

Product Information

Original Instructions

PowerFlex 40P Adjustable Frequency AC Drive

Catalog Number 22D

ATTENTION:

- Before installing, configuring, operating, or maintaining this product, read this document and the documents that are listed in the Additional Resources section for installing, configuring, or operating equipment. Users should familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.
- Installation, adjustments, putting into service, use, assembly, disassembly, and maintenance shall be carried out by suitably trained personnel in accordance with applicable code of practice.
- If this equipment is used in a manner that is not specified by the manufacturer, the protection that is provided by the equipment may be impaired.
- Solid-state equipment has operational characteristics that differ from those of electromechanical equipment. Safety Guidelines for the Application, Installation, and Maintenance of Solid-state Control, publication SGI-1.1, available from your local Rockwell Automation sales office or online at rok.auto/literature describes some important differences between solid-state equipment and hard-wired electromechanical devices.

ATTENTION: Do not install, configure, operate or maintain this product until you have read the product documentation and the documents in the Additional Resources section for installing, configuring, operating or maintaining equipment. To get the product documentation go to rok.auto/literature or contact your local sales office or Rockwell Automation representative.

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ACHTUNG: Für die Installation, Konfiguration, den Betrieb und die Wartung dieses Produkt lesen Sie sich bitte zunächst die Produktdokumentation sowie die Dokumente im Abschnitt "Weitere Informationen" durch. Die entsprechende Produktdokumentation finden Sie unter rok.auto/literature oder kontaktieren Sie Ihr lokales Vertriebsbüro bzw. einen Rockwell Automation-Mitarbeiter.

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Summary of Changes

This publication contains new or updated information. Changes throughout this revision are marked by change bars, as shown to the left of this paragraph.

Mounting Considerations

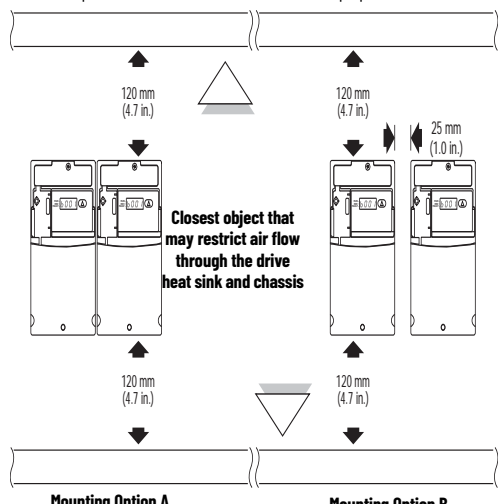
- Mount the drive upright on a flat, vertical, and level surface.

Frame	Screw Size	Screw Torque	DIN Rail
B	M4 (#8...32)	1.56...1.96 N-m (14...17 lb-in)	35 mm
C	M5 (#10...24)	2.45...2.94 N-m (22...26 lb-in)	—

- Protect the cooling fan by avoiding dust or metallic particles.
- Do not expose to a corrosive atmosphere.
- Protect from moisture and direct sunlight.

Minimum Mounting Clearances

Vertical mounting is shown. If mounting horizontally, apply the same clearances plus 50 mm (2.0 in.) clearance from the top and bottom of the enclosure to allow for proper airflow.



Ambient Operating Temperatures

Ambient Temperature		Enclosure Rating	Minimum Mounting Clearances
Minimum	Maximum		
-10 °C (14 °F)	40 °C (104 °F)	IP20/Open Type	Use Mounting Option A
		IP30/NEMA 1/UL Type 1 ⁽¹⁾	Use Mounting Option B
	50 °C (122 °F)	IP20/Open Type	

(1) Rating requires installation of the PowerFlex® 40P IP30/NEMA 1/UL Type 1 option kit.

Drive Dimensions

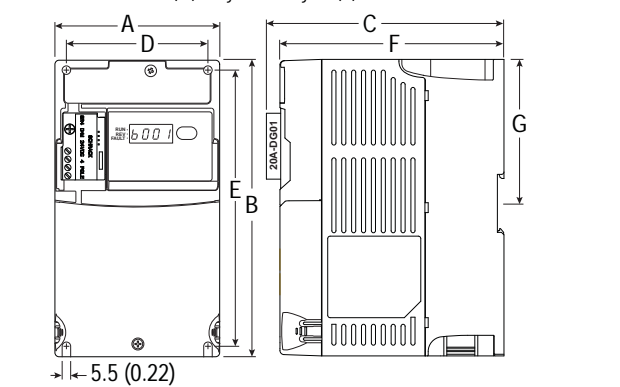
PowerFlex 40P Frames

Ratings are in kW and (HP).

Frame	3-Phase 240V AC		3-Phase 480V AC		3-Phase 600V AC	
B	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	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)

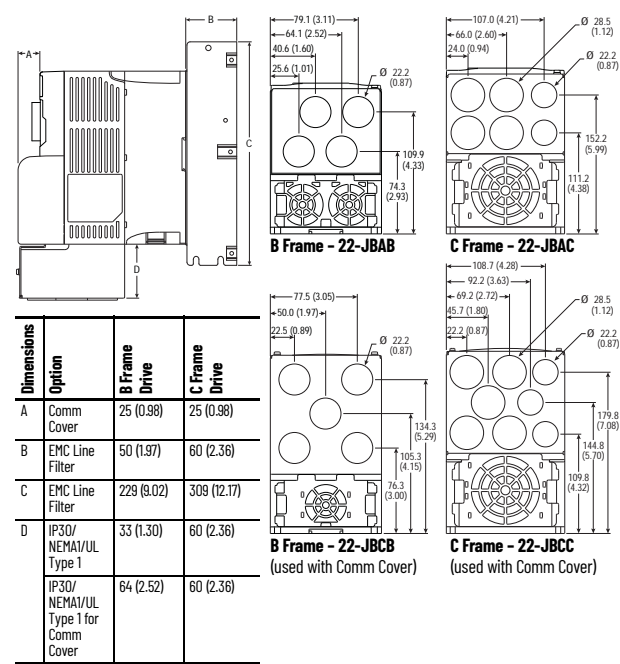
PowerFlex 40P AC Drive

Dimensions are in mm and (in.). Weights are in kg and (lb).



