



PowerFlex 4M AC Drive

Providing users with powerful motor speed control in a compact, space saving design, the PowerFlex 4M AC drive is the smallest and most cost effective member of the PowerFlex family of drives.

Providing application flexibility, feed-through wiring and ease-of-programming this drive is ideal for machine level speed control, for applications requiring space savings and easy-to-use AC drives.

| | |
|------------------------|---|
| Ratings | 100...120V: 0.2...1.1 kW / 0.25...1.5 Hp / 1.6...6 A |
| | 200...240V: 0.2...7.5 kW / 0.25...10 Hp / 1.6...33 A |
| | 380...480V: 0.4...11 kW / 0.5...15 Hp / 1.5...24 A |
| Motor Control | V/Hz control |
| Communications | Integral RS 485 |
| User Interface | Integral programming keypad and local LED |
| Enclosures | IP20 |
| Certifications | <ul style="list-style-type: none"> • UL • CE • cUL • C-Tick |
| Options | See pages 24... 31 |
| Additional Information | PowerFlex 4M Technical Data, publication 22F-TD001 PowerFlex 4M User Manual, publication 22F-UM001 |

100...120V AC, Single-Phase Drives (50/60 Hz, No Brake)

| Drive Ratings | | | | IP20, NEMA/UL Open Type | w/Integral "S Type" EMC Filter |
|---------------|------|----------------|------------|-------------------------|--------------------------------|
| kW | Hp | Output Current | Frame Size | Cat. No. | Cat. No. |
| | | A | | | |
| 0.2 | 0.25 | 1.6 | A | 22F-V1P6N103 | - |
| 0.4 | 0.5 | 2.5 | A | 22F-V2P5N103 | - |
| 0.75 | 1 | 4.5 | B | 22F-V4P5N103 | - |
| 1.1 | 1.5 | 6 | B | 22F-V6P0N103 | - |

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

| Drive Ratings | | | | IP20, NEMA/UL Open Type | w/Integral "S Type" EMC Filter [⊗] |
|---------------|------|----------------|------------|-------------------------|---|
| kW | Hp | Output Current | Frame Size | Cat. No. | Cat. No. |
| | | A | | | |
| 0.2 | 0.25 | 1.6 | A | 22F-A1P6N103 | 22F-A1P6N113 |
| 0.4 | 0.5 | 2.5 | A | 22F-A2P5N103 | 22F-A2P5N113 |
| 0.75 | 1 | 4.2 | A | 22F-A4P2N103 | 22F-A4P2N113 |
| 1.5 | 2 | 8 | B | 22F-A8P0N103 | 22F-A8P0N113 |
| 2.2 | 3 | 11 | B | 22F-A011N103 | 22F-A011N113 |

[⊗] This filter is suitable for use with a cable length of up to 5 meters for class A environments and up to 1 meter for class B environments.

200...240V AC, Three-Phase Drives (50/60 Hz)

| Drive Ratings | | | | IP20, NEMA/UL Open Type | w/Integral "S Type" EMC Filter |
|---------------|------|----------------|------------|-------------------------|--------------------------------|
| kW | Hp | Output Current | Frame Size | Cat. No. | Cat. No. |
| | | A | | | |
| 0.2 | 0.25 | 1.6 | A | 22F-B1P6N103 | - |
| 0.4 | 0.5 | 2.5 | A | 22F-B2P5N103 | - |
| 0.75 | 1 | 4.2 | A | 22F-B4P2N103 | - |
| 1.5 | 2 | 8 | A | 22F-B8P0N103 | - |
| 2.2 | 3 | 12 | B | 22F-B012N103 | - |
| 3.7 | 5 | 17.5 | B | 22F-B017N103 | - |
| w/Brake | | | | | |
| 5.5 | 7.5 | 25 | C | 22F-B025N104 | - |
| 7.5 | 10 | 33 | C | 22F-B033N104 | - |

