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Legrand

A global player

Legrand is the global specialist in electrical and digital building infrastructures. The Group offers a comprehensive range of solutions and services tailored to residential, commercial and industrial applications. The scope of its offering and its leading positions make Legrand a worldwide benchmark.



AN ACTIVE INTERNATIONAL PRESENCE

ESTABLISHED
IN OVER
90 COUNTRIES

SALES IN
CLOSE TO 180
COUNTRIES

TURNOVER
€5 BILLION

OVER 36,000
EMPLOYEES

INNOVATION

4.9% OF SALES
INVESTED IN R&D

A WIDE CHOICE OF SOLUTIONS

OVER 230,000
CATALOGUE ITEMS

80 PRODUCT FAMILIES

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Our business...

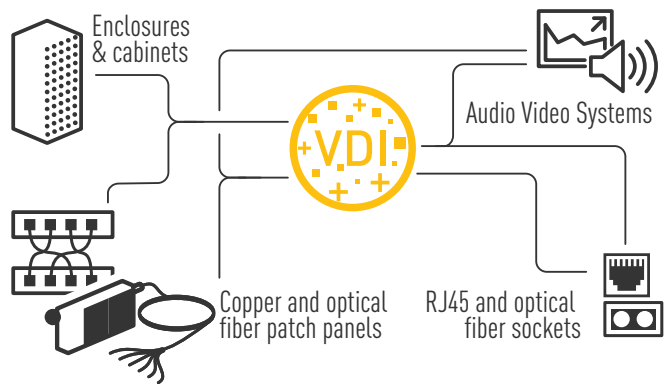
From control and connection interfaces to cable management, energy distribution and data distribution systems, Legrand provides a host of solutions designed to manage lighting, energy, networks and building access.



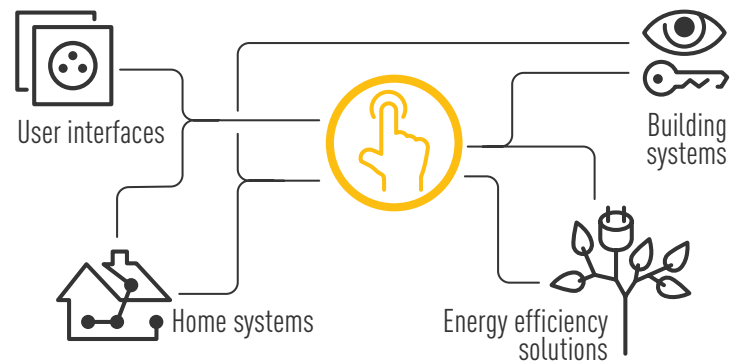


4 KEY AREAS OF EXPERTISE

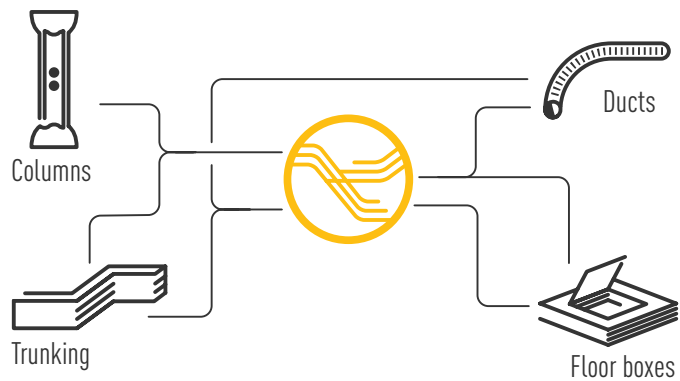
DIGITAL INFRASTRUCTURE



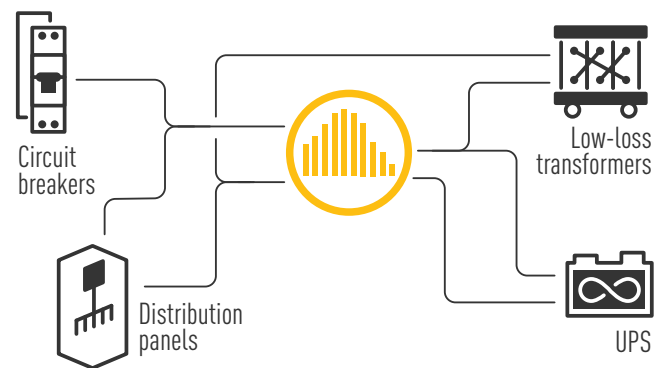
CONTROL AND COMMAND



CABLE MANAGEMENT



ENERGY DISTRIBUTION





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Legrand Group A leading company for all your IT networks

Legrand cabling systems currently provide high-quality connectivity to more than 200 million devices.

The Legrand Group is a world leader in communication networks for data transmission. Its investment in the development and design of structured cabling systems and solutions has enabled it to develop its offer and achieve the highest level of performance.

These solutions are ideal for today's multimedia networks, technologies and applications.

A PORTFOLIO OF SPECIALIST BRANDS

- C2G • Electrorack • Estap
- Middle Atlantic • Minkels • Quicktron
- Raritan • SJ Manufacturing • Valrack

GLOBAL PLAYERS

DATAKOM IT

LEGRAND

Products and systems
for digital building
infrastructures.



