

DC Connector Comparison Matrix — Side by Side

Parameter	Connector A	Connector B	Connector C	Connector D	Connector E	Connector F
Connector Name / Model	DC Barrel 5.5×2.1mm	DC Barrel 5.5×2.5mm	GX12-2 / GX12-3	XLR 3-Pin Power	Anderson Powerpole PP45	USB Type-C PD
Connector Type	DC Coaxial Barrel Plug	DC Coaxial Barrel Plug	Circular Aviation Connector	Locking Circular Connector	High Current Power Connector	USB-C Reversible Connector
Outer Diameter (mm)	5.5 mm	5.5 mm	12 mm	16 mm	15.8 mm housing	8.4 mm
Inner Diameter / Pin	2.1 mm	2.5 mm	2-pin / 3-pin	3 contacts	15–45A contacts	USB-C 24-pin
Rated Voltage (VDC)	12–24V DC	12–48V DC	250V AC/DC	50V DC	600V DC max	20V DC (PD)
Rated Current (A) — Continuous	2–5A	5–8A	5A	5–10A	15–45A	3–5A
Rated Current (A) — Peak	5A	10A	7A	15A	55A short peak	5A
Contact Resistance (m	≤30 mΩ	≤25 mΩ	≤20 mΩ	≤15 mΩ	≤10 mΩ	≤40 mΩ
Locking Mechanism?	No	No	Yes (Thread Lock)	Yes (Latch Lock)	Friction Lock	No / Magnetic optional
Cable Gauge Range (AWG)	18–24 AWG	16–22 AWG	18–24 AWG	16–22 AWG	10–20 AWG	22–30 AWG
Operating Temp Range (°C)	-20 to +70°C	-25 to +85°C	-40 to +80°C	-40 to +85°C	-20 to +105°C	-20 to +85°C
IP Rating	IP20	IP20	IP65 optional	IP54/IP67 optional	IP20/IP67 housing	IP20
Customization Available?	Yes (length, plug, molding)	Yes	Yes (pin number, cable)	Yes	Yes	Limited
Vendor Part Number	DC5521 Series	DC5525 Series	GX12 Series	XLR-Power Series	PP45 Series	USB-C PD Series
Notes / Comments	Most common adapter connector; suitable for ≤60W applications	Better for higher current adapters up to 120W	Industrial equipment, vibration resistant	Medical/audio applications requiring locking	Battery, energy storage, industrial high current	Modern PD chargers, laptops, portable devices