

LEGRAND CABLING SYSTEM² **PERFORMANCE** FROM TECHNICAL ROOM TO WORKSTATION



LEGRAND CABLING SYSTEM²

Solutions from technical room to workstation See pages 02 to 13

LCS² copper See pages 15 to 21

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LCS² workstation See pages 40 to 49

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La legrand 1





Patch panel







LCS² ENCLOSURES AND CABINETS Easy installation and efficient maintenance



Enclosures See pages 30 to 33



Racks See pages 34 to 35



Server enclosures See pages 36 to 37



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19" LCS² enclosures Optimised management of cables and patch cords

The design of the new LCS² enclosures facilitates managing the cables and patch cords.

Easy association of a unit dedicated for cords, cable entry at the top made easy, new feedthrough panels for perfect organisation of patching...

Enclosures

The structure allows easy cable entry at the top and bottom of the enclosure. In the case of reduced room access space the structure can be completely dismantled.

Respecting of the bending radius Cable management panels with rings to guide and protect the patch cords.



Optimised cable management The enclosures are offering

lots of space besides the 19" uprights to guide and fix large quantities of cables.



Linking interface Protects the cables and guarantees the bending radius between enclosure and cable trunking.



Easy cable entry Enclosure and cable management unit are equipped with pre-cuts (19") that accept cable feedthrough panels.



19" LCS² enclosures simplified assembly

The new LCS² enclosures can be very easily assembled and dismantled.

A considerable time-saving on the sites, complete accessibility thanks to the removable side and rear panels and a structure that can be entirely dismantled.



Easy installation Dual marking of 19" uprights.



Total accessibility A structure that can be completely dismantled.





Automatic grounding clip Guarantee of grounding for the side and rear panels with the automatic grounding clip.

Combinations that answer various needs



Two 600-mm-wide enclosures with a cabling unit.



Two 800-mm-wide enclosures side by side.



LCS² ENCLOSURES AND CABINETS

LCS² 19" racks Advanced cable management

The new LCS² racks offer full cable management for optimizing your network performance.

In addition to the support strength, the LCS² cable management systems provide flexibility from the system design stage through to any future extensions.

Innovative cord management cages With individual conduit for each rack unit and door that opens in both directions.





Light stainless-steel aluminium construction With black powder finish, resistant to marks and scratches.

Cord management panels with cover

With conduits for vertical and horizontal cord organization.



Integrated upper trunking

For compliance with the bending radius and organized running of cords.





LCS² 19" Server enclosures Complete accessibility

The new LCS² server enclosures are designed for complete accessibility.

Complete accessibility not only via the doors and panels, but also thanks to the rooftop pre-cuts and opening of the enclosure below.





Doors and panels with keyless lock system

- front door with handle
- perforated front and rear doors 80% microperforation.



Cable entry - 19" High pre-cuts - open bottom.



Cable ducting Support with screwless tray fixing - Cablofil.

Legrand cabling system LCS² 19" LCS² freestanding cabinets





0 463 18

Technical characteristics p. 773

IP 20 - IK 08

Baying cabinets with reversible curved front door made of screen-printed safety glass. Side and rear removable panels Panels with automatic equipotential connection Lock with 2433 A key for locking of the 4 sides Top and bottom cable entries (19" cut-out format), receive 19" plates with

brushes, fans, etc.

Equipped with 4 x 19" uprights with U marking and depth adjusting aid Levelling feet adjustable from the inside

Cabinets can be dismantled completely where access is difficult Charcoal grey RAL 7016

Pack Cat.Nos 19" LCS² cabinets

0 463 3 0 463 3 0 463 3

						Load
		Capacity	Height (mm)	Width (mm)	Depth (mm)	capacity (kg)
1	0 463 00	24 U	1226	600	600	240
1	0 463 06	29 U	1448	600	600	290
1	0 463 12	33 U	1626	600	600	330
1	0 463 18	42 U	2026	600	600	420
1	0 463 19	42 U	2026	600	800	420
1	0 463 21	42 U	2026	800	600	420
1	0 463 22	42 U	2026	800	800	420
1	0 463 23	42 U	2026	800	1000	420
1	0 463 28	47 U	2248	800	800	470
1	0 463 29	47 U	2248	800	1000	470