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Our digital infrastructure expertise

Legrand's complete global solutions for data communication perfectly address the key challenges for digital networks: performance, scalability and efficiency.

1 LOCAL AREA NETWORKS

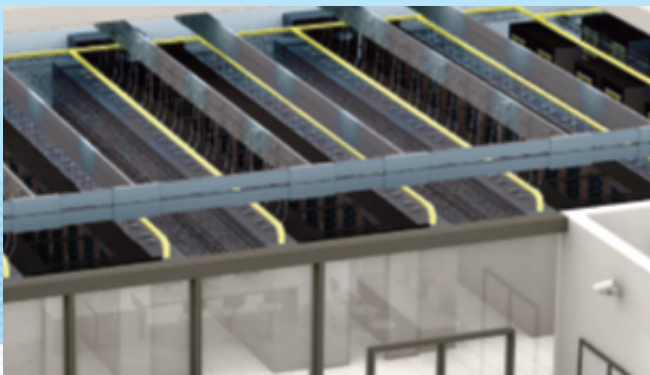


SOLUTIONS FOR STRUCTURED CABLING

- **Housing solutions** (19" freestanding and wall-mounting cabinets, open racks, PDUs, micro data centers, etc.)
- **Copper solutions** (New Plug, controlled-access panel, controlled-access RJ45, etc.)
- **Fibre solutions** (Connectors, equipped & modular panels, bend-insensitive cables, etc.)



2 DATA CENTER & SERVER ROOM



SOLUTIONS FOR STRUCTURED CABLING IN SERVER ROOMS

- **Housing solutions** (Server cabinets, aisle containment, cooling units and cold corridor, open racks, PDUs, etc.)
- **Copper solutions** (Preterminated, etc.)
- **Fibre solutions** (Preterminated, intelligent patching, high-density fibre optic solutions, etc.)



3 AUDIO VIDEO SYSTEM



A WIDE RANGE OF TECHNOLOGIES TO SUIT THE LOCATION AND THE USER EQUIPMENT

- **Racks and enclosures**
- **Preterminated audio/video sockets** (HDMI, display port, HD15, USB, RCA, JACK, etc.)
- **Cords and adaptors**



LCS³

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3

Performance

When describing the performance of a structured cabling system, irrespective of the technology used for the conductor (copper or fibre optic), the transmission speed (Bit rate) is the reference point.

Legrand's LCS³ system offers you

- 1 25 Gbps and 40 Gbps Ethernet applications
COPPER SYSTEM
- 2 40 Gbps and 100 Gbps Ethernet applications
FIBRE OPTIC SYSTEM
- 3 MTP/MPO high density and up to Cat. 8 solutions
FIBRE OPTIC & COPPER SYSTEMS



FIBRE OPTIC SYSTEM

NEW MTP connectors and cassettes:

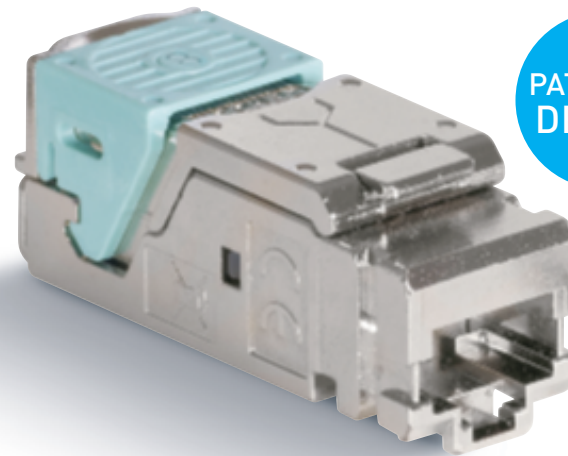
- 40 Gbps – 100 Gbps
- Available in 2 housing types types for LC & SC connectivity
- Best-in-class cassette insertion losses of 0.35 dB
- OM3/OM4 12-fibre connectors.
Each connector contains 12 fibres.
- OM3/OM4 patch cords & cables
- Preterminated fibre management
- Simple push-pull latching mechanism for easy and intuitive insertion and removal



COPPER SYSTEM

NEW RJ45 connectors

- In Cat. 8, Cat. 6A, Cat. 6 and Cat. 5°
- Toolless easy locking system
- Cable & cords from Cat. 5° to Cat. 8



PATENTED
DESIGN

MTP is a registered trademark of US Conec Ltd
Preterminated: The fibre optic cable termination is the addition of connectors to each optical fibre in a cable. The connectors are assembled in our factories.

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● PERFORMANCE ● SCALABILITY ● EFFICIENCY

EFFICIENCY

High density

Patch panels and fibre optic drawers have been completely renovated and redesigned to increase the number of connectors and simplify installation.

