Delta Electronics PFB1224UHE

01 DC Axial Fan / system role

Product function and operating context

Delta Electronics PFB1224UHE develops airflow against equipment resistance, so the installed operating point depends on the enclosure, filters and flow path as well as the fan itself.

The nominal input is 24 V DC with a 14.0–26.5 V operating range. Current is 2.00 A nominal and 2.40 A maximum, corresponding to 48.0 W nominal and 57.6 W maximum input power.

Functional path

24 V power source	Brushless motor	Axial airflow	Equipment heat removal

Supply	24 V DC nominal
Airflow	252.85 CFM at zero static pressure
Wiring	Two power leads

Reference speed is 5,500 rpm. The maximum free-air flow is 252.85 CFM at zero static pressure; the maximum pressure is 35.877 mm H2O at zero airflow. An installed system normally operates between these two endpoints.

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02 Technical operating envelope

Rated supply	24 V DC
Operating supply	14.0–26.5 V DC
Input current	2.00 A nominal; 2.40 A maximum
Input power	48.0 W nominal; 57.6 W maximum
Reference speed	5,500 rpm
Free-air flow	252.85 CFM at zero static pressure

Shutoff pressure	35.877 mm H□O at zero airflow
Acoustic noise	66.5 dB(A) average; 70.5 dB(A) maximum
Power leads	Red positive; black negative
Motor type	Brushless DC, two phases/eight poles
Insulation class	UL Class A

Values apply to the two-wire PFB1224UHE specification. Free-air flow and shutoff pressure are separate endpoints, not simultaneous operating values.

Operating interpretation

The airflow and pressure endpoints describe different test conditions. Neither endpoint alone proves the cooling performance of a completed machine.

Configuration boundary

Match the two-wire electrical version, supply rating, airflow direction and mounting arrangement; a similar fan body is not sufficient evidence of equivalence.

What polarity is required by PFB1224UHE?

Connect red to positive and black to negative supply. Check the wiring before energizing rather than relying on a connector's physical fit.

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03 System integration and applications

Enclosure forced-air cooling

Move air through an engineered inlet, outlet and filter arrangement.

High-flow air exchange

Use the fan curve to assess an operating point rather than selecting by free-air flow alone.

24 V equipment ventilation

Integrate the fan with a supply sized for its current and startup behavior.

Cooling maintenance

Compare temperature and filter condition with a retained operating baseline.

System and supply context

Delta Electronics PFB1224UHE operates within the following defined system context. Verify the exact two-wire fan marking and lead polarity.

Application boundary

The applications below describe its technical role. Select associated hardware and configuration for the actual installation.

What current allowance is needed for PFB1224UHE?

The specification gives 2.00 A nominal and 2.40 A maximum input current. Size the supply and wiring for the actual operating and startup conditions.

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04 Engineering selection decisions

Can PFB1224UHE deliver its maximum airflow at maximum static pressure?

No. Maximum airflow is measured at zero static pressure, while maximum pressure occurs at zero airflow. The installed operating point lies on the fan/system curve intersection.

Does the two-wire PFB1224UHE include a separate tachometer lead?

The specified version has red and black power leads only. A tachometer or PWM lead must not be assumed from another suffix variant.

Why can a clogged filter reduce cooling from PFB1224UHE?

A filter increases system resistance and shifts the operating point along the fan curve, reducing delivered airflow even if the fan continues to rotate.

What must be checked before measuring the noise of PFB1224UHE?

Use comparable mounting, operating and measurement conditions. The specified average sound level is not a guarantee of the acoustic level of a complete enclosure.

Measure thermal performance	Check the equipment temperature under representative load and airflow conditions. Fan rotation alone does not establish that the cooling requirement has been met.
Retain the cooling baseline	Record supply voltage, current, airflow direction, filter condition and equipment temperature. Use that baseline to distinguish a fan problem from increasing enclosure resistance.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of PFB1224UHE is unconfirmed. Apter Power availability is assessed separately from manufacturer lifecycle status.

Replacement assessment

Match the two-wire electrical version, supply rating, airflow direction and mounting arrangement; a similar fan body is not sufficient evidence of equivalence.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; use it together with the applicable manufacturer instructions.

Technical basis

Delta Electronics PFB1224UHE Specification for Approval, sample revision 00.

Related product navigation

- Yokogawa AAI135-S50 S3
- Yokogawa AAI143-H03 S1

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries