

# PowerFlex® Low Voltage AC Drives



Powerful Performance. Flexible Control.



LISTEN.  
THINK.  
SOLVE.™

# Drive Productivity with Versatile PowerFlex Family

*Powerful Performance. Flexible Control.*

Every drive in the Allen-Bradley® PowerFlex family has been designed with your productivity in mind. The broad range of control modes fits virtually any motor control requirement, while the combination of features, options and packaging provides application versatility. Add in simplified programming and configuration – along with safety features designed to not only protect personnel and assets but also reduce downtime – and you'll find there's a PowerFlex solution to meet your application demands.

With a complete portfolio covering global voltages and a wide range of power ratings, the PowerFlex family of drives offers a common user experience – out of the box and on the line.

**Compact PowerFlex** drives deliver a simple and cost effective solution for machine level, stand alone control applications or simple system integration. Designed for ease of use, this general purpose class of drives provides a compact package to optimize panel space and application versatility.

**Architecture PowerFlex** drives provide a broad set of features, application specific parameters and are ideal for high performance applications. This class of drives is designed for advanced application flexibility and control system integration.

## Scalable Motor Control

Because there are a wide variety of application requirements, PowerFlex drives offer a broad range of motor control solutions. From open loop speed regulation to precise speed and torque control, the PowerFlex family of drives can meet the simplest to the most demanding applications. The family also features a wide selection of hardware, software, safety and packaging options to help fit your needs.

- Reduce total cost of ownership by selecting a drive with the right features and options for your application requirements
- Boost productivity with specific application control technology such as TorqProv™ for lifting applications and Pump-Off for oil wells
- Protect against unplanned downtime with advanced diagnostics and notification of irregular operating parameters
- Easily configure and commission with software tools and wizards

## Safety Functions That Can Improve Productivity

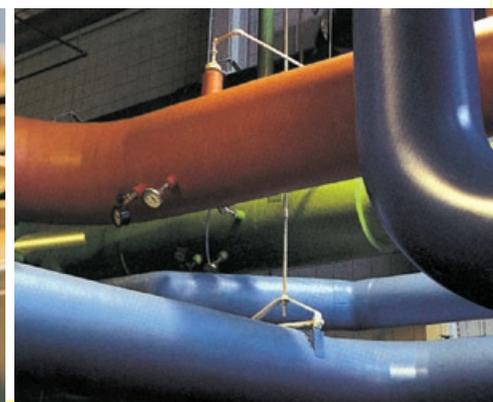
Increase productivity while helping to protect personnel and assets with industry-leading safety options. Select Safe Torque-Off (DriveGuard®) and Safe Speed Monitoring to help protect your personnel, your equipment and conform to specific safety requirements and certifications.

- Reduce unplanned downtime by more quickly resuming full production speed after a demand on the safety system has occurred
- Protect against potentially hazardous equipment or operating conditions
- Reduce costs and wiring complexity with the Safe Speed Monitor option that eliminates the need for an external relay
- Meet safety ratings up to and including PLe, SIL and CAT 4

## Drive Efficient Operations

When you improve motor control performance and motor efficiency, you gain the benefits of greater overall production efficiency. PowerFlex drives are capable of providing both an immediate and measurable impact on energy use and operational efficiency.

- Help reduce and track energy consumption by applying a PowerFlex drive to your application
- Predict mechanical problems and help improve performance with diagnostics and real time data
- Access historical data directly from the factory floor



## Seamless Drive and Control System Integration

Save configuration and troubleshooting time by seamlessly integrating PowerFlex drives and Logix programmable automation controllers.

- Unite communication between plant floor and the front office and get convenient access to real-time information and production data with EtherNet/IP™, DeviceNet™, ControlNet™, and other networks
- Lower programming, installation and overall ownership costs with consolidated drive system configuration, operation and maintenance with one software tool
- Increase productivity with easy access to system and machine level data and diagnostic information utilizing a single repository for configuration data

## PowerFlex Drive Control Instructions in the Logix Environment

PowerFlex 755 AC drives offer the option of configuration with drive instructions embedded in Allen-Bradley ControlLogix® and CompactLogix™\* Programmable Automation Controllers (PAC). These are the same configuration parameters and programming instructions as those used by Allen-Bradley Kinetix® servo drives. The generated application code can be applied to both drive platforms to significantly reduce programming time and provide a common, enhanced user experience.

Engineering tools within a single software package – Studio 5000™ Logix Designer – provide simplified configuration, programming, commissioning, diagnostics and maintenance for the PowerFlex 755 and Kinetix servo drives.

This integration simplifies use and helps to deliver the accuracy and synchronization required by the application. In addition, the use of EtherNet/IP for your PowerFlex and Kinetix drives helps to increase machine design flexibility, improve system performance and reduce system cost.