Frame	A	B	C	D	E	F	G	Ship Weight
B	100 (3.94)	180 (7.09)	148 (5.83)	87 (3.43)	168 (6.61)	136 (5.35)	87.4 (3.44)	2.2 (4.9)
C	130 (5.1)	260 (10.2)	192 (7.56)	116 (4.57)	246 (9.7)	180 (7.1)	—	4.3 (9.5)

Communication, RFI Filter, IP30/NEMA 1/UL Type 1 Option Kits



Fuses and Circuit Breakers

See the PowerFlex 40P Adjustable Frequency AC Drive User Manual for fuses and circuit breakers for non-UL applications.

Fuses and Circuit Breakers - UL 61800-5-1 Applications

Catalog No. ⁽¹⁾	Output Ratings		Input Ratings		Branch Circuit Protection		Power Dissipation			
	kW	HP	Voltage Range	Amps	Fuses	140M/HT Motor Protectors (2) (3) (4)				
200...240V AC (±10%) - 3-Phase Input, 0...230V 3-Phase Output										
22D-B2P3	0.4	0.5	2.3	180...264	1.15	2.5	6	140M-C2E-B40 140MT-C3E-B40	1655	40
22D-B5P0	0.75	1.0	5.0	180...264	2.45	5.7	10	140M-C2E-C10 140MT-C3E-C10	1655	60
22D-B8P0	1.5	2.0	8.0	180...264	4.0	9.5	15	140M-C2E-C16 140MT-C3E-C16	1655	85
22D-B012	2.2	3.0	12.0	180...264	5.5	15.5	25	140M-C2E-C16 140MT-C3E-C16	1655	125
22D-B017	3.7	5.0	17.5	180...264	8.6	21.0	30	140M-F8E-C25	1655	180
22D-B024	5.5	7.5	24.0	180...264	11.8	26.1	40	140M-F8E-C32	2069	235
22D-B033	7.5	10.0	33.0	180...264	16.3	34.6	60	140M-F8E-C45	2069	305
380...480V AC (±10%) - 3-Phase Input, 0...460V 3-Phase Output										
22D-D1P4	0.4	0.5	1.4	342...528	1.4	1.8	3	140M-C2E-B25 140MT-C3E-B25	1655	35
22D-D2P3	0.75	1.0	2.3	342...528	2.3	3.2	6	140M-C2E-B40 140MT-C3E-B40	1655	50
22D-D4P0	1.5	2.0	4.0	342...528	4.0	5.7	10	140M-C2E-B63 140MT-C3E-B63	1655	70
22D-D6P0	2.2	3.0	6.0	342...528	5.9	7.5	15	140M-C2E-C10 140MT-C3E-C10	1655	100
22D-D010	4.0	5.0	10.5	342...528	10.3	13.0	20	140M-C2E-C16 140MT-C3E-C16	1655	160
22D-D012	5.5	7.5	12.0	342...528	11.8	14.2	25	140M-D8E-C20 140MT-D9E-C20	2069	175
22D-D017	7.5	10.0	17.0	342...528	16.8	18.4	30	140M-D8E-C20 140MT-D9E-C20	2069	210
22D-D024	11.0	15.0	24.0	342...528	23.4	26.0	50	140M-F8E-C32	2069	300
460...600V AC (±10%) - 3-Phase Input, 0...575V 3-Phase Output										
22D-E1P7	0.75	1.0	1.7	414...660	2.1	2.3	6	140M-C2E-B25 140MT-C3E-B25	1655	50
22D-E3P0	1.5	2.0	3.0	414...660	3.65	3.8	6	140M-C2E-B40 140MT-C3E-B40	1655	70
22D-E4P2	2.2	3.0	4.2	414...660	5.2	5.3	10	140M-C2E-B63 140MT-D9E-B63	1655	100
22D-E6P6	4.0	5.0	6.6	414...660	8.1	8.3	15	140M-D8E-C10 140MT-D9E-C10	1655	160
22D-E9P9	5.5	7.5	9.9	414...660	12.1	11.2	20	140M-D8E-C16 140MT-D9E-C16	2069	175
22D-E012	7.5	10.0	12.2	414...660	14.9	13.7	25	140M-D8E-C16 140MT-D9E-C16	2069	210
22D-E019	11.0	15.0	19.0	414...660	23.1	24.1	40	140M-F8E-C25	2069	300

(1) Ratings apply to all drive types; Panel Mount (N104), Flange Mount (F104), and Plate Drive (H204).

(2) The AIC ratings of the Bulletin 140M/MT devices can vary. See publication [140-TD005](http://rok.auto/literature) or [140M-TD002](http://rok.auto/literature).

(3) Bulletin 140M/MT devices with adjustable current range must have the current trip set to the minimum range that the device does not trip.

(4) Manual Self-Protected (Type E) Combination Motor Controller, UL Listed for 208V Wye or Delta, 240V Wye or Delta, 480V Y/277 or 600V Y/347. Not UL Listed for use on 480V or 600V Delta/Delta, corner ground, or high-resistance ground systems.

(5) When using a Manual Self-Protected (Type E) Combination Motor Controller, the drive must be installed in a ventilated or non-ventilated enclosure with the minimum volume specified in this column. Application specific thermal considerations may require a larger enclosure.

