

PowerFlex 4 AC Drive



- Volts per Hertz
- Open Loop Speed Regulation
- 0.2...1.1 kW • 0.25...1.5 Hp • 1.6...6 A
- 0.2...3.7 kW • 0.25...5 Hp • 1.4...17.5 A
- 0.37...3.7 kW • 0.5...5 Hp • 1.4...8.7 A
- N/A
- N/A
- IP20, NEMA/UL Type Open: -10 to 50 °C (14 to 122 °F)
- IP20, Zero Stacking: -10 to 40 °C (14 to 104 °F)
- IP30, NEMA/UL Type 1: -10 to 40 °C (14 to 104 °F)
- Flange = 50 °C (122 °F)
- Internal (1 phase) • External (3 phase)
- UL, CE, cUL, C-Tick
- 150% for 60 secs • 200% for 3 secs
- 0...240 Hz
- Local Keypad • Remote Keypad
- RSLogix 5000 • Studio 5000 • DriveTools SP
- Connected Components Workbench (CCW)
- Integral RS485 (Modbus RTU)
- Optional: *DeviceNet, *EtherNet/IP, *PROFIBUS DP, *ControlNet, *LonWorks, *BACnet, *Bluetooth
- *Optional network for use only with DSI External Communications Kit
- Qty. 1 (unipolar voltage)
- None
- Qty. 1 (uses an Analog Input)
- Qty. 5 (24V DC, 2 programmable)
- Qty. 1 (form C)
- None
- Internal IGBT except catalog numbers ending in "3"
- No

Found on page 25

PowerFlex 40 AC Drive



- Volts per Hertz
- Sensorless Vector Control
- Open Loop Speed Regulation
- 0.37...1.1 kW • 0.5...1.5 Hp • 2.3...6 A
- 0.37...7.5 kW • 0.5...10 Hp • 2.3...33A
- 0.37...11 kW • 0.5...15 Hp • 1.4...24 A
- 0.75...11 kW • 1...15 Hp • 1.7...19 A
- N/A
- IP20, NEMA/UL Type Open: -10 to 50 °C (14 to 122 °F)
- IP20, Zero Stacking: -10 to 40 °C (14 to 104 °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)
- Flange = 50 °C (122 °F)
- Internal (1 phase) • External (3 phase)
- UL, CE, cUL, C-Tick
- 150% for 60 secs • 200% for 3 secs
- 0...400 Hz
- Local Keypad • Remote Keypad
- RSLogix 5000 • Studio 5000 • DriveTools SP
- Connected Components Workbench (CCW)
- Integral RS485 (Modbus RTU)
- Optional: DeviceNet, EtherNet/IP, PROFIBUS DP, ControlNet, LonWorks, BACnet, Bluetooth
- Qty. 2 (1 bipolar voltage, 1 current)
- Qty. 1 (unipolar voltage or current)
- Qty. 1 (uses an Analog Input)
- Qty. 7 (24V DC, 4 programmable)
- Qty. 1 (form C)
- Qty. 2
- Internal IGBT
- No

Found on page 29

PowerFlex 40P AC Drive



- Volts per Hertz
- Sensorless Vector Control
- Closed Loop Speed Regulation
- N/A
- 0.37...7.5 kW • 0.5...10 Hp • 2.3...33 A
- 0.37...11 kW • 0.5...15 Hp • 1.4...24 A
- 0.75...11 kW • 1...15 Hp • 1.7...19 A
- N/A
- IP20, Open Type: -10 to 50 °C (14 to 122 °F)
- IP20, Zero Stacking: -10 to 40 °C (14 to 104 °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)
- External
- UL, CE, cUL, C-Tick, TUV FS ISO/EN13849-1 (EN954-1)
- 150% for 60 secs • 200% for 3 secs
- 0...500 Hz
- 4 Digit LED Display and Fault Reset
- Remote Keypad • RSLogix 5000 • Studio 5000 • DriveTools SP
- Connected Components Workbench (CCW)
- Integral RS485 (Modbus RTU)
- Optional: DeviceNet, EtherNet/IP, PROFIBUS DP, ControlNet, LonWorks, Bluetooth
- Qty. 2 (1 bipolar voltage, 1 current)
- Qty. 1 (unipolar voltage or current)
- Qty. 1 (uses an Analog Input)
- Qty. 7 (24V DC, 5 programmable)
- Qty. 1 (form C)
- Qty. 2
- Internal IGBT
- Safe Torque-Off SIL2, PLd, Cat 3

