

PowerFlex® 755T Drive Solutions



Low Harmonic, Regenerative and Common Bus Solutions



PowerFlex 755T Drive Solutions

The Next Step in Powerful Performance. Flexible Control.



You're smart, dependable and brimming with useful insights. Shouldn't your variable frequency drive have those same traits? Ours do.

The Allen-Bradley® PowerFlex® 755T AC drives from Rockwell Automation have been developed to help you make the most of your assets and production time. They offer the benefits of harmonic mitigation, regeneration and common bus solutions along with TotalFORCE® Technology for excellent motor control through precise, adaptive control of positioning, velocity and torque.

PowerFlex 755TL drives provide harmonic mitigation and power factor correction through the use of active front end technology.

PowerFlex 755TR drives provide an energy-efficient solution that uses regenerative active front end technology to deliver energy back to the incoming supply. Drives also provide harmonic mitigation and power factor correction.

PowerFlex 755TM drive systems allow you to select from a series of predesigned configurations for regenerative common bus supplies and common bus inverters to optimize your system design and power consumption.



TotalFORCE Technology

Your new competitive advantage

PowerFlex 755T drives offer innovative features that you haven't seen from any other AC drives. The most significant is the introduction of TotalFORCE Technology to help your application achieve increased throughput, improved quality and reduced downtime.

Increase the Throughput of Your Application

With excellent tracking, the drives follow speed or torque commands very closely. They also effectively reject disturbances when loads change suddenly to help keep the application running smoothly and help increase output.

Improve the Quality of End-products

As a result of rapid processing speed, the drives are able to provide very precise position, velocity and torque control to help improve the uniformity of end products. In addition, high torque accuracy helps maintain speed regulation in highly demanding tension control applications.

Reduce Equipment Downtime

PowerFlex 755T drives continuously monitor operation, tracking the health of electrical components in the drive and motor to provide real-time diagnostic information to your control system. With this information, it is possible to predict equipment failures and take action to prevent unplanned downtime.

In addition, adaptive control features within the drives help isolate potentially harmful vibration and automatically compensate for variances to help keep your application up and running.



The highly differentiated technology in the PowerFlex 755T drives helps optimize productivity:

- Faster troubleshooting
- Enhanced reliability and simplified service
- Application flexibility



Adaptive Control

Improve your application performance

Adaptive control is a key component of TotalFORCE Technology. As your equipment operates, Adaptive Tuning, Load Observer and Bus Observer are able to monitor machine characteristics that can change over time and automatically compensate for the changes that occur. This advanced self-monitoring capability helps reduce commissioning time and mechanical wear while improving uptime.

ADAPTIVE TUNING

Helps increase machine reliability and performance

- Monitors real-time drive and system performance characteristics and adapts if necessary
- Tracking notch filters automatically identify and suppress potentially harmful resonance and vibration conditions. With four tracking notch filters, the PowerFlex 755T drives are able to identify up to four system resonant conditions simultaneously
- Can be used to indicate need for maintenance and machine wear over time

LOAD OBSERVER

Helps reduce startup time by reducing the effort needed for tuning

- Automatically monitors and compensates for changes in inertia and for motor-to-load compliance by anticipating needs for torque
- Continuously compensates for normal machine wear including bearings and couplings
- Provides consistent dynamic behavior

BUS OBSERVER

Helps increase reliability by dynamically controlling voltage

- Compensates for changes in demand on the DC bus
- Adjusts current control to help improve management of the DC bus voltage
- Allows for lower tuning gains in the voltage and current regulators to help prevent electrical system resonances that can occur when the initial drive tuning is too aggressive
- Reduces startup time needed for tuning

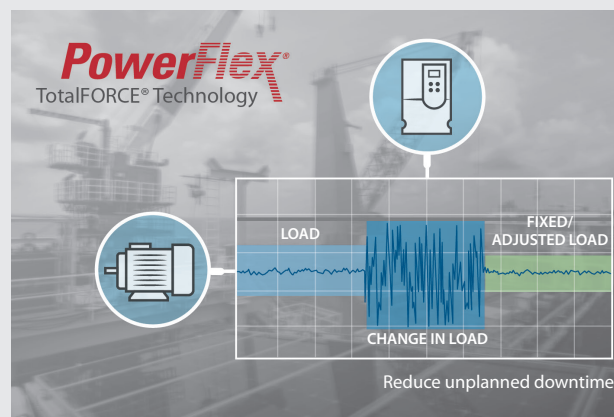


Illustration shows a combination of Adaptive Tuning and Load Observer in a motor control application

TotalFORCE Technology combines high-performance motor control, advanced self-monitoring capabilities and a contemporary digital platform to deliver faster, more precise and responsive AC drives.

Innovative Design

Flexibility and simplification for installation and servicing

PowerFlex 755T drives are built for fast and easy installation and maintenance. The efficient design provides convenient access to compact components that can be easily installed, removed and serviced.

- The drives' slot-based hardware architecture gives you the flexibility to select up to five option cards to suit your application for future expansion
- Simplified installation and servicing are scalable benefits that apply to the entire power range – including wall mount drives

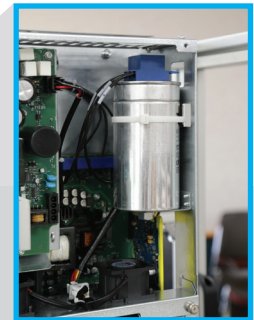


Roll in/out design makes the drive easy to install and service by allowing complete removal of a module from the cabinet, providing generous room for wiring behind the drive. **Power wiring** can stay connected while unit is rolled out.

