

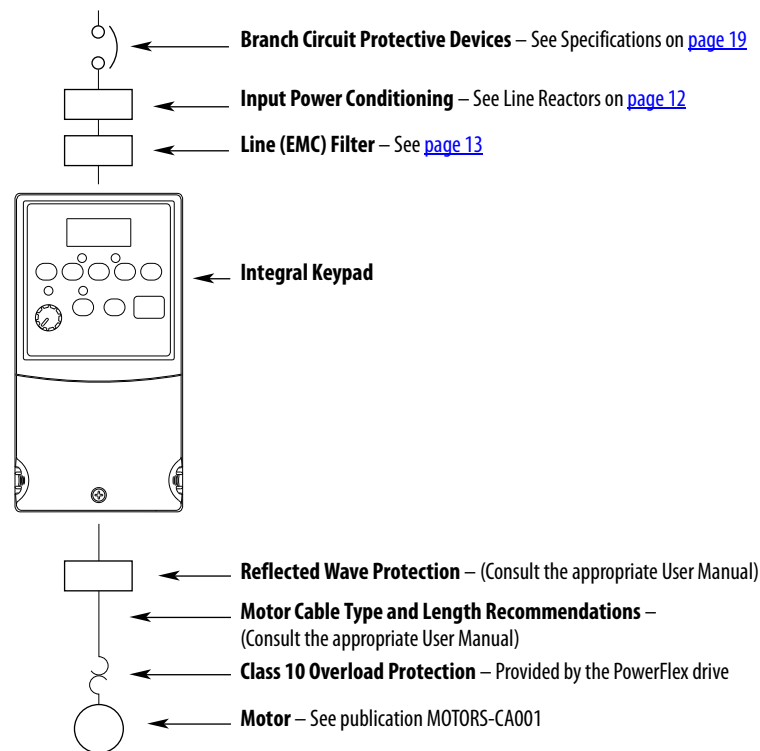
Installation Considerations

PowerFlex 4 and 40 drives have the following built in protective features to help simplify installation.

- Ground fault protection while starting and running ensures reliable operation
- Electronic motor overload protection increases motor life
- Removable MOV to ground ensures compatibility with ungrounded systems
- 6kV transient protection provides increased robustness for 380...480V system voltages

There are many other factors that must be considered for optimal performance in any given application. The block diagram below highlights the primary installation considerations. Consult the PowerFlex 4 or PowerFlex 40 User Manual, Publications 22A-UM001 or 22B-UM001 available online at www.rockwellautomation.com/literature, for detailed recommendations on input power conditioning, CE conformance (EMC filtering), dynamic braking, reflected wave protection, motor cable types and motor cable distances.