Found on page 29

PowerFlex 400 AC Drive

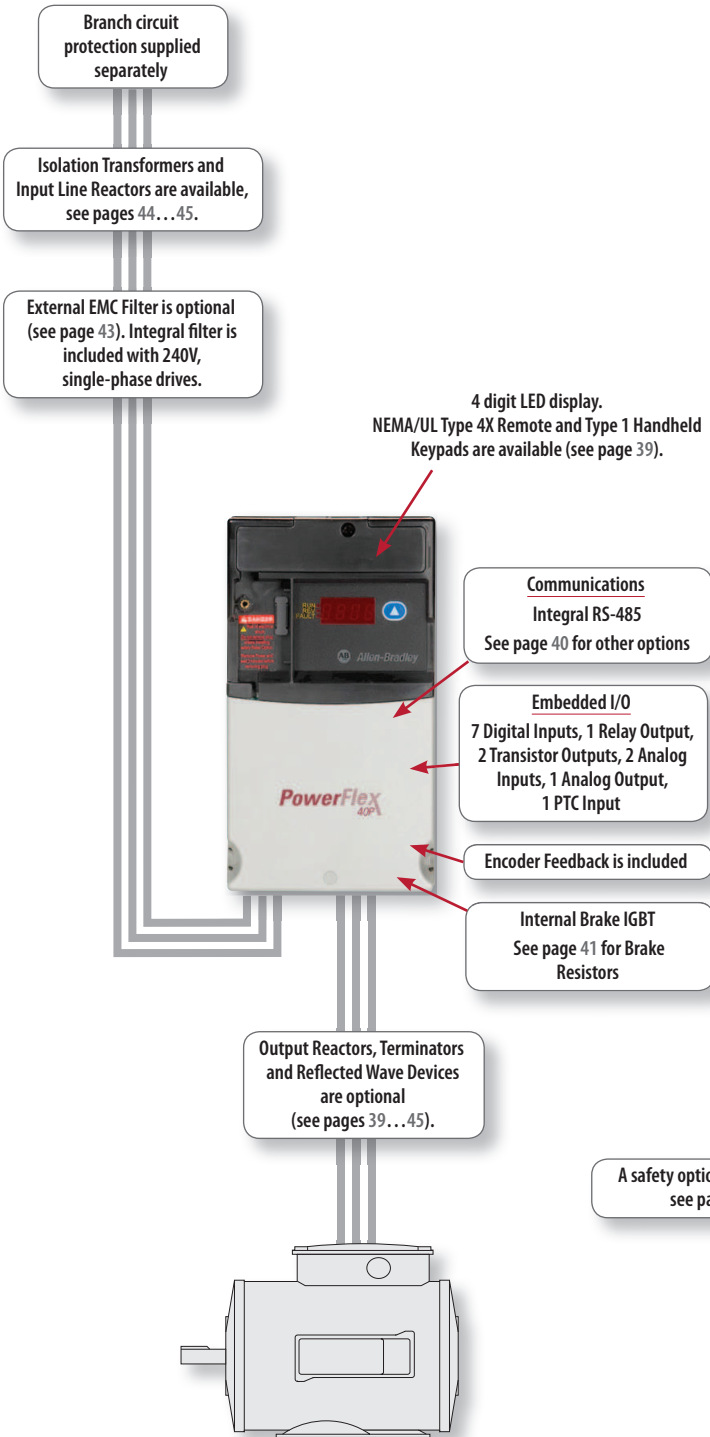


- Volts per Hertz
- Open Loop Speed Regulation
- N/A
- 2.2...37 kW • 3.0...50 Hp • 12...145 A
- 2.2...250 kW • 3.0...350 Hp • 6...460 A
- N/A
- N/A
- IP20, NEMA/UL Type Open, Frame C: -10 to 50 °C (14 to 122 °F)
- IP20, NEMA/UL Type Open, Frame D and up: -10 to 45 °C (14 to 113 °F)
- IP30, NEMA/UL Type 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
- Connected Components Workbench (CCW)
- 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

Found on page 36

PowerFlex 40P AC Drive

The PowerFlex 40P AC drive addresses user needs for closed loop control with an option for Category 3 Safe Torque-off in a compact and cost effective design. Based on the popular PowerFlex 40 this drive is designed to meet global OEM and end-user demands for flexibility, space savings and ease of use. This drive is a cost-effective alternative for speed or basic position control of applications such as diverters, smart conveyors, packaging machines, palletizers, drafting machines, ring spinning machines and synthetic fiber spinning machines and shares common options and accessories with the PowerFlex 40.



PowerFlex 40P AC Drive at a glance

Ratings

200...240V:	0.4...7.5 kW / 0.5...10 Hp / 2.3...33 A
380...480V:	0.4...11 kW / 0.5...15 Hp / 1.4...24 A
500...600V:	0.75...11 kW / 1...15 Hp / 1.7...19 A

Motor Control

- V/Hz Control
- Sensorless Vector Control

Enclosures

- IP20, NEMA/UL Type Open
- Plate Drive
Front = IP20, NEMA/UL Type Open
- Flange Mount
Front = IP20, NEMA/UL Type Open,
Back/Heatsink = IP40/54/65,
NEMA/UL Type 1/12/4/4X
- IP30, NEMA/UL Type 1 (with optional kit)

Safety

DriveGuard Safe Torque-Off / EN 954-1 Cat. 3

Additional Features

- Speed control with and without encoder feedback
- Fiber application specific features
- StepLogic allows operation as an independent position controller

Certifications

- C-Tick
- c-UL, UL
- CE (240 and 480V Ratings)
- RoHS
- TÜV FS ISO/EN13849-1 (EN954-1) with Safe Torque-Off option

Options

See pages 39...45

Additional Information

PowerFlex 40P Technical Data, publication 22D-TD001

PowerFlex 40P User Manual, publication 22D-UM001

Catalog Number Explanation



Product Selection

200...240V AC, Three-Phase Drives (50/60 Hz, No Filter)

Drive Ratings				IP20/NEMA Type Open	IP20 Plate Drive §	IP20 Flange Mount ★
kW	Hp	Output Current	Frame Size	Cat. No.	Cat. No.	Cat. No.
		A				
0.4	0.5	2.3	B	22D-B2P3N104	22D-B2P3H204	22D-B2P3F104
0.75	1	5	B	22D-B5P0N104	22D-B5P0H204	22D-B5P0F104
1.5	2	8	B	22D-B8P0N104	22D-B8P0H204	22D-B8P0F104
2.2	3	12	B	22D-B012N104	22D-B012H204	22D-B012F104
3.7	5	17.5	B	22D-B017N104	22D-B017H204	22D-B017F104
5.5	7.5	24	C	22D-B024N104	22D-B024H204	22D-B024F104
7.5	10	33	C	22D-B033N104	22D-B033H204	22D-B033F104

§ Plate Drive – Front = IP20, NEMA/UL Type Open.

★ Flange Mount – Front = IP20, NEMA/UL Type Open, Back/Heatsink = IP40/54/65, NEMA/UL Type 1/12/4/4X.