The PowerFlex 755T floor mount drives offer some unique features that allow the drives to provide high power ratings without the cumbersome nature of many large AC drives.

- Market-leading power density is achieved by optimizing the packaging of power components for a reduced footprint
- Wire the drive just once. Power wiring can stay connected while power and filter modules are rolled out, if necessary
- Modular design allows convenient access to key components for streamlined servicing
- Service cart allows one person to easily insert or remove a module for simplified installation and maintenance. The same cart can be used with all floor mount PowerFlex 755T drives
- The use of common hardware among the drives reduces spare parts inventory
- When optional components such as dv/dt filters are ordered, they are built into the drive module, decreasing floor space requirements
- Optional entry/exit wiring bays allow cable entry and exit through the top of the cabinet

Servicing of the critical components such as the LCL filter capacitor and fan tray is intuitive and easy. Replacing a fan typically takes as little as five minutes.



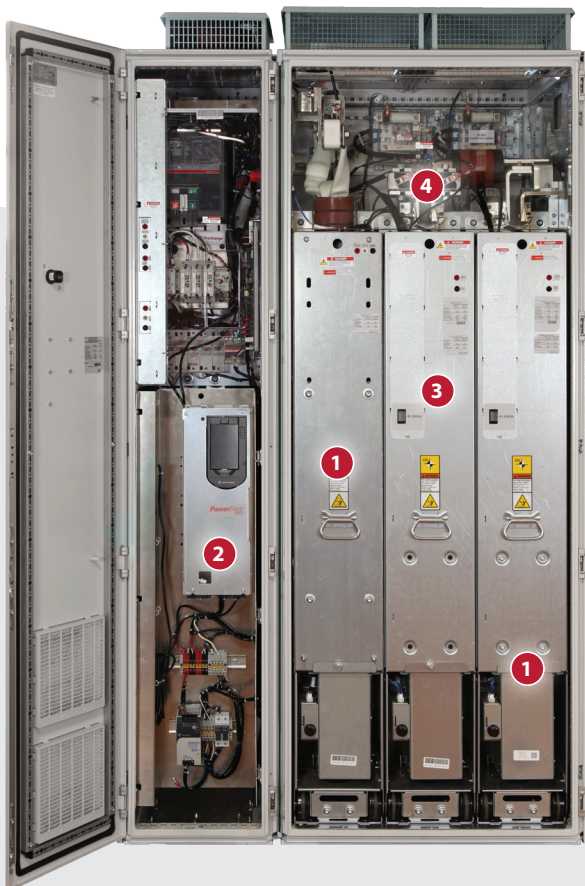
The convenient service cart is a unique element of service and installation. Unlike some large AC drive systems which require two people and a crane or hoist for installation or removal, PowerFlex 755T drives use a sturdy yet compact cart that can be easily managed by a single technician.

Proactive Approach to Improving Uptime

Having the right information about the health of your system can be critical for reducing downtime and increasing productivity. PowerFlex 755T drives take a proactive approach to providing diagnostic data and continuously monitor drive health and compare the current performance to the application settings. This information is provided back to your control system, a capability that is driven by our patented TotalFORCE Technology.

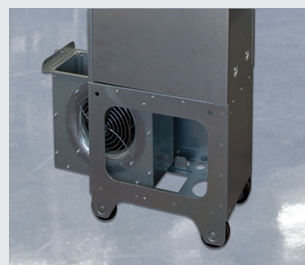
- PowerFlex 755T drives continuously monitor operation and then calculate expected life of components based on actual operating conditions. This information is provided in real time back to your control system
- The drive's ability to be self-aware allows you to take proactive measures and helps reduce unplanned downtime
- Develop an effective maintenance plan using information provided by the drive
- Patented algorithms project the remaining life span of drive components – such as fans, bus and LCL capacitors, IGBTs, relay contacts – so preventive action can be taken if necessary. Access to this critical information helps you improve productivity

- A capacitor protection feature continuously monitors capacitor health using actual operating data. This protection feature can also detect problems between the utility and the drive LCL capacitors. Abnormal conditions include high capacitor current and/or capacitance degradation that could lead to imminent capacitor failure
- A DC bus conditioner helps protect power components by minimizing DC bus voltage transients commonly associated with ungrounded distribution systems. A Marine Bus Conditioner option provides the PowerFlex 755T drives with the marine certifications that are required for VFD operation in a maritime environment
- The voltage boost feature enables full voltage to the motor, even when operating on a reduced incoming line
- Thermal manager helps to manage critical operating conditions that can result in thermal overloads of the products. Reducing thermal stress to the drive's power components helps increase the drive's reliability and life
- Power loss ride-through capability helps increase uptime for applications susceptible to voltage or currents sags. During a power disturbance, the DC bus voltage is maintained by using the stored energy captured in the DC bus capacitor bank. Drives meet SEMI F47 standard for voltage sag tolerance
- PowerFlex 755T drives can operate on two types of incoming power sources. This flexibility allows you to switch between utility operation and generator backup, when necessary



Advanced Diagnostics and Predictive Maintenance

- 1 Predict remaining lifespan of components such as fans, bus and LCL capacitors, and IGBTs
- 2 Additional monitoring available for relay contacts, and motor and machine bearings
- 3 Thermal manager
- 4 Blown fuse indication and feedback



The modular design of the drive makes replacements easy. In fact, a fan can be replaced in as little as five minutes without complicated tools.