1 48 ports per Unit for high density
COPPER SYSTEM

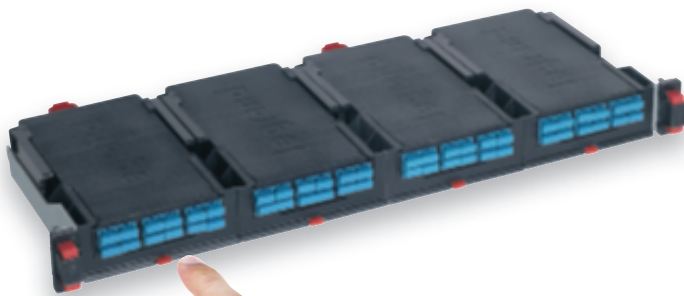
2 96 LC per Unit for high density
FIBRE OPTIC SYSTEM

3 144 LC per Unit for ultra-high density
FIBRE OPTIC SYSTEM

FIBRE OPTIC SYSTEM

NEW fibre optic drawer:

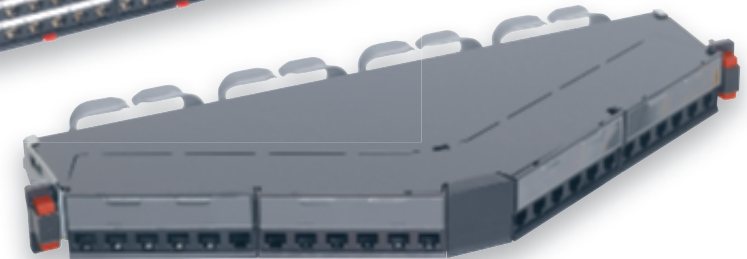
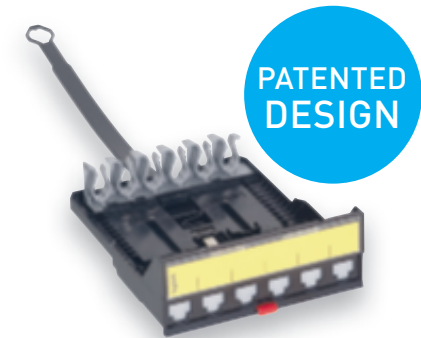
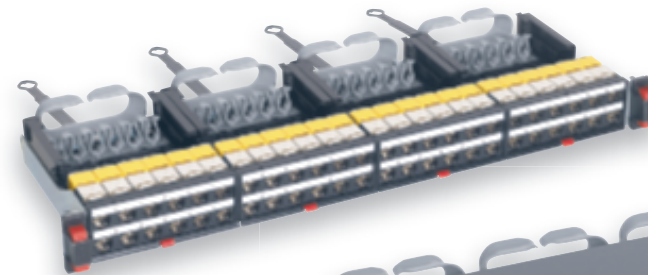
- 144 LC ports per Unit UHD - Ultra High Density - 1U, 2U, 4U
- 96 LC ports per Unit - High Density - Panels
- Microcable preterminated solution offers smaller diameters than traditional trunks
- Mixture of fibre and copper solutions
- Marking options



COPPER SYSTEM

NEW patch panels:

- 48 ports per Unit
- Flat and angled solutions
- Fast push-button extraction
- Sliding cassettes: easier maintenance
- Innovative modular cassette system
- Easy maintenance: remove connectors without disconnecting the patch cords





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Scalability & Maintenance

Legrand has therefore developed customised solutions for you, providing an infrastructure that is scalable at all levels. These solutions enable you to look ahead, as they make future upgrades possible and facilitate all maintenance operations.

- 1 MODULAR PATCH PANELS AND FIBRE OPTIC DRAWERS
- 2 PANELS WITH SLIDING CASSETTES
- 3 FAST PUSH-BUTTON EXTRACTION



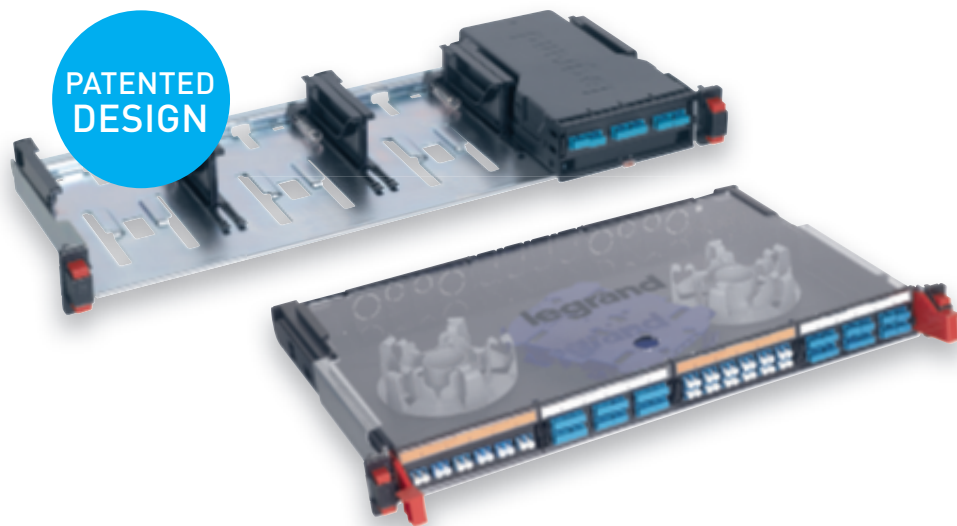
FIBRE OPTIC SYSTEM

Easy to upgrade

- Modular blocks are easy to add: LC, SC, ST, LC APC, SC APC
- Mixture of fibre & copper: easy to upgrade