380...480V AC, Three-Phase Drives (50/60 Hz, No Filter)

Drive Ratings				IP20/NEMA Type Open	IP20 Plate Drive §	IP20 Flange Mount ★
kW	Hp	Output Current	Frame Size	Cat. No.	Cat. No.	Cat. No.
		A				
0.4	0.5	1.4	B	22D-D1P4N104	22D-D1P4H204	22D-D1P4F104
0.75	1	2.3	B	22D-D2P3N104	22D-D2P3H204	22D-D2P3F104
1.5	2	4	B	22D-D4P0N104	22D-D4P0H204	22D-D4P0F104
2.2	3	6	B	22D-D6P0N104	22D-D6P0H204	22D-D6P0F104
4	5	10.5	B	22D-D010N104	22D-D010H204	22D-D010F104
5.5	7.5	12	C	22D-D012N104	22D-D012H204	22D-D012F104
7.5	10	17	C	22D-D017N104	22D-D017H204	22D-D017F104
11	15	24	C	22D-D024N104	22D-D024H204	22D-D024F104

§ Plate Drive – Front = IP20, NEMA/UL Type Open.

★ Flange Mount – Front = IP20, NEMA/UL Type Open, Back/Heatsink = IP40/54/65, NEMA/UL Type 1/12/4/4X.

500...600V AC, Three-Phase Drives (50/60 Hz, No Filter)

Drive Ratings			IP20/NEMA Type Open	IP20 Plate Drive §	IP20 Flange Mount ★	
kW	Hp	Output Current	Frame Size	Cat. No.	Cat. No.	Cat. No.
		A				
0.75	1	1.7	B	22D-E1P7N104	22D-E1P7H204	22D-E1P7F104
1.5	2	3	B	22D-E3P0N104	22D-E3P0H204	22D-E3P0F104
2.2	3	4.2	B	22D-E4P2N104	22D-E4P2H204	22D-E4P2F104
4	5	6.6	B	22D-E6P6N104	22D-E6P6H204	22D-E6P6F104
5.5	7.5	9.9	C	22D-E9P9N104	22D-E9P9H204	22D-E9P9F104
7.5	10	12	C	22D-E012N104	22D-E012H204	22D-E012F104
11	15	19	C	22D-E019N104	22D-E019H204	22D-E019F104

§ Plate Drive – Front = IP20, NEMA/UL Type Open.

★ Flange Mount – Front = IP20, NEMA/UL Type Open, Back/Heatsink = IP40/54/65, NEMA/UL Type 1/12/4/4X.

Approximate Dimensions and Weights

Dimensions are in mm (in.) - weights are in kg (lb)

IP20, NEMA/UL Type Open

Frame	H	W	D	Weight
B	180.0 (7.09)	100.0 (3.94)	136.0 (5.35)	2.22 (4.9)
	213.0 (8.39) ★		-	
	244.0 (9.61) ‡		161.0 (6.34) ‡	
C	260.0 (10.20)	130.0 (5.10)	180.0 (7.10)	4.31 (9.5)
	320.0 (12.60) ★		-	
	320.0 (12.60) ‡		205.0 (8.07) ‡	

★ Drive with IP30, NEMA 1/UL Type 1 option kit installed.

‡ Drive with IP30, NEMA 1/UL Type 1 option kit and Communication Option (22-JBCx) installed.

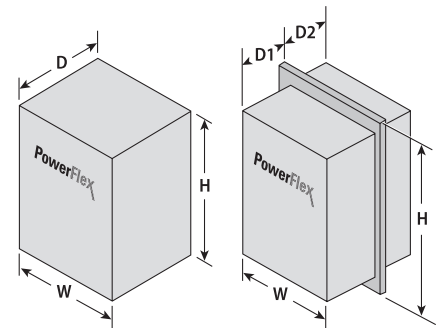


Plate Drive

Frame	H	W	D	Weight
B	125.0 (4.92)	204.0 (8.03)	97.5 (3.84)	1.68 (3.7)
C	284.0 (11.18)	155.0 (6.10)	108.0 (4.25)	2.59 (5.7)

Flange Mount

Frame	H	W	D1	D2	Weight
B	250.0 (9.84)	244.0 (9.61)	94.3 (3.71)	63.1 (2.48)	4.53 (10.0)
C	325.0 (12.80)	300.0 (11.81)	105.8 (4.17)	138.2 (5.44)	11.93 (26.3)

PowerFlex 4-Class Options

Human Interface Modules and Accessories

Description	Cat. No.	Used with PowerFlex Drive				
		4M	4	40	40P	400
Remote (Panel Mount) LCD Display, Digital Speed Control, CopyCat Capable. Includes 2.0 meter cable. IP66, NEMA Type 4X/12 - Indoor Use Only.	22-HIM-C2S ☛	✓	✓	✓	✓	✓
Remote Handheld, LCD Display, Full Numeric Keypad, Digital Speed Control, CopyCat Capable. Includes 1.0 meter cable. IP30, NEMA Type 1. Panel mount with optional Bezel Kit.	22-HIM-A3	✓	✓	✓	✓	✓
Bezel Kit. Panel Mount for LCD Display, Remote Handheld Unit. IP30, NEMA Type 1. Includes a 22-RJ45CBL-C20 cable.	22-HIM-B1	✓	✓	✓	✓	✓
DSI HIM Cable (DSI HIM to RJ45 cable)						
1.0 Meter (3.3 Feet)	22-HIM-H10	✓	✓	✓	✓	✓
2.9 Meter (9.5 Feet)	22-HIM-H30	✓	✓	✓	✓	✓

☛ The 22-HIM-C2S is smaller than the 22-HIM-C2 and cannot be used as a direct replacement.