380...480V AC, Three-Phase Drives (50/60 Hz)

| Drive Ratings | | | | IP20, NEMA/UL Open Type | w/Integral "S Type" EMC Filter |
|---------------|-----|----------------|------------|-------------------------|--------------------------------|
| kW | Hp | Output Current | Frame Size | Cat. No. | Cat. No. |
| | | A | | | |
| 0.4 | 0.5 | 1.5 | A | 22F-D1P5N103 | 22F-D1P5N113 |
| 0.75 | 1 | 2.5 | A | 22F-D2P5N103 | 22F-D2P5N113 |
| 1.5 | 2 | 4.2 | A | 22F-D4P2N103 | 22F-D4P2N113 |
| 2.2 | 3 | 6 | B | 22F-D6P0N103 | 22F-D6P0N113 |
| 3.7 | 5 | 8.7 | B | 22F-D8P7N103 | 22F-D8P7N113 |
| w/Brake | | | | | |
| 5.5 | 7.5 | 13 | C | 22F-D013N104 | 22F-D013N114 |
| 7.5 | 10 | 18 | C | 22F-D018N104 | 22F-D018N114 |
| 11 | 15 | 24 | C | 22F-D024N104 | 22F-D024N114 |

* This filter is suitable for use with a cable length of up to 10 meters for Class A environments.

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. IP66 (NEMA/UL Type 4X/12) Indoor Use Only. Includes 2.0 meter cable. | 22-HIM-C2S § | ✓ | ✓ | ✓ | ✓ | ✓ |
| Remote Handheld, LCD Display, Full Numeric Keypad, Digital Speed Control, CopyCat Capable. IP30 (NEMA/UL Type 1). Includes 1.0 meter cable. Panel mount with optional Bezel Kit. | 22-HIM-A3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Remote Handheld, Wireless Interface Module with Bluetooth* Technology. IP30 (NEMA/UL Type 1). Panel Mount with optional Bezel Kit. | 22-WIM-N1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Remote (Panel Mount), Wireless Interface Module with Bluetooth Technology. IP66 (NEMA/UL Type 4X/12) Indoor Use Only. | 22-WIM-N4S | ✓ | ✓ | ✓ | ✓ | ✓ |
| Bezel Kit. Panel Mount for LCD Display, Remote Handheld Unit. IP30 (NEMA/UL 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) DSI HIM Cable (DSI HIM to RJ45 cable) | 22-HIM-H10 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 2.9 Meter (9.51 Feet) DSI HIM Cable (DSI HIM to RJ45 cable) | 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 | | ✓ ‡ | ✓ ♣ | | ✓ |
| ControlNet™ Communication Adapter | 22-COMM-C | ✓ ‡ | ✓ ‡ | ✓ ♣ | ✓ ♣ | ✓ |
| DeviceNet™ Communication Adapter | 22-COMM-D | ✓ ‡ | ✓ ‡ | ✓ ♣ | ✓ ♣ | ✓ |
| EtherNet/IP™ Communication Adapter | 22-COMM-E | ✓ ‡ | ✓ ‡ | ✓ ♣ | ✓ ♣ | ✓ |
| LonWorks® Communication Adapter | 22-COMM-L | | ✓ ‡ | ✓ ♣ | ✓ ♣ | ✓ |
| PROFIBUS™ DP Communication Adapter | 22-COMM-P | ✓ ‡ | ✓ ‡ | ✓ ♣ | ✓ ♣ | ✓ |
| 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 | 22B-CCB | | | ✓ > | | |
| Frame C Drive | 22B-CCC | | | ✓ > | | |
| Frame C Drive | 22C-CCC | | | | | ✓ > |
| Frame B Drive | 22D-CCB | | | | ✓ > | |
| Frame C Drive | 22D-CCC | | | | ✓ > | |

