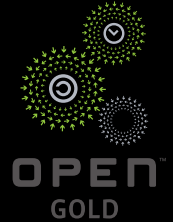


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Open Compute Project (OCP)

Big data is a subject which is shaking up many areas of industry, commerce and trade. It is not only that data volumes are increasing exponentially. Also important is that efficient and fast data processing will in future be more and more decisive for business success.

The OCP community came together to find solutions to this challenge. The prime objective of the Open Compute Project (OCP) is to reduce the investment and operating costs, energy consumption and environmental impact of data centers by way of innovative, fully standardized IT architectures. To this end, the OCP provides an open platform for the sharing of ideas and know-how, as a vehicle for the definition of ground-breaking standards for the data center of the future.

IT infrastructure – Architectures for the future

As a leading manufacturer of IT infrastructures, Rittal is proud to be a member of the OCP community. Expertise in the standardization of data center architectures, in particular, has established Rittal's reputation as a strong partner when it comes to demanding OCP-related tasks.

As well as building customized, application-specific racks, Rittal has also extended its standard portfolio to include the Open Compute Project segment. This means that Rittal can now handle customer-specific enquiries as well as requests for individual racks based on the latest OCP design. As well as the rack itself, Rittal also offers a comprehensive range of accessories, a special power supply unit, and a cooling system tailored to innovative OCP architecture, reinforcing Rittal's image as an operational technology (OT) portfolio provider to the OCP segment.



In a joint collaboration with Bel Power Solution & Protection, Rittal provides power supplies for OCP racks. These innovative and efficient power distributors are a key element of any OCP architecture. Substantial power savings can be made by transforming the power centrally and distributing it via the busbars that typify an OCP system.

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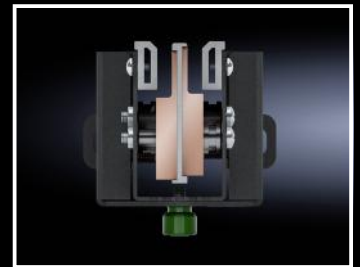
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Proven rack design for Open Compute

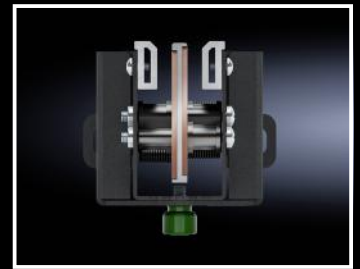
- Meets Open Rack standard 1.2 and 2.0
- UL/CE listed
- 12 V DC/48 V DC
- 13.2 kW – 40 kW
- 21" to 19" bridging adaptors
- Shelves configurable in 1 OU increments
- Modular configuration of busbars



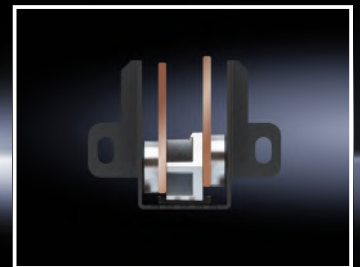
Modular busbar system
12 V DC to 48 V DC



48 V DC/36 kW



48 V DC/15 kW



12 V DC/6.6 – 13.2 kW

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More flexibility in system expansion

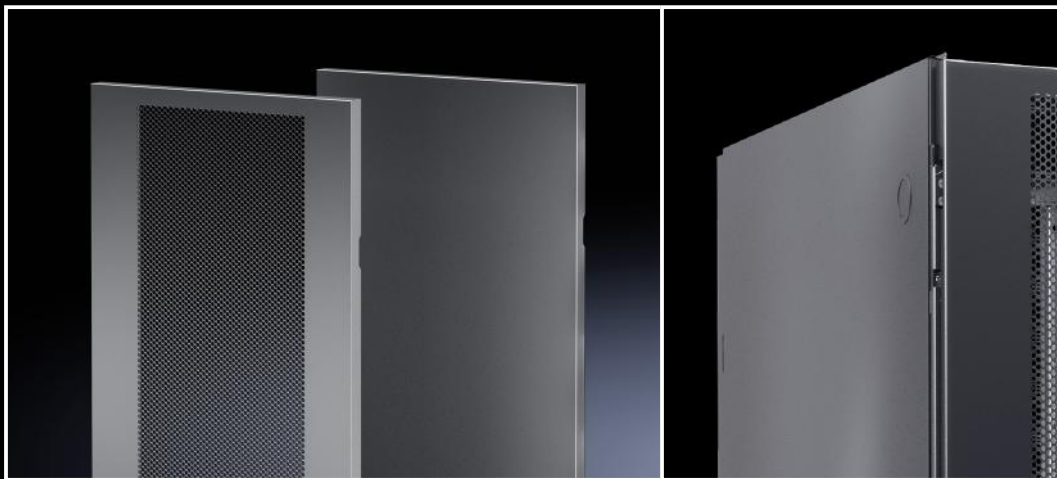
The rack can be equipped with side panels and a range of doors to suit a standalone or bayed configuration and the adaptability to divide the rack into split zones, providing up to 19.8 kW in one or 6.6 kW in another, along with a central divider shelf enables colocation deployments.