Easy to maintain

- Sliding cassette : easier maintenance
- Fast push-button extraction
- Innovative modular cassette system
- Cord protection & guide kit



COPPER SYSTEM

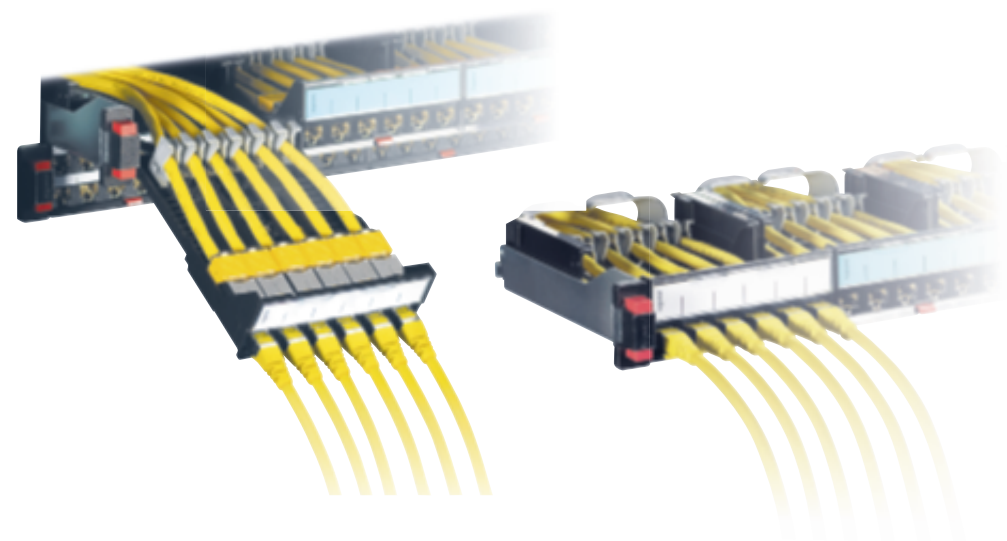
- Sliding cassette: easier maintenance

- Fast push-button extraction

- Innovative modular cassette system

- Easy maintenance: remove connectors without disconnecting the cords

- Easy to mix with Legrand fibre optic solutions



LCS³
3 DIMENSIONS
OF EXCELLENCE
● PERFORMANCE ● SCALABILITY ● EFFICIENCY



LCS³ DATA CENTER

Enclosure & aisle containment

**Performance,
scalable & efficient
solutions**

Legrand LCS³ has an extensive portfolio of enclosures and aisle containment systems for your data center and/or server room. The Legrand LCS³ is ideal for the installation of (blade) servers, switches, patch panels, routers and storage equipment. Modularity and flexibility are always key in the design of our products.



LCS³ server-and-network rack

The server-and-network racks are versatile and modularly constructed. Which type of rack is most suitable depends ultimately on its application.

The server-and-network racks are available in varying heights, widths and depths.

The 600 mm wide rack is a compact rack with a high carrying capacity on a small surface.

The 800 mm wide rack is ideal for patching, network and server equipment with enough space for power and network cabling.



Airflow optimisation

Data centers are increasingly using energy-efficient cooling techniques such as free cooling and fresh air cooling. The first step in this process is separating the warm and cold air using aisle containment solutions. The next step is airflow optimisation in the rack.

This step, however, is often not fully or effectively implemented,

although it is the next step in energy-efficient data centers. Airflow optimisation is also important for the server, network and storage equipment to work properly, for temperature control and for the general stability of a data center.

Using airflow optimisation you can achieve the highest levels of

airtightness. The side sealing plate and the side sealing panel are covered with foil. Every assembly opening in the side sealing panel is still usable, but all unused openings are sealed with foil to prevent air leakage. The base and roof plates have an identical level of airtightness. Special foam pieces are even placed around the rails on the base.



