

Delta Electronics PFB1224UHE

24 VDC Brushless DC Axial Fan

Complete product information dashboard

Delta Electronics PFB1224UHE is a 120 x 120 x 38 mm brushless DC axial-flow fan for forced-air equipment cooling. It operates at 24 VDC and provides up to 252.85 CFM airflow at 5500 RPM.

24 VDC Rated voltage Operating range 14.0-26.5 VDC	5500 RPM Reference speed Clockwise from nameplate side	252.85 CFM Maximum airflow 7.16 m3/min at zero static pressure
1.412 inchH2O Maximum pressure 35.877 mmH2O at zero airflow	120 x 120 x 38 mm Frame size 380 g; two ball bearings	70,000 h Life expectancy At 40 C, continuous operation

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Operating envelope

PARAMETER	DOCUMENTED VALUE
Rated voltage	24 VDC
Operating voltage	14.0-26.5 VDC
Input current	2.00 A nominal; 2.40 A maximum
Input power	48.00 W nominal; 57.60 W maximum
Speed	5500 RPM reference
Maximum air flow	7.16 m ³ /min; 252.85 CFM
Maximum air pressure	35.877 mmH ₂ O; 1.412 inchH ₂ O

PARAMETER	DOCUMENTED VALUE
Acoustical noise	66.5 dB-A average; 70.5 dB-A maximum
Bearing system	Two ball bearings
Dimensions	120 x 120 x 38 mm
Weight	380 g
Life expectancy	70,000 hours at 40 C, continuous operation
Operating limits	-10 to +60 C; 5-90% RH
Storage limits	-40 to +75 C; 5-95% RH

System design notes

Supply sizing

Use the maximum documented current and power values for wiring and supply margin.

Air-path design

Match the installed resistance curve to the fan performance curve; do not use free-air CFM as the installed result.

Mechanical fit

Provide 120 mm square mounting with adequate 38 mm depth and 340 mm lead routing clearance.

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Overview and common applications

Four product features	Installation context
High-output 24 VDC brushless axial-flow construction Two ball bearings for continuous operation Clockwise rotation viewed from the nameplate side Built-in locked-rotor response documented by Delta	Install the PFB1224UHE in a guarded forced-air cooling path with the documented polarity, supply range, frame clearance, and airflow direction. Validate current, vibration, noise, and cooling performance at the real equipment duty point.

Common applications

Control cabinet cooling Forced-air cooling for densely populated electrical and automation enclosures.	Power electronics ventilation High-airflow removal of heat from converters, supplies, and drives.
Server and telecom equipment Chassis ventilation where 24 VDC power and high static capability are available.	Industrial equipment exhaust Guarded intake or exhaust service with the documented environmental limits.

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Product precautions

Before installing the Delta Electronics PFB1224UHE, verify the exact model marking, supply polarity, operating voltage, airflow direction, mounting condition, and guarding.

1 Verify PFB1224UHE marking and the 24 VDC supply before installation.

2 Connect red to positive (+) and black to negative (-); do not reverse polarity.

3 Do not press the impeller, lift by the leads, or hard-drop the fan.

4 Mount squarely and securely to limit resonance, vibration, and noise.

5 Fit a fan guard during testing and keep the rotating area clear.

6 Keep corrosive fluids, powder, water droplets, and insects away from the hub.

7 Use an external capacitor greater than 4.7 uF for multiple fans in parallel.

8 After storage longer than six months, perform a functional test before release.

Technical note

The specification also documents locked-rotor current shutdown and winding-impedance protection. Confirm stable operation, current, airflow, vibration, and noise before commissioning.

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Engineering FAQ and official source

What supply should be used for the Delta Electronics PFB1224UHE?

Use 24 VDC nominal power within the documented 14.0-26.5 VDC operating range. Rated input is 2.00 A and 48.00 W.

How does the Delta Electronics PFB1224UHE respond to a locked rotor?

Current shuts down when the rotor locks; the winding impedance provides the specified locked-rotor protection.

How should the Delta Electronics PFB1224UHE be mounted?

Mount it securely and squarely without stressing the frame to limit resonance, vibration, and noise.

What rated cooling duty does the Delta Electronics PFB1224UHE provide?

The specification lists 5500 RPM, up to 252.85 CFM, and up to 1.412 inchH₂O static pressure.

How should the Delta Electronics PFB1224UHE power leads be connected?

Connect red to positive (+) and black to negative (-). Confirm polarity before energizing.

What is required when several Delta Electronics PFB1224UHE fans run in parallel?

Fit an external capacitor greater than 4.7 uF to prevent unstable power.

How should the Delta Electronics PFB1224UHE be handled and stored?

Do not press the impeller, lift by the leads, or drop the fan. Store within the documented temperature and humidity limits.

What safeguards apply when testing the Delta Electronics PFB1224UHE?

Keep it away from corrosive fluids and fit a suitable fan guard during testing.

Official source record

Delta Electronics Specification for Approval - Model PFB1224UHE, Sample Rev. 00, Issue Date JUN.09.2005

Origin is intentionally not reduced to one country because the official drawing shows China, Thailand, or Taiwan production labels.

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