Safety Options

Description	Cat. No.	Used with PowerFlex Drive				
		4M	4	40	40P	400
DriveGuard Safe Torque-Off	20A-DG01				✓	

Other Options

Description	Cat. No.	Used with PowerFlex Drive				
		4M	4	40	40P	400
Auxiliary Relay Board - Expands drive output capabilities - Frames D...H only.	AK-U9-RLB1					✓

Terminators

Description ★	Cat. No.	Used with PowerFlex Drive				
		4M	4	40	40P	400
for use with 3.7 kW (5 Hp) and below drives	1204-TFA1	✓	✓	✓	✓	✓
for use with 1.5 kW (2 Hp) and up drives	1204-TFB2	✓	✓	✓	✓	✓

★ For selection information, refer to Appendix A of the Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives, publication Drives-IN001.

Reflected Wave Reduction Modules

Voltage	ND kW	ND Hp	Cat. No.	Used with PowerFlex Drive				
				4M	4	40	40P	400
380... 480V AC	2.2...4	3...5	1321-RWR8-DP	✓	✓	✓	✓	✓
	4	5	1321-RWR12-DP	✓		✓	✓	✓
	5.5	7.5	1321-RWR18-DP	✓		✓	✓	✓
	7.5	10	1321-RWR25-DP	✓		✓	✓	✓
	11	15	1321-RWR25-DP	✓		✓	✓	✓
	15	20	1321-RWR35-DP					✓
	18.5	25	1321-RWR45-DP					✓
	22	30	1321-RWR55-DP					✓
	30	40	1321-RWR80-DP					✓
	37	50	1321-RWR80-DP					✓
	45	60	1321-RWR100-DP					✓
	55	75	1321-RWR130-DP					✓
500... 600V AC	75	100	1321-RWR160-DP					✓
	90	125	1321-RWR200-DP					✓
	110	150	1321-RWR250-DP					✓
	149	200	1321-RWR320-DP					✓
	187	250	1321-RWR320-DP					✓
	4	5	1321-RWR8-EP			✓	✓	
	5.5	7.5	1321-RWR12-EP			✓	✓	
	7.5	10	1321-RWR18-EP			✓	✓	
	11	15	1321-RWR25-EP			✓	✓	

Reflected Wave Reduction Module with Common Mode Choke

Description ★	Cat. No.	Used with PowerFlex Drive				
		4M	4	40	40P	400
17A with Common Mode Choke	1204-RWC-17-A	✓	✓	✓	✓	✓

★ For selection information, refer to Appendix A of the Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives, publication Drives-IN001.

Communication Option Kits

Description	Cat. No.	Used with PowerFlex Drive				
		4M	4	40	40P	400
BACnet® MS/TP RS485 Communication Adapter	22-COMM-B		✓ §	✓ Δ		✓
ControlNet™ Communication Adapter	22-COMM-C	✓ §	✓ §	✓ Δ	✓ Δ	✓
DeviceNet™ Communication Adapter	22-COMM-D	✓ §	✓ §	✓ Δ	✓ Δ	✓
EtherNet/IP™ Communication Adapter	22-COMM-E	✓ §	✓ §	✓ Δ	✓ Δ	✓
LonWorks® Communication Adapter	22-COMM-L		✓ §	✓ Δ	✓ Δ	✓
PROFIBUS™ DP Communication Adapter	22-COMM-P	✓ § ‡	✓ § ‡	✓ Δ	✓ Δ	✓
Serial Converter Module (RS485 to RS232). Provides serial communication via DF1 protocol for use with DriveExplorer and DriveExecutive™ software. Includes DSI to RS232 serial converter, 1203-SFC serial cable, 22-RJ45CBL-C20 cable, and DriveExplorer Lite CD.	22-SCM-232	✓	✓	✓	✓	✓
Serial Cable. 2.0 meter with a locking low profile connector. Connects the serial converter to a 9-pin sub-miniature D female computer connector.	1203-SFC	✓	✓	✓	✓	✓
Serial Null Modem Adapter. Use when connecting the serial converter to DriveExplorer on a handheld PC.	1203-SNM	✓	✓	✓	✓	✓
Universal Serial Bus™ (USB) Converter includes 2m USB, 20-HIM-H10 and 22-HIM-H10 Cables.	1203-USB	✓	✓	✓	✓	✓
DSI Cable. 2.0 meter RJ45 to RJ45 cable, male to male connectors.	22-RJ45CBL-C20	✓	✓	✓	✓	✓
Splitter Cable. RJ45 one to two port splitter cable.	AK-U0-RJ45-SC1	✓	✓	✓	✓	✓
Terminal Block. RJ45 two position terminal block (6 pieces) with two 120 Ohm terminating resistors (loose).	AK-U0-RJ45-TB2P	✓	✓	✓	✓	✓
Terminating Resistors. 120 Ohm resistor embedded in an RJ45 connector (2 pieces).	AK-U0-RJ45-TR1	✓	✓	✓	✓	✓
DSI External Communications Kit. External mounting kit for 22-COMM Communication Adapters.	22-XCOMM-DC-BASE	✓	✓	✓	✓	✓
External Communications Kit Power Supply Optional 100...240V AC Power Supply for External DSI Communications Kit.	20-XCOMM-AC-PS1	✓	✓	✓	✓	✓
Compact I/O Module (3 Channel)	1769-SM2	✓	✓	✓	✓	✓
Serial Flash Firmware Kit Updates drive firmware via computer.	AK-U9-FLSH1					✓
Communication Adapter Cover Houses the Communication Adapter for B and C Frame drives. Note: Cover adds 25 mm (0.98 in.) to the overall depth of the drive.						
Frame B Drive (PowerFlex 40)	22B-CCB			✓ ◆		
Frame C Drive (PowerFlex 40)	22B-CCC			✓ ◆		
Frame C Drive (PowerFlex 400)	22C-CCC					✓ ◆
Frame B Drive (PowerFlex 40P)	22D-CCB				✓ ◆	
Frame C Drive (PowerFlex 40P)	22D-CCC				✓ ◆	

- ‡ When a 22-COMM-P adapter is configured for multi-drive mode, a PowerFlex 40, 40P or 400 drive must be used as a master drive on the network.
- § PowerFlex 4 and PowerFlex 4M drives require External DSI Communication Kits. Communication Adapters cannot be drive mounted.
- Δ Requires a Communication Adapter Cover when used with Frame B and C PowerFlex 40/40P drives or Frame C PowerFlex 400 drives.
- ◆ If IP30, NEMA/UL Type 1 is required, a 22-JBCB (Frame B drives) or 22-JBCC (Frame C drives) must also be ordered.