PowerFlex 755TL and PowerFlex 755TR Drives

PowerFlex 755TL and PowerFlex 755TR drives provide built-in harmonic mitigation and power factor correction through the use of active front end technology. By reducing the adverse effects of harmonic distortion, the drives help to improve energy efficiency, reduce energy costs and minimize power distribution issues on the factory floor.

Powerflex 755TR drives have the added benefit of regenerative capability. Using built-in regeneration, the PowerFlex 755TR drive helps reduce energy consumption by delivering energy back to the incoming power supply rather than wasting it as heat, resulting in a more energy-efficient solution.

Benefits of harmonic mitigation

- The combination of lower harmonics and power factor correction reduces the need to oversize your electrical power equipment
- Reduced harmonic distortion helps minimize disruption to other devices
- Meets IEEE 519 standard (5% or less of total harmonic distortion)

Benefits of regeneration

- The drive is able to put energy back on the incoming power supply, providing a solution that is far more energy efficient than resistive or mechanical braking
- Eliminate the need for braking resistors and cooling equipment along with associated wiring, labor, installation and maintenance costs

Other benefits of PowerFlex 755TL and PowerFlex 755TR drives

- Built-in components decrease floor space requirements and panel width to provide market-leading power density
- Maintain operation through most line disturbances with power loss ride-through control
- Configure and program the converter and inverter using Studio 5000 Logix Designer® or Connected Components Workbench™ Software
- Standard built-in dual EtherNet/IP ports provide topology flexibility and Premier Integration into the Logix environment
- Advanced diagnostics and predictive maintenance
- Patented drive analytics help increase performance and decrease commissioning time
- Simplified servicing helps reduce both cost and service time



Power ratings for PowerFlex 755TL and 755TR Wall Mount Drives

400/480V: 11...160 kW / 10...250 Hp

600/690V: 11...160 kW / 10...200 Hp

Floor Mount Drive Components

- 1 AC pre-charge module** regulates the input AC current from the incoming power source, greatly reducing stress on the power components during power up.
- 2 LCL filter** is a 230 mm wide module that provides low harmonic capability and minimizes the current distortion into the utility grid.
- 3 Line side converter** is a 230 mm wide module that draws energy from the AC line without harmonic distortion and converts it to DC power. In the PowerFlex 755TR drive, it also provides a means of regeneration back to the AC line.
- 4 Motor side inverter** is a 230 mm wide module that controls the voltage and current of the motor.
- 5 IP21/IP54 enclosures** provide a choice of packaging options to meet the environmental requirements of your application.
- 6 Control pod** contains the control platform that is responsible for motor control, system control and communications. Five option slots allow you to add I/O, safety and feedback.



PowerFlex 755TL 650 Hp (740 A) 480V drive shown

Power Ratings for PowerFlex 755TL and 755TR Floor Mount Drives

PowerFlex 755TL Drives for Harmonic Mitigation:

400/480V: 132 kW...1250 kW / 200 Hp...1800 Hp
600/690V: 150 Hp...1500 Hp / 132kW...1400 kW

PowerFlex 755TR Drives for Regenerative Solutions:

400/480V: 132 kW...3600 kW / 200 Hp...6000 Hp
600/690V: 150 Hp...5100 Hp / 132kw...4500 kW

PowerFlex 755TM Drive System for Common Bus Solutions

PowerFlex 755TM drive systems allow you to select from a series of predesigned configurations for regenerative common bus supplies and common bus inverters to optimize your system design and power consumption. A common bus drive system offers advantages such as design flexibility, energy optimization and reduced installation costs. PowerFlex 755TM systems provide harmonic mitigation and built-in regeneration capability.

- Gain energy efficiency with motors that share energy between regenerating and motoring loads
- Optimize floor space, simplify installation and reduce hardware with drives connected to a common DC bus
 - Removes the need to wire AC power to each drive individually
 - Reduces installation time, labor and cabling costs
 - DC bus terminals built into each unit allow for easy connection to adjacent units
 - Floor mount drives feature an integrated control bus in each unit for efficient distribution of auxiliary power throughout a cabinet line up
- Common bus systems enable a mixed architecture that allows the connection of different types of VFDs, servo drives and other power components to the same DC bus
- Designed to enable coordination of multiple motors
- Meets IEEE 519 standard (5% or less of total harmonic distortion)
- Reducing harmonic distortion helps improve energy efficiency and minimize power distribution issues on the factory floor
- Eliminate the need for auto-transformers or filters along with the associated wiring, labor, space, installation and maintenance costs
- The regeneration ability puts energy back on the incoming line, providing a solution that is far more energy efficient than resistive braking



By packaging a combination of inverters and bus supplies in different arrangements and ratings, you can optimize a high-power density system within an industry-leading small footprint.

- Additional inverters can be added to the common DC bus
- Supports motors with lower power ratings
- Use PowerFlex 753, PowerFlex 755 and Kinetix® 5700 drives



- 1 AC pre-charge module** regulates the input AC current from the incoming power source, greatly reducing stress on the power components during power up.
- 2 LCL Filter** is a 230 mm wide module that provides low harmonic capability and minimizes the current distortion into the utility grid.
- 3 Line side converter** is a 230 mm wide module that draws energy from the AC line without harmonic distortion and converts it to DC power. It also provides a means of regeneration back to the AC line.
- 4 Motor side inverter** is a 230 mm wide module that controls the voltage and current of the motor.
- 5 IP21/IP54 enclosures** provide a choice of packaging options to meet the environmental requirements of your application.

- 6 Control pod** contains the control platform that is responsible for motor control, system control and communications. Five option slots allow you to add I/O, safety and feedback. There is one control pod for each common bus inverter and one for the regenerative bus supply.
- 7 DC pre-charge** regulates the input DC current from the incoming power source, greatly reducing stress on the power components during power up. It also provides a means of isolating the inverter from the DC bus for service or maintenance.
- 8 Roll in/out** design makes the drive easy to install and service by allowing complete removal of a module from cabinet, providing generous room for wiring behind the drive. **Power wiring** can stay connected while unit is rolled out.

Regenerative Bus Supplies:

400/480V: 87 kW...4358 kW / 90 kW...4818 kW
600/690V: 69 kW...4432 kW / 84 kW...4714 kW

Common Bus Inverters:

400/480V: 160 kW...3600 kW / 250 Hp...6000 Hp
600/690V: 200 Hp...4500 Hp / 250 kW...5100 kW

PowerFlex 755T Drive High-Performance Solutions

CONTROL

- Drive control modes: speed, torque and position control to support multiple application types
- Selectable high-performance motor control algorithms with TotalFORCE Technology: flux vector, sensorless vector, V/Hz, field oriented control, Economizer and permanent magnet motor control
- Predictive maintenance: monitor the remaining life span of fans, relay contacts, power devices and capacitors
- DeviceLogix™ control provides built-in drive capability to process logic locally and reduce demands on the controller and network. The ability to operate the drive independently or complementary to supervisory control can help speed reaction time by reducing dependency on network throughput
 - Up to 500 instruction blocks can be configured
 - Tag Binding feature allows you to link any parameter in the drive to a logic function
 - Flexible, cost-effective solution for standalone applications
 - PowerFlex 755T drives offer an enhanced version of the well-established Allen-Bradley DeviceLogix control
- Emergency Override mode will override fault conditions and allow the drive to continue running until the user issues a stop command. This feature can be useful in applications in which stopping the drive could be potentially dangerous and may result in an emergency situation

FEEDBACK

- Universal feedback, encoder and dual encoder feedback options
 - Universal feedback option includes two channels for encoder feedback. Encoder support includes incremental, EnDat, Hiperface, SSI and BiSS
 - Automatic switchover to secondary encoder or encoderless mode in the event of feedback loss

Features for Crane and Hoist Applications

Applications that involve the lifting or hoisting of a load require special considerations. Smooth, safe control helps protect both personnel and assets. Allen-Bradley PowerFlex 755T drives address the specialized needs of these types of applications with:

- TorqProve™ Control helps verify control of a load in lifting applications
- Anti-sway technology is designed to improve safety and efficiency by reducing the swinging of a moving load

COMMUNICATIONS

- Built-in dual EtherNet/IP ports
- Options available for: ControlNet, DeviceNet, PROFIBUS DP,* PROFINET*

*Ask your Rockwell Automation sales office about availability

HARDWARE

- Enclosures:
 - IP21/Type 1 or IP54/Type 12 for floor mount drives
 - IP00/Open Type for wall mount drives with options for IP20/Type 1 enclosures
- Patented slot-based hardware structure for control and selectable I/O, feedback, communication and safety options
- Auxiliary control power available
- Standard conformal coating on all printed circuit boards
- Option for built-in dV/dt filters to reduce reflective wave
- High capacity DC bus option for PowerFlex 755TM up to 4700A distribution – applicable to drives with ratings of 250 Hp and up



- The regenerative capabilities provided by the PowerFlex 755TR drives and PowerFlex 755TM bus supplies helps reduce energy consumption. When a crane lowers its load, the motor and drive must hold back the speed of descent and the motor acts as a generator. Instead of wasteful dissipation of that energy, it can be delivered back to the incoming supply. It also makes additional devices like braking resistors unnecessary.

For more information on PowerFlex drives for Crane and Hoist applications, refer to publication PFLEX-BR009.

Simplified Drive Configuration and Programming

PowerFlex 755T drives help make configuration and programming fast and uncomplicated with a choice of easy-to-use software packages and tools.

Human Interface Module

Local or remote PowerFlex HIMs

- Features a high definition LCD
- Supports multiple languages

Connected Components Workbench Software

- Free software helps you get your drives up and running with an intuitive interface and startup wizards
- Trend capability for PowerFlex 755T drives and other select power control products

Studio 5000 Logix Designer

PowerFlex drives are able to achieve a unique level of integration with Logix Programmable Automation Controllers (PACs) within the Studio 5000® environment

- Data associated with the drive is automatically generated to ease configuration and minimize the need to manually program the required parameters and tags
- Easy access to system and machine level data as well as diagnostic information

Save Time with Premier Integration

Premier Integration is the exclusive experience of using Allen-Bradley smart devices as part of the Integrated Architecture. Use just one software tool to help reduce your programming time, ease startup and commissioning and streamline diagnostics.

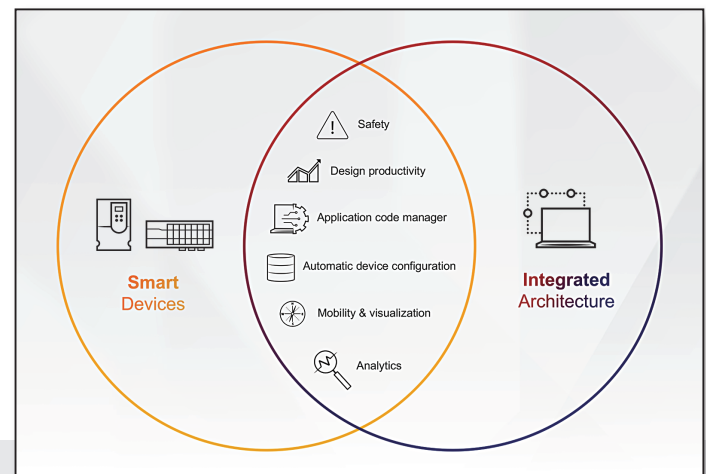
- Single development environment to configure and program your entire control and device system

- Drive configuration is saved as part of the Studio 5000 Logix Designer project file and stored in the Logix controller. You only need one file for both the controller and all drive configurations
- Consolidating controller programming and device system configuration helps reduce complication and eliminates mismatch errors
- Diagnostic, fault, alarm and event information are integral to the Studio 5000 environment

Studio 5000 software can help reduce programming time by automatically populating drive parameters in the controller memory as controller tags.

- Descriptive tag names are automatically generated
- Address mismatch errors can be eliminated
- Copy and paste function makes duplicating drives fast and easy
- Advanced graphical wizards walk you through drive configuration

To learn more about Premier Integration, refer to publication IMCPI-WP001.



Energy Savings

- PowerFlex 755T drives offer a variety of features that help reduce energy costs:
- PowerFlex 755T drives offer built-in support for a wide variety of motors, including permanent magnet motors. The use of permanent magnet motors provides:
 - Energy efficiency through the reduction of heat losses in the motor
 - Application performance that includes a wide speed range, high torque performance, low audible noise and vibration
 - Smaller, lighter motors that help reduce the weight and size of a machine
- Variable speed operation enables energy savings associated with speed control. The ability to adjust the speed of the motor to less than full capacity when the application permits, can result in significant energy savings
- Active Front End technology enabling:
 - Regenerative capability that allows the drive to put energy onto the incoming power supply
 - An Energy Pause feature that reduces fan speed and sets the PowerFlex 755T drive or Bus Supply into a low energy state to help reduce overall energy consumption
 - Advanced power control capabilities like harmonic mitigation and power factor correction provide additional energy savings

Safety Solutions that Help Improve Productivity

In the past, implementing safety solutions often meant sacrificing productivity. PowerFlex 755T drives address productivity concerns by offering safety options that help protect your people and equipment while also reducing planned and unplanned downtime

PowerFlex 755T drives offer a choice of four safety option modules:

- **Hardwired Safe Torque Off** is designed for safety-related applications that benefit from removal of rotational power from the drive. This functionality offers the benefit of quick start-up after a demand on the safety system. SIL3, PLe, CAT 3
- **Networked Safe Torque Off** on EtherNet/IP provides the same benefits as hardwired Safe Torque Off – plus the ability to simplify your machine design and minimize required equipment. SIL3, PLe, CAT 3
- **Safe Speed Monitor** provides a hardwired solution for applications that can benefit from access to a safety zone while there is limited motion. It allows operators to perform some process or maintenance work without stopping the machine. SIL3, PLe, CAT 4

- **Integrated safety functions** provide PowerFlex 755TL, 755TR and 755TM AC drives with advanced safety on an EtherNet/IP network. The option module uses safety instructions based on IEC 61800-5-2.

Drive-based safety instructions include:

- STO – Safe Torque Off
- SSI – Safe Stop 1

Controller-based safety functions include:

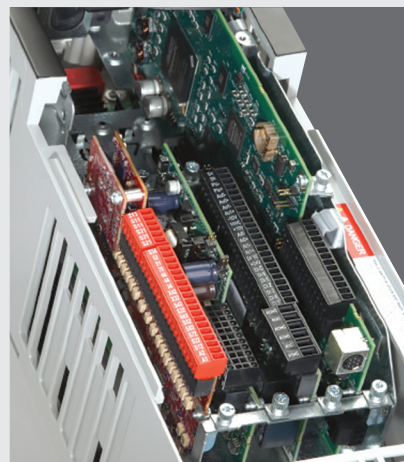
- SFX – Safety Feedback Interface
- SLS – Safely-limited Speed
- SS1 – Safe Stop 1
- SLP – Safely-limited Position
- SS2 – Safe Stop 2
- SDI – Safe Direction
- SOS – Safe Operational Stop
- SBC – Safe Brake Control

When used as part of an integrated safety system that includes a GuardLogix® 5580ES controller or Compact GuardLogix 5380ES controller, the integrated safety functions option module provides safety ratings up to and including SIL3 and PLe Cat 4. Studio 5000 Logix Designer application version 31 or later is also required.