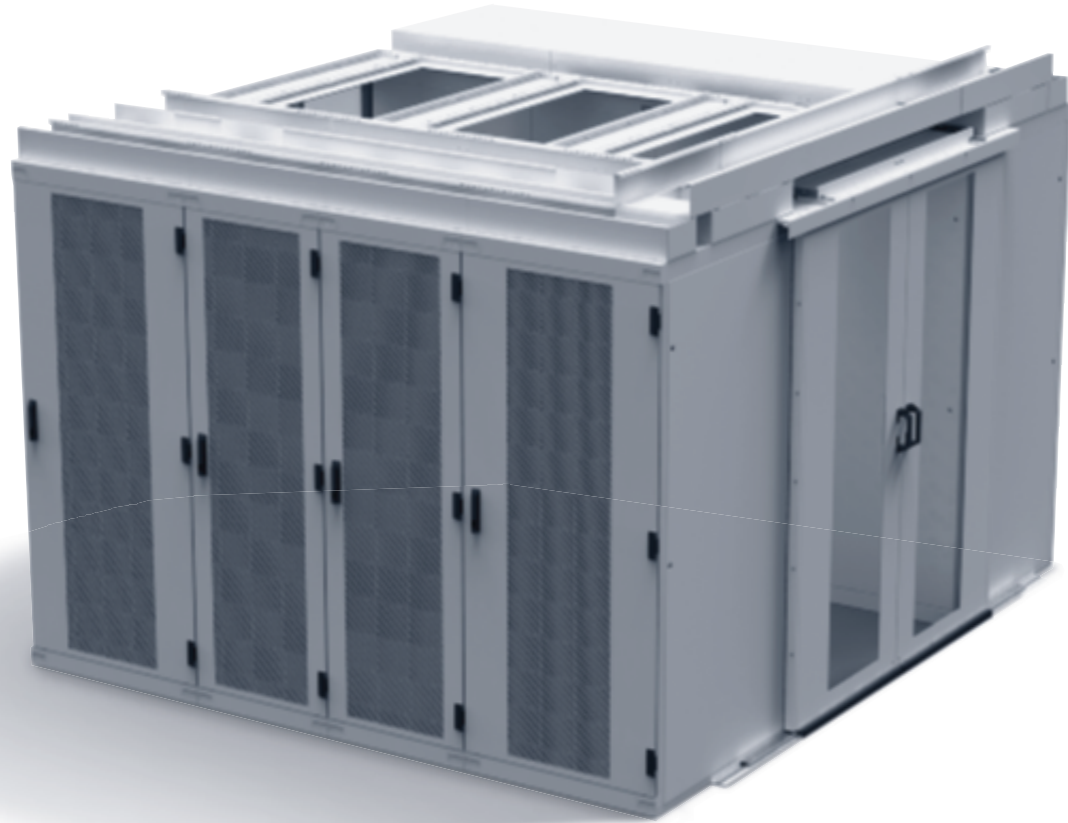
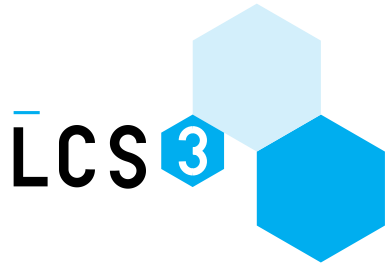
Cable brush



Cable entry foam



Cable entry plate



Top-of-rack cabling system

From building to cabinet

LEGRAND LCS³ cable trays can be used for optimum guidance of cables to the cabinet. Cable trays are flexible, modular, easily installable and can be integrated seamlessly in the cabinet. Because this cable system is fixed directly onto the cabinets, it becomes independent of its surroundings.

Thus, if the data center expands, the cable management can expand with it without requiring any changes to the construction of the building, unlike ceiling anchoring systems.

From rack row to rack row

Cable bridges can be used for crossing a cold or warm corridor. The cable bridge can be used for both small and wide cable trays. These can also be used in combination with aisle containment. Because cable bridges are telescopic, no sawing is required in the data center. This helps avoid outages of critical equipment.

From rack to rack

Cable trays can also be used for cabling from rack to rack. In this case the cables do not run horizontally through the racks but are guided over the top, across the roof towards the neighbouring racks.

Cable management

Management solutions within your rack. Structured cabling is important for the reliability and optimum performance of your data center or server room. Flexibility and accessibility in the case of troubleshooting or expansion is also essential.



Reliability

Good cable management ensures the equipment's air intake points are kept as clear as possible. This allows sufficient air to pass through to the equipment so that it is cooled well. Proper cooling helps avoid equipment failures and results in longer equipment lifespans.



Optimum performance

Good cable management ensures that cables do not become damaged or break and that they have the correct radius of curvature. An incorrect radius of curvature reduces the performance of the cable. The radius of curvature must never be less than what has been recommended by the supplier.



Flexibility and accessibility

Cabling should have a neat and structured appearance. This makes it easy to move or add cables.

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Aisle Containment

Performance,
efficiency & scalability

Energy bill savings

By cooling your data center in the right manner, you can significantly reduce your energy spending. Minkels has developed an extensive range of energy-efficient cooling solutions.



AISLE CONTAINMENT

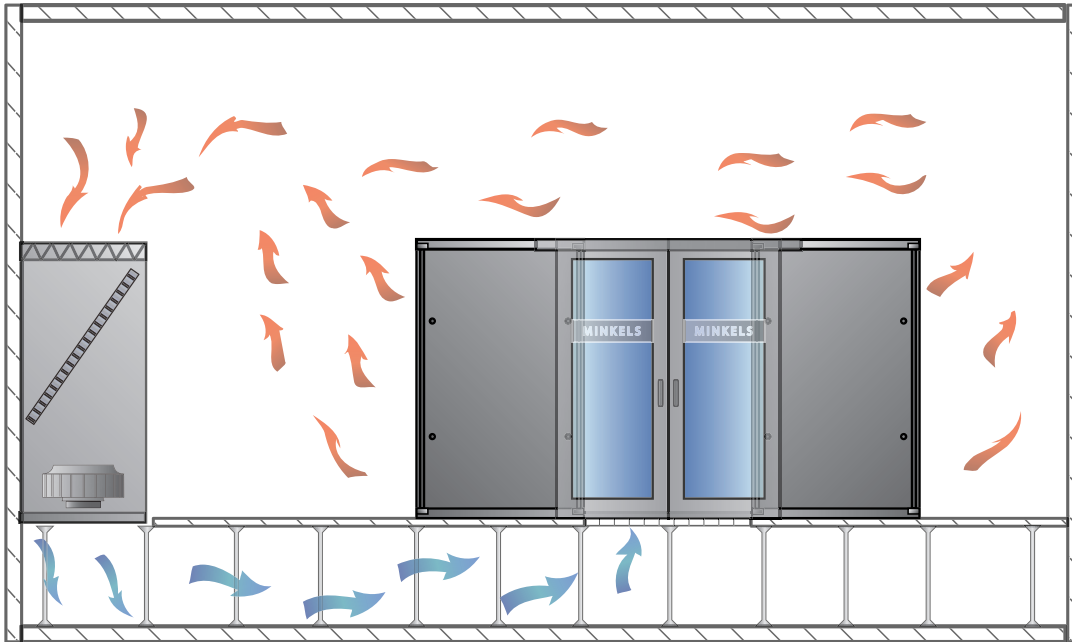
Aisle containment is the solution to the challenge data centers have faced since day one: the optimisation of cooling and energy efficiency through the separation of hot and cold airflows.

