

Allen-Bradley 25B-V6P0N104 Manual

Brand	Allen-Bradley
Product Series	22 Powerflex
Product Type	Frame: B

Description

The 25B-V6P0N104 is an adjustable frequency AC drive. This belongs to the PowerFlex 525 drives by Allen-Bradley. It features an input voltage rating of 100-120 VAC, 1-Phase, and an input current of 3.2 Amperes. It has an output voltage of 0-230 VAC, 3-Phase; This drive has an output current and power of 6.0 Amperes and 1.5 HP or 1.1 kW for Heavy and normal duty. This drive is an A-frame drive with a built-in standard interface module and braking. It does not have an integrated EMC filter.

Technical specifications for 25B-V6P0N104

Brand Allen-Bradley

Part Number/Catalog No. 25B-V6P0N104

Output Current 6.0 Amperes

Manufacturer Rockwell Automation / Allen-Bradley

Product Family: PowerFlex 525

Input Voltage: 85-132 VAC

Input Phase: 3-Phase

Output Voltage: 0-230VAC

Output Power: 1.5 HP or 1.1 kW

Embedded I/O: Discrete Inputs: Seven (7) Sink / Source Discrete Outputs: One (1) N.O.; One (1) N.C. Contacts; Two (2) Digital /

Optocoupler Analog Input: Two (2) Analog Input 0-10VDC; 0- 20mA Analog Output: One (1) Analog Input 0-10VDC; 0- 20mA

Installation: Panel Mount

Enclosure Rating: IP20 / NEMA UL Open Type

Frame: B

Control Method: V/Hz Control, Closed Loop Velocity Vector Control, Sensorless Vector Control (SVC) and Permanent Magnet Motor Control

Built-in communication port: Ethernet; RS485

Optional communication protocols: ProfiBus; Dual-Ethernet; DeviceNet;

Integrated Safety: Safe-Torque Off (STO) functionality

Human Interface Module (HIM): Yes; Standard HIM

Compatible Controllers: CompactLogix; GuardLogix; ControlLogix

Manufacturer Allen Bradley / Rockwell Automation

Series PowerFlex 525 Drive

Drive Category PowerFlex 525 Adjustable Frequency AC Drive

Voltage One Phase, 120 VAC

Part number 25B-V6P0N104

Input Voltage: 100-120 VAC

Enclosure Type IP20 NEMA / Open Type

Input phase: 3-Phase

Interface Module Standard

Output Phase: 3-Phase

Frame Size Frame B

Output Power 1.5 HP or 1.1 kW; Normal and Heavy Duty

EMC Filtering Options No Filter

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Output current 6.0 A

Discrete Input: Six (6) digital inputs

Analog input: Two (2) analog input

Discrete output Two (2) relay output

Analog output One (1) analog output (requires Series B hardware)

Braking Built-in IGBT

EMC Filter None Installed

Enclosure IP20 NEMA/Open

Frame A

Communication ports: Ethernet I/P

The 25B-V6P0N104 is a PowerFlex 525 adjustable frequency AC drive. This drive is an Ethernet-capable drive, provided with an integrated Ethernet I/P communication port, allowing direct integration with Programmable Automation Controllers (PAC) such as Allen-Bradley's CompactLogix and ControlLogix controllers series using the premiere integration method. The primary features of the 25B-V6P0N104 include a variety of configurable motor control methods such as V/Hz Control, Closed Loop Velocity Vector Control, Sensorless Vector Control, (SVC), and Permanent Magnet Motor Control. These control methods enable modulating speed and torque control as well as implement motion and positioning control through Permanent magnet motor control which is typically servo and stepper motors. Aside from these control methods, the 25B-V6P0N104 is capable of implementing a Proportional + Integral + Derivative (PID) control algorithm for automatic control of analog control loops. The 25B-V6P0N104 comes with an input voltage rating of 100-120 VAC, 1-Phase and input current of 3.2 Amperes while the output ratings include 0-230 VAC, 3-Phase; This drive has an output current of 6.0 Amperes and output power of 1.5 HP or 1.1 kW for heavy and normal duty operation while the configurable output frequency is 0-500 Hz. This drive has an integrated IGBT brake and human Interface Module (HIM). Aside from the ethernet port, a Drive Serial Interface (DSI) port is also provided to this module for point-to-point communication and insertion of accessory modules. Accessory modules that may be attached to this port include a remote-mounted Human Interface Module (HIM) and a communication interface module such as a dual-ethernet I/P and Profibus card.

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The Powerflex 525 Series 25B-V6P0N104 is one of the most innovative additions to the Allen-Bradley 525 Series drive product line. The 25B-V6P0N104 is a highly capable 1-phase air-cooled drive that mixes and matches a wide range of functions and features not included in previous models. The 25B-V6P0N104 drives come with a standard control module that can be used across all available power range capabilities of the device. USB functionality and PC connectivity via the MainsFree app allow for greater flexibility and customization options through uploading and downloading for the 25B-V6P0N104. The 25B-V6P0N104 also supports a wide range of motors functions including closed-loop velocity vector control and sensorless vector control. The 25B-V6P0N104 has an input voltage rating within the range of 100 to 120 Volts AC and has a current rating of 6 Amps and a wattage rating of 1.1 kilowatts. The frequency rating of the 25B-V6P0N104 ranges between 50 and 60 Hertz with a power rating of 0.98. The 25B-V6P0N104 has a fixed terminal connection with an integrated display that comes with a keypad and potentiometer. The ideal storage temperature for the 25B-V6P0N104 ranges between -40 to 85 degrees Celsius. The 25B-V6P0N104 has a panel type mounting which requires a NEMA-approved open-type IP20 enclosure for a successful installation. The Point stop feature allows the motor load to stop in a consistent position without needing any support from encoder feedback. The dimensions of the 25B-V6P0N104 stand at 7.09 x 3.43 x 6.77 inches in height, width, and depth. The Allen-Bradley 25B-V6P0N104 is part of the PowerFlex 520 series of Adjustable Frequency AC Drives. Specifically, it belongs to the PowerFlex 525 drive series which is generally referred to as a Variable Frequency Drive (VFD), Variable Speed Drive (VSD), Frequency Inverter, or inverter by most personnel. Regardless of the term being used to refer to this electronic device, the 25B-V6P0N104's primary use is to implement speed or torque control of an industrial AC motor. Speed or torque control is required by many processes nowadays due to the required accuracy, repeatability, and efficiency when operating a specific process or an entire plant. Most processes require modulation to enable multiple points of control aside from the traditional, two (2) position control or on/off control. The 25B-V6P0N104 is capable of multi-position control as it comes with the capability of implementing a variety of control methods such as Volts/Hertz control for speed control; Sensorless Vector Control (SVC) for torque control; Closed Loop Velocity Vector Control, and Permanent Magnet Motor Control for basic position control. The 25B-V6P0N104 controls the connected AC motor by conditioning the input voltage applied to its input terminal. The applicable input voltage range is 85-132 Volts AC, 3-Phase. Using the selected control method, the drive delivers an output voltage of 0-230 Volts AC, 3-Phase along with an output current of 6.0 Amperes and 1.5 Horsepower - or 1.1 Kilowatt of output power. Additionally, this drive has an output frequency of 0-500 Hertz, which is fully programmable with an efficiency of 97.5 %, typical. Aside from implementing motor control, the 25B-V6P0N104 and other adjustable Frequency AC drives may be used to lower energy consumption.

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