

PowerFlex™ 700



Optimized Flexibility.

PowerFlex 700 AC Drive

The Allen-Bradley PowerFlex 700 offers a flexible package of power, control and operator interface designed to meet the demands for space, flexibility and reliability while providing a broad spectrum of features, allowing the user to easily configure the drive for most application needs.

Flexible Installation

- Innovative bookshelf design optimizes panel space by allowing Zero Stacking™ or side-by-side mounting of the drives.
- Unique cassette feature provides flexible packaging as well as a home for the control and I/O of the drive.
- Pull-apart control terminal blocks allow for easy wiring and quick disconnect.

Flexible Drive Commissioning

- The multi-lingual LCD HIM features S.M.A.R.T. Start, a start-up utility that quickly and easily provides users with a set of the most commonly programmed parameters, permitting simple drive set-up without in-depth knowledge of the parameter structure.
- Complete, prompted start-up routines for more complex set-ups are also available for the LCD HIM.
- Optimized global voltage settings designed to worldwide standards allowing for quick set-up anywhere in the world.
- PC tools such as DriveExplorer™ assist with programming, monitoring and troubleshooting.

Flexible Application Solutions

- The PowerFlex 700 can be programmed for Volts per Hertz or Sensorless Vector control to cover a wide range of applications.
- Standard transistor and available drive-mounted (or separately mounted) braking resistor provide cost-effective dynamic brake options.
- A process PI function allows simple process control without the need for additional hardware.
- Slip compensation for speed regulation provides the flexibility needed to meet many application needs.
- The PowerFlex 700 provides I/O flexibility to cover many applications by offering a choice of 115V AC or 24V DC.



PowerFlex 700 AC Drive
0.37 to 55 kW; 0.5 to 100 hp

Flexible Packaging Options

The PowerFlex 700 Configured Drives Program simplifies installation and start-up by allowing users to order drive packages that combine operator interface, control, communications and power options in pre-configured assemblies. Offering a number of commonly requested pre-engineered options, as well as more complex custom-engineered packages, configured drives provide a wide range of motor control options.

Communications

The Allen-Bradley PowerFlex family of drives utilizes Rockwell Automation's NetLinx™ Open Network Architecture. This provides the common set of features and services for DeviceNet™, ControlNet™ and EtherNet/IP networks resulting in lower total cost of ownership. Users can easily manage information from shop floor to top floor and seamlessly integrate their complete system as they control, configure and collect data.

- PowerFlex drives offer a dedicated internal communications option helping the user to cost-effectively assemble highly integrated applications that link drives to the manufacturing process through Rockwell Automation NetLinx Open Architecture based networks including: DeviceNet, ControlNet, Universal Remote I/O, and other open communications including Profibus and Interbus-S.
- Status indicators for all internal communications options are visible on the cover for easy set-up and monitoring of drive communications.

AB PLCs



Bringing Together Leading Brands in Industrial Automation

Application Logic

- Sensorless Vector Control
- Process PI loop
- Auto-economizer
- Flying start
- DC braking
- Line loss ride through/recovery
- Integral dynamic brake
- Slip compensation
- DC Bus Regulation
- Reflected wave reduction
- S-Curve Accel & Decel

Operator Interface

- LCD HIM places drive information in a 7-line by 21-character display that supports a variety of languages

Standards

- CSA/cUL
- UL
- C-Tick
- CE
- EMC Low Voltage EN61800-3 EN60204-1 / EN50178

Input Specifications

3-Phase Voltage: 380-480V ± 10%
 Frequency: 47 to 63 Hz
 Logic Control Ride Through: 0.5 seconds

Output Specifications

Voltage: Adjustable from 0V to rated motor voltage
 Frequency Range: 0-400Hz
 Instantaneous Over Current Trip: 220-300% based on drive rating

Enclosure and Ambient Operating Temperatures

Open Type: 0° - 50° C (32° - 122° F)
 Type 1: 0° - 40° C (32° - 104° F)
 IP20: 0° - 50° C (32° - 122° F)