IP30, NEMA/UL Type 1 Conversion Kit

Description	Frame	Cat. No.	Used with PowerFlex Drive				
			4M	4	40	40P	400
Converts IP20 drive to IP30, NEMA/UL Type 1 enclosure. Includes conduit box, mounting screws and plastic top panel.	A	22-JBAA		✓			
	B	22-JBAB		✓	✓	✓	
	C	22-JBAC			✓	✓	✓
Converts IP20 drive to IP30, NEMA/UL Type 1 enclosure. Includes communication option conduit box, mounting screws and plastic top panel.	B	22-JBCB			✓	✓	
	C	22-JBCC			✓	✓	✓

Dynamic Brake Resistors

Drive Rating			Minimum Resistance	Resistance [▲]	Cat. No. [▽]	Used with PowerFlex Drive				
Voltage	kW	Hp	Ohms ±10%	Ohms ±5%		4M	4	40	40P	400
100...120V, 50/60 Hz, Single-Phase	0.2	0.25	48	91	AK-R2-091P500		✓			
	0.4	0.5	48	91	AK-R2-091P500		✓	✓		
	0.75	1	48	91	AK-R2-091P500		✓	✓		
	1.1	1.5	48	91	AK-R2-091P500			✓		
200...240V, 50/60 Hz, Single-Phase	0.2	0.25	48	91	AK-R2-091P500		✓			
	0.4	0.5	48	91	AK-R2-091P500		✓	✓		
	0.75	1	48	91	AK-R2-091P500		✓	✓		
	1.5	2	48	91	AK-R2-091P500		✓	✓		
	2.2	3	32	47	AK-R2-047P500			✓		
200...240V, 50/60 Hz, Three-Phase	0.2	0.25	48	91	AK-R2-091P500		✓			
	0.4	0.5	48	91	AK-R2-091P500		✓	✓	✓	
	0.75	1	48	91	AK-R2-091P500		✓	✓	✓	
	1.5	2	48	91	AK-R2-091P500		✓	✓	✓	
	2.2	3	32	47	AK-R2-047P500		✓	✓	✓	
	3.7	5	19	47	AK-R2-047P500		✓	✓	✓	
	5.5	7.5	13	30	AK-R2-030P1K2	✓		✓	✓	
7.5	10	10	30	AK-R2-030P1K2	✓		✓	✓		
380...480V, 50/60 Hz, Three-Phase	0.4	0.5	97	360	AK-R2-360P500		✓	✓	✓	
	0.75	1	97	360	AK-R2-360P500		✓	✓	✓	
	1.5	2	97	360	AK-R2-360P500		✓	✓	✓	
	2.2	3	97	120	AK-R2-120P1K2		✓	✓	✓	
	4.0	5	77	120	AK-R2-120P1K2		✓	✓	✓	
	5.5	7.5	55	120	AK-R2-120P1K2	✓		✓	✓	
	7.5	10	39	120	AK-R2-120P1K2	✓		✓	✓	
	11	15	24	120	AK-R2-120P1K2 &	✓		✓	✓	
500...600V, 50/60 Hz, Three-Phase	0.75	1	120	360	AK-R2-360P500			✓	✓	
	1.5	2	120	360	AK-R2-360P500			✓	✓	
	2.2	3	82	120	AK-R2-120P1K2			✓	✓	
	4.0	5	82	120	AK-R2-120P1K2			✓	✓	
	5.5	7.5	51	120	AK-R2-120P1K2			✓	✓	
	7.5	10	51	120	AK-R2-120P1K2			✓	✓	
	11	15	51	120	AK-R2-120P1K2 &			✓	✓	

▲ Verify resistor Ohms against minimum resistance for drive being used.

▽ Resistors listed are rated 5% duty cycle.

& Requires two resistors wired in parallel.