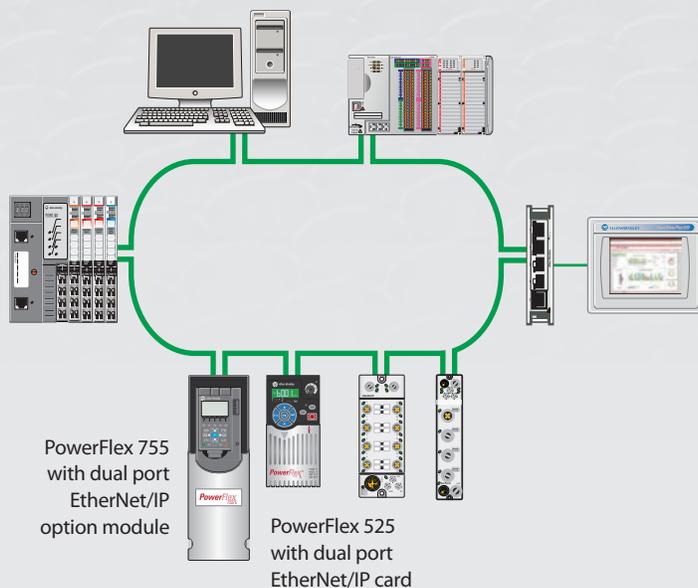
\* Available with RSLogix 5000 v20 and higher

## Entire Plant Solutions from Plant Floor to Top Floor

As a global automation leader, Rockwell Automation is uniquely positioned to help you capitalize on the business benefits of integrating factory floor controls and enterprise systems. When you choose a PowerFlex drive, you are receiving industry-leading motor control and protection, plus the advanced system-wide communication capabilities of the Rockwell Automation® Integrated Architecture™. With this Intelligent Motor Control solution, you can expect faster programming and installation, decreased mechanical wear, reduced energy consumption and improved motor performance.

- EtherNet/IP uses standard networking and allows you to effectively manage real-time control and information flow for improved plant-wide optimization, more informed decision-making and better business performance.
- This EtherNet/IP-based solution uses CIP Motion™ and CIP Sync™ technology from ODVA, all built the on Common Industrial Protocol (CIP).
- By sharing the same instructions, a Kinetix servo drive and a PowerFlex 755 AC drive have identical programming within Studio 5000™ Logix Designer and RSLogix 5000 software. The standardized operation and consistent behavior of the drives simplifies use.
- Time synchronization of drives, I/O and other EtherNet/IP compliant devices provides the performance to help solve the most challenging applications.
- Use of standard EtherNet/IP allows you to connect to a large number of commercial and industrial devices; there's no need for proprietary hardware or software

## EtherNet/IP: A Single Network for Complete Machine Control



## Connect Your Entire Enterprise

Benefit from the EtherNet/IP network for complete machine control that simplifies and enhances machine design.

- Low cost, high performance and easy to use compared to a multi-network architecture
- Easily integrate any PowerFlex drive, I/O, smart actuators and any other EtherNet/IP connected device
- Dual port EtherNet/IP connectivity supports ring topologies, which provide device level ring (DLR) functionality and optimum drive availability
- EtherNet/IP is an established, broadly-adopted network

## PowerFlex 4M AC Drive

## PowerFlex 4 AC Drive

## PowerFlex 40 AC Drive

## PowerFlex 40P AC Drive

### POWERFLEX AC DRIVES



<b>Motor Control</b>	• Volts per Hertz	• Volts per Hertz	• Volts per Hertz • Sensorless Vector Control	• Volts per Hertz • Sensorless Vector Control
<b>Application</b>	• Open Loop Speed Regulation	• Open Loop Speed Regulation	• Open Loop Speed Regulation	• Closed Loop Speed Regulation
<b>Ratings 100-115V 1 Phase In/3 Phase 230V Out</b>	• 0.2...1.1 kW • 0.25...1.5 Hp • 1.6...6 A	• 0.2...1.1 kW • 0.25...1.5 Hp • 1.6...6 A	• 0.37...1.1 kW • 0.5...1.5 Hp • 2.3...6 A	• N/A
<b>Ratings 200-240V</b>	• 0.2...7.5 kW • 0.25...10 Hp • 1.6...33 A	• 0.2...3.7 kW • 0.25...5 Hp • 1.4...17.5 A	• 0.37...7.5 kW • 0.5...10 Hp • 2.3...33 A	• 0.37...7.5 kW • 0.5...10 Hp • 2.3...33 A
<b>Ratings 400-480V</b>	• 0.37...11 kW • 0.5...15 Hp • 1.5...24 A	• 0.37...3.7 kW • 0.5...5 Hp • 1.4...8.7 A	• 0.37...11 kW • 0.5...15 Hp • 1.4...24 A	• 0.37...11 kW • 0.5...15 Hp • 1.4...24 A
<b>Ratings 500-600V</b>	• N/A	• N/A	• 0.75...11 kW • 1...15 Hp • 1.7...19 A	• 0.75...11 kW • 1...15 Hp • 1.7...19 A
<b>Ratings 690V</b>	• N/A	• N/A	• N/A	• N/A
<b>Ambient Temperature* Limit for Enclosure Types</b>	• IP20: -10 to 50 °C (14 to 122 °F) • IP20 zero stacking: -10 to 40 °C (14 to 104 °F)	• IP20, NEMA/UL Type Open: -10 to 50 °C (14 to 122 °F) • IP30, NEMA/UL Type 1: -10 to 40 °C (14 to 104 °F) • Flange = 50 °C (122 °F)	• IP20, NEMA/UL Type Open: -10 to 50 °C (14 to 122 °F) • IP30, NEMA/UL Type 1: -10 to 40 °C (14 to 104 °F) • IP66, NEMA/UL Type 4X/12: -10 to 40 °C (14 to 104 °F)	• IP20, Open Type: -10 to 50 °C (14 to 122 °F) • IP30, NEMA Type 1, UL Type 1: -10 to 40 °C (14 to 104 °F) • Flange and Plate Mount: Heatsink: -10 to 40 °C (14 to 104 °F) • Drive: -10 to 50 °C (14 to 122 °F)
<b>EMC Filters</b>	• Internal (1 phase 240V and 3 phase 480V) • External (1 & 3 phase)	• Internal (1 phase) • External (3 phase)	• Flange = 50 °C (122 °F) • Internal (1 phase) • External (3 phase)	• External
<b>Standards and Certifications</b>	• UL, CE, cUL, C-Tick	• UL, CE, cUL, C-Tick	• UL, CE, cUL, C-Tick	• UL, CE, cUL, C-Tick, TUV FS ISO/EN13849-1 (EN954-1)
<b>Overload Capability</b>	• 150% for 60 secs • 200% for 3 secs	• 150% for 60 secs • 200% for 3 secs	• 150% for 60 secs • 200% for 3 secs	• 150% for 60 secs • 200% for 3 secs
<b>Output Frequency Range</b>	• 0...400 Hz	• 0...240 Hz	• 0...400 Hz	• 0...500 Hz
<b>User Interface</b>	• Local Keypad • Remote Keypad • RSLogix 5000 • Studio 5000 • DriveTools™ SP	• Local Keypad • Remote Keypad • RSLogix 5000 • Studio 5000 • DriveTools SP	• Local Keypad • Remote Keypad • RSLogix 5000 • Studio 5000 • DriveTools SP	• 4 Digit LED Display and Fault Reset • Remote Keypad • RSLogix 5000 • Studio 5000 • DriveTools SP
<b>Communications Options</b>	• Integral RS485 (Modbus RTU) • Optional: *DeviceNet, *EtherNet/IP, *PROFIBUS DP™, *ControlNet, *LonWorks™, *Bluetooth™ *Optional network for use only with DSI External Communications Kit	• Integral RS485 (Modbus RTU) • Optional: *DeviceNet, *EtherNet/IP, *PROFIBUS DP, *ControlNet, *LonWorks, *BACnet, *Bluetooth *Optional network for use only with DSI External Communications Kit	• Integral RS485 (Modbus RTU) • Optional: DeviceNet, EtherNet/IP, PROFIBUS DP, ControlNet, LonWorks, BACnet, Bluetooth	• Integral RS485 (Modbus RTU) • Optional: DeviceNet, EtherNet/IP, PROFIBUS DP, ControlNet, LonWorks, Bluetooth
<b>Analog Inputs</b>	• Qty. 1 (unipolar voltage)	• Qty. 1 (unipolar voltage)	• Qty. 2 (1 bipolar voltage, 1 current)	• Qty. 2 (1 bipolar voltage, 1 current)
<b>Analog Outputs</b>	• None	• None	• Qty. 1 (unipolar voltage or current)	• Qty. 1 (unipolar voltage or current)
<b>PTC Inputs</b>	• Qty. 1 (uses an Analog Input)	• Qty. 1 (uses an Analog Input)	• Qty. 1 (uses an Analog Input)	• Qty. 1 (uses an Analog Input)
<b>Digital Inputs</b>	• Qty. 5 (24V DC, 2 programmable)	• Qty. 5 (24V DC, 2 programmable)	• Qty. 7 (24V DC, 4 programmable)	• Qty. 7 (24V DC, 5 programmable)
<b>Relay Outputs</b>	• Qty. 1 (form C)	• Qty. 1 (form C)	• Qty. 1 (form C)	• Qty. 1 (form C)
<b>Transistor Outputs</b>	• None	• None	• Qty. 2	• Qty. 2
<b>Dynamic Braking</b>	• Internal IGBT except catalog numbers ending in "3"	• Internal IGBT except catalog numbers ending in "3"	• Internal IGBT	• Internal IGBT
<b>Integrated Safety</b>	• No	• No	• No	• Safe Torque-Off, SIL2, PLD, Cat3