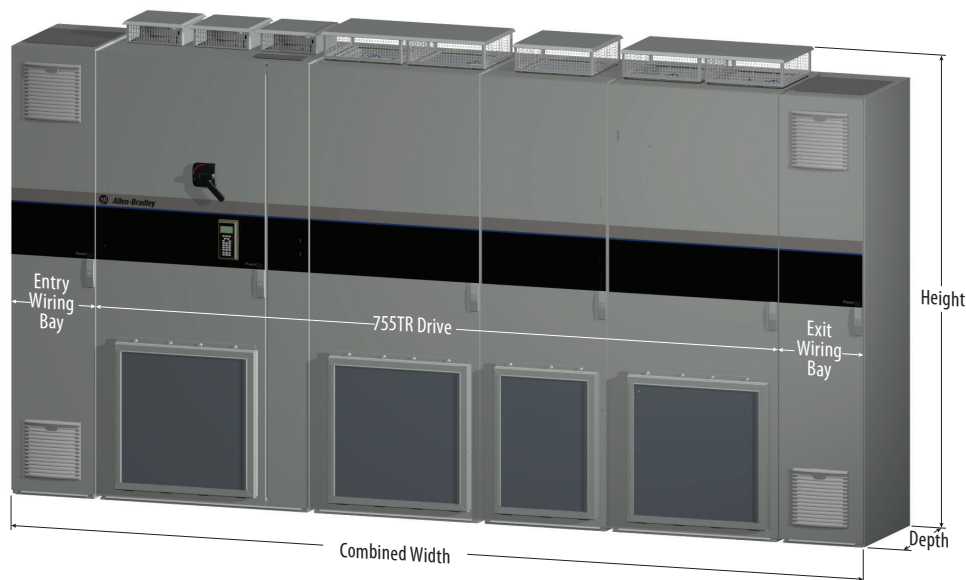
Networked Safety Helps Streamline Machine Design

Networked safety solutions provide the ability to simplify your machine design and minimize equipment redundancies.

- A single GuardLogix® controller can manage both safety and motor control
- Complete safety function integration within one software environment – Studio 5000 Logix Designer – for configuration, programming and maintenance
- The integration of the safety and standard control systems provides operators and maintenance personnel with improved visibility to all machine events – including safety events
- Safety and standard control share the same EtherNet/IP network
- The ability to minimize equipment redundancies can result in a smaller panel enclosure which helps reduce machine footprint
- Reduced hardware and installation costs



PowerFlex 755T drives feature a slot-based hardware architecture that gives you the flexibility to select option modules to suit your application and expand your drive for future needs. The drives have five option slots to support additional options for safety as well as I/O, feedback and communications. An option module can be added to a drive at any time.



Dimensions are in millimeters and (inches).

Use of the optional Entry and Exit Wiring Bays helps simplify installation; however, it increases the width of the drive.

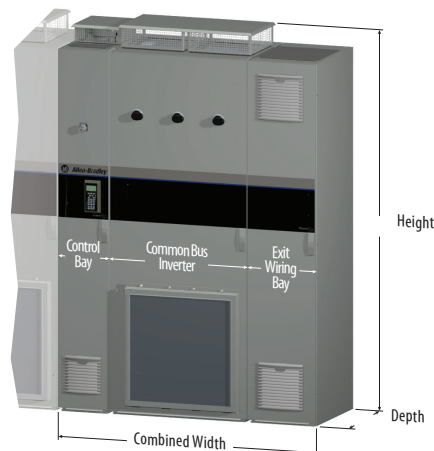
For Wiring Bay dimensions, see publication 750-TD100_.

PowerFlex 755TL and PowerFlex 755TR Drive Dimensions

	Input Voltage	Normal Duty Rating	Drive Width	Drive Depth		Drive Height	
				IP00	IP20	IP00	IP20
Wall Mount Drives	400/480	7.5...55 kW/10...75 Hp	344 (13.5)	357 (14.1)	Requires use of optional kit. See publication 750-TD100_ for dimensions	864 (34)	Requires use of optional kit. See publication 750-TD100_ for dimensions
	600/690	10...60 Hp/11...55 kW					
	400/480	75...132 kW/100...200 Hp	405 (15.9)	360.7 (14.2)		1657 (65.2)	
	600/690	75...150 Hp/75...132 kW					
				IP21	IP54	IP21	IP54
Floor Mount Drives	400/480	160...315 kW/250...500 Hp	800 (31.5)	675 (26.6)	717 (28.2)	2128 (83.8)	2292 (90.2)
	600/690	200...400 Hp/160...355 kW					
	400/480	160...400 kW/250...650 Hp	1200 (47.2)	675 (26.6)	720 (28.3)	2132 (83.9)	2292 (90.2)
	600/690	250...550 Hp/200...500 kW					
	400/480	400...800 kW/650...1100 Hp	2000 (78.7)	675 (26.6)	720 (28.3)	2132 (83.9)	2292 (90.2)
	600/690	550...1000 Hp/500...900 kW					
	400/480	800...1250 kW/1100...1800 Hp	3200 (126.0)	675 (26.6)	720 (28.3)	2132 (83.9)	2292 (90.2)
	600/690	1000...1500 Hp/900...1400 kW					
	400/480	1200...1650 kW/1800...2400 Hp	3800 (149.6)	675 (26.6)	720 (28.3)	2132 (83.9)	2292 (90.2)
	600/690	1500...2000 Hp/1400...1800 kW					
	400/480	1650...2000 kW/2400...3000 Hp	4600 (181.1)	675 (26.6)	720 (28.3)	2132 (83.9)	2292 (90.2)
	600/690	2000...2500 Hp/1800...2300 kW					
	400/480*	2200 kW/3600 Hp	8000 (314.8)	675 (26.6)	721 (28.4)	2132 (83.9)	2292 (90.2)
	600/690*	3100 Hp/2750 kW					
	400/480*	2920 kW/4800 Hp	10800 (425.2)	675 (26.6)	721 (28.4)	2132 (83.9)	2292 (90.2)
	600/690*	4100 Hp/3650 kW					
	400/480*	3640 kW/6000 Hp	12400 (488.2)	675 (26.6)	721 (28.4)	2132 (83.9)	2292 (90.2)
	600/690*	5100 Hp/4550 kW					