However, this is not the only challenge which data center managers and owners have been confronted with. Because IT equipment has a shorter

life cycle, data center managers and owners encounter a higher rate of change in the data center. Traditional aisle containment does not offer the flexibility and modularity needed to deal with this dynamic. In addition, data center managers and owners are increasingly confronted with systems – such as storage equipment - which do not come in a standard housing

and are therefore hard to fit into a traditional aisle containment system. Furthermore, traditional systems do not offer enough options for optimum integration of sensors and so on. The challenges outlined call for aisle containment solutions offering greater flexibility and modularity and better integration options.

With the Next Generation Corridor we offer data center managers and owners 'future-proof' solutions which offer the flexibility and modularity needed in order to deal with the dynamic of the modern data center.



NEXT GENERATION CORRIDORS (rack-dependent)

Minkels was the first data center supplier in Europe to introduce the Corridor solutions commercially. Since then, these solutions have been used to separate the airflows of many a data center in an energy-efficient

manner. Next Generation Corridor is the ultimate answer to the ever-increasing demand for flexible and modular solutions. The Next Generation Corridor, takes modular thinking and energy-efficient data center design to a higher level.



Important features of the Next Generation Corridor are:

MODULARITY

Through the highly modular concept of the Next Generation Corridor, Minkels offers extensive ways to implement a Corridor solution in a phased and thus cost-efficient manner.

FLEXIBILITY

Because of its modular design, the Next Generation Corridor is flexible and thus can be adapted to fit the specific building environment.

EASE OF INSTALLATION

Modularity in the construction details ensures that the solution is easily and cost-efficiently installed.

ENERGY EFFICIENCY

With the Next Generation Corridor, Minkels offers a solution which is more energy-efficient than other aisle containment models on the market.

OPTIMUM INTEGRATION

The Next Generation Corridor can be integrated with row-based cooling systems which bring cooling close to the heat source, but also with more traditional forms of cooling which require a raised floor. In addition, this concept offers plug & play integration with e.g. fire detection and suppression systems, monitoring sensors and access control.





One Catalogue number, one solution

Micro data center

The MiniCube

Professionalising the IT infrastructure

With the adoption of cloud computing, many companies are now looking to reduce the size of their server rooms and save energy costs. Do you have fewer applications running from your in-house server room than before? Do you only want to house your business critical information on site? Then the time has come to deploy an efficient, turnkey micro data center. Whether you want to access data more quickly - low latency - or you want to optimise your server room, the MiniCube is the ideal solution. The MiniCube has everything you need for a full data center: housing, power supply, monitoring and cooling, all in a compact system. The MiniCube is fully preconfigured and truly plug-and-play.



Advantages

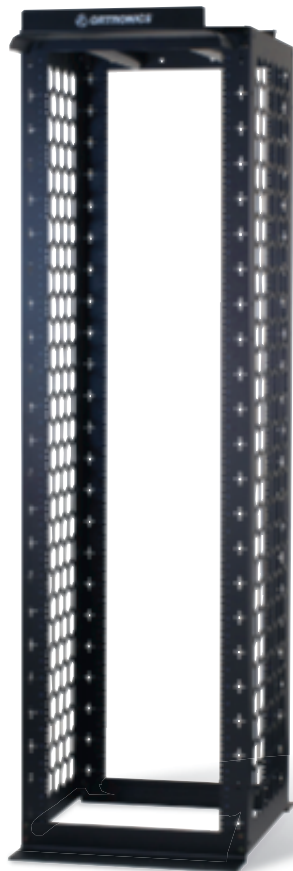
- Reliable and efficient solution for server rooms
- No dependency on the building, easy to deploy
- Efficient cabinets or racks for your IT infrastructure
- Use of proven technologies
- Turnkey solution, including installation and start-up

Local Area Network

LCS³ CONNECTIVITY RACK

Mighty Mo 20 4-post racks provide greater flexibility and optimum efficiency in any data center. The fixed racks provide an economical mounting platform for switches and servers while the adjustable rack allows all 4 mounting rails to be adjusted even after the rack has been fastened to the floor.

Front and rear waterfalls allow for equipment patching and server patching. All styles of Mighty Mo 20 vertical manager can be mounted front or rear, and airflow baffles can be mounted to manage the airflow of side-breathing equipment.