## PowerFlex 525 AC Drive



- Volts per Hertz • Sensorless Vector Control • Closed Loop Velocity Vector Control • Permanent Magnet Motor Control\*
- Open Loop Speed Regulation • Closed Loop Speed Regulation
- 0.4...1.1 kW • 0.5...1.5 Hp • 2.5...6 A
- 0.4...15 kW • 0.5...20 Hp • 2.5...62.1 A
- 0.4...22 kW • 0.5...30 Hp • 1.4...43 A
- 0.4...22 kW • 0.5...30 Hp • 0.9...32 A
- N/A
- IP20: -20 to 50 °C (-4 to 122 °F)
- IP20 Zero Stacking: -20\* to 45 °C (-4 to 113 °F)
- IP20: -20 to 60 °C (140 °F), with current derating
- IP20: -20 to 70 °C: (158 °F) with current derating and optional control module fan kit
- Internal (1 phase 240V and 3 phase 480V)
- External (1 & 3 phase)
- UL, CE, cUL, C-Tick, TVU, ATEX, GOST-R, Semi-F47, Marine (RINA), ACS156, REACH, RoHS, KCC
- Normal Duty Application: 110% - 60 secs, 150% - 3 secs (For 20 Hp & above)
- Heavy Duty Application: 150% - 60 secs, 180% - 3 secs (200% - 3 secs programmable)
- 500 Hz
- 5 Digits, 16 segments LCD display with multiple languages and local keypad • Remote Keypad
- MainsFree™ Programming via USB • RSLogix 5000
- Studio 5000 • Connected Components Workbench (CCW)
- Integral RS485 (Modbus RTU)
- Embedded EtherNet/IP
- Optional: Dual Port EtherNet/IP (DLR) DeviceNet, PROFIBUS DP
- Qty. 2 (1 bipolar voltage, 1 current)
- Qty. 1 (unipolar voltage or current)
- Qty. 1 (uses an Analog Input)
- Qty: 7 (24V DC, 6 programmable)
- Qty: 2 (1 form A Relay, 1 form B Relay)
- Qty. 2
- Internal IGBT
- Embedded Safe Torque-Off, SIL2, PLd, Cat 3

## PowerFlex 400 AC Drive



- Volts per Hertz
- Open Loop Speed Regulation
- N/A
- 2.2...37 kW • 3.0...50 Hp • 12...145 A
- 2.2...250 kW • 3.0...350 Hp • 6...460 A
- N/A
- N/A
- IP20, NEMA/UL Type Open, Frame C: -10 to 50 °C (14 to 122 °F)
- IP20, NEMA/UL Type Open, Frame D and up: -10 to 45 °C (14 to 113 °F)
- IP30, NEMA/UL Type Open, all frames: -10 to 45 °C (14 to 113 °F)
- External
- UL, CE, cUL, C-Tick
- 110% for 60 secs
- 0...320 Hz
- Local Keypad • Remote Keypad • RSLogix 5000
- Studio 5000 • DriveTools SP
- Integral RS485 (Modbus RTU, Metasys N2, P1-FLN)
- Optional: DeviceNet, EtherNet/IP, PROFIBUS DP, ControlNet, LonWorks, BACnet, *Bluetooth*
- Qty. 2 (1 bipolar voltage or current, 1 unipolar voltage or current)
- Qty. 2 (unipolar voltage or current)
- Qty. 1 (uses an Analog Input)
- Qty: 7 (24V DC, 4 programmable)
- Qty. 2 (form C)
- Qty. 1
- No
- No

## PowerFlex DC



- Full-wave, Full Control, 6-SCR
- Field Weakening and Economise
- Open Loop Speed Regulation • Closed Loop Speed Regulation • Precise Torque Regulation
- N/A
- 1.2...224 kW • 1.5...300 Hp • 7...1050 A
- 0.5...671 kW • 2...900 Hp • 4.1...1494 A
- N/A
- N/A
- IP 20 / Open = 50 °C (104 °F)
- External
- UL, C-Tick, CSA, CE
- Heavy Duty Application
- 150% - 60s, 200% - 3s
- 1000:1 DC Tach
- 200:1 Armature feedback
- 1000:1 Speed Range w/enc
- Local PowerFlex HIMs • Remote PowerFlex HIMs
- RSLogix 5000 • Studio 5000 • DriveTools SP
- Internal DPI • DeviceNet • ControlNet (Coax or Fiber)
- EtherNet/IP • Remote I/O • RS485 DF1
- PROFIBUS DP • *Bluetooth*
- 7
- 3 - Configurable (13 bit + sign, each ±V or mA)
- 8 - Configurable (24V DC)
- 2 - Configurable (11-Bit + sign, each ±V)
- 4 - Configurable (24V DC)
- 2 - Configurable Relay (NO)
- Armature Regen or Dynamic Braking Resistor
- No

