



4112N/2H6P ebmpapst

Brand: ebmpapst

SKU: 4112N/2H6P

Category: DC Fans

URL: <https://www.fansco.com/item/4112n-2h6p-ebmpapst/>

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Product Description

The **ebm-papst 4112N/2H6P** is an ultra-high-performance, industrial-grade DC axial

compact fan engineered for extreme thermal management applications. Operating at a nominal voltage of 12 VDC, this heavy-duty 119x119x38 mm (12038 frame size) fan delivers an extraordinary **63 Watts** of cooling power, driving a maximum rated speed of **8,400 RPM** under full load.

Designed for mission-critical systems with high static backpressure, it features a robust 4-wire interface supporting intelligent speed signaling and precise PWM speed control. With a massive peak starting current capability of **7.8 A (7,800 mA)** and heavy-duty dual ball bearings, this fan is the definitive cooling solution for high-density servers, telecommunications enclosures, and demanding industrial inverters.

Model Designation & Nomenclature Decoding

- **41:** Series family identifier (119 mm x 119 mm outer dimensions)
- **12:** Nominal operating voltage rating (12 VDC)
- **N:** Compact axial fan platform with standard structural design
- **/2:** Integrated speed signal (Tachometer output)
- **H6:** Ultra-high performance speed class (8,400 RPM tier)
- **P:** Pulse Width Modulation (PWM) speed control interface input

Advanced Engineering Features

- **Extreme 63W Output Power:** Engineered for dense electronics requiring massive airflow to overcome high structural resistance.
- **Dynamic Speed Scaling:** Supports precise RPM adjustment via PWM interface, allowing the system to scale down from 8,400 RPM to optimize power and acoustics.
- **Heavy-Duty Bearing System:** Fitted with precision dual ball bearings ensuring maintenance-free, multi-axis orientation operation and maximum reliability.
- **Built-in Electrical Safeguards:** Features integrated protection against reverse polarity, overloads, and locked-rotor conditions.

Comprehensive Technical Specifications
 Parameter At Minimum Voltage (9V) At Nominal Voltage (12V) At Maximum Voltage (15V) **Operating Voltage (U)** 9 VDC 12 VDC (Nominal) 15 VDC **Power Consumption (P)**

Condition: $\Delta p = 0$, PWM Full Speed 42 W ($\pm 15\%$) 63 W ($\pm 15\%$) 57.4 W ($\pm 15\%$) **Current Consumption (I)**

Condition: $\Delta p = 0$, PWM Full Speed 4,660 mA (4.66 A) 5,250 mA (5.25 A) 4,100 mA (4.10 A) **Rated Speed (n)**

Condition: $\Delta p = 0$, PWM Full Speed 7,600 RPM ($\pm 10\%$) 8,400 RPM ($\pm 10\%$) 8,400 RPM ($\pm 10\%$) **Starting Current Consumption** — 7,800 mA (7.80 A) — **Mechanical Frame Size** 119 x 119 x 38 mm (4.69 x 4.69 x 1.50 inches) **Bearing Technology** Heavy-Duty Dual Precision Ball Bearings **Interface Connection** 4-Wire Leads (Power, GND, Tachometer Sensor, PWM Control Input) **Compliance & Approvals** CE, UL, CSA, VDE, RoHS Compliant

Technical Specifications

Attribute	Value
Part Number	4112N/2H6P
Manufacturer	ebm-papst
Fan Type	DC