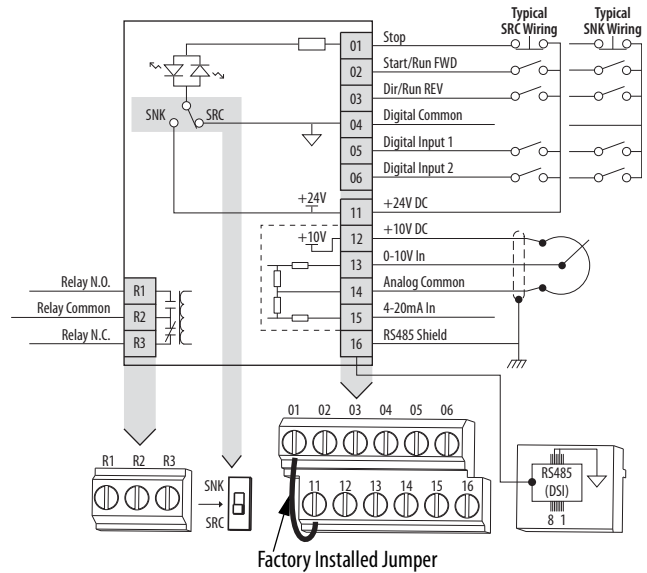
Block Diagram



Control Wiring

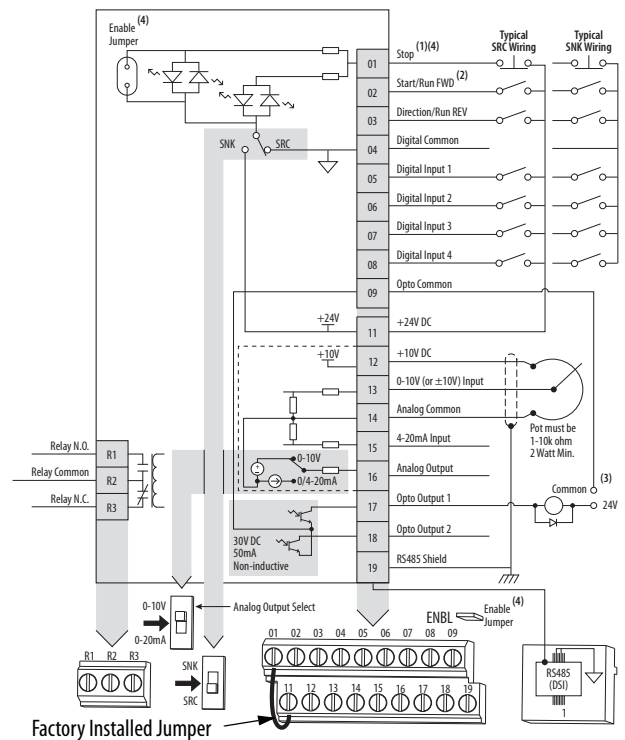
PowerFlex 4

- The control logic is 24V DC and can be set for either Sink or Source control via a DIP switch setting.
- Control terminal screws are sized for a conventional blade screw driver.
- I/O Terminals 1, 2 and 3 are dedicated for Stop, Start and Reverse operation respectively. These I/O Terminals can be programmed for 2- or 3-Wire operation to meet application requirements.
- I/O Terminals 4 and 5 are programmable and provide added flexibility. Programmable functions include:
 - Local Control
 - Preset Frequencies
 - Jog
 - RS485 Control
 - Second Accel/Decel
 - Auxiliary Fault
 - Clear Fault
- Speed can be controlled via a 0...10V input or 4...20 mA input. Both are electrically isolated from the drive.
- One form C relay can be programmed to provide the status of a wide variety of drive conditions.
- The drive is shipped with a jumper installed between I/O Terminals 01 and 11 to allow out of box operation from the keypad.



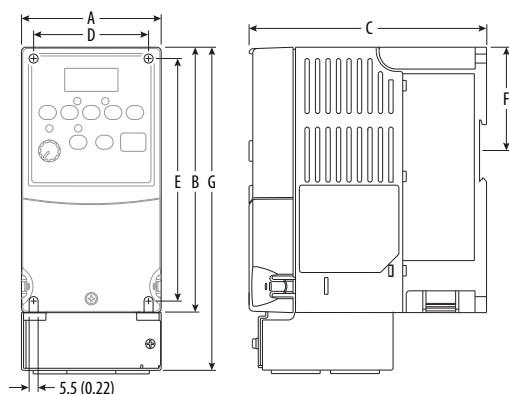
PowerFlex 40

- The control logic is 24V DC and can be set for either Sink or Source control via a DIP switch setting.
- Control terminal screws are sized for a conventional blade screw driver.
- I/O Terminals 1, 2 and 3 are dedicated for Stop, Start and Reverse operation respectively. These I/O Terminals can be programmed for 2- or 3-Wire operation to meet application requirements.
- I/O Terminals 5, 6, 7 and 8 are programmable and provide added flexibility. Programmable functions include Local Control, Jog, Second Accel/Decel, Clear Fault, Preset Frequencies, RS485 Control and Auxiliary Fault.
- Speed can be controlled via a 0...10V input and/or 4...20 mA input. Both inputs are independently isolated from the rest of the drive and can be used for applications such as PID. Voltage input can be programmed for bipolar operation.
- The drive is shipped with a jumper installed between I/O Terminals 01 and 11 to allow out of box operation from the keypad.



Product Dimensions

Approximate Dimensions



Dimensions are in millimeters and (inches). Weights are in kilograms and (pounds).