## POWERFLEX DC DRIVE

### Motor Control

### Application Performance

### Single-phase Input w/Derate

### Ratings 200-240V

### Ratings 400-480V

### Ratings 500-600V

### Ratings 690V

### Ambient Temperature Limit for Enclosure Types

### EMC Filters

### Standards and Certifications

### Overload Capability

### Output Speed Range

### User Interface

### Communications Options

### Preset Speeds

### Standard Analog Inputs

### Standard Digital Inputs

### Standard Analog Outputs

### Standard Digital Outputs

### Dynamic Braking

### Safety Input

# POWERFLEX AC DRIVES

## PowerFlex 70 AC Drive



## PowerFlex 700 AC Drive



## PowerFlex 700H AC Drive



### Motor Control

- Vector Control w/FORCE™ Technology with and without an encoder
- Sensorless Vector Control • Volts per Hertz

- Vector Control w/FORCE Technology with and without an encoder • Sensorless Vector Control
- Adjustable Voltage Control • Volts per Hertz

- Volts per Hertz
- Sensorless Vector Control

### Application

- Open Loop Speed Regulation
- Closed Loop Speed Regulation
- Precise Torque & Speed Regulation

- Open Loop Speed Regulation
- Closed Loop Speed Regulation
- Precise Torque & Speed Regulation • Indexer Positioning

- Open Loop Speed Regulation

### Single-phase Input w/Derate

- Yes

- Yes

- Yes

### Ratings 200-240V

• 0.37...18.5 kW • 0.5...25 Hp • 2.2...70 A

• 0.37...75 kW • 0.5...100 Hp • 2.2...260 A

• N/A

### Ratings 400-480V

• 0.37...37 kW • 0.5...50 Hp • 1.1...72 A

• 0.37...500 kW • 0.5...700 Hp • 1.1...875 A

• 132...1600 kW • 200...2300 Hp • 261...2700 A

### Ratings 500-600V

• 0.37...37 kW • 0.5...50 Hp • 0.9...52 A

• 0.75...110 kW • 1...150 Hp • 1.7...144 A

• 160...2000 kW • 150...2400 Hp • 170...2250 A

### Ratings 690V

• N/A

• 45...132 kW • 50...150 Hp • 52...142 A

• 160...2000 kW • 150...2400 Hp • 170...2250 A

### Ambient Temperature Limit for Enclosure Types

- IP20, NEMA/UL Type 1: 0 to 50 °C (32 to 122 °F)
- Flange Mount: 0 to 50 °C (32 to 122 °F)
- IP66, NEMA/UL Type 4X/12 indoor: 0 to 40 °C (32 to 104 °F)

- IP20, NEMA/UL Type Open: Frames 0-6: 0 to 50 °C (32 to 122 °F), typical Frames 7-10: 0 to 40 °C (32 to 104 °F) for chassis 0 to 65 °C (32 to 149 °F) for control
- NEMA/UL Type 1: Frames 0-6: 0 to 40 °C
- IP 00/NEMA Open/Flange = 40 °C (104 °F)

- IP 21/NEMA/UL Type 1
- Normal Duty = 0-40 °C (32-104 °F)
- Heavy Duty = 0-40 °C (32-104 °F)

### EMC Filters

- Internal

- Internal (frame 0-6 only)

- Internal

### Standards and Certifications

- UL, CE, cUL, C-Tick, RINA, Lloyds Registry, ABS, SEMI F47
- TUV FS ISO/EN13849-1 (EN954-1)

- UL, CE, cUL, C-Tick, RINA\*, Lloyds Registry\*, ABS\*, SEMI F47\* • ATEX
- \*Does not apply to frames 7-10

- UL, CE, cUL, C-Tick
- ATEX with Safe Torque-Off option
- TUV FS ISO/EN13849-1 (EN954-1)

### Overload Capability

- Normal Duty Application • 110% - 60s, 150% - 3s
- Heavy Duty Application • 150% - 60s, 200% - 3s

- Normal Duty Application • 110% - 60s, 150% - 3s
- Heavy Duty Application • 150% - 60s, 200% - 3s

- Normal Duty Application • 110% - 60s
- Heavy Duty Application • 150% - 60s, 200% - 2s\*
- \*Limits Apply

### Output Frequency Range

- 0 - 500 Hz

- 0 - 420 Hz

- 0 - 320 Hz

### User Interface

- Local PowerFlex HIMs • Remote PowerFlex HIMs
- RSLogix 5000 • Studio 5000 • DriveTools SP

- Local PowerFlex HIMs • Remote PowerFlex HIMs
- RSLogix 5000 • Studio 5000 • DriveTools SP

- Local PowerFlex HIMs • Remote PowerFlex HIMs
- RSLogix 5000 • Studio 5000 • DriveTools SP

### Communications Options

- Internal DPI • DeviceNet • ControlNet (Coax or Fiber)
- EtherNet/IP • Remote I/O • RS485 DF1 • BACnet
- RS485 HVAC (Modbus RTU, Metasys N2, Siemens P1)
- PROFIBUS DP • Interbus • *Bluetooth* • External SCANport
- Modbus/TCP • CANopen • LonWorks