LCS³ CABLING RACK

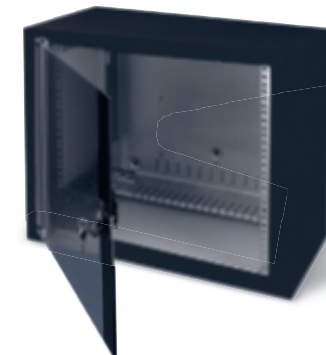
Given how quickly IT technology evolves, a flexible, future-proof concept is essential. The LCS³ cabling rack is specifically designed to meet these needs and stands out due to its versatility, ease of installation and ease of use.

The LCS³ cabling rack is a multifunctional system, specifically designed for ease of installation. The system is ultimately suitable for housing UTP patch panels, glass drawers, telephone panels, switches, routers and other IT equipment. Of course it is also possible to include a small number of servers.



LCS³ WALL ENCLOSURE

The basic frame is made up of a wall-mounting plate with integrated strain relief bar, four depth rails, two cable-entry plates (base and top) and a set of 19-inch rails. The assembly consists of two equal top and base panels with ventilation slots to the rear, two equal side panels and a safety glass door with an EK-333 cylinder lock with grip.



PDU's

Solutions for any configuration

A wide universal range

This new PDU offer combines Legrand's quality and innovation with a wide range of applications. A standalone solution, this range integrates seamlessly into any installation and ensures compliance with applicable standards.

GENERAL CHARACTERISTICS

- Anodised aluminium body: Lightweight rigid high-end material
- Modular design: Expandable outlet and function modules

SAFETY

- High electrical safety rating
- High-quality connection
- Outlets equipped with safety shutter

• Cord Locking System



POWER SUPPLY

- 16 A to 32 A single-phase or three-phase
- PDUs integrate local and international outlet types



STANDARDS

- IEC 60950** - Information technology equipment – Safety
- IEC 60297-3** - Dimensions of mechanical structures of the 482.6 mm (19 in) series
- IEC 60320-2-2** - Interconnection couplers (C13 and C19) for household and similar equipment
- IEC 60884-1** - Plugs and socket outlets for household and similar purposes (France, Belgium and Germany)
- BS 1363-2** - British standard plugs and socket outlets
- IEC 60309** - Plugs, socket outlets and couplers for industrial purposes

.....
Certification: CE, TSE, CCC
.....

Environmentally-friendly products

Eco-friendly design



Zero-U PDUs

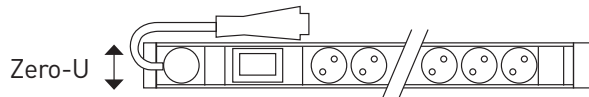


FOR DATA CENTERS/SERVER ROOMS

- Used in server cabinets where:
- there is a high density of active equipment
 - electrical distribution quality is crucial

12 CATALOGUE NUMBERS

FOR VERTICAL INSTALLATION



19" 1-U PDUs

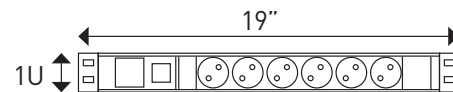


FOR DATA CENTERS/SERVER ROOMS AND COMPUTER ROOMS

- Used in server and cabling cabinets where:
- there is a low density of active equipment to be powered
 - ease of installation is an advantage

26 CATALOGUE NUMBERS

FOR VERTICAL OR HORIZONTAL INSTALLATION



10" 1-U PDUs

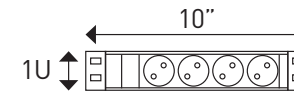


FOR SMALL IT ENVIRONMENTS

- Mainly used in small-scale commercial applications where there is a limited number of IT points and a 10" cabinet is sufficient:
- Small businesses, freelance professions, administrative services, etc.

3 CATALOGUE NUMBERS

HORIZONTAL PDU



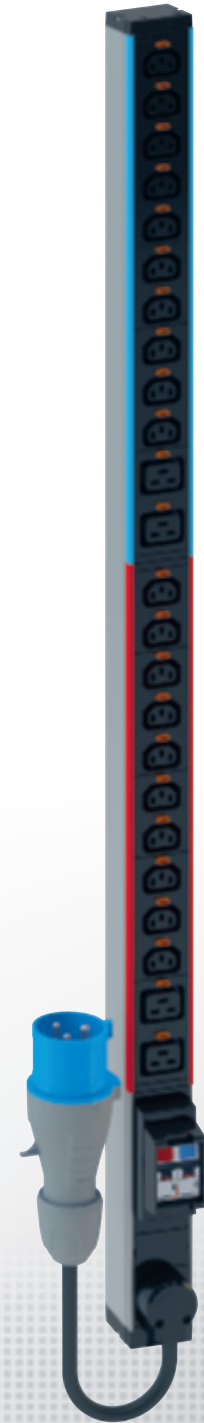
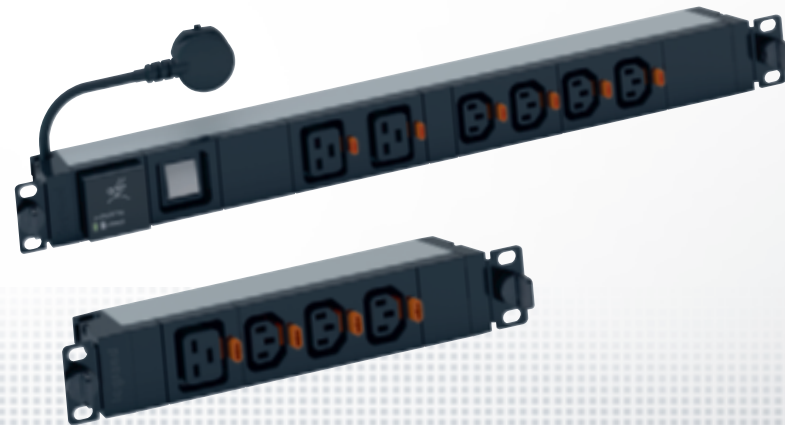


