Product Overview

PowerFlex® 70 drives are designed to worldwide standards providing out-of-the-box performance around the globe. Available ratings include these options:

- 0.5...25 Hp output at 240V AC input
- 0.5...50 Hp output at 480V AC input
- 0.5...50 Hp output at 600V AC input

The PowerFlex 70 drive can be used with a full featured LCD human interface module (HIM) that provides multilingual text for startup, metering, programming, and troubleshooting.

The PowerFlex 70 can be programmed for either volts per Hertz, sensorless vector, or vector control with FORCE Technology to cover a wide range of applications from fans to extruders.

Optional internal communication modules provide fast and efficient control and/or data exchange with host controllers over popular interfaces. These interfaces include: Connected Components Workbench™ software, DeviceNetManager™, EtherNet/IP®, ControlNet®, serial communications, and other open control and communication networks. Computer tools such as DriveExplorer™ and DriveTools™ SP assist with programming, monitoring, and troubleshooting the PowerFlex 70.

DriveTools SP Software has been upgraded to Connected Components Workbench software. DriveTools support can be found at the Product Compatibility and Download Center rok.auto/pcdc, but is no longer available for sale.

Flexible Packaging and Mounting

- **IP20, NEMA / UL Type 1** – For conventional mounting inside or outside a control cabinet. Conduit plate is vertically removable for easy installation and replacement without disturbing conduit.
- **IP66, NEMA / UL Type 4X/12** (indoor use) – For mounting directly in the production environment. Listed by UL to resist dust, dirt, other contaminants, and to survive high-pressure water spray. Also certified by NSF International to verify conformity with international food equipment standards.
- **Flange Type** – For mounting heatsink through back of an enclosure, thus removing a large portion of the heat inside a cabinet. The backside is rated IP66, NEMA / UL Type 4X/12 for both indoor and outdoor use.
- **Zero-Stacking™ Drive** - Drives can be mounted directly next to one another with no reduction of ambient temperature rating (50 °C [122 °F] for IP20, NEMA / UL Type 1, and Flange Mount; 40 °C [104 °F] for IP66, NEMA / UL Type 4X/12).
- **Conformal Coating** - The drive is coated in an insulator, or non-conducting substance, that helps protect it from moisture, fungus, dust, corrosion, abrasion, and other environmental stresses caused by highly polluted atmospheres. The coating improves product lifetime expectancy when exposure to corrosive environment is present. It helps maintain long-term surface insulation resistance, ensuring operational integrity of the assembly.

Space Saving Hardware Features

- Integral electromagnetic compatibility (EMC) filtering provides a compact, all-in-one package solution for meeting EMC requirements, including CE in Europe.
- Integral dynamic brake transistor delivers a cost-effective means of switching regenerative energy without costly external chopper circuits.
- Internal dynamic brake resistor requires no extra panel space, and supplies a large amount of braking torque for short periods.
- Internal Communications allow you to integrate the drive into the manufacturing process. Status indicators for all internal communication options are visible on the cover for easy setup and monitoring of drive communications. You can easily manage information from shop floor to top floor and seamlessly integrate their complete system as they control, configure, and collect data.

Easy to Use Human Interface Tools

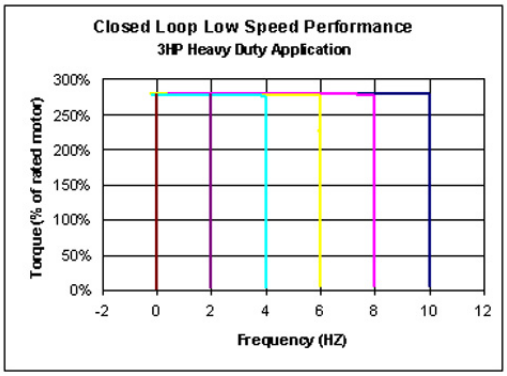
The PowerFlex 7-Class AC drives provide common human interface tools that are familiar and easy to use. These tools include the LCD human interface modules and computer-based configuration tools.

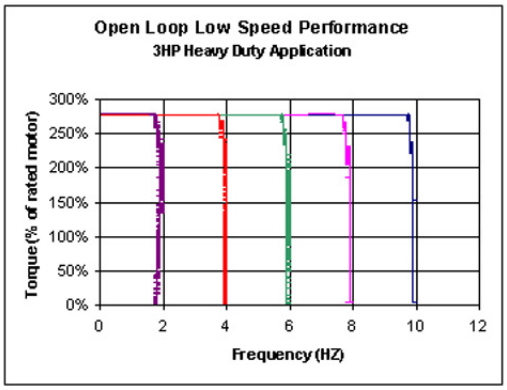
The LCD HIMs provide these features and functions:

- Large and easy to read 7-line x 21-character backlit display
- Variety of languages (English, French, German, Italian, Spanish, Portuguese, Dutch)
- Alternate function keys for shortcuts to common tasks
- 'Calculator-like' number pad for fast and easy data entry (full numeric version only)
- Control keys for local start, stop, speed, and direction
- Remote versions for panel mount application

Outstanding Control and Performance

- Volt/Hertz Control for simple Fan and Pump applications
- Vector Control with FORCE Technology provides outstanding torque and speed regulation, with or without encoder feedback.
- **Sensorless Vector Control** develops high torque over a wide speed range, and adapts to individual motor characteristics.





Drives Features

- Fast acting **Current Limit** and **Bus Voltage Regulation** result in maximum acceleration and deceleration without tripping.
- **Flying Start** delivers smooth connection into rotating loads, regardless of commanded direction, without the need for any speed feedback device.
- **PI Control** can eliminate the need for a separate process loop controller.
- **Inertia Ride-Through** offers tripless operation during a prolonged power outage by using the rotating energy that is stored in high-inertia, low-friction loads.
- **User Sets**, allowing up to three complete sets of parameter data, can be individually loaded for different batch processes.
- **Slip compensation** delivers minimum of 0.5% open-loop speed regulation across a wide speed range, eliminating the need for speed feedback devices in some applications.
- **Safe Torque Off**, the first offering available within the DriveGuard® series of safety solutions, helps prevent a drive from delivering rotational energy to motors by integrating a safety circuit with the power switching signals of the drive. This solution meets EN ISO 13849-1, Category 3.
- **Droop Control** for load sharing applications.
- **Sleep/Wake Control** for analog control of start and stop.