Allen-Bradley® PowerFlex® 523 AC Drive

The Next Generation of Powerful Performance. Flexible Control.

Allen-Bradley PowerFlex 523 AC drives are ideal for standalone applications that require installation flexibility, communications and energy saving features in a cost-effective solution.

- Power ratings of 0.2...22 kW/0.25...30 Hp in global voltage classes from 100-600V to meet a wide range of applications
- The modular design eases installation and configuration
- A standard USB connection helps you upload and download configuration files quickly
- An integral RS485/DSI port supports multi-drive networking
- Communication options including a dual port EtherNet/IP card provide networking flexibility
- Connected Components Workbench™ software for drive configuration
- An integral LCD human interface module (HIM) supports multiple languages and features scrolling text to explain parameters and codes, easing configuration
- AppView™ parameter groups help speed configuration for applications like conveyors, mixers, pumps and fans
- CustomView™ configuration helps speed machine commissioning with user-defined groups of parameters
- Economizer control mode can help reduce energy costs
- Drives operate in ambient temperatures from -20 °C (-4 °F) to 50 °C (122 °F). With current derating and a control module fan kit, up to 70 °C (158 °F)
- A compact footprint helps save space inside a panel
- Flexible motor control options include volts per hertz, sensorless vector control and Economizer control mode to suit a wide range of applications

Innovative Modular Design

PowerFlex 523 AC drives are made up of two modules that can be detached for simultaneous and independent wiring installation and software configuration. This innovative design allows you to begin mounting the power modules while configuration of the control modules is performed elsewhere, helping speed up installation. The same control module accommodates the entire power range of PowerFlex 523 AC drives, offering installation flexibility and helping reduce spare part inventory.

Ease of Configuration

There are several ways to quickly and easily configure PowerFlex 523 AC drives. From the integral HIM that features QuickView™ scrolling text, to Connected Components Workbench™ software or the Studio 5000 Logix Designer™ application, these tools are designed to help you reduce development time so you can deliver machines faster and more efficiently.

Connected Components Workbench software can help minimize your machine design and development time and is ideal for standalone applications. Application-specific parameter tools such AppView and CustomView configuration can help streamline drive setup. You can also upload and download configurations over a USB connection and configure drives over EtherNet/IP, DeviceNet or other open industrial networks.

LISTEN. THINK. SOLVE.®

Specifications

Power Ratings	100 - 120V: 0.2...1.1 kW / 0.25...1.5 Hp 200 - 240V: 0.2...15 kW / 0.25...20 Hp	380 - 480V: 0.4...22 kW / 0.5...30 Hp 525 - 600V: 0.4...22 kW / 0.5...30 Hp
Motor Control	Volts per hertz Sensorless vector control	Sensorless vector control with Economizer
Application	Open loop speed regulation	
Overload Capability	Heavy duty application: 150% for 60 seconds, 180% for 3 sec (200% programmable)	
Input Specifications	1 phase voltage: 100 … 120V/200 … 240V 3 phase voltage: 200 … 240V/380 ... 480V/525 … 600V Frequency: 50 to 60 Hz 1/2 DC bus operation (selectable) Voltage: adjustable 0V to rated motor voltage; -15% / +10% voltage tolerance Logic control ride through: >0.5 seconds, 2 seconds typical Maximum short circuit rating: 100,000 amps symmetrical	
Output Voltage Range	Adjustable 0V to rated motor voltage	Intermittent current: 150% for 60 seconds
Frequency Range	Max output frequency 500 Hz	Input frequency variation 47 to 63 Hz
Ambient Operating Temperatures*	-20 °C to 50 °C (-4 °F to 122 °F) -20 °C to 60 °C (-4 °F to 140 °F) with current derating -20 °C to 70 °C (-4 °F to 158 °F) with current derating (with optional control module fan kit)	
Altitude	1000 m (3,280 ft) with derating guideline for up to max 4000 m (13,123 ft), with the exception of 600V at max 2000 m (6,561 ft)	
Enclosures	IP20 NEMA/Open	IP30 NEMA/UL Type 1 (with conduit kit)
Mounting	50 mm (1.96 in) air-flow gap at the top and bottom Zero Stacking (side-by-side mounting)	DIN rail (frames A,B and C) Horizontal mounting (with control module fan kit)
Configuration	Integral HIM, LCD, 5 digits, 16 segments, multi-language	Connected Components Workbench software Studio 5000 Logix Designer™ application
Integral Human Interface Module (HIM) Languages	English, French, Spanish, Italian, German, Portuguese, Polish, Turkish, Czech	
Control I/O	5 digital inputs (24V DC, 4 programmable) 1 analog input (unipolar voltage or current) 1 relay (form C)	
Dynamic Braking	7th IGBT braking, DC braking	
Carrier Frequency	2 to 16 kHz. 4 kHz default	
EMC Filtering	Embedded 1 ph 240V and 3 ph 480V. Available as an external option for all voltages	
Communications	Integral RS485 with Modbus RTU/DSI Dual port EtherNet/IP option card	DeviceNet option card PROFIBUS DP option card
Feedback Types	Pulse-train input (1 to 100kHz)	
Protection	Fault history log, password-lock security	
Standards	UL C-Tick RoHS ACS 156 CE cUL GOST-R KCC	
Control Features	Flying start V/F ratio Bus regulator PTC input compatible	Fiber application specific features Common DC bus 1/2 DC bus operation Mutli-drive connectivity (requires communication option card) 8 datalinks (4 in and 4 out, requires communication option card) 8 preset speeds
Accessories	NEMA/UL Type 1 kits Line reactors 70 °C (158 °F) control module fan kit (requires external power)	EMC line filters EMC plates Dynamic brake resistors
Dimensions mm (in)	Frame A: 152 (5.98) H x 72 (2.83) W x 172 (6.77) D Frame B: 180 (7.08) H x 87 (3.42) W x 172 (6.77) D Frame C: 220 (8.66) H x 109 (4.29) W x 184 (7.24) D	Frame D: 260 (10.23) H x 130 (5.11) W x 212 (8.34) D Frame E: 300 (11.81) H x 185 (7.28) W x 279 (10.98) D

* These temperatures are for typical vertical drive mounting. For other mounting options and temperatures, please refer to the user manual (520-UM001). Environmental considerations may apply.

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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

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