19" LCS² extension cabinets

		No side pa Supplied	No side panels Supplied with joining kit							
1 1	0 463 30 0 463 33	Capacity 42 U 42 U	Height (mm) 2026 2026	Width (mm) 600 800	Depth (mm) 600 800	Load capacity (kg) 420 420				
	LCS ² baving kits									

7 8 9	For cabinets depth (mm): 600 800 1000
	LCS ² cabling units

Can be attached between 2 LCS² 42 U cabinets Easier cable and patch cord management Width 250 mm Supplied with earthing kit Charcoal grey RAL 7016 For cabinets depth (mm): 0 463 34 600 0 463 35 800

NEW Legrand cabling system LCS² 19" LCS² server freestanding cabinets



0 463 85



IP 20 - IK 08

Baying cabinets with front and rear metal microperforated door (80 %), reversible, can be opened without key Front door can be fitted with a DIN European cylinder (30 + 10 mm) with option of fitting a handle Cat.Nos 0 347 71/72 Rear door can be fitted with a key barrel Cat.Nos 0 368 22/23/24/25/26/27 (p. 280) Removable side panels Top cable entries in 19" cut-out format, capable of taking 19" plates with brushes, fans, etc. Open bottom cable entry Equipped with 4 x 19" uprights with adjusting aid Levelling feet adjustable from the inside

Cabinets can be dismantled completely where access is difficult Supplied with earthing kit Charcoal grey RAL 7016

Pack Cat.Nos 19" LCS² server cabinets 1 1

1 1	0 463 85 0 463 86	Capacity 42 U 42 U	Height (mm) 2026 2026	Width (mm) 600 800	Depth (mm) 1000 1000	Load capacity (kg) 630 630				
		LCS ² bay	ying kit							
1	0 463 39	For direct For cabine 1000	or direct linking 2 LCS² server cabinets or cabinet depth (mm): 000							
		Equipme	ent							
1	0 464 78	Cable tra Fast screw For width	ys suppor w-free asse 600/800 m	ts mbly of ca m	ble trays (p	o. 762)				

0 464 79	Fitted between 2 supports Cat.No 0 464 79 For depth 1000 mm Pre-cut every 100 mm for height 500 to 200 mm
	Set of 4 caster wheels
0 464 82	Set of 4 pivoting wheels (2 with brake) for serve
	cabinet

Load on the 4 wheels: 500 kg

horizontal and vertical cabling configure your LCS² system (continued)