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

♣ 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 Brakes Resistors

| Voltage | Drive Rating | | Minimum Resistance | Resistance ⌘ | Cat. No. † | Used with PowerFlex Drive | | | | |
|------------------------------------|--------------|------|--------------------|--------------|-----------------|---------------------------|---|----|-----|-----|
| | 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 | | ✓ | ✓ | | |
| 200...240V, 50/60 Hz, Three-Phase | 2.2 | 3 | 32 | 47 | AK-R2-047P500 | | | ✓ | | |
| | 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 | | ✓ | ✓ | ✓ | |
| 380...480V, 50/60 Hz, Three-Phase | 5.5 | 7.5 | 13 | 30 | AK-R2-030P1K2 | ✓ | | ✓ | ✓ | |
| | 7.5 | 10 | 10 | 30 | AK-R2-030P1K2 | ✓ | | ✓ | ✓ | |
| | 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 | | ✓ | ✓ | ✓ | |
| 500...600V, 50/60 Hz, Three-Phase | 5.5 | 7.5 | 55 | 120 | AK-R2-120P1K2 | ✓ | | ✓ | ✓ | |
| | 7.5 | 10 | 39 | 120 | AK-R2-120P1K2 | ✓ | | ✓ | ✓ | |
| | 11 | 15 | 24 | 120 | AK-R2-120P1K2 ❖ | ✓ | | ✓ | ✓ | |
| | 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 | | | ✓ | ✓ | |
| 500...600V, 50/60 Hz, Three-Phase | 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, 2 Fans (Top), D260 & D310 Ratings | SK-U1-FAN1-G2 | | | | | ✓ |
| | 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-FCVR1-A1 | ✓ | | | | |
| | Frame B Cover | SK-U1-FCVR1-B1 | ✓ | | | | |
| | Frame C Cover | SK-U1-FCVR1-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 @ 200...240V AC and 3...10 HP @ 380...480V AC

⊛ 15...20 HP @ 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 | IP00 (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 ♣ | - |
| | 0.75 | 1 | - | 22F-RF025-BL | - | 22-RF018-BL | - | 22-RF018-BL ♣ | - |
| | 1.1 | 1.5 | - | 22F-RF025-BL | - | 22-RF025-CL § | - | 22-RF018-BL ♣ | - |
| 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 ♣ | - |
| | 0.75 | 1 | ⊗ | 22F-RF010-AL | ⊗ | 22-RF010-AL | ⊗ | 22-RF018-BL ♣ | - |
| | 1.5 | 2 | ⊗ | 22F-RF025-BL | ⊗ | 22-RF018-BL | ⊗ | 22-RF018-BL ♣ | - |
| 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 | 2.2 | 3 | - | - | ⊗ | 22-RF025-CL § | - | - | - |
| | 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 | |

Continued on next page

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.

♣ PowerFlex 40 Only.

➤ Filter must be Series B or later.

DC Series Bus Inductors

| Voltage | Drive Rating | | | Inductance mH | Cat. No. | Used with PowerFlex Drive | | | | |
|---|--------------|-----|------|------------------|-----------------|---------------------------|---|----|-----|-----|
| | 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 | | | ✓ | | ✓ |
| 500...600V, 50/60 Hz, Three-Phase | 15 | 20 | 30 | 2.5 | 1321-DC40-4 | | | | | ✓ |
| | 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