- Internal DPI • DeviceNet • ControlNet (Coax or Fiber)
- EtherNet/IP • Remote I/O • RS485 DF1 • BACnet
- RS485 HVAC (Modbus RTU, Metasys N2, Siemens P1)
- PROFIBUS DP • Interbus • *Bluetooth* • Modbus/TCP
- CANopen • LonWorks

- Internal DPI • DeviceNet • ControlNet (Coax or Fiber)
- EtherNet/IP • Remote I/O • RS485 DF1 • BACnet
- RS485 HVAC (Modbus RTU, Metasys N2, Siemens P1)
- PROFIBUS DP • Interbus • *Bluetooth* • Modbus/TCP
- CANopen • LonWorks

### Conformal Coating

- Option

- Option

- Option

### Analog Inputs

- Qty. 2 (1 bipolar voltage or current, 1 unipolar voltage or current)

- Qty. 2 (bipolar voltage or current)

- Qty. 2 (bipolar voltage or current)

### Analog Outputs

- Qty. 1 (unipolar voltage or current)

- Qty. 2 (bipolar voltage or current)

- Qty. 2 (bipolar voltage or current)

### PTC Inputs

- Qty. 1 (uses an Analog Input)

- Qty. 1 (dedicated)

- Qty. 1 (uses an Analog Input)

### Digital Inputs

- Qty. 6 (24V DC or 115V AC - option card required for 115V)

- Qty. 6 (24V DC or 115V AC)

- Qty. 6 (24V DC or 115V AC)

### Relay Outputs

- Qty. 2 (form C)

- Qty. 3 (1 form A, 1 form B, 1 form C)

- Qty. 3 (1 form A, 1 form B, 1 form C)

### Transistor Outputs

- None

- None

- None

### Internal Brake Transistor

- Standard

- Standard on Frames 0-3, Optional on Frames 4-6

- Optional (frame 9 only)

### AC Input Choke

- No

- No

- Yes

### DC Link Choke

- FR C-E Yes

- Yes

- No

### Common Mode Choke

- External option

- Internal (frame 0-6 only)

- Internal

### Integrated Safety

- Safe Torque-Off SIL, PLd, Cat 3

- No

- Safe Torque-Off SIL, PLd, Cat 3

### PowerFlex 700S AC Drive



- Vector Control w/FORCE Technology with and without an encoder • Volts per Hertz
- Permanent Magnet Motor Control
- Closed Loop Speed Regulation • Precise Torque Regulation
- Precise Torque & Speed Regulation • Accurate Positioning
- Yes
- 0.75...66 kW • 1...100 Hp • 4.2...260 A
- 0.75...800 kW • 1...1250 Hp • 2.1...1450 A
- 75...1500 kW • 1...1600 Hp • 1.7...1500 A
- 75...1500 kW • 75...1600 Hp • 77...1500 A
- IP20, NEMA/UL Type Open: 0 to 50 °C (32 to 122 °F)
- IP21, NEMA/UL Type 1: 0 to 40 °C (32 to 104 °F)
- Internal
- UL, CE, cUL, C-Tick, RINA\*
- TUV FS ISO/EN13849-1 (EN954-1)
- \* Applies to frames 1-6
- Normal Duty Application • 110% - 60s, 150% - 3s
- Heavy Duty Application • 150% - 60s, 200% - 3s
- 0 - 400 Hz (Frames 1-6) • 0 - 320 Hz (Frames 9-14)
- Local PowerFlex HIMs • Remote PowerFlex HIMs
- RSLogix 5000 • Studio 5000 • DriveTools SP
- Internal DPI • DeviceNet • ControlNet (Coax or Fiber)
- EtherNet/IP • Remote I/O • RS485 DF1
- RS485 HVAC (Modbus RTU, Metasys N2, Siemens P1)
- PROFIBUS DP • Interbus • Bluetooth
- Qty. 3 (2 bipolar voltage or current, 1 unipolar voltage)
- Qty. 2 (bipolar voltage or current)
- Qty. 1 (uses an Analog Input)
- Qty. 6 (3 - 24V DC or 115V AC, 3 - 24V DC)
- Qty. 1 (form C)
- Qty. 2
- Standard (frames 1-6) Optional (frame 9)
- Frames 1-6 No, Frames 9-14 Yes
- Frames 1-6 No, Frames 9-14 Yes
- Internal (frame 1-9 only)
- Safe Torque-Off SIL, PLd, Cat 3