SELECT 19" LCS	S ² FREESTANDING CABINETS (p. 760)		Depth 600 mm	Depth 800 mm	Depth 1000 mm		
	24 U	Width 600 mm	0 463 00	-	-		
	29 U 33 U	Width 600 mm	0 463 06	-	-		
	42 11	Width 600 mm	0 463 18	0 463 19	-		
6		Width 800 mm	0 463 21	0 463 22	0 463 23		
	42 U extension ⁽¹⁾	Width 800 mm	- 0 403 30	0 463 33	-		
	47 U	Width 800 mm	-	0 463 28	0 463 29		
SELECT EQUIPM	MENT FOR 19" LCS ² FREESTANDING CABINETS	depth 600 mm	depth 800 mm	depth 1000 mm			
	42 U cabling unit		0 463 34	0 463 35	-		
	Joining kit		0 463 37	0 463 38	0 463 39		
6 <mark>6</mark> 6		Depth 115 mm	0 465 00	0 465 00	0 465 00		
	Fixed shelf Fixing on 2 x 19" uprights	Depth 200 mm	0 465 01	0 465 01	0 465 01		
		Depth 360 mm	0 465 02	0 465 02	0 465 02		
	Fixed shelf	50 kg max., 1 U	0 465 05	0 465 06	0 465 07		
5111111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Fixing on 4 x 19" uprights	100 kg max., 2 U	-	-	0 465 17		
	Telescopic shelf. Fixing on 4 x 19" uprights	0 465 08	0 465 09	0 465 10			
SELECT 19" LCS	S ² SERVER FREESTANDING CABINETS (p. 760)			Depth 1000 mm	1		
	42 U	Width 600 mm		0 463 85			
		Width 800 mm	0 463 86				
	EMENT FOR 19" LCS ² SERVER FREESTANDING		Depth 1000 mm)			
	Joining kit		0 463 39				
	Fixed shelf. Screw fixing on 4 x 19" uprights, 100		0 465 17				
	Telescopic shelf. Screw fixing on 4 x 19" uprights		0 465 18				
<u></u>	Set of 4 casters for server enclosure, 500 kg max.			0 464 82			
SELECT PLINTH	FOR LCS ² FREESTANDING CABINETS AND SE	RVER FREESTANDING CABINETS	6 (p. 761)	0.404.50			
	Plinth kit, height 100 mm	0 464 50 0 464 51					
	Sat of 2 plain side trans	For cabinet depth 600 mm		0 464 54			
		For cabinet depth 1000 mm	0 464 56 0 464 58				
	Plinth for cabling unit, trap height 100 mm		ABINETS (p. 1	0 464 64 ⁽²⁾			
SELECT CABLE	Disatis plate with houses			0 465 28			
	direct clipping	2U		0 465 29			
		1 U		0 465 30			
	Metal plate with brushes	2 U		0 465 31			
SELECT THERM CABINETS (p. 76	AL MANAGEMENT EQUIPMENT AND ACCESSO	RIES FOR LCS ² FREESTANDING	CABINETS AN	D SERVER FR	EESTANDING		
	19" plates 3U with 230 V fans	2 fans 3 fans		0 464 87 0 464 88			
	Thermostat	Adjustable range 5 to 60 °C		0 348 48			
SELECT CABLIN	Set of 4 casters	380 kg max. STANDING CABINETS AND SERV	ER FREESTAN		TS (n. 762)		
		For cabinet width/depth 600 mm		0 464 72	(p. 102)		
	Set of 3 cable management supports	For cabinet width/depth 800 mm	0 464 72				
		For cabinet depth 1000 mm		0 464 74			
		For cabinet 33 U		0 464 76			
	Flat cable trays	For cabinet 42 U		0 464 77			
	Vertical cable manager	For cabinet 42 U, width 800 mm		0 464 80			
	Vertical extension	For cabinet 42 U, width 800 mm		0 464 81			
OTHER EQUIPM	ENT FOR 19" LCS ² FREESTANDING CABINETS	AND SERVER FREESTANDING CA	ABINETS (p. 75	8, 761, 762)			
1: Cabinets without late 2: Double the number of	eral panel supplied with joining kit of traps for a height of 200 mm						

Legrand cabling system LCS² 19" LCS² freestanding cabinets and server freestanding cabinets

General characteristics

Metallic extendable freestanding cabinets. RAL 7016 textured polyester coating providing excellent resistance to corrosion and scratching

Scratching Front glass safety door, front and rear microperforated metal doors for server freestanding cabinets. Protection index (weatherproof) against solid objects and liquids: IP 20 Protection index against mechanical shocks: IK 08 Perforations in 10" uprights: 9.5 x 9.5 mm Permissible load: 10 kg/U (or 420 kg for a 42 U enclosure), 15 kg/U for server freestanding cabinet

server freestanding cabinet

Compliance with standards

LCS² cabinets comply with the following standards:

IEC 60529 EN 60529	(NF C 20-010) Degrees of protection provided by enclosures (IP code)
IEC 62262 EN 62262	(NF EN 50102, NF C 20-015) Degree of protection provided by enclosures of electrical equipment against external mechanical impacts (IK code)
IEC 60950-1 EN 60950-1 C 77-210-1	Safety of data processing equipment
EIA-310-D	Cabinets, enclosures, panels and associated equipment (ANSI/EIA/310-D-1992)
IEC 60297-1 and 2 DIN 41414-7	(NF C 20-150, NF C 20-151) Sizes of mechanical structures of the 482.6 mm (19 in) series
IEC 60917-1 EN 60917-1	Modular order for the development of mechanical structures for electronic infrastructures
IEC 60917-2-1 EN 60917-2-1	Modular order for the development of mechanical structures for electronic infrastructures Coordination dimensions for infrastructure interfaces in widths of 25 mm (enclosure and frame dimensions)

LCS² cabinets can be integrated into installations complying with the following standards:

