Product Overview

Providing users with powerful motor speed control in a compact, space saving design, the Allen-Bradley® PowerFlex® family of drives. Ideal for machine level speed control, the PowerFlex 4M drive provides the application versatility to meet the demands of global OEMs and end users who require space savings and easy-to-use AC drives that provide application flexibility, feed-through wiring and ease-of-programming. The PowerFlex 4M AC drive is available in three frame sizes (A, B, and C) and power ratings from 0.2 to 11 kW (0.25 to 15 Hp) and in voltage classes of 120 volts, 240 volts and 480 volts.

Reference Materials

For additional PowerFlex 4M data and general drive information, see the following publications:

Title	Publication	Available Online
PowerFlex 4M User Manual	22F-UM001	rok.auto/literature
Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives	DRIVES-IN001	
Preventive Maintenance Checklist of Industrial Control and Drive System Equipment	DRIVES-TD001	
Safety Guidelines for the Application, Installation and Maintenance of Solid-State Control	SGI-1.1	

Startup, Programming, and Operation

- An **integral keypad** provides out of the box operation using the local potentiometer and control keys.
- The 12 most common application parameters are contained in the **Basic Program Group**, making programming fast and easy.
- The **programming keys** have the same function as all other PowerFlex drives, so if you can program one PowerFlex drive, you can program them all.
- **4-digit display** with 10 additional LED indicators provides an intuitive display of drive status and information.
- Integral **RS-485 communications** can be used for programming from a PC. It can also be used in a multi-drop network configuration. A serial converter module provides connectivity to any controller with a DF1 port.
- A **NEMA/UL Type 4X** remote and **NEMA/UL Type 1 handheld LCD keypad** provide additional programming and control flexibility, both featuring the popular Copycat function.

Packaging and Mounting

- Installation can be a virtual snap using the **DIN rail mounting** feature on A and B frame drives. Panel mounting is also available, providing added flexibility.
- **Zero Stacking** is allowable for ambient temperatures up to 40 °C, saving valuable panel space. 50 °C ambient temperatures are permitted with minimal spacing between drives.
- Integral filtering is available on all 240V single-phase and 480V three phase ratings, providing a cost-effective means of meeting EN61800-3. External filters for all PowerFlex 4M drive ratings are also available.

Optimized Performance

- **Removable MOV** to ground ensures reliable operation with ungrounded or resistive distribution systems.
- A **relay precharge** limits inrush current.
- **Integral brake transistor**, available on Frame C drives, provides dynamic braking capability with simple low cost brake resistors.
- DIP switch settable **24V DC sink or source control** for control wiring flexibility.
- 0.25...150% overload for 60 seconds or 200% overload for 3 seconds provides **robust overload protection**.
- Adjustable PWM frequency up to 10 kHz ensures quiet operation.
- Volts per Hertz Control Performance.
- Drive automatically provides auto boost (IR compensation) and slip compensation.
- Provides excellent speed regulation and high levels of torque across the entire speed range of the drive, and improved speed regulation even as loading increases.