Intro to FB Open Rack V2

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Open Rack V2 Overview

- Complies with Open Rack Standard V1.1
- Backwards compatible with all Open Rack V1 IT Gear
- Supports dynamic loading of 1400kg of IT Gear per ASTM D4169-09
- Footprint similar to 19” EIA rack
Open Rack Layout

Power Zone

Open Rack IT Zone (538mmx800mm)
Greater IT volume per floor tile vs. EIA

2x DATA Cable Zones (26mmx160mm)
Accessible from cold aisle
Segregated from AC power

Service Technician
can perform high failure rate repairs from cold aisle

Top View
V2 Cabling

- Ground points located near front of rack for easy access
- Openings on top provide cable egress to data center
- Openings on side provide cable egress to neighboring rack
- Lances in rack provide cable management points
V2 Cabling

Ground points added for both PDU locations.

Ground points located at rear for raised floor applications.
V2 Power Layout

1 Power Zone = 19OU
+3OU Power Shelf

1 Power Zone = 16OU
+3OU Power Shelf
V2 Power Layout

1 Power Zone = 19OU
+3OU Power Shelf

1 Power Zone = 16OU
+3OU Power Shelf
V2 Power Layout

- AC PDU
- TOR
- 12V BUSBAR
- AC/DC PSU
- BBU
- DC PDU

54V and MGMT from shelf to PDU
V2 277V Power Shelf

Output: **6.6Kw @12.6VDC**
Input: **Single, 3 Phase 180V-305V auto ranging**
2+1 redundant, hot swap PSUs
Integrated, hot swap BBUs provide 90 seconds of uptime
V2 277V Power Shelf

- 3 phase AC Input
- 12V Power Good LED
- RS485 MGMT port
- 54VDC Output to DC PDU
- 12VDC Output busbars
- 12V Power Good LED
- 3 phase AC Input
V2 Stingray 208V Power Shelf

Input: 208V, 3 phase, Dual A+B AC
Outputs: 6.3kW @ 12.5VDC
  6xC13 single phase AC
  48VDC AUX
6x2.1kW, 3+3 redundant, hot-swap PSUs
V2 Stingray 208V Power Shelf

- IEC320 C13 outlet
- Breaker for AC input B
- Main O/P 12V
- Breaker for AC input A
- IEC320 C13 outlet
- RJ45 connector
- 48 VDC AUX
- AC input B connector
- AC input A connector
- LED for 12V output
- PWOK connector
V2 PDU Locations

2 PDU locations under canopy
Both locations support

Wires from PDUs to Power Shelves route inside frame vertical
# V2 PDUs Available

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<tr>
<th>Type</th>
<th>NA, 277/480</th>
<th>EU, 240/415</th>
<th>NA, 120/208</th>
<th>NA, 277 CS</th>
<th>NA, 277 30A</th>
<th>DC PDU</th>
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<td>277V/480V</td>
<td>240V/415V</td>
<td>208V</td>
<td>277V</td>
<td>277V/480V</td>
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<td>3P5W</td>
<td>3P4W</td>
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<td><strong>Input Plug Type</strong></td>
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<td>IEC 309</td>
<td>L21-30P</td>
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<td>CE</td>
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<td>Europe</td>
<td>Stingray, Colo</td>
<td>Cold Storage</td>
<td>J-box NA</td>
<td>All racks</td>
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V2 IT Form Factors
1 OpenU Generic Full Volumetric
Open Rack V2 IT Form-Factors

Cubby 2 OpenU Sub-Chassis

- Connector to 12V DC to Busbar
- Wire Harness splits power to 3 IT slots
- Each IT Slot provides 89 x 176 x 690mm, 20kg max per slot
Open Rack V2 IT Form-Factors

Cubby 2 OpenU Sub-Chassis

- Height: 89mm
- Width: ~800 mm
- Depth: ~690 mm
- Depth (front): ~175 mm
Open Rack Project
Future
Open Rack Project - What’s Next

48V Power System
Open Rack Project - What’s Next

48V Power System

Rack-Level EMI Solution
V2 Stingray Schematic
Open Rack V2 All Cubby