EN 50173-1	Information technology - Generic cabling systems
EN 50174-1 & 2 C 90-480-1 & 2	Information technology - Cabling installation
ISO IEC 11801	Information technology - Generic cabling for customer premises
NF C 15-100 Part 4-41	Low voltage electrical installations - Recommendations

Overall dimensions (mm)



Cat.Nos	Capacity	H ⁽¹⁾	L	D	Α	в		
0 463 00	24 U	1226						
0 463 06	29 U	1448	610	659 859		1000		
0 463 12	33 U	1626			1138	1208		
0 463 18/30								
0 463 19						1400		
0 463 21	42 U	2026		657		1400		
0 463 22/33		81		857		1608		
0 463 23					810	810	1057	1525
0 463 28	47.11	2240		857		1608		
0 463 29	47.0	2248		1057		1808		

Server freestanding cabinets

Cat.Nos	Capacity	H ⁽¹⁾	L	D	A	в
0 463 85	42 U	2026	610	1092	1138	1608
0 463 86	42 U	2026	810	1092	1525	1808



			В	С	D		Min.	Max.	
0 463 00	24 U		1086		400	405			
0 463 06	29 U	650	1308						
0 463 12	33 U	009	1486 490 1886	490	420	118	193	41	
0 463 18/30				690				197	
0 463 19		859			690	625			
0 463 21	42 U	657			490	425	122		
0 463 22/33		857			690	625			141
0 463 23		1057			890	825			
0 463 28	4711	857	2100		690	625			
0 463 29	470	1057	2100		890	825			

Server freestanding cabinets

Cathlas	Consoltu	•	Us	able a	rea	E	F	(2)	~
Catinos	Capacity	A [в	С	D		Min.	Max.	G
0 463 85	42 U	1092	1886	490	890	825	122	197	41
0 463 86	42 U	1092	1886	690	890	825	122	197	141

1: Without adjustment levelling feet (+15 to 45 mm with feet) 2: Continuous adjustment with adjustments in steps of 12.5 mm

Legrand cabling system LCS²

19" LCS² freestanding cabinets, server freestanding cabinets and equipment

■ LCS² cable entries (mm)

Pre-cut at the top and bottom in 19" format (useable area 451 mm)



\blacksquare LCS² server freestanding cabinets, cable entries (mm)

Pre-cut at the top in 19" format (useable area 451 mm) Bottom central cut (805 x 450 mm)



Weight cabinets (kg)

Weights shown correspond to net weight (without packaging)

Cat.Nos	Weight cabinet	Weight Extension cabinet
0 463 00	69	-
0 463 06	77	-
0 463 12	84	-
0 463 18/30 (ext)	99	72
0 463 19	110	-
0 463 21	114	-
0 463 22/33 (ext)	127	90
0 463 23	151	-
0 463 28	138	-
0 463 29	163	-

■ Weight server freestanding cabinets (kg)

Weights shown correspond to net weight (without packaging)

Cat.Nos	Weight cabinet
0 463 85	155
0 463 86	166





Linking interface (mm)

Left or right assembly of an cabinet fitted with a 200 mm high plinth Reversible interface cover











Cable trays can be installed quickly on the supports Cat.Nos 0 464 72/73/74/78/79

■ 19" plates with fans (mm)





	Ventilation zone			
Cat.Nos	Number of fans	Output (m³/h)		
0 464 87	2	180		
0 464 88	3	270		

Clegrand

■ Shelves (mm)



			c		
Cat.nos	U	L1	L2	L3	L L
0 465 00	115	435			
0 462 23(1)	120	216			
0 465 01	200	435			
0 465 02	360	435			
0 465 05	450		440		
0 465 06	650		440		
0 465 07	850		440		
0 465 08	450			425	320
0 465 09	650			425	420
0 465 10	650			425	420
0 465 17	820		425		
0 465 18	820			380	650

1: Fixing centre 236.5 mm



■ Keyboard support shelf (mm)



128, Av. du Maréchal-de-Lattre-de-Tassigny 87045 Limoges cedex - France Tel.: +33 (0)5 55 06 87 87 Fax: +33 (0)5 55 06 88 88



Your usual Sales office Website: www.legrand.fr

> Product Environmental Profile LCS² 19" enclosure

This document is based on the ISO 14020 standard relating to the general principles of the environmental declarations and on the ISO TR/14025 technical report relating to type III environmental declarations.