Frame	A	B ⁽¹⁾	C	D	E	F	G ⁽²⁾	Shipping Weight
A	80 (3.15)	152 (5.98)	136 (5.35)	67 (2.64)	140 (5.51)	59.3 (2.33)	185 (7.28)	1.4 (3.1)
B	100 (3.94)	180 (7.09)	136 (5.35)	87 (3.43)	168 (6.61)	87.4 (3.44)	213 (8.39)	2.2 (4.9)
C	130 (5.1)	260 (10.2)	180 (7.1)	116 (4.57)	246 (9.7)	—	320 (12.6)	4.3 (9.5)

(1) Overall height of standard IP 20/Open Type Drive.

(2) Overall height of drive with IP 30/NEMA 1/UL Type 1 option kit installed.

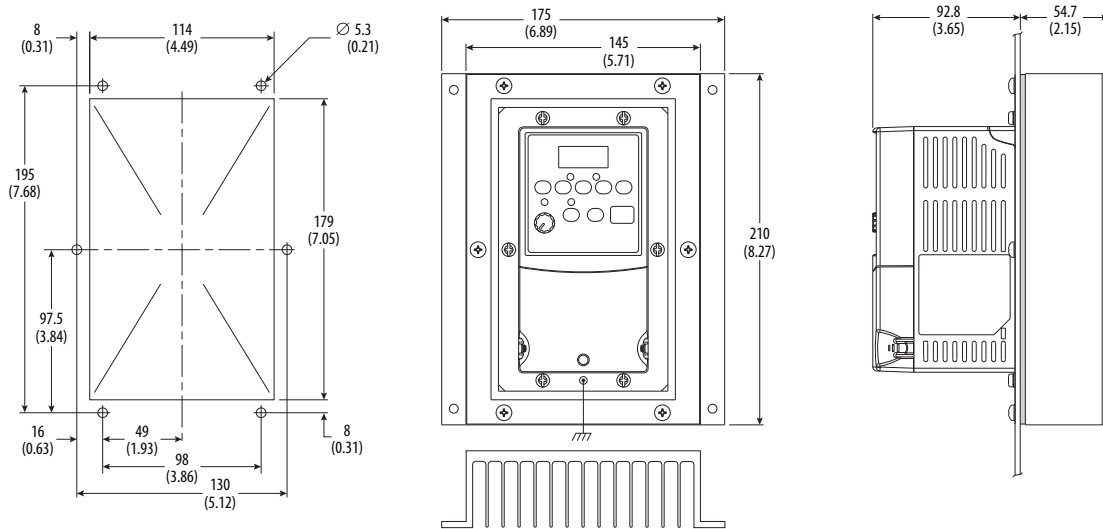
Ratings are in kW and (HP).

PowerFlex 4 — Frame	120V AC – 1-Phase	240V AC – 1-Phase	240V AC – 3-Phase	480V AC – 3-Phase
A	0.2 (0.25) 0.4 (0.5)	0.2 (0.25) 0.4 (0.5) 0.75 (1.0)	0.2 (0.25) 0.4 (0.5) 0.75 (1.0) 1.5 (2.0)	0.4 (0.5) 0.75 (1.0) 1.5 (2.0)
B	0.75 (1.0) 1.1 (1.5)	1.5 (2.0)	2.2 (3.0) 3.7 (5.0)	2.2 (3.0) 3.7 (5.0)