Dimensions mm (in) & Ratings

Output Power		200 Volt Class			Frame Size	240 Volt Class			Frame Size
		Output Current				Output Current			
kW ND (HD)	HP ND (HD)	Cont. ND (HD)	1 min. ND (HD)	3 sec. ND (HD)		Cont. ND (HD)	1 min. ND (HD)	3 sec. ND (HD)	
7.5 (5.5)	10 (7.5)	32.2 ¹	37.9 ¹	50.6 ¹	2	28.0 ¹	33.0 ¹	44.0 ¹	2
11 (7.5)	15 (10)	48.3	53.0	72.5	3	42.0	46.2	63.0	3
15 (11)	20 (15)	56.0	64.0	86.0	3	52.0	63.0	80.0	3

Output Power		400 Volt Class			Frame Size	480 Volt Class			Frame Size
		Output Current				Output Current			
kW ND (HD)	HP ND (HD)	Cont. ND (HD)	1 min. ND (HD)	3 sec. ND (HD)		Cont. ND (HD)	1 min. ND (HD)	3 sec. ND (HD)	
0.37 (0.25)	0.5 (0.33)	1.3	1.4	2.0	0	1.1	1.2	1.7	0
0.75 (0.55)	1 (0.75)	2.1	2.4	3.2	0	2.1	2.4	3.2	0
1.5 (1.1)	2 (1.5)	3.5	4.5	6.0	0	3.4	4.5	6.0	0
2.2 (1.5)	3 (2)	5.0	5.5	7.5	0	5.0	5.5	7.5	0
4 (3)	5 (3)	8.7	9.9	13.2	0	8.0	8.8	12.0	0
5.5 (4)	7.5 (5)	11.5	13.0	17.4	0	11.0	12.1	16.5	0
7.5 (5.5)	10 (7.5)	15.4	17.3	23.1	1	14.0	16.5	22.0	1
11 (7.5)	15 (10)	22.0	24.2	33.0	1	22.0	24.2	33.0	1
15 (11)	20 (15)	30.0	33.0	45.0	2	27.0	33.0	44.0	2
18.5 (15)	25 (20)	37.0	45.0	60.0	2	34.0	40.5	54.0	2
22 (18.5)	30 (25)	43.0	55.5	74.0	3	40.0	51.0	68.0	3
30 (22)	40 (30)	56.0	64.5	86.0	3	52.0	60.0	80.0	3
37 (30)	50 (40)	72.0	84.0	112	3	65.0	78.0	104	3
45 (37)	60 (50)	85.0 ¹	108 ¹	144 ¹	4	77.0 ¹	97.5 ¹	130 ¹	4
55 (45)	75 (60)	105 (85) ²	116 (128) ²	158 (170) ²	5	96 (77) ²	106 (116) ²	144 (154) ²	5
55 (45)	100 (75)	125 (96) ²	138 (144) ²	163 (168) ²	5	125 (96) ²	138 (144) ²	163 (168) ²	5

Dimensions			
Frame Size	Height mm (in.)	Width mm (in.)	Depth mm (in.)
0	336 (13.23)	110 (4.33)	200 (7.87)
1	336 (13.23)	135 (5.31)	200 (7.87)
2	343 (13.48)	222 (8.74)	200 (7.87)
3	518 (20.37)	222 (8.74)	200 (7.87)
4	(3)	222 (8.74) ¹	200 (7.87) ¹
5	644 (25.37) ⁴	309 (12.16) ⁴	275 (10.84) ⁴

Notes:

- 1) These values are preliminary, and are subject to change.
- 2) Starting with Frame 5, all drives have dual current ratings, one for normal duty operation, and one for heavy duty operation. The drive may operate with either the current ratings outside the parentheses or with the current ratings inside the parentheses.
- 3) Not available at time of publication
- 4) When using the supplied junction box (100 HP drives only), add an additional 45.1 mm (1.78 in.) to this dimension.

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DeviceNet is a trademark of the Open DeviceNet Vendor Association. ControlNet is a trademark of ControlNet International, Ltd.

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