Legrand's environmental commitments

> To incorporate management of the environment into our industrial units. At present, 82% of units worldwide are certified ISO 14001, and 94% of our European units.



> To take into account the environment in the design of products. Providing our customers with all relevant information (composition, consumption, end of life, etc.). Reducing the impact of the product on the environment for the whole of its life cycle.

> To offer our customers solutions which are environmentally friendly. Developing innovative solutions to help our customers to design installations that consume less energy, are better managed and more environmentally friendly.



Description of the products

> Reference products for this environmental profile

The given values are based on the following items.



> Products covered by this product environmental profile

Environmental impacts of the reference products are representative of the products covered by this PEP, which therefore constitute a homogeneous environmental family.

Cat. Nos

46300, 46306, 46312, 46318, 46319, 46321, 46322, 46323, 46328, 46329

Last updated on: 9/10/09



Constituent materials

These products contain no substances that are forbidden by the regulations applicable at the time of their market launch, outside of the maintenance operations carried out during the use phase.

Total weight of reference products:

106 kg (unit packaging included)

Epoxy resin	0,3%	Steel	74%	Glass	16%
Polyester resin	0,3%	Zinc	0,8%	Titanium dioxide	0,3%
Acrylonitrile Butadiene Styrene	0,2%			Other	0,3%
Other	0,2%				
				Packaging as % of	weight
				i donaging do /o oi	weight
				Wood	5,2%
				Wood Cardboard	5,2% 2,0%
				Wood Cardboard Other	5,2% 2,0% 0,4%

Estimate of the use of recycled materials:

32% by weight

Manufacture

These products are manufactured by a Legrand Group production unit which has been awarded ISO 14001 environmental certification for manufacturing.

Distribution

Typical transport conditions

 On average this product covers 376 km by road transport from our manufacturing site to the distributor closest to our customer.

Packaging

- The 7,6 kg of packaging is made up of 68% wood, 26,5% cardboard and 5,5% paper and polyethylene.
- Potential for recycling: 100% by weight of packaging
- Potential for energy recovery: 100% by weight of packaging
- The packaging has been designed in accordance with the currently applicable regulations:
 - Directive 94/62/EC relating to packaging and packaging waste
 - French application decree: 98-638.
- Legrand undertakes:
 - To reduce as much as possible its packaging at source in terms of weight and volume, in accordance with the needs of its customers.
 - To place onto the market packaging with a content of heavy metals which is <100 ppm and without deliberately introducing substances that are hazardous for the environment and classified "N".
 - To design/use packaging that is convertible and where possible reusable.



Strain Use

Use scenario

The product does not generate any environmental impact during its use phase.

Consumable

No consumables are necessary for the use of the product.

Servicing and maintenance

Neither servicing nor maintenance in the normal conditions of use for this type of product.



Method of treatment of the product

- > Hazardous waste contained in the product: This product contains no hazardous waste.
- > Non-Hazardous waste contained in the product:

This product contains 97,9 kg of non-hazardous waste (plastics, metals and others)

> Potential for recycling:

The potential for recycling of a product corresponds to the percentage of material capable of being recycled using existing current techniques. It takes no account of the existence or not of recycling chains, which are highly dependent on the local situation.

This product contains 99% by weight of material potentially capable of being recycled (other than packaging):

- Plastic materials: : 1%
- Metal materials: : 81%
- Other materials: : 17%

> Potential for energy recovery:

Energy recovery consists in using the calories contained in waste, by burning it and recovering the energy thus produced, to heat buildings, for example, or to produce electricity. It means using the stored energy contained in the waste.

This product contains 1% by weight of product capable of being converted for the recovery of energy (excluding packaging).



> Product Environmental Profile LCS² 19" enclosure

Environmental impacts

Methodology

The environmental impacts of the reference product are representative of the products covered by the PEP, which therefore constitute a homogeneous environmental family.

Assessment of the environmental impacts of the reference product concerns the following stages of the life cycle: raw materials, manufacture, distribution, and use.

The modelling assumptions for the use phase are:

- Period of use (*): 10 years
- The product does not generate any environmental impact during its use phase.

