K3G560-PB31-03 ebmpapst

Brand: ebmpapst
SKU: K3G560-PB31-03
Category: EC Centrifugal Fans
URL: https://www.fansco.com/item/k3g560-pb31-03-ebmpapst/
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Product Description

The ebmpapst K3G560-PB31-03 is a massive, highly efficient 400 VAC 3-phase EC

centrifugal module from the RadiPac series, engineered for advanced industrial and commercial thermal management. Integrating ebmpapst's state-of-the-art GreenTech EC motor technology (M3G150-IF), this backward-curved, single-intake fan with a support bracket delivers a powerful air flow of up to 9600 m³/h at optimum efficiency, while maintaining a power consumption of 4250 W (4.15 kW). Housed with a die-cast aluminum electronics casing and a 5-blade sheet aluminum impeller, the unit weighs 51.8 kg and features an overall footprint size of 560 mm. Equipped with maintenance-free ball bearings and a robust IP55 protection rating, it operates reliably across an ambient temperature range of -40 °C to +40 °C. Boasting intelligent control inputs, an integrated PI controller, RS-485 MODBUS-RTU, and built-in electrical safeguards, the K3G560-PB31-03 provides a superior, precision-controlled cooling solution for sophisticated air handling units, large-scale automation systems, etc.

1. Key Features & Benefits

- **GreenTech EC Motor Integration:** Features an advanced 3-phase electronically commutated motor (M3G150-IF) with an integrated PI controller, configurable I/O, and RS-485 MODBUS-RTU (MODBUS V6.3) for precise speed regulation and remote system monitoring.
- **RadiPac Aerodynamics:** The backward-curved 5-blade sheet aluminum impeller maximizes air intake and minimizes energy losses, reaching an overall static efficiency grade of N 74.1.
- **Intelligent Motor Protection:** Built-in electronics provide essential safety mechanisms, including reverse polarity and locked-rotor protection, soft start, motor current limitation, thermal overload protection for the motor/electronics, and line undervoltage / phase failure detection, etc.
- **Rugged Construction & IP55 Rating:** Durable die-cast aluminum housing for the electronics, galvanized sheet steel support plates, and IP55 moisture/dust protection (Class H1) ensure consistent operation in demanding industrial environments.
- **Global Voltage Adaptability:** Designed to operate flawlessly within a nominal 3-phase AC voltage range of 380 to 480 VAC (50/60Hz), featuring passive Power Factor Correction (PFC) through a low-capacitance DC link, etc.

2. Technical Specifications Model K3G560-PB31-03 Type EC centrifugal module - RadiPac (backward-curved, single-intake) Nominal Voltage 400 VAC (3-Phase) Voltage Range 380 ... 480 VAC (50/60 Hz) Speed (RPM) 1700 RPM Power Consumption 4250 W (4.15 kW) Current Draw 6.5 A Air Flow 9600 m³/h (at optimum efficiency / 1052 Pa) Operating Temperature -40 °C to +40 °C Dimensions 560 mm (Size) Weight 51.8 kg 3. Materials, Structure & Installation

The K3G560-PB31-03 is constructed utilizing durable composite and metallic materials to guarantee consistent structural integrity over years of continuous use.

- **Electronics Housing Material:** Die-cast aluminum for optimal heat dissipation and internal component protection.
- **Impeller Material:** Sheet aluminum, featuring 5 aerodynamically optimized blades.

- **Support & Nozzle Materials:** Support bracket made of steel (painted black) and support plate/inlet nozzle made of galvanized sheet steel.
- **Direction of Rotation:** Clockwise, viewed toward the rotor.
- **Condensation Drainage:** Equipped with condensation drainage holes located on the rotor side.
- **Electrical Connection:** Configured with a dedicated terminal box for secure system integration, etc.

4. Life Expectancy & Approvals

Insulation & Protection:

- Insulation class "F", providing highly robust thermal stability for internal motor windings.
- Features a high-tier IP55 degree of protection, ensuring safety against dust ingress and water jets.
- Equipped with high-performance motor ball bearings engineered for S1 (continuous) operation mode.

The unit complies with major global industrial safety standards, carrying CE (EN 61800-5-1), UL 1004-7 + 60730-1, CSA C22.2 No. 77, and EAC approvals. It also meets strict EMC guidelines for interference immunity in industrial environments (EN 61000-6-2) and interference emission (EN 61000-6-3), etc.

5. Typical Applications

Thanks to its heavy-duty 3-phase EC motor and high-capacity RadiPac backward-curved design, the K3G560-PB31-03 is perfectly adapted for the following high-demand deployments, among others:

- **HVAC & Air Handling Units (AHU):** Provides massive volume flow and the necessary static pressure for large commercial climate control systems.
- **Data Centers & Server Cooling:** Ideal for precision air conditioning units (CRAC/CRAH) and FanGrid arrays requiring continuous, speed-controlled airflow.
- **Industrial Ventilation:** Essential for continuous-duty manufacturing exhaust, cleanroom air supply, and warehouse arrays.
- **Renewable Energy Infrastructure:** Cooling solutions for large solar inverter housings and wind power electrical subsystems.
- **Automotive & Mechanical Engineering:** High-performance extraction for production lines and heavy machinery control cabinets, etc.

Technical Specifications

Attribute	Value
Part Number	K3G560-PB31-03
Manufacturer	ebm-papst

Cooling Type	Centrifugal Fan
Fan Size	Ø 560 mm
Fan Speed Range	< 2,000 RPM
Voltage Rated	400 VAC