Spare Parts

Description		Cat. No.	Used with PowerFlex Drive				
			4M	4	40	40P	400
Fan Replacement Kits	Fan Replacement Kit - Frame A	SK-U1-FAN1-A1		✓			
	Fan Replacement Kit - Frame B, 1 Fan	SK-U1-FAN1-B1		✓	✓	✓	
	Fan Replacement Kit - Frame B, 2 Fans	SK-U1-FAN2-B1		✓	✓	✓	
	Fan Replacement Kit - Frame A	SK-U1-FFAN1-A1	✓				
	Fan Replacement Kit - Frame B	SK-U1-FFAN1-B1	✓				
	Fan Replacement Kit - Frame C	SK-U1-FFAN1-C1	✓				
	Fan Replacement Kit - Frame C, 1 Fan	SK-U1-FAN1-C1			✓	✓	✓★
	Fan Replacement Kit - Frame C, 1 Fan, 15 Hp	SK-U1-FAN1-C2			✓	✓	✓‡
	Fan Replacement Kit, NEMA 4X	SK-U1-FAN1-B4			✓		
	Fan Replacement Kit - Frame D, 2 Fans, B049... B090 & D038... D060 Ratings	SK-U1-FAN2-D1					✓
	Fan Replacement Kit - Frame E, 2 Fans, B120... B145 & D072... D142 Ratings	SK-U1-FAN2-E2					✓
	Fan Replacement Kit - Frame F, 2 Fans, IGBT, D170 & D208 Ratings	SK-U1-FAN2-F1					✓
	Fan Replacement Kit - Frame F, 1 Fan, Rectifier, D170 & D208 Ratings	SK-U1-FAN1-F2					✓
	Fan Replacement Kit - Frame F, 1 Fan, Choke, D170 & D208 Ratings	SK-U1-FAN1-F3					✓
	Fan Replacement Kit - Frame G, 1 Fan (Side), D260 & D310 Ratings	SK-U1-FAN1-G1					✓
	Fan Replacement Kit - Frame G, 4 Fans (Bottom), D260 & D310 Ratings	SK-U1-FAN4-G3					✓
	Fan Replacement Kit - Frame H, 1 Fan (Upper Side), D370 & D460 Ratings	SK-U1-FAN1-H1					✓
	Fan Replacement Kit - Frame H, 1 Fan (Middle Side), D370 & D460 Ratings	SK-U1-FAN1-H2					✓
	Fan Replacement Kit - Frame H, 4 Fans (Bottom), D370 & D460 Ratings	SK-U1-FAN4-H3					✓
Covers	Encoder Terminal Cover (All Frames)	SK-U1-DCVR4-EN				✓	
	Frame A Cover with Power Terminal Guard	SK-U1-ACVR1-A1		✓			
	Frame B Cover with Power Terminal Guard	SK-U1-ACVR1-B1		✓			
	Frame A Cover	SK-U1-FCVR-A1	✓				
	Frame B Cover	SK-U1-FCVR-B1	✓				
	Frame C Cover	SK-U1-FCVR-C1	✓				
	Frame B Cover with Power Terminal Guard	SK-U1-BCVR1-B1			✓		
	Frame C Cover with Power Terminal Guard	SK-U1-BCVR1-C1			✓		
	Frame B Cover, NEMA 4X	SK-U1-BCVR1-B4			✓		
	Frame B Cover with Power Terminal Guard	SK-U1-DCVR3-B1				✓	
	Frame C Cover with Power Terminal Guard	SK-U1-DCVR3-C1				✓	
	Frame C Cover with Power Terminal Guard	SK-U1-CCVR1-C1					✓
	Frame D Cover	SK-U1-CCVR1-D1					✓
	Frame E Cover	SK-U1-CCVR1-E1					✓
	Frame F Cover	SK-U1-CCVR1-F1					✓
	Frame G Cover	SK-U1-CCVR1-G1					✓
	Frame H Cover	SK-U1-CCVR1-H1					✓
	NEMA 4X Replacement Conduit Plugs	SK-U1-PLUGS-B4			✓		

★ 3...10 Hp at 200...240V AC and 3...10 Hp at 380...480V AC.

‡ 15...20 Hp at 380...480V AC.

EMC Filters (Required to Meet CE Certification)

