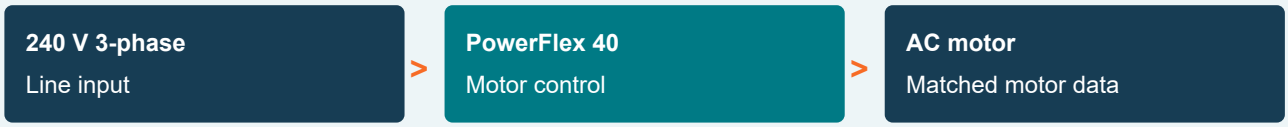
Allen-Bradley 22B-B024N104

Engineering Installation and Acceptance Guide

Work scope

Restore motor data, control ownership and stopping response as separate decisions before accepting a drive replacement. The firmware on the delivered drive governs parameter transfer.



Functional context; use the actual connection diagram for wiring and pin assignments.

01 Establish the motor and power arrangement

Stage or observation	Action and acceptance evidence
Capture before removal	Retain the drive firmware, motor nameplate and complete parameter backup. Separate the installed motor data from the drive output-current rating.
Identify the 240 V circuit	Check the actual three-phase line supply and the motor voltage connection. A B024 rating must not be exchanged with a D024 unit by current code alone.
Plan the braking path	Identify whether an external resistor is present and how its rating/duty were selected. The fitted IGBT is the switching element, not the braking load.
Review cabinet protection	The N version is IP20 open type without the selected EMC filter. Check cabinet bonding, motor cable shielding and the supply grounding arrangement.
Retain the stop circuit	Photograph terminal connections and distinguish source/sink input wiring before disconnecting conductors. Preserve the actual stop behavior as part of the machine design.

02 Commission command and reference paths separately

Stage or observation	Action and acceptance evidence
Motor setup	Reconcile P031 Motor NP Volts, P032 Motor NP Hertz and P033 Motor OL Current with the connected motor before checking speed commands.
Run command	Read P036 and prove the intended keypad, terminal or DSI path with the machine in its approved test state. Do not accept a keypad demonstration as proof of remote operation.
Frequency reference	Read P038 independently of P036. Inject or command an approved low test reference and compare the selected source with the indicated output frequency.
Serial configuration	For DSI control, reconcile baud rate, node address, format and communication-loss settings with the master. Verify the stop circuit and the selected network command/reference sources.

02 Commission command and reference paths separately - continued

Stage or observation	Action and acceptance evidence
Register interpretation	Check the master convention before applying a register offset. The published logic command/reference mapping must be interpreted as the master expects; a successful read alone does not prove correct writes.
Release from test mode	Prove direction, stop response and restart behavior under the accepted machine procedure. Retain the final parameter file and the tested source selections.

03 Use the fault to select the investigation

Stage or observation	Action and acceptance evidence
F2 Auxiliary Input	Trace the auxiliary input interlock and its wiring/programmed function. Resolve the intended interlock before clearing the event.
F5 OverVoltage	Review incoming line voltage and regeneration during stopping. Compare the requested deceleration with the braking arrangement before replacing the drive.
F7 Motor Overload	Compare actual motor load and the motor overload setting; also inspect the applied boost selection rather than simply increasing the protection value.
F8 Heatsink OvrTmp	Inspect the cooling path, fins, fan and actual cabinet ambient for the open-type installation. Preserve a record of the operating load when the fault occurred.
F29 Analog Input Loss	Compare the configured analog-loss action with the field signal and connector continuity. Re-establish the reference path before changing control sources.
Migration handover	If a PowerFlex 525 engineering replacement is proposed, retain a separate wiring, parameter and network comparison plus commissioned results. It is not the acceptance record for a like-for-like PowerFlex 40 exchange.

Technical basis

PowerFlex 40 Product Cutsheet 22B-B024N104; PowerFlex 40 User Manual 22B-UM001D-EN-E, FRN 3.xx

Related product references

Brand and complete reference	Selection role; not automatic substitution
Allen-Bradley 25B-B024N104	Manufacturer-designated engineering replacement; requires wiring, parameter and application review.
Allen-Bradley 22B-D024N104	480 V-class comparison; the shared current code does not establish supply compatibility.

Engineering contact

Discuss the complete unit and installed application with Apter Power.
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