Rack Power Connector Cheat Sheet

Print it and stick it inside the rack door. Free from rackmatch.net

IEC 60320 equipment connectors

Pair	Rating	How it mates	Typical use
C5 / C6	2.5 A	C5 coupler into C6 inlet	Laptop power bricks ("cloverleaf")
C7 / C8	2.5 A	C7 coupler into C8 inlet	Small devices, some mini PCs and set-top boxes ("figure 8")
C13 / C14	10 A IEC, 15 A UL	C13 coupler into C14 inlet	Most 1U/2U servers, switches, storage, PCs, monitors. Most PDU outlets are C13
C15 / C16	10 A, 120 °C	C15 fits C16 and C14 inlets; C13 does not fit C16	Hot-running gear, some network switches and kettles
C19 / C20	16 A IEC, 20 A UL	C19 coupler into C20 inlet	High-watt server PSUs (about 2000 W and up), GPU servers, PDU and UPS inputs
C21 / C22	16 A, 155 °C	C21 fits C22 and C20 inlets	High-temperature version of C19/C20

Wall and PDU input plugs

Plug	Rating	Region	Typical use
NEMA 5-15	15 A, 125 V	North America	Standard US/Canada wall outlet
NEMA 5-20	20 A, 125 V	North America	20 A outlet with a T-shaped neutral slot
NEMA L5-30	30 A, 125 V, locking	North America	Some 120 V rack PDUs and UPS inputs
NEMA L6-20	20 A, 250 V, locking	North America	208/240 V rack PDUs
NEMA L6-30	30 A, 250 V, locking	North America	Common 208/240 V single-phase rack PDU input
NEMA L21-30	30 A, 120/208 V 3-phase, locking	North America	Three-phase rack PDUs
IEC 60309 blue 2P+E	16 A or 32 A, 200-250 V	Europe, Africa, Asia	Single-phase rack PDU inputs (e.g. 32 A, 7.4 kW at 230 V)
IEC 60309 red 3P+N+E	16 A or 32 A, 380-415 V	Europe, Africa, Asia	Three-phase rack PDU inputs
CEE 7/7 (Schuko)	16 A, 250 V	Most of Europe	Wall outlet
BS 1363	13 A fused, 250 V	UK, Ireland, parts of Africa/Asia	Wall outlet
SANS 164-1 (Type M)	15 A, 250 V	South Africa	Large round-pin wall outlet
SANS 164-2 (Type N)	16 A, 250 V	South Africa, Brazil	Newer compact wall outlet

Rules that prevent wrong orders

1. The inlet on the installed PSU decides the cord, not the server model. Read the PSU label.
2. Odd numbers are the female end (coupler/outlet), even numbers the male end (inlet/plug): C13 goes into C14, C19 into C20.
3. A C13 cord does not fit a C20 inlet. A C19 cord does not fit a C14 inlet.
4. Cord current rating is set by its weakest end. A C13-to-C20 cord is still a 10 A cord.
5. North America: load circuits to 80% of the breaker for continuous load (30 A circuit = 24 A usable).
6. A/B feeds: plug each PSU into a different PDU on a different circuit. One PDU must carry the whole load alone.
7. High-watt PSUs often give full power only on 200-240 V. On 120 V they are derated.

Usable PDU power = volts x amps (x 1.732 for three-phase), x 0.8 in North America. Example: 208 V x 30 A x 0.8 = about 5.0 kW. Free tools: PDU calculator, power cost calculator and cord matcher at rackmatch.net

Ratings are typical values from the standards. Check the cord marking and PSU nameplate. Circuit wiring is a job for a licensed electrician.