Drive Ratings			PowerFlex 4M		PowerFlex 4		PowerFlex 40/40P		PowerFlex 400
Input Voltage	kW	Hp	S Type Filter	L Type Filter	S Type Filter	L Type Filter	S Type Filter	L Type Filter	IPO0 (NEMA/UL Type Open)
			Cat. No. ★	Cat. No. §	Cat. No. ★	Cat. No. §	Cat. No. ★	Cat. No. §	Cat. No. ★
100...120V, 50/60 Hz, Single-Phase	0.2	0.25	–	22F-RF010-AL	–	22-RF010-AL	–	–	–
	0.4	0.5	–	22F-RF010-AL	–	22-RF010-AL	–	22-RF018-BL Δ	–
	0.75	1	–	22F-RF025-BL	–	22-RF018-BL	–	22-RF018-BL Δ	–
	1.1	1.5	–	22F-RF025-BL	–	22-RF025-CL ♣	–	22-RF018-BL Δ	–
200...240V, 50/60 Hz, Single-Phase	0.2	0.25	‡	22F-RF010-AL	‡	22-RF010-AL	–	–	–
	0.4	0.5	‡	22F-RF010-AL	‡	22-RF010-AL	‡	22-RF018-BL Δ	–
	0.75	1	‡	22F-RF010-AL	‡	22-RF010-AL	‡	22-RF018-BL Δ	–
	1.5	2	‡	22F-RF025-BL	‡	22-RF018-BL	‡	22-RF018-BL Δ	–
200...240V, 50/60 Hz, Single-Phase, NO BRAKE	0.2	0.25	–	–	‡	22-RF010-AL	–	–	–
	0.4	0.5	–	–	‡	22-RF010-AL	–	–	–
	0.75	1	–	–	‡	22-RF010-AL	–	–	–
	1.5	2	–	–	‡	22-RF018-BL	–	–	–
200...240V, 50/60 Hz, Three-Phase	0.2	0.25	22F-RF9P5-AS	22F-RF9P5-AL	22-RF9P5-AS	22-RF9P5-AL	–	–	–
	0.4	0.5	22F-RF9P5-AS	22F-RF9P5-AL	22-RF9P5-AS	22-RF9P5-AL	22-RF021-BS ◆	22-RF021-BL	–
	0.75	1	22F-RF9P5-AS	22F-RF9P5-AL	22-RF9P5-AS	22-RF9P5-AL	22-RF021-BS ◆	22-RF021-BL	–
	1.5	2	22F-RF9P5-AS	22F-RF9P5-AL	22-RF9P5-AS	22-RF9P5-AL	22-RF021-BS ◆	22-RF021-BL	–
	2.2	3	22F-RF021-BS	22F-RF021-BL	22-RF021-BS	22-RF021-BL	22-RF021-BS ◆	22-RF021-BL	22-RF034-CS
	3.7	5	22F-RF021-BS	22F-RF021-BL	22-RF021-BS	22-RF021-BL	22-RF021-BS ◆	22-RF021-BL	22-RF034-CS
	5.5	7.5	22F-RF039-CS	22F-RF039-CL	–	–	22-RF034-CS	22-RF034-CL	22-RF034-CS
	7.5	10	22F-RF039-CS	22F-RF039-CL	–	–	22-RF034-CS	22-RF034-CL	22-RF034-CS
	11	15	–	–	–	–	–	–	22-RFD070
	15	20	–	–	–	–	–	–	22-RFD100
	18.5	25	–	–	–	–	–	–	22-RFD100
	22	30	–	–	–	–	–	–	22-RFD150
	30	40	–	–	–	–	–	–	22-RFD150
	37	50	–	–	–	–	–	–	22-RFD180
380...480V, 50/60 Hz, Three-Phase	0.4	0.5	22F-RF6P0-AS	22F-RF6P0-AL	22-RF5P7-AS	22-RF5P7-AL	22-RF012-BS	22-RF012-BL	–
	0.75	1	22F-RF6P0-AS	22F-RF6P0-AL	22-RF5P7-AS	22-RF5P7-AL	22-RF012-BS	22-RF012-BL	–
	1.5	2	22F-RF6P0-AS	22F-RF6P0-AL	22-RF5P7-AS	22-RF5P7-AL	22-RF012-BS	22-RF012-BL	–
	2.2	3	22F-RF012-BS	22F-RF012-BL	22-RF012-BS	22-RF012-BL	22-RF012-BS	22-RF012-BL	22-RF018-CS
	3.7	5	22F-RF012-BS	22F-RF012-BL	22-RF012-BS	22-RF012-BL	22-RF012-BS	22-RF012-BL	22-RF018-CS
	5.5	7.5	22F-RF026-CS	22F-RF026-CL	–	–	22-RF018-CS	22-RF018-CL	22-RF018-CS
	7.5	10	22F-RF026-CS	22F-RF026-CL	–	–	22-RF018-CS	22-RF018-CL	22-RF018-CS
	11	15	22F-RF026-CS	22F-RF026-CL	–	–	22-RF026-CS	22-RF026-CL	22-RF026-CS
	15	20	–	–	–	–	–	–	22-RFD036
	18.5	25	–	–	–	–	–	–	22-RFD050
	22	30	–	–	–	–	–	–	22-RFD050
	30	40	–	–	–	–	–	–	22-RFD070
	37	50	–	–	–	–	–	–	22-RFD100
	45	60	–	–	–	–	–	–	22-RFD100
	55	75	–	–	–	–	–	–	22-RFD150
	75	100	–	–	–	–	–	–	22-RFD180
	90	125	–	–	–	–	–	–	22-RFD208
	110	150	–	–	–	–	–	–	22-RFD208
	132	200	–	–	–	–	–	–	22-RFD323
160	250	–	–	–	–	–	–	22-RFD480	
200	300	–	–	–	–	–	–	22-RFD480	
250	350	–	–	–	–	–	–	22-RFD480	

EMC Filters (continued)

Drive Ratings			PowerFlex 4M		PowerFlex 4		PowerFlex 40/40P		PowerFlex 400
Input Voltage	kW	Hp	S Type Filter	L Type Filter	S Type Filter	L Type Filter	S Type Filter	L Type Filter	IPOO (NEMA/UL Type Open)
			Cat. No. ★	Cat. No. §	Cat. No. ★	Cat. No. §	Cat. No. ★	Cat. No. §	Cat. No. ★
500...600V, 50/60 Hz, Three-Phase	0.75	1	–	–	–	–	–	22-RF8P0-BL	–
	1.5	2	–	–	–	–	–	22-RF8P0-BL	–
	2.2	3	–	–	–	–	–	22-RF8P0-BL	–
	4.0	5	–	–	–	–	–	22-RF8P0-BL	–
	5.5	7.5	–	–	–	–	–	22-RF015-CL	–
	7.5	10	–	–	–	–	–	22-RF015-CL	–
	11	15	–	–	–	–	–	22-RF024-CL	–

- ★ This filter is suitable for use with a cable length of up to 10 meters for Class A and 1 meter for Class B environments.
- ‡ Drives are available in these ratings with internal “S Type” filters.
- § This filter is suitable for use with a cable length of up to 100 meters for Class A and 5 meters for Class B environments.
- ♣ The piggyback mounting option cannot be used with Frame B PowerFlex 4 drives and Frame C EMC Line Filters.
- △ PowerFlex 40 Only.
- ◆ Filter must be Series B or later.

DC Series Bus Inductors

Voltage	Drive Rating			Inductance	Cat. No.	Used with PowerFlex Drive				
	kW	Hp	Amps	mH		4M	4	40	40P	400
200...240V, 50/60 Hz, Three-Phase	2.2	3	12	1.00	1321-DC12-1					✓
	3.7	5	17.5	0.65	1321-DC18-1					✓
	5.5	7.5	32	0.85	1321-DC32-1			✓		✓
	7.5	10	40	0.75	1321-DC40-2			✓		✓
400...480V, 50/60 Hz, Three-Phase	2.2	3	6	2	1321-DC9-2					✓
	4.0	5	10.5	2.1	1321-DC12-2					✓
	5.5	7.5	18	3.75	1321-DC18-4			✓		✓
	7.5	10	25	1.28	1321-DC25-4			✓		✓
	11	15	32	2.68	1321-DC32-3			✓		✓
	15	20	30	2.5	1321-DC40-4					✓
500...600V, 50/60 Hz, Three-Phase	5.5	7.5	12	2.1	1321-DC12-2_600			✓		
	7.5	10	18	3.75	1321-DC18-4			✓		
	11	15	25	1.28	1321-DC25-4			✓		