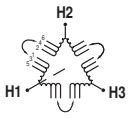


Diagram 1

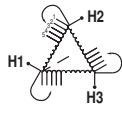


Diagram 2

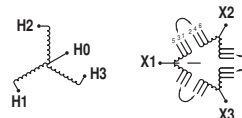


Diagram 3
230V Primary, 460V Secondary Only

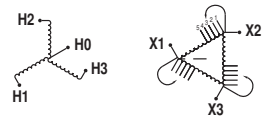


Diagram 4
230V Primary, 460V Secondary Only

| Rating | | Wiring Diagram | 208V, 60 Hz, Three-Phase Secondary | 230V, 60 Hz, Three-Phase Secondary | | | | 460V, 60 Hz, Three-Phase Secondary | | |
|--------|-----|----------------|------------------------------------|------------------------------------|----------------|----------------|----------------|------------------------------------|----------------|--|
| | | | 208V Primary | 230V Primary | 460V Primary | 575V Primary | 230V Primary | 460V Primary | 575V Primary | |
| kW | Hp | | Cat. No. | Cat. No. | Cat. No. | Cat. No. | Cat. No. | Cat. No. | Cat. No. | |
| 2.2 | 3.0 | 1/3 | 1321-3TW005-XX | 1321-3TW005-AA | 1321-3TW005-BA | 1321-3TW005-CA | 1321-3TW005-AB | 1321-3TW005-BB | 1321-3TW005-CB | |
| 4.0 | 5.0 | 1/3 | 1321-3TW007-XX | 1321-3TW007-AA | 1321-3TW007-BA | 1321-3TW007-CA | 1321-3TW007-AB | 1321-3TW007-BB | 1321-3TW007-CB | |
| 5.5 | 7.5 | 1/3 | 1321-3TW011-XX | 1321-3TW011-AA | 1321-3TW011-BA | 1321-3TW011-CA | 1321-3TW011-AB | 1321-3TW011-BB | 1321-3TW011-CB | |
| 7.5 | 10 | 1/3 | 1321-3TW014-XX | 1321-3TW014-AA | 1321-3TW014-BA | 1321-3TW014-CA | 1321-3TW014-AB | 1321-3TW014-BB | 1321-3TW014-CB | |
| 11 | 15 | 2/4 | 1321-3TW020-XX | 1321-3TW020-AA | 1321-3TW020-BA | 1321-3TW020-CA | 1321-3TW020-AB | 1321-3TW020-BB | 1321-3TW020-CB | |
| 15 | 20 | 2/4 | 1321-3TW027-XX | 1321-3TW027-AA | 1321-3TW027-BA | 1321-3TW027-CA | 1321-3TW027-AB | 1321-3TW027-BB | 1321-3TW027-CB | |
| 18.5 | 25 | 2/4 | 1321-3TW034-XX | 1321-3TW034-AA | 1321-3TW034-BA | 1321-3TW034-CA | 1321-3TW034-AB | 1321-3TW034-BB | 1321-3TW034-CB | |
| 22 | 30 | 2/4 | - | 1321-3TW040-AA | 1321-3TW040-BA | 1321-3TW040-CA | 1321-3TW040-AB | 1321-3TW040-BB | 1321-3TW040-CB | |
| 30 | 40 | 2/4 | - | 1321-3TW051-AA | 1321-3TW051-BA | 1321-3TW051-CA | 1321-3TW051-AB | 1321-3TW051-BB | 1321-3TW051-CB | |
| 37 | 50 | 2/4 | - | 1321-3TH063-AA | 1321-3TH063-BA | - | 1321-3TH063-AB | 1321-3TH063-BB | - | |
| 45 | 60 | 2/4 | - | - | - | - | 1321-3TH075-AB | 1321-3TH075-BB | - | |
| 55 | 75 | 2/4 | - | - | - | - | 1321-3TH093-AB | 1321-3TH093-BB | - | |
| 75 | 100 | 2/4 | - | - | - | - | 1321-3TH118-AB | 1321-3TH118-BB | - | |
| 90 | 125 | 2/4 | - | - | - | - | 1321-3TH145-AB | 1321-3TH145-BB | - | |
| 110 | 150 | 2/4 | - | - | - | - | 1321-3TH175-AB | 1321-3TH175-BB | - | |
| 132 | 200 | 2/4 | - | - | - | - | 1321-3TH220-AB | 1321-3TH220-BB | - | |
| 160 | 250 | 2/4 | - | - | - | - | 1321-3TH275-AB | 1321-3TH275-BB | - | |
| 200 | 300 | 2/4 | - | - | - | - | 1321-3TH330-AB | 1321-3TH330-BB | - | |
| 250 | 350 | 2/4 | - | - | - | - | 1321-3TH440-AB | 1321-3TH440-BB | - | |

Input & Output Line Reactors - 3% Impedance

| Voltage | Drive Ratings | | | IP00 * | IP11 * | Used with PowerFlex Drive | | | | |
|--------------------------------------|---------------|------|--------------|---------------------------------|------------------------------|---------------------------|---|----|-----|-----|
| | kW | Hp | Amps | (NEMA/UL Open Type) Cat. No. | (NEMA/UL Type 1) 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....