

# 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 (9.51 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) & below drives	1204-TFA1	✓	✓	✓	✓	✓
for use with 1.5 kW (2 Hp) & up drives	1204-TFB2	✓	✓	✓	✓	✓

\* Refer to Appendix A of publication Drives-IN001 for selection information.

## Reflected Wave Reduction Modules w/Common Mode Choke

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

\* Refer to Appendix A of publication Drives-IN001 for selection information.

## 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					✓
	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					✓	
500... 600V AC	4	5	1321-RWR8-EP			✓	✓	
	5.5	7.5	1321-RWR12-EP			✓	✓	
	7.5	10	1321-RWR18-EP			✓	✓	
	11	15	1321-RWR25-EP			✓	✓	

## 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 & 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 & 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 & 4M drives require External DSI Communication Kits. Communication Adapters cannot be drive mounted.

Δ Requires a Communication Adapter Cover when used with Frame B & 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	✓		✓	✓	
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			✓		
	<b>Fan Replacement Kit - Frame D, 2 Fans, B049...B090 &amp; D038...D060 Ratings</b>	SK-U1-FAN2-D1					✓
	<b>Fan Replacement Kit - Frame E, 2 Fans, B120...B145 &amp; D072...D142 Ratings</b>	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 (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	IP00 (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.

Δ PowerFlex 40 Only.

♦ Filter must be Series B or later.

## DC Series Bus Inductors

Drive Rating				Inductance mH	Cat. No.	Used with PowerFlex Drive				
Voltage	kW	Hp	Amps			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

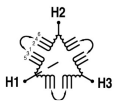


Diagram 1

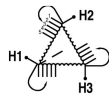


Diagram 2

Rating		Wiring Diagram	208V Primary	230V Primary	460V Primary		575V Primary	
kW	Hp		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**

Drive Ratings				IP00 ★ (NEMA/UL Open Type)	IP11 ★ (NEMA/UL Type 1)	Used with PowerFlex Drive				
Voltage	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 publication 1321-TD001....