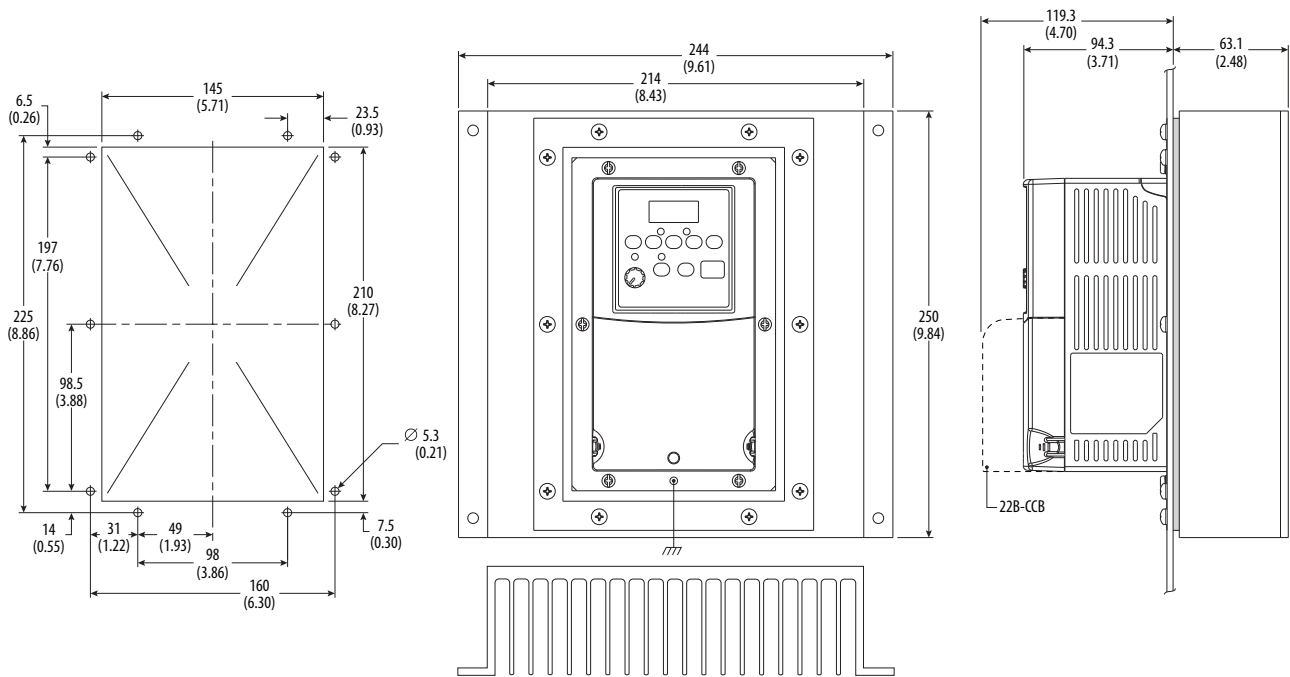
PowerFlex 40 — Frame	120V AC – 1-Phase	240V AC – 1-Phase	240V AC – 3-Phase	480V AC – 3-Phase	600V AC – 3-Phase
B	0.4 (0.5) 0.75 (1.0) 1.1 (1.5)	0.4 (0.5) 0.75 (1.0) 1.5 (2.0)	0.4 (0.5) 0.75 (1.0) 1.5 (2.0) 2.2 (3.0) 3.7 (5.0)	0.4 (0.5) 0.75 (1.0) 1.5 (2.0) 2.2 (3.0) 4.0 (5.0)	0.75 (1.0) 1.5 (2.0) 2.2 (3.0) 4.0 (5.0)
C		2.2 (3.0)	5.5 (7.5) 7.5 (10.0)	5.5 (7.5) 7.5 (10.0) 11.0 (15.0)	5.5 (7.5) 7.5 (10.0) 11.0 (15.0)

Shaded areas are applicable to PowerFlex 40 only.