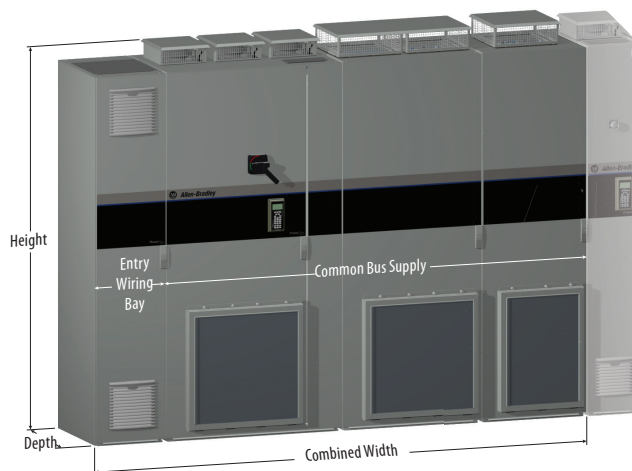
*These drives can also be configured back to back for a deeper and less wide configuration.

Every control bay has a width of 300 mm/ 11.8 in



The common bus inverter is positioned to the right of the Common Bus Supply. Select one inverter for each motor. For every inverter, a control pod is required. A control bay can hold up to two control pods.

The Common Bus Supply is positioned to the left of the Common Bus Inverter. Optional Entry and Exit Wiring Bays provide convenient cable entry/ exit through the top of the cabinet.



PowerFlex 755™ Common Bus Inverter Dimensions

Input Voltage	Normal Duty Rating	Inverter Bay Width	Inverter Depth		Inverter Height	
			IP21	IP54	IP21	IP54
400/480	160...400 kW/250...650 Hp	400 (15.7)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	250...550 Hp/200...500 kW					
400/480	400...800 kW/650...1100 Hp	600 (23.6)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	550...1000 Hp/500...900 kW					
400/480	800...1250 kW/1100...1800 Hp	800 (31.5)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	1000...1500 Hp/900...1400 kW					
400/480	1200...1650 kW/1800...2400 Hp	1200 (47.2)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	1500...2000 Hp/1400...1800 kW					
400/480	1600...2000 kW/2400...3000 Hp	1400 (55.1)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	2000...2500 Hp/1800...2300 kW					
400/480	2000...2200 kW/3000...3600 Hp	1200 (47.2)	1350 (53.2)	1440 (56.6)	2132 (83.9)	2291 (90.2)
600/690	2500...3100 Hp/2300...2750 kW					
400/480	2200...2920 kW/3600...4800 Hp	2000 (78.7)	1350 (53.2)	1440 (56.6)	2132 (83.9)	2291 (90.2)
600/690	3100...4100 Hp/2750...3650 kW					
400/480	2920...3640 kW/4800...6000 Hp	2200 (86.6)	1350 (53.2)	1440 (56.6)	2132 (83.9)	2291 (90.2)
600/690	4100...5100 Hp/3650...4550 kW					

PowerFlex 755TM Regenerative Bus Supplies Dimensions

Input Voltage	Normal Duty Rating	Bus Supply Width	Bus Supply Depth		Bus Supply Height	
			IP21	IP54	IP21	IP54
400/480	87...162 kW/90...177 kW	405 (15.9)	361* (14.2)	N/A	1657* (65.2)	N/A
600/690	69...129 kW/84...146 kW					
400/480	162...373 kW/177...429 kW	800 (31.5)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	129...353 kW/146...380 kW					
400/480	188...479 kW/216...529 kW	1000 (39.4)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	217...487 kW/221...518 kW					
400/480	479...910 kW/529...977 kW	1400 (55.1)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	487...877 kW/518...944 kW					
400/480	910...1342 kW/977...1483 kW	2400 (94.5)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	877...1279 kW/944...1456 kW					
400/480	1342...1772 kW/1483...1959 kW	2600 (102.4)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	1279...1740 kW/1456...1914 kW					
400/480	1772...2204 kW/1959...2436 kW	3200 (126)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	1740...2164 kW/1914...2379 kW					
400/480	2204...2634 kW/2436...2912 kW	5600 (220.5)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	2164...2678 kW/2379...2849 kW					
400/480	2634...3496 kW/2912...3865 kW	6800 (267.7)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	2678...3555 kW/2849...3781 kW					
400/480	3496...4358 kW/3865...4818 kW	8000 (315.0)	675 (26.6)	720 (28.3)	2132 (83.9)	2291 (90.2)
600/690	3555...4432 kW/3781...4714 kW					

* Ships from factory with IP00 configuration. Optional kit provides IP20 configuration.