### PowerFlex 700L AC Drive



- Available with PowerFlex 700 Vector Control or PowerFlex 700S Phase II Control boards.
- Open Loop Speed Regulation • Closed Loop Speed Regulation • Precise Torque Regulation
- Precise Torque & Speed Regulation
- No
- N/A
- 200...715 kW • 300...1150 Hp • 360...1250 A
- 345...650 kW • 465...870 Hp • 425...800 A
- 355...657 kW • 475...881 Hp • 380...705 A
- IP00, NEMA/UL Type Open (frame 2): 0 to 50 °C (32 to 122 °F)
- IP20, NEMA/UL Type 1 (frame 3A and 3B): 0 to 40 °C (32 to 104 °F)
- Internal
- UL, CE, cUL, C-Tick
- TUV FS ISO/EN13849-1 (EN954-1) (with 700S control)
- Normal Duty Application • 110% - 60s, 150% - 3s
- Heavy Duty Application • 150% - 60s, 200% - 3s
- Output frequency dependant on control boards
- Local PowerFlex HIMs • Remote PowerFlex HIMs
- RSLogix 5000 • Studio 5000 • DriveTools SP
- See PowerFlex 700 or 700S — based on control version
- Integral Regenerative capability
- Yes
- No
- External option
- Safe Torque-Off SIL, PLd, Cat 3 (with 700S control)

### PowerFlex 753 AC Drive



- Vector Control w/FORCE Technology with and without an encoder • Sensorless Vector Control
- Volts per Hertz
- Open Loop Speed Regulation • Closed Loop Speed Regulation • Precise Torque Regulation • Precise Torque & Speed Regulation • Indexer Positioning
- Yes
- N/A
- 0.75...250 kW • 1.0...350 Hp • 2.1...456 A
- 1...300 Hp • 1.7...298 A
- 7.5...250 kW • 12...268 A
- IP00/IP20, NEMA/UL Open Type = 0-50 °C (32-122 °F)
- Flange Mount Front: IP00/IP20, NEMA/UL Open Type = 0-50 °C (32-122 °F) • Flange Mount Back: IP66, NEMA/UL Type 4X = 0-40 °C (32-104 °F)
- IP54, NEMA/UL Type 12 = 0-40 °C (32-104 °F)
- Internal
- UL, CE, cUL, C-Tick, SEMI F47, GOST-R
- TUV FS ISO/EN13849-1 (EN954-1) for Safe Torque-Off and Safe Speed Monitor options • ROHS compliant materials • Conformal Coating standard • ABS
- Lloyd's Register
- Normal Duty Application • 110% - 60s, 150% - 3s
- Heavy Duty Application • 150% - 60s, 180% - 3s
- 0...325 Hz @ 2 kHz PWM • 0...650 Hz @ 4 kHz PWM
- Local PowerFlex 750 Series HIMs
- Remote PowerFlex 750 Series HIMs
- RSLogix 5000 • Studio 5000 • DriveTools SP
- Single or dual-port EtherNet/IP option module
- Remote I/O • RS485 DF1 • PROFIBUS DP
- Modbus/TCP • HVAC (Modbus RTU, FLN P1, Metasys N2)
- Bluetooth • CANopen • LonWorks
- Standard
- Up to 7 total (bipolar voltage or current)
- Up to 7 total (bipolar voltage or current)
- Up to 3 total
- Up to 21 total (Qty. 21 - 24V DC or Qty. 19 - 115V AC)
- Up to 7 total
- Up to 7 total
- Standard (frames 2-5) Optional (frame 6-7)
- No
- Yes
- External option
- Safe Torque-Off SIL, PLd, Cat 3
- Safe Speed Monitor SIL, PLd, Cat 4

### PowerFlex 755 AC Drive



- Vector Control w/FORCE Technology (with and without an encoder) • Sensorless Vector Control • Volts per Hertz
- Permanent Magnet Motor Control (Surface and Interior)
- Open Loop Speed Regulation • Closed Loop Speed Regulation • Precise Torque Regulation • Precise Torque & Speed Regulation
- Accurate Positioning with PCAM, Indexer and Gearing
- Yes
- N/A
- 0.75...1400 kW • 1.0...2000 Hp • 2.1...2330 A
- 1...1500 Hp • 1.7...1530 A
- 7.5...1500 kW • 12...1485 A
- IP00/IP20, NEMA/UL Open Type = 0-50 °C (32-122 °F)
- Flange Mount Front: IP00/IP20, NEMA/UL Open Type = 0-50 °C (32-122 °F)
- Flange Mount Back: IP66, NEMA/UL Type 4X = 0-40 °C (32-104 °F)
- IP54, NEMA/UL Type 12 = 0-40 °C (32-104 °F)
- Internal
- UL, CE, cUL, C-Tick, SEMI F47, GOST-R • TUV FS ISO/EN13849-1 (EN954-1) for Safe Torque-Off and Safe Speed Monitor options
- ROHS compliant materials • Conformal Coating standard • ABS (Frames 2...8) • Lloyd's Register (Frames 2...8)
- Light Duty Application (frames 8 and larger) • 110% - 60s
- Normal Duty Application • 110% - 60s, 150% - 3s
- Heavy Duty Application • 150% - 60s, 180% - 3s
- 0...325 Hz @ 2 kHz PWM • 0...650 Hz @ 4 kHz PWM
- Local PowerFlex 750 Series HIMs • Remote PowerFlex 750 Series HIMs
- RSLogix 5000 • Studio 5000 • DriveTools SP
- RSLogix 5000 (v19 and higher) Embedded Instructions
- Embedded EtherNet port or dual-port EtherNet/IP option module • CIP Motion • ControlNet (Coax or Fiber)
- DeviceNet • Remote I/O • RS485 DF1
- PROFIBUS DP • Modbus/TCP • HVAC (Modbus RTU, FLN P1, Metasys N2) • Bluetooth • LonWorks • BACnet/IP
- Standard
- Up to 10 total (bipolar voltage or current)
- Up to 10 total (bipolar voltage or current)
- Up to 5 total
- Up to 31 total (24V DC or 115V AC)
- Up to 10 total (form C)
- Up to 10 total
- Standard (frames 2-5) Optional (frame 6-7)
- No
- Yes
- External option
- Safe Torque-Off SIL, PLd, Cat 3
- Safe Speed Monitor SIL, PLd, Cat 4