Door

- Range of lock options available, from standard keyed swing handle to electronic combination or swipe card access

Side panel

- Sheet steel one piece for end of row instalment



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Variable interior

IT slide rails are available in 1 OU and 3 OU heights as well as the standard 2 OU and with new EIA adaptors the interior can be configured to suit customers' requirements.

Adaptor

- Standard 1 U 19" tool-free adaptor for installation of 19" hardware
- Special 19" front/rear EIA angle in various heights to accommodate multiple 19" equipment

IT slide rails

- The slide rails help to adapt your cabinet to the various server heights
- Available in 1 up to 3 OU



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Standard R-OCP V2 rack



OCP rack, 41 OpenU (OU), for use in energy-efficient IT architectures based on the principles of the Open Compute Project. Depending on the variant, with split 12 V DC busbar fitted at the rear, or without busbar for individual configuration. Depending on accessories and the use of power packs, one (single) or two (dual) power zones may be used in the rack.

Benefits:

- Complies with Open Rack standard 1.2 and 2.0
- Stable, firmly linked frame structure on castors
- Height units in the Open Compute Design with a variable OpenU pitch pattern (OU) of between 1 OU (48 mm) and 3 OU
- Preconfigured slide rails for direct installation of servers, height-adjustable on the OpenU (OU) pitch pattern

- Prepared to accommodate special OCP hardware with a system width of 21" at the front
- Highly efficient power distribution by connecting the hardware directly to the 12 V DC busbar integrated into the rack
- 21"/19" adaptor for the additional integration of 482.6 mm (19") components optionally available
- Matching OCP power packs (power shelves) and batteries (back-up units) for central power supply and protection optionally available in the rack

- Extendible up to a maximum of 3 busbars
- UL/CE-listed

Supply includes:

- Firmly linked frame structure, with fitted castors, without doors, without side panels
 - 2 pairs of slide rails, fitted
- Please observe the product-specific scope of supply.

Standards:

- Open Rack Standard V2

Units OU	Packs of	41	41	Page
Width mm		600	600	
Height mm		2246	2246	
Depth mm		1068	1068	
Design		OCP V2 rack, deep, without busbar, for individual configuration	OCP V2 rack, deep, incl. preconfigured 12 V DC busbar with 2 power zones	
Load capacity		15,000 N (dynamic)	15,000 N (dynamic)	
Power consumption min./max. kW		-	6.6 / 13.2	
Model No.	1 pc(s).	7100.200	7100.221	
Product-specific scope of supply				
1 x 12 V DC busbar		-	■	
Also required				
12 V DC OCP busbar	1 pc(s).	7100.312	-	
Accessories				
12 V DC OCP busbar	1 pc(s).	-	7100.312	
OCP adaptor	2 pc(s).	7100.401	7100.401	
OCP V2 side panel	2 pc(s).	7100.501	7100.501	
OCP PDU		see page	see page	

12 V DC OCP busbar

Design	Output range	Packs of	Model No.
12 V DC	6.6 - 13.2 kW	1 pc(s).	7100.312

12 V DC OCP busbar for power distribution in a standard R-OCP V2 rack. The busbar is fitted at the rear and is used to supply power to the hardware in the rack. The hardware and busbar make contact via a clip connection at the rear of the hardware.

Benefits:

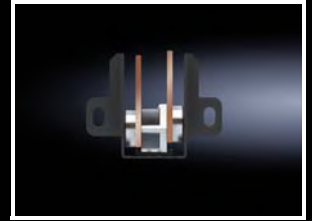
- Multiple 12 V DC busbars may be combined
- Simple configuration of two to one power zone
- Greater energy efficiency with silver-plated contact area

Material:

- Copper, zinc-plated, silver-plated

Supply includes:

- Assembly parts



OCP V2 side panel

Height mm	Depth mm	Packs of	Model No.
2246	1068	2 pc(s).	7100.501

OCP V2 side panel, 1-piece, for finishing off a rack suite with standard R-OCP V2 racks.

Material:

- Sheet steel

Supply includes:

- Assembly parts



OCP adaptor

21"/19"

Adaptor for installing 19" components in the 21" OCP rack system. The adaptor simply snaps onto the 21" profile.

OU	Packs of	Model No.
1	2 pc(s).	7100.401



Accessories



OCP PDU

The OCP PDU installed on the rack distributes power for the data center to the power shelves fitted in the rack.