Isolation Transformers for PowerFlex 400 - IP32, NEMA/UL Type 3R Standalone, 4...6% Nominal Impedance

Rating		Wiring Diagram (see page 126)	208V Primary	230V Primary	460V Primary		575V Primary	
			208V, 60 Hz, Three-Phase Secondary	230V, 60 Hz, Three-Phase Secondary	230V, 60 Hz, Three-Phase Secondary	460V, 60 Hz, Three-Phase Secondary	230V, 60 Hz, Three-Phase Secondary	460V, 60 Hz, Three-Phase Secondary
			Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
2.2	3.0	1	1321-3TW005-XX	1321-3TW005-AA	1321-3TW005-BA	1321-3TW005-BB	1321-3TW005-CA	1321-3TW005-CB
22	30	2	–	1321-3TW040-AA	1321-3TW040-BA	1321-3TW040-BB	1321-3TW040-CA	1321-3TW040-CB
30	40	2	–	1321-3TW051-AA	1321-3TW051-BA	1321-3TW051-BB	1321-3TW051-CA	1321-3TW051-CB
37	50	2	–	1321-3TH063-AA	1321-3TH063-BA	1321-3TH063-BB	–	–
45	60	2	–	–	–	1321-3TH075-BB	–	–
55	75	2	–	–	–	1321-3TH093-BB	–	–
75	100	2	–	–	–	1321-3TH118-BB	–	–
90	125	2	–	–	–	1321-3TH145-BB	–	–
110	150	2	–	–	–	1321-3TH175-BB	–	–
132	200	2	–	–	–	1321-3TH220-BB	–	–
160	250	2	–	–	–	1321-3TH275-BB	–	–
200	300	2	–	–	–	1321-3TH330-BB	–	–
250	350	2	–	–	–	1321-3TH440-BB	–	–

Line Reactors - 3% Impedance

Voltage	Drive Ratings			IP00 ★ (NEMA/UL Open Type)	IP11 ★ (NEMA/UL Type 1)	Used with PowerFlex Drive				
	kW	Hp	Amps	Cat. No.	Cat. No.	4M	4	40	40P	400
200...240V, 60 Hz, Three-Phase	0.2	0.25	2.0	1321-3R2-A	—	✓	✓			
	0.4	0.5	4.0	1321-3R4-B	—	✓	✓	✓	✓	
	0.75	1	8.0	1321-3R8-B	—	✓	✓	✓	✓	
	1.5	2	8.0	1321-3R8-A	—	✓	✓	✓	✓	
	2.2	3	12	1321-3R12-A	1321-3RA12-A	✓	✓	✓	✓	✓
	3.7	5	17.5	1321-3R18-A	1321-3RA18-A	✓	✓	✓	✓	✓
	5.5	7.5	24	1321-3R25-A	1321-3RA25-A	✓		✓	✓	✓
	7.5	10	33	1321-3R35-A	1321-3RA35-A	✓		✓	✓	✓
	11	15	49	1321-3R45-A	1321-3RA45-A					✓
	15	20	65	1321-3R55-A	1321-3RA55-A					✓
	18.5	25	75	1321-3R80-A	1321-3RA80-A					✓
	22	30	90	1321-3R80-A	1321-3RA80-A					✓
	30	40	120	1321-3R100-A	1321-3RA100-A					✓
37	50	145	1321-3R130-A	1321-3RA130-A					✓	
380...480V, 60 Hz, Three-Phase	0.4	0.5	2.0	1321-3R2-B	—	✓	✓	✓	✓	
	0.75	1	4.0	1321-3R4-C	—	✓	✓	✓	✓	
	1.5	2	4.0	1321-3R4-B	—	✓	✓	✓	✓	
	2.2	3	6.0	1321-3R8-C	1321-3RA8-C	✓	✓	✓	✓	✓
	4.0	5	10.5	1321-3R8-B	1321-3RA8-B	✓	✓	✓	✓	✓
	5.5	7.5	12	1321-3R12-B	1321-3RA12-B	✓		✓	✓	✓
	7.5	10	17	1321-3R18-B	1321-3RA18-B	✓		✓	✓	✓
	11	15	22	1321-3R25-B	1321-3RA25-B	✓		✓	✓	✓
	15	20	30	1321-3R35-B	1321-3RA35-B					✓
	18.5	25	38	1321-3R35-B	1321-3RA35-B					✓
	22	30	45.5	1321-3R45-B	1321-3RA45-B					✓
	30	40	60	1321-3R55-B	1321-3RA55-B					✓
	37	50	72	1321-3R80-B	1321-3RA80-B					✓
	45	60	88	1321-3R80-B	1321-3RA80-B					✓
	55	75	105	1321-3R100-B	1321-3RA100-B					✓
	75	100	142	1321-3R130-B	1321-3RA130-B					✓
	90	125	170	1321-3R160-B	1321-3RA160-B					✓
110	150	208	1321-3R200-B	1321-3RA200-B					✓	
500...600V, 60 Hz, Three-Phase	0.75	1	2.0	1321-3R2-B	—			✓	✓	
	1.5	2	4.0	1321-3R4-C	—			✓	✓	
	2.2	3	4.0	1321-3R4-B	—			✓	✓	
	4.0	5	8.0	1321-3R8-C	—			✓	✓	
	5.5	7.5	12	1321-3R12-B	—			✓	✓	
	7.5	10	12	1321-3R12-B	—			✓	✓	
	11	15	18	1321-3R18-B	—			✓	✓	

★ Catalog numbers listed are for 3% impedance. 5% impedance reactor types are also available. Refer to 1321 Power Conditioning Products Technical Data, publication 1321-TD001.