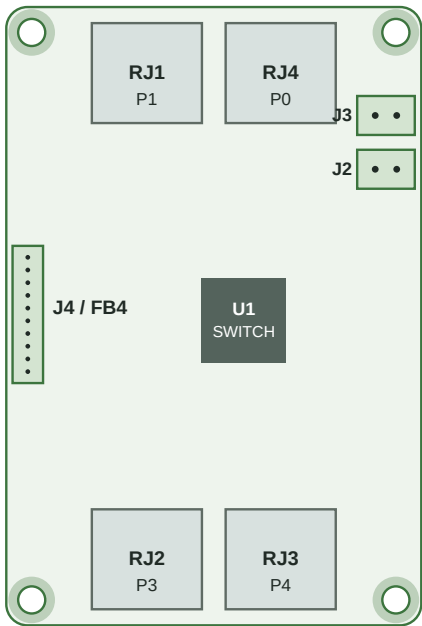


FB4NW

5-Port Ethernet Switch Board

For OEM laser fixtures and embedded show-control hardware. Four RJ45 network ports and one dedicated two-pair FB4 connection connect through a five-port Ethernet switch.



CAD layout reference. Connector shapes are symbolic; this is not a product photograph.

Design features

- Four RJ45 paths with four-pair gigabit magnetics.
- One 10-pin FB4 header with two differential pairs (10/100M path).
- Five on-board status LEDs.
- Regulated DC 5-24 V supply recommended; two parallel power headers.
- Four mounting holes in a 49 x 73 mm PCB.

Technical summary

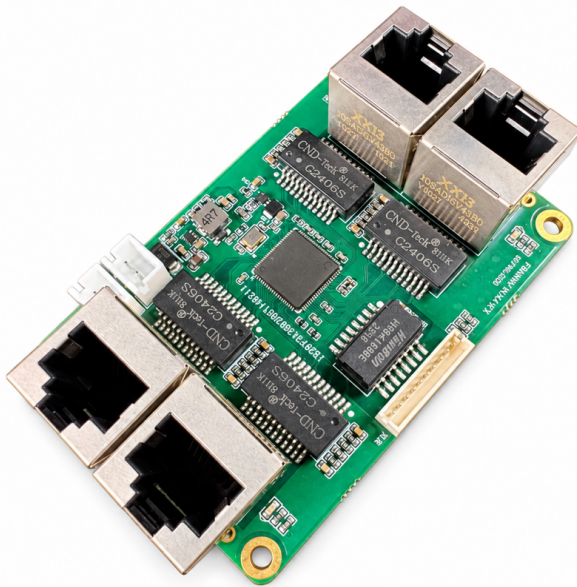
Network ports	Five Ethernet ports
RJ45 / FB4	4 x gigabit-capable RJ45 design paths; 1 x two-pair 10/100M FB4 path
FB4 connector	J4: 10 pins; nominal 1.50 mm CAD pitch
Power	Recommended regulated DC 5-24 V; typical 12 V / 24 V systems
Power connectors	J2 / J3: 2 pins each, wired in parallel; pin 1 GND, pin 2 V+
PCB / mounting	49.00 x 73.00 mm; 4 x plated Ø3.20 mm holes; 6 copper layers
Sales / packaging	Sold individually; SKU FB4NW; packed 10 x 10 x 5 cm

Supply range is a design-derived recommendation, not a whole-board limit test. Port rates describe the circuit design, not measured throughput. Verify operation in the intended application.

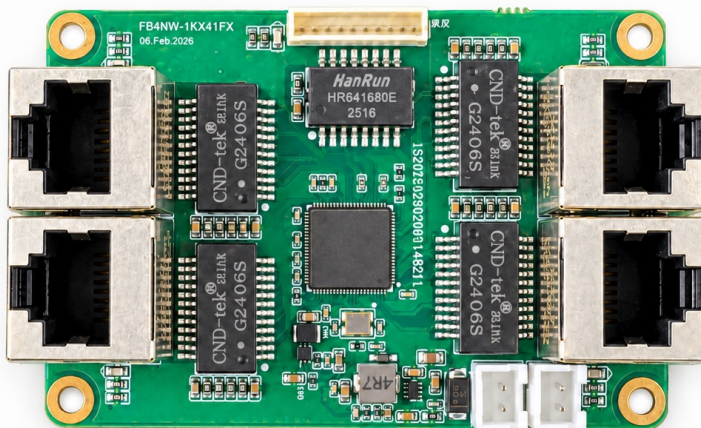
FB4NW / PRODUCT PHOTOGRAPH

Appearance reference

Current production sample, 1200 x 900 px. Connector positions correspond to the CAD outline on page 1; finish and silkscreen may vary between batches.

**Angled view**

Top side of the assembled board; four RJ45 ports, FB4 header and status LEDs.