Rockwell Automation Services & Support

Supplement your PowerFlex 755T drive investment with a comprehensive portfolio of services provided at the level that supports your needs:

Start-up and Commissioning

Our highly experienced field service professionals work with you to help commission and start-up your new equipment, and in turn, reduce the time between integration and actual start-up.

Our standard process validates that the necessary electrical, mechanical and environmental criteria have been met and the appropriate steps have been taken to confirm proper equipment operation.

Remote Support

TechConnectSM support provides unlimited, live access to our technical support engineers.

Parts Management Agreement (PMA)

Provides quick access to Rockwell Automation spare parts while reducing operating costs to maintain and manage inventory. We own and manage your spare parts inventory for a fixed monthly or quarterly cost.

Integrated Support

Select the right level of remote support and on-site services to support the needs of your organization. Ease staffing burdens and lower the total lifecycle cost of your assets with our annual guaranteed support agreement. Levels of support are based on a paid-for-support tiered model.

Remote Monitoring & Analytics

To help reduce your downtime, Rockwell Automation provides a flexible, Remote Monitoring & Analytics Service – using powerful visualization and dashboard tools coupled with a support center staffed by Rockwell Automation specialists who monitor your assets in real time to help keep you operating. Upon a fault or alarm, a Rockwell Automation remote support engineer contacts you to troubleshoot, resolve the issue and help get you back up and running.

For more information about how we can help you solve your unique business challenges, contact your local authorized Allen-Bradley distributor or Rockwell Automation sales office, or visit: rok.auto/services

Technical Specifications

	PowerFlex 755TL Drives	PowerFlex 755TR Drives	PowerFlex 755TM Drive Systems
			
Ratings 400V	7.5...1250 kW	7.5...3640 kW	Common Bus Inverter: 160...3640 kW Regenerative Bus Supplies: 87...4358 kW
Ratings 480V	10...1800 Hp	10...6000 Hp	Common Bus Inverter: 250...6000 Hp Regenerative Bus Supplies: 100...6000 Hp
Ratings 600V	10...1500 Hp	10...5100 Hp	Common Bus Inverter: 250...5100 Hp Regenerative Bus Supplies: 69...4432 kW
Ratings 690V	11...1400 kW	11...4550 kW	Common Bus Inverter: 200...4550 kW Regenerative Bus Supplies: 221...4714 kW
Communications	• Built-in dual EtherNet/IP ports • ControlNet • DeviceNet • PROFIBUS DP* • PROFINET*		
Safety Options	• Hardwired Safe Torque Off • Networked Safe Torque Off • Hardwired Safe Speed Monitor • Networked Integrated Safety Functions – 8 safety instructions based on IEC 61800-5-2		
Ambient Temperature Ratings	• -20 °C...40 °C • -20...55 °C with derate		
Storage Temperature	-40...70 °C (-40...158 °F)		
Relative Humidity	Operation: 0...95% non-condensing		
TotalFORCE Technology Motor Control	Flux vector, sensorless vector, V/Hz, field oriented control, Economizer and permanent magnet motor control		
Motor Control Bandwidth***	Velocity Regulator Bandwidth 300 Hz (1885 Radians per second) Position Regulator Bandwidth 207 Hz (1301 Radians per second)		
Standards and Certifications	• CE • C-Tick • EAC • ICC • RCM • RoHS • UL • UL • WEEE For a complete list of product certifications, please search for PowerFlex Certifications on the Rockwell Automation website (literature.rockwellautomation.com).		
Efficiency	97% at rated amps**		
Output Frequency Range	• 0...325 Hz @ 1.33 kHz carrier • 0...325 Hz @ 2 kHz carrier • 0...590 Hz @ 4 kHz carrier		
Torque Accuracy	2% of rated torque down to 5% of motor base speed – with optional torque accuracy module 5% of rated torque below 5% of motor base speed		
EMC Category	C3 when system is solidly grounded. C2 available as an optional kit for frame 5-10 drives.		
Altitude	1000 m without derate; up to 5000 m with derate		
Shock & Vibration	Power core, drive in cabinet with option bay – 1.000 mm (0.040 in.) displacement, 1 g peak		

* Ask your Rockwell Automation sales office about availability.

** All VFD efficiency ratings can vary and are dependent on manufacturer product rating and operational conditions.

*** -3 dB Crossing (Closed Loop) specifications



Allen-Bradley, Connected Components Workbench, Installed Base Evaluation, LISTEN, THINK, SOLVE, PowerFlex, Rockwell Automation, Rockwell Software, Studio 5000 Logix Designer, TechConnect, TorqProve and TotalFORCE are trademarks of Rockwell Automation, Inc. ControlNet, DeviceNet and EtherNet/IP are trademarks of the ODVA, Inc. PROFIBUS is a trademark of PROFIBUS & PROFINET International. Trademarks not belonging to Rockwell Automation are property of their respective companies.

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