# eTOOLS

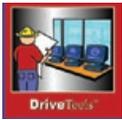
## Connected Components Workbench™

Connected Components Workbench programming and configuration software supports PowerFlex compact and architecture AC drives, Micro800™ controllers and PanelView™ component graphic terminals. This free software leverages proven Rockwell Automation and Microsoft® Visual Studio® technologies for fast and easy controller programming, drive configuration and integration with the HMI editor.

Download Connected Components Workbench software at <http://www.ab.com/go/ccws>

## Studio 5000: Embedded Instructions

PowerFlex 755 AC drives can be configured with drive instructions embedded in Allen-Bradley ControlLogix and CompactLogix\* Programmable Automation Controllers (PAC). These are the same configuration parameters and programming instructions used by Allen-Bradley Kinetix servo drives. The generated application code can be applied to both drive platforms to significantly reduce programming time and provide a common, enhanced user experience.



## DriveTools™ SP Software Suite

A powerful PC based software suite, for programming, configuring, and troubleshooting.

- DriveExecutive™ – for online/offline configuration and management of drives and drive peripherals
- DriveObserver™ – for real-time trending of drive information

\* Available with RSLogix 5000 v20 and higher

## Studio 5000

The Studio 5000 environment is an automation system design and management suite that provides a single point of access to the Logix Designer application – an interface used to develop control logic that runs in the controller. The Logix Designer software works with controllers to read and write tag information.

In version 21, RSLogix™ 5000 software became the Logix Designer application. Using Studio 5000 Logix Designer, you can configure your PowerFlex AC drives similarly to previous versions of \*RSLogix 5000. Use a single software tool to reduce your programming time, ease startup and commissioning.

## Drives and Motion Accelerator Toolkit

This collection of design tools can help you significantly reduce the time and cost of developing a new application using PowerFlex AC Drives and Kinetix Servo Drives. Toolkit provides sets of modules that are combined to produce:

- An initial Bill of Material
- A beginning set of CAD drawings for wiring diagrams and panel layouts
- An initial logic program written around the specific products used by the application
- Initial HMI screens designed around the specific products used by the application

Download the tool at: [www.ab.com/go/iatools](http://www.ab.com/go/iatools)

## Motion Analyzer

For applications requiring more than a constant load and steady speed, Motion Analyzer software can help by handling the necessary complex calculations. Motion Analyzer features an easy-to-use format which can reduce design risk for speed and positioning applications that include PowerFlex drives or Kinetix servo drives.

Download the tool at:

<http://ab.rockwellautomation.com>

Motion-Control/Motion-Analyzer-Software

## DRIVES START-UP SERVICES AND EXTENDED WARRANTY

*ProtectionPlus Drive Start-up & Warranty Services from Rockwell Automation allow you to leverage the extensive product and industry experience of Rockwell Automation technicians to quickly commission your PowerFlex drives and reduce the time between integration and actual start-up. Additionally, you'll receive a 2 year parts and labor warranty to help stabilize your maintenance budget. \*\**

*\*\* Protection Plus is not available on the PowerFlex 700L, PowerFlex 700H, or PowerFlex 700S drives. Check with your Rockwell Automation representative for availability.*

Allen-Bradley, CompactLogix, Connected Components Workbench, ControlLogix, DriveExecutive, DriveExplorer, DriveGuard, DriveObserver, DriveTools, FORCE Technology, Integrated Architecture, Kinetix, Micro800, PanelView, PowerFlex, RSLogix and Studio 5000 are trademarks of Rockwell Automation, Inc. ControlNet, DeviceNet and EtherNet/IP are trademarks of the Open DeviceNet Vendor Association. Trademarks not belonging to Rockwell Automation are property of their respective companies.

[www.rockwellautomation.com](http://www.rockwellautomation.com)

## Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846