Flange Mount Drive

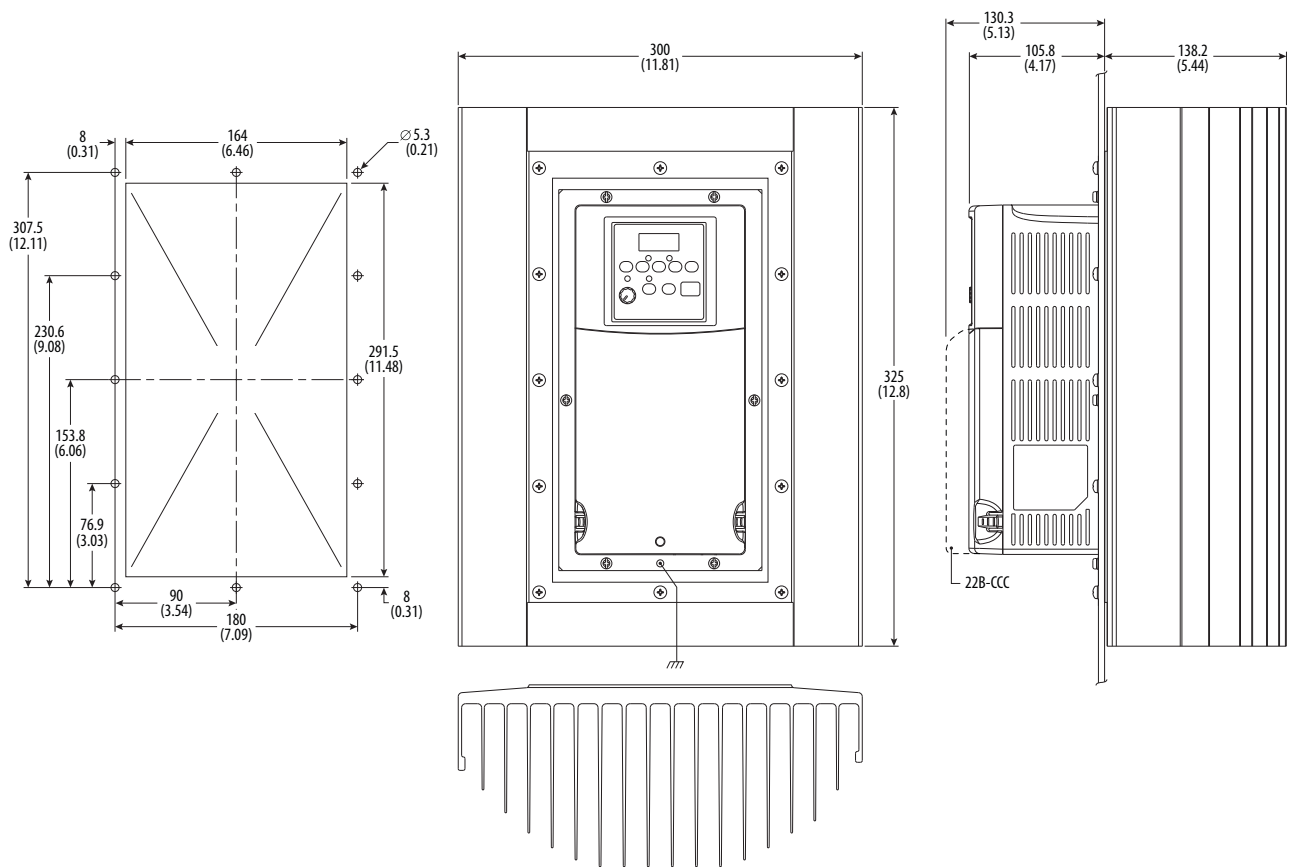


Frame A — PowerFlex 4 only



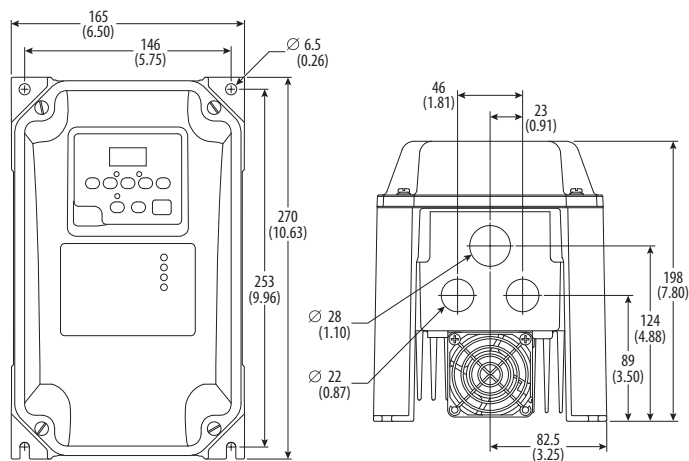
Frame B — PowerFlex 4 and PowerFlex 40

Flange Mount Drive *Continued*



Frame C—PowerFlex 40 only

IP 66, NEMA/UL Type 4X/12

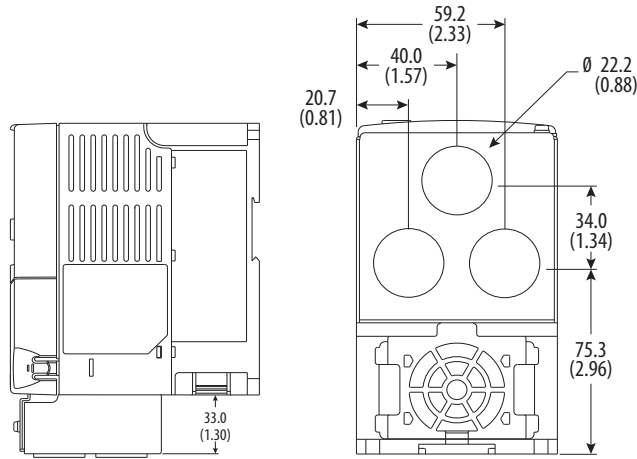


Frame B—PowerFlex 40 only

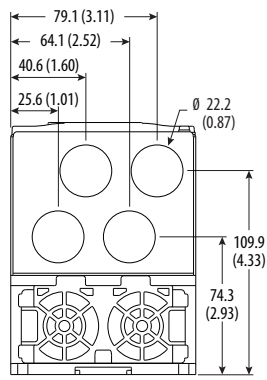
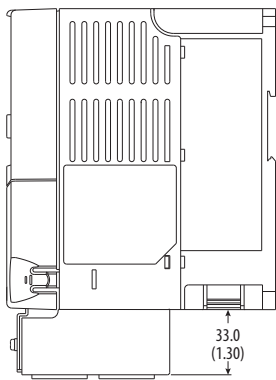
Shaded areas are applicable to PowerFlex 40 only.

IP 30, NEMA/UL Type 1 Option Kit without Communication Options