Input voltage	Infeeds	Phases per infeed	Output voltage	Number of outputs	Rated voltage A	Type of electrical connection	Overvoltage protection	To fit Model No.	Packs of	Model No.
240 / 415 V AC	1	3~	240 / 415 V AC	2	32	IEC 60 309	■	7100.200/ 7100.221	1 pc(s).	7100.911
277 / 480 V AC	2	3~	277 / 480 V AC	2	20	L22-20P	■	7100.200/ 7100.221	1 pc(s).	7100.912
277 / 480 V AC	1	3~	277 / 480 V AC	2	30	L22-30P	■	7100.200/ 7100.221	1 pc(s).	7100.913
48 V DC	2	–	48 V DC	2	250	–	–	7100.200/ 7100.221	1 pc(s).	7100.914
200 / 415 V AC	1	3~	54.5 V DC	3	–	–	–	7100.200	1 pc(s).	7100.915



OCP Power Shelf

The power shelf connects the power supply to the busbar of the OCP rack, and at the same time functions as a rack-mounted frame for the power supply units and the battery back-up units. Depending on the variant, a built-in controller for monitoring the power supply is already fitted.



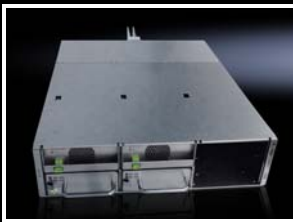
Also required:

- OCP PDU, see page 10
- OCP Power Supply Unit, see page 11



Accessories:

- OCP Battery Back-up Unit, see page 11
- OCP Power Supply Unit, see page 11



Design	Number of slots	Redundancy	Output voltage	Active power kW	Number of outputs	Height OU	Product-specific scope of supply	To fit Model No.	Packs of	Model No.
Shelf type: AC-DC	3 x PSU / 3 x UPS	2+1	12 V DC	6.6	1	3	–	7100.221	1 pc(s).	7100.921
Shelf type: AC/DC-DC	6 x PSU	3+3 / 5+1	12 V DC	18	3	1	Built-in controller	7100.200	1 pc(s).	7100.922
Shelf type: AC/DC-DC	6 x PSU	3+3 / 5+1	12 V DC	18	1	1	Built-in controller	7100.221	1 pc(s).	7100.923
Shelf type: AC/DC-DC	6 x PSU	3+3 / 5+1	48 V DC	24	1	1	Built-in controller	7100.200	1 pc(s).	7100.924
Shelf type: DC-DC	6 x PSU	3+3 / 5+1	12 V DC	15	1	1	Built-in controller	7100.221	1 pc(s).	7100.925
Blanking cover	–	–	–	–	–	1	–	7100.921	1 pc(s).	7100.961
Blanking cover	–	–	–	–	–	1	–	7100.921	1 pc(s).	7100.962

OCP Power Supply Unit

The power supply unit (PSU) is a power pack which centrally transforms the current or voltage in an OCP rack. The PSUs operate in parallel mode. A power shelf is needed for installation of the power supply units. Depending on the power shelf, up to 6 PSUs may be installed.

Benefits:

- May be connected with the system operational
- Parallel operation with active load distribution

Design	Input voltage	Output voltage	Active power kW	Power pack	To fit Model No.	Packs of	Model No.
Power Module PM	200 - 277 V AC	12.6 V DC	3.3	AC - DC	7100.921	1 pc(s).	7100.931
Power Module PM	90 - 300 V AC / 240 - 400 V DC	12.3 V DC	3	AC/DC - DC	7100.922/ 7100.923	1 pc(s).	7100.932
Power Module PM	90 - 300 V AC / 192 - 400 V DC	12.3 V DC	3.6	AC/DC - DC	7100.922/ 7100.923	1 pc(s).	7100.933
Power Module PM	200 - 277 V AC / 192 - 400 V DC	48 V DC	4	AC/DC - DC	7100.924	1 pc(s).	7100.934
Power Module PM	40 - 72 V DC	12,5 V DC	3	DC - DC	7100.925	1 pc(s).	7100.935
Blanking cover	-	-	-	-	7100.922/ 7100.923	1 pc(s).	7100.963

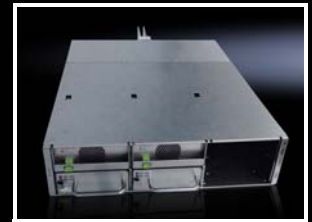
OCP Battery Back-up Unit

The battery back-up unit is an internal UPS in OCP architecture housed inside the rack, to ensure a controlled shutdown of the hardware and data backup in the event of a power failure.

Benefits:

- May be connected with the system operational
- Parallel operation with active load distribution

Design	Input voltage	Active power kW	To fit Model No.	Packs of	Model No.
Lithium ion battery back-up unit	52.5 V DC	3.6	7100.921	1 pc(s).	7100.951



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