Indicators (see glossary)	Overall M+D+U	Unit	Manufact. M	Distribution D	Use U
Depletion of natural resources	4,99E-14	Y-1	100 %	< 1 %	0%
Total energy consumed	4,79E+03	MJ	94 %	6 %	0%
Consumption of water	2,00E+03	dm ³	94 %	6 %	0%
Contribution to the greenhouse effect	3,13E+05	g~CO ₂	97 %	3 %	0%
Contribution to the depletion of the ozone layer	3,98E-02	g~CFC-11	86 %	14 %	0%
Contribution to the creation of photochemical ozone	1,01E+02	g~C ₂ H ₄	89 %	11 %	0%
Potential for acidification of the air	38,7	g~H⁺	94 %	6 %	0%
Production of hazardous waste	1,08	kg	99 %	1 %	0%

Modelling performed with EIME software, version 1.11 and its database in version 9.1, from the original 9.0 database.

(*) Period of use concerned for the assessment of the environmental impact.

This period of use is different from the life expectancy of the product and does not constitute a minimum durability requirement. It is the quantified expression of a unit of service rendered.

The environmental impacts of products other than the reference product are generally proportional to product weight.



> Product Environmental Profile LCS² 19" enclosure

Glossary	
LCA	Compilation and assessment of inputs and outputs, as well as the potential environmental impacts of a product, or a system, during its life cycle, "from the cradle to the grave". This approach is described by standard ISO14040 and its related standards.
Life cycle approach	Method of taking into account all the life stages of a product (manufacture, installation, use and end of life) in order to determine the consequences for the environment.
Consumption of water	Indicates the total water consumption for the whole life cycle of the product.
Non-hazardous waste	This is made up of non-toxic waste and is of a similar nature to household waste. Its definition is codified by the European community (Annex of Decision 2000/532/EC amended by Decisions 2001/118/EC and 2001/119/EC)
Hazardous waste	This is specific waste having a certain level of toxicity and requiring special treatment. Its definition is codified by the European community (Annex of Decision 2000/532/EC amended by Decisions 2001/118/EC and 2001/119/EC)
	Electronic and Electrical Equipment (2002/96/EC), part of the product having to be treated selectively in compliance with Annex II of the Directive.
Eco-solution	building.
EIME	Environmental Information and Management Explorer - Product environmental impact modelling software based on the life cycle assessment methodology.
Total energy consumed	Indicates the total energy consumption in megajoules for the whole life cycle of the product
Depletion of natural resources	Indicates the depletion of natural resources, by considering the quantity of world reserves (minerals, fossils, etc.) for these resources and the current level of consumption. Expressed as a fraction of the reserves that disappear each year.
Reusable	Said of a product or packaging capable of being used for the same function provided the product's proper functionality is verified by the person carrying out the operation.
Convertible	Said of a product or packaging capable of being reused, recycled or from which it is possible to recover energy by incineration.
Contribution to the depletion of the	Indicates what all the life cycle phases of the product release as CFC ₁₁ gram- equivalents
Contribution to the greenhouse effect	Indicates what all the life cycle phases of the product release as CO_2 gram- equivalents. Example of the equivalence principle: 1 g of $CO_2 = 1$ g \sim CO ₂ ; 1 g of CH ₄ (methane) is equivalent to the effect of 64 g of CO ₂ , etc.
Contribution to the creation of photochemical ozone	Indicates as $g \sim C_2 H_4$ the gas emissions having an effect on the creation of photochemical ozone in the lower atmosphere (smog) under the effect of solar radiation
Potential for acidification of the air	Indicates the potential for acidification of the air caused by the release of certain gases into the atmosphere. Expressed as H+ ion gram-equivalent.
Reference product(s)	Product (or product grouping) modelled in the presented LCA.
Production of hazardous waste	Indicates the weight of ultimate hazardous waste produced for the whole life cycle of the product.
Potential for recycling	% by weight of the product or packaging capable of being re-injected into a manufacturing circuit of the same product or another product.
Potential for energy recovery	% by weight of the product or packaging from which energy can be recovered. Energy recovery consists in using the calories contained in waste, by burning it and recovering the energy thus produced, to heat buildings, for example, or to produce electricity. It is using the stored energy contained in the waste.