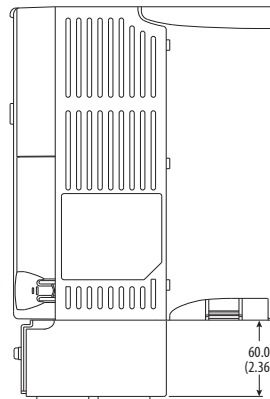
PowerFlex 4 uses Frames A and B. PowerFlex 40 uses Frames B and C.



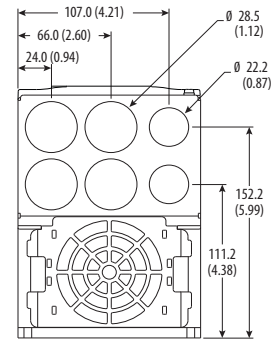
Frame A — 22-JBAA



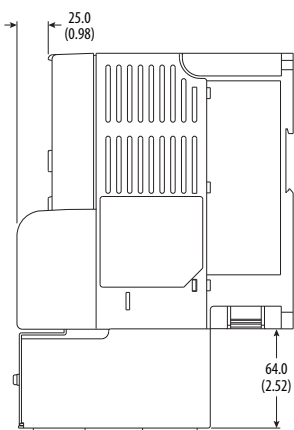
Frame B — 22-JBAB



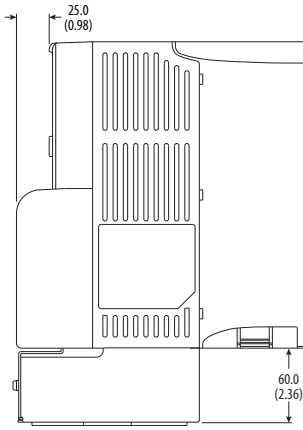
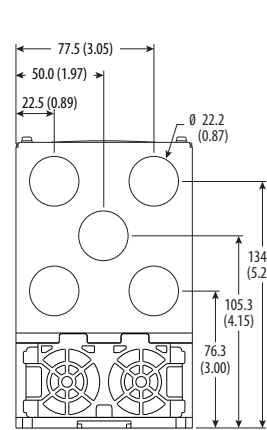
Frame C — 22-JBAC



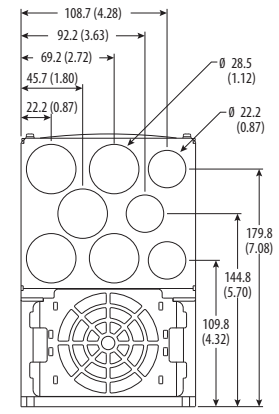
PowerFlex 40 IP 30/NEMA 1/UL Type 1 Option Kit with Communication Option



Frame B — 22-JBCB



Frame C — 22-JBCC



Shaded areas are applicable to PowerFlex 40 only.