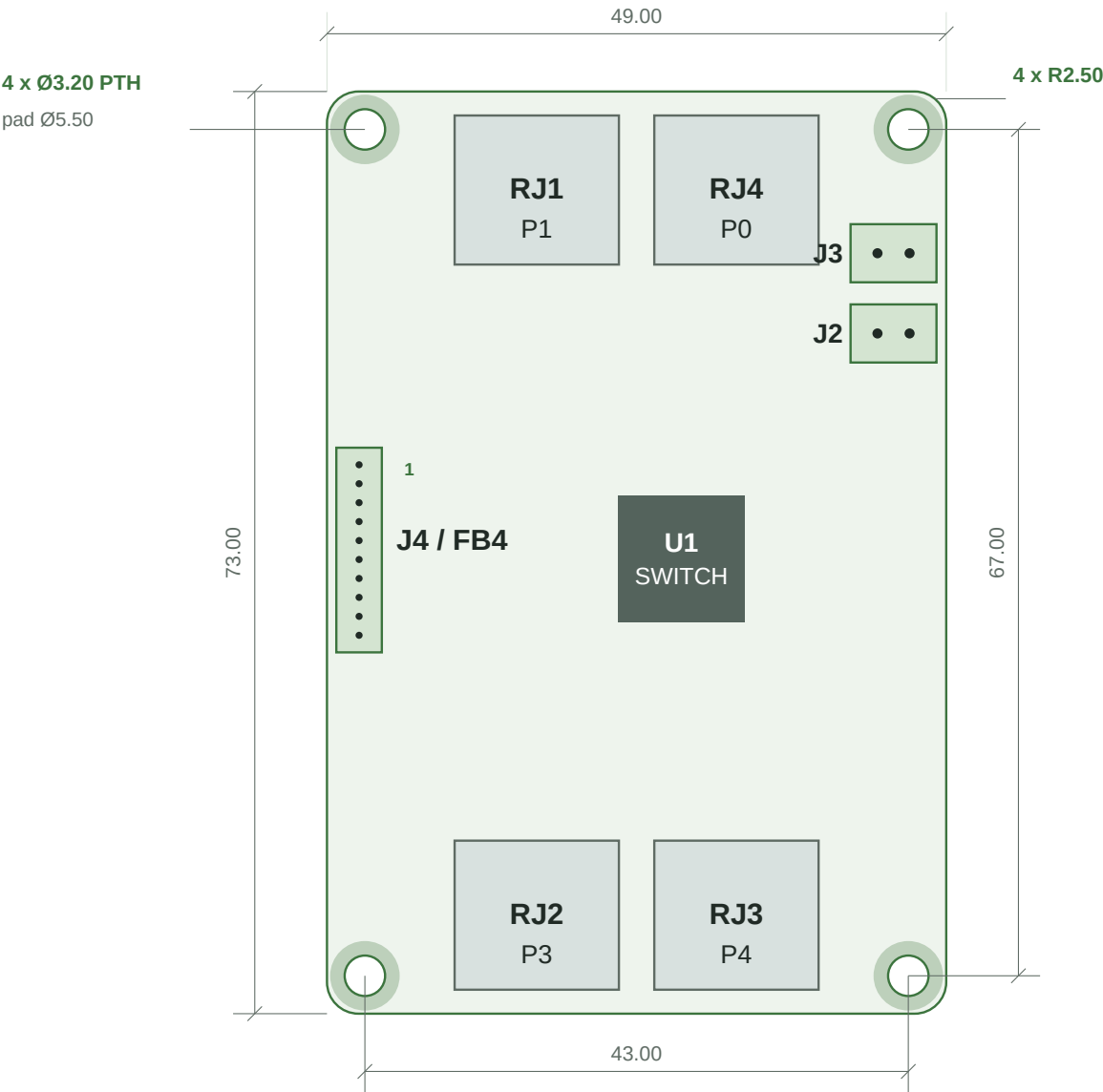
**Top view**

Same sample, plan view. Board outline 49.00 x 73.00 mm; mounting holes on page 3.

FB4NW / MECHANICAL OUTLINE

PCB dimensions and mounting

Top view; all dimensions in mm. Datum (0, 0) is the lower-left extent of the PCB. Connector boxes identify positions only and do not define component envelopes.



Mounting-hole centre coordinates

Lower left / lower right	(3.00, 3.00) / (46.00, 3.00)
Upper left / upper right	(3.00, 70.00) / (46.00, 70.00)

The supplied board-only STEP uses 1.6077438 mm, the CAD copper-plus-dielectric stack sum. Finished board thickness, tolerances and full assembly height are not yet confirmed. Connector overhang, mating and enclosure clearances require the actual assembly.

Connections and integration

Pin numbering below is taken from the captured PCB. Use the pin-1 datum on the mechanical view; verify a mating harness against its connector drawing before applying power.

J4 - FB4 Ethernet header

Pin	PCB net / function
1	Not connected
2	FB4_A+
3	FB4_A-
4	FB4_B+
5	FB4_B-
6	FB4_B-
7	FB4_B+
8	FB4_A-
9	FB4_A+
10	Not connected

J4 pins 2/9, 3/8, 4/7 and 5/6 are duplicate connections to the same four signal nets; they are not eight independent Ethernet signals.

RJ45-to-switch port mapping

RJ1 / RJ2	Switch Port 1 / Port 3
RJ3 / RJ4	Switch Port 4 / Port 0
J4	Switch Port 2 through two-pair magnetics

Integration notes

- The bare PCBA has no ingress-protection rating. Sealing belongs to the enclosure and external connectors.
- The J4 interface is intended for a matching FB4 harness. This draft does not certify universal controller compatibility.
- Network protocol, environmental, EMC and sustained-throughput performance have not been bench-verified in this preparation task.

Source: current FB4NW-1KX41FX CAD capture, 24 Oct 2026. Model identity and connector net data are retained in the private preparation record; circuit source and BOM are not public download items.

J2 / J3 - Power

Pin 1	GND
Pin 2	V+ (CAD net +24V); DC 5-24 V recommended
Wiring	J2 and J3 share the same supply nets

Do not connect independent power sources to the two parallel headers. No power OR-ing, PoE or reverse-polarity protection rating is established by this document.

Power-header PCB pad pitch is 2.54 mm. The schematic supplier item describes a 2.50 mm connector; the final mating part needs confirmation.