Allen-Bradley

# PowerFlex 750-Series AC Drives

Original Instructions

| Topic | Page |
|---|---|
| Summary of Changes | 2 |
| Additional Resources | 2 |
| Product Overview | 3 |
| Certifications and Specifications | 7 |
| Design Considerations | 13 |
| Fuse and Circuit Breaker Ratings | 40 |
| Cable Considerations | 61 |
| Motor Considerations | 64 |
| Dimensions and Weights | 66 |
| Drive Options | 125 |

## Summary of Changes

This publication contains new and updated information as indicated in the following table.

| Topic | Page |
|---|---|
| Added information about the Integrated Safety - Safe Torque Off safety option. | 3, 7, 132, 134 |
| Removed a footnote from the table that describes Filtering and CM Cap Configuration options. Jumpers are no longer included and 480V drives can now use Code A or Code J. | 6 |

## Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

| Resource | Description |
|---|---|
| PowerFlex 750-Series Drive Installation Instructions, publication 750-IN001 | Provides detailed information on how to install PowerFlex® 750-Series AC drives. |
| PowerFlex 750-Series Programming Manual, publication 750-PM001 | Provides detailed information on I/O, control, and feedback options; parameters and programming; faults, alarms, and troubleshooting. |
| PowerFlex 20-HIM-A6 and 20-HIM-C6S HIM (Human Interface Module) User Manual, publication 20HIM-UM001 | Provides detailed information on HIM components, operation, and features. |
| PowerFlex 755 Integrated Safety - Safe Torque Off Option Module User Manual, publication 750-UM004 | Provides detailed information on how to install and use the Integrated Safety - Safe Torque Off option module. |
| PowerFlex 750-Series Safe Torque Off User Manual, publication 750-UM002 | Provides detailed information on how to install and use the Safe Torque Off option module. |
| Safe Speed Monitor Option Module for PowerFlex 750-Series AC Drives Safety Reference Manual, publication 750-RM001 | Provides detailed information on how to install and use the Safe Speed Monitor option module. |
| PowerFlex 7-Class Network Communication Adapter User Manuals, publication 750COM-UM | These publications provide detailed information on to configure, use, and troubleshoot PowerFlex 750-Series communication option modules and adapters.<br>To display a list of the available adapters, enter 750com-um in the search field. |
| PowerFlex Dynamic Braking Resistor Calculator Application Technique, publication PFLEX-AT001 | Provides information to help you understand dynamic braking and how to apply dynamic braking to drive systems. |
| Wiring and Grounding Guidelines for PWM AC Drives, publication DRIVES-IN001 | Provides basic information to properly wire and ground PWM AC drives. |
| Preventive Maintenance of Industrial Control and Drive System Equipment Service Bulletin, publication DRIVES-TD001 | Provides information for preventative maintenance and periodic inspection of drive systems. |
| Safety Guidelines for the Application, Installation, and Maintenance of Solid-State Control, publication SGI-1.1 | Provides general guidelines for the application, installation, and maintenance of solid-state control. |
| Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1 | Provides general guidelines for installing a Rockwell Automation industrial system. |
| Product Certifications website, http://www.rockwellautomation.com/global/certification/overview.page | Provides declarations of conformity, certificates, and other certification details. |

You can view or download publications at http://www.rockwellautomation.com/global/literature-library/overview.page. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

## Product Overview

The PowerFlex 750-Series is a robust family of AC drives that provide ease of use, flexibility, and performance for various industrial applications. PowerFlex 753 drives provide general-purpose control for applications up to 400 Hp and 270 kW. PowerFlex 755 drives provide maximum flexibility and performance up to 2000 Hp and 1500 kW.

Maximize your productivity by taking advantage of these key features that are offered in the PowerFlex 750-Series drives:

- **DeviceLogix**™ – Embedded control technology that supports the manipulation of discrete outputs and drive control functions, while using discrete inputs and drive status information onboard the drive.
- **Predictive Diagnostics** – Tracks information that affects the life of the drive cooling fans and relay outputs. The drive can also be programmed to monitor the runtime hours for machine or motor bearings.
- **Option Cards** – Each drive has a slot-based architecture. Supported hardware control options are available for both products, to help reduce your inventory and spare parts requirements.
- **Safe Torque Off**, **Safe Speed Monitor**, and **Integrated Safety - Safe Torque Off** – Provides a choice for safety levels depending on your application requirements.
- **Communication** – The PowerFlex 755 drives come with a built-in Ethernet port. Ethernet can easily be added to the PowerFlex 753 drives with a communication module.
- **I/O** – Option cards are available for additional analog and digital I/O. The PowerFlex 753 drives come with built-in I/O that can also be expanded with option cards.
- **Packaging** – Factory and field-installable enclosure options are available to meet most environmental requirements. Options include Open Type and flange mount to support cabinet mount requirements, extra protection wall-mount for harsh environments, and debris hoods and conduit plate kits.
- **Standard Power Structure** – A common power structure is shared to provide the same physical size and power range.