

VOOHU RJ45 Connector Selection Cheat Sheet

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Page 1: Quick Selection Table

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Your Quick Reference for Industrial Ethernet Designs

Application → Recommended VOOHU RJ45 Type

Standard LAN, 10/100/1000M, with magnetics → RJ45 Jack with Integrated Magnetics

Outdoor / dusty / wet environment → Waterproof IP67 RJ45

High vibration, pro audio/video → XLR Locking RJ45

PoE up to 90W (IEEE 802.3bt) → PoE-Optimized RJ45

Compact IIoT, long-distance 10Base-T1L → Single Pair Ethernet (SPE)

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Page 2: Integrated vs Discrete RJ45
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Factor	Integrated RJ45	Discrete RJ45
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PCB Space	~30% smaller	Requires extra transformer
EMI Compliance	Pre-validated	Depends on layout
Development	~1 week	~3 weeks
BOM Cost	Higher unit cost	Lower unit, adds transformer
Flexibility	Fixed parameters	Full magnetics control
Best For	Compact, urgent	Mass production, custom needs

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Page 3: PoE RJ45 Selection Checklist
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Parameter | Minimum Requirement | VOOHU PoE RJ45

PoE Standard | 802.3af/at/bt as needed | All standards, up to 90W
Contact Plating | Gold, $\geq 6\mu$ " | Gold-plated, 6μ "
Contact Resistance | $\leq 20\text{ m}\Omega$ | $\leq 20\text{ m}\Omega$
Dielectric Strength | $\geq 1500\text{ V AC/DC}$ | 1500 V AC/DC
Operating Temperature | -40°C to $+85^\circ\text{C}$ | Industrial grade
Mating Cycles | ≥ 750 | ≥ 750

Protection Recommendation:

- Primary (at RJ45): GDT for surge
- Secondary (at transformer): TVS for clamping
- ESD Protection: Low-capacitance ESD diode

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Page 4: IP Rating Quick Guide
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IP Rating | Dust Protection | Water Protection | Best For

IP65 | Dust-tight | Water jets from any direction | Outdoor cabinets with rain

IP67 | Dust-tight | Immersion in 1m for 30 min | Flood-prone areas, marine

Note: A waterproof RJ45 with IP67 does NOT make your entire device IP67. All enclosure seams and ports must match.

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VOOHU Electronics

- Global supplier of communication electronic components
- 1,500+ customers, 150+ public companies
- ISO9001, ISO14001, RoHS, REACH, CE certified

Free Resources:

- Complete RJ45 Selection Guide:
voohuelectronic-ux.github.io/voohu-rj45-guide
- 3D Models & PCB Footprints available
- Free samples within one week

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