Cord Locking System

Innovation at the heart of PDUs

For C13 & C19
sockets

A major addition to the range and exclusive to Legrand, C13 and C19 outlets have a power supply cord locking system which prevents accidental disconnection and guarantees absolute safety.





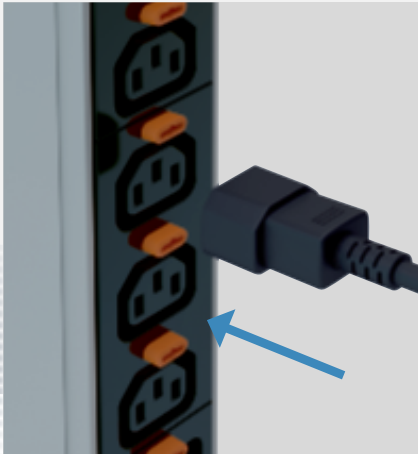
AN INNOVATIVE TECHNICAL SOLUTION ✓



CORD LOCKING SYSTEM

Very easy to identify thanks to the orange buttons next to each outlet

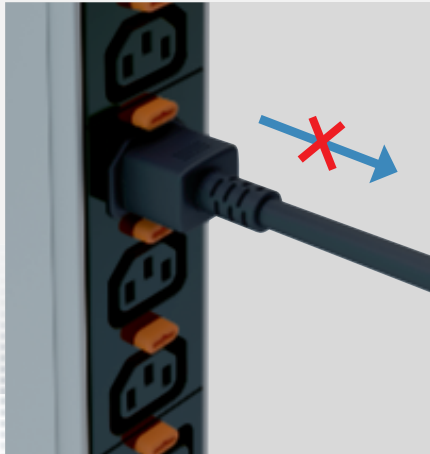
1 CONNECTION ✓



CORD CONNECTION

The cord is connected to the outlet naturally in one smooth action

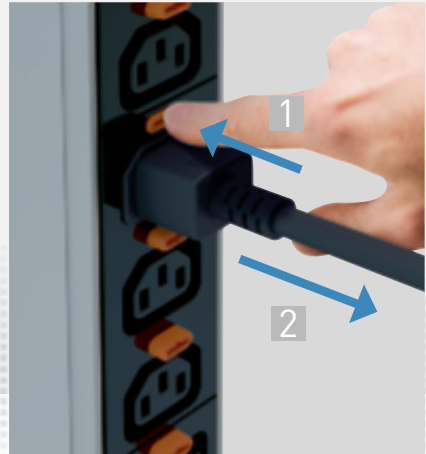
2 AUTO LOCKING ✓



CORD HELD IN PLACE

Once the power supply cord is connected, it locks automatically and cannot be removed

3 UNLOCKING ✓

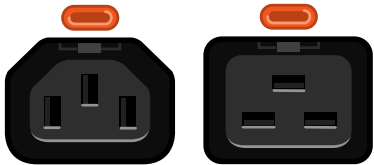


EASY REMOVAL

Simply pressing the unlock button releases the cord from the outlet

UNIVERSAL SYSTEM

Takes all cords for standard C13 and C19 outlets



✓ EXCLUSIVE TO LEGRAND

Support you can rely on

It takes more than just sophisticated technological solutions to manage international projects successfully.

What is really needed is the comprehensive and expert support of an experienced partner: from project design and choice of the right solution through to on-site logistics, installation and configuration, including any subsequent troubleshooting and maintenance.

Legrand is ideally placed to offer this type of support, as all its products and solutions are developed and produced in close proximity to its customers. It also offers a wide range of special services and support tools which create genuine added value by making customers' day-to-day business significantly easier. This support is available at every stage of the project, whatever the customer touchpoint.

01 A diverse range of digital tools including websites, social media and news feeds so you can contact Legrand at any time and stay up to date with all essential news that is relevant to your projects.





02 Personal advice, technical support and documents, white papers, catalogues and e-catalogues, mobile apps, and software to help with product choice or drawing up bills of materials.



03 Training courses covering actual product expertise as well as the latest developments in technology, standards and regulations. Customised training courses available on request, either face to face or in virtual online classes.



04 Configurators, project software and AutoCAD libraries for project design, open for integration into existing software solutions wherever possible.

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 instagram.com/legrandnews



Headquarters

128, avenue de Lattre de Tassigny
87045 Limoges Cedex

France

Tel.: + 33 (0) 5 55 06 87 87

Fax: + 33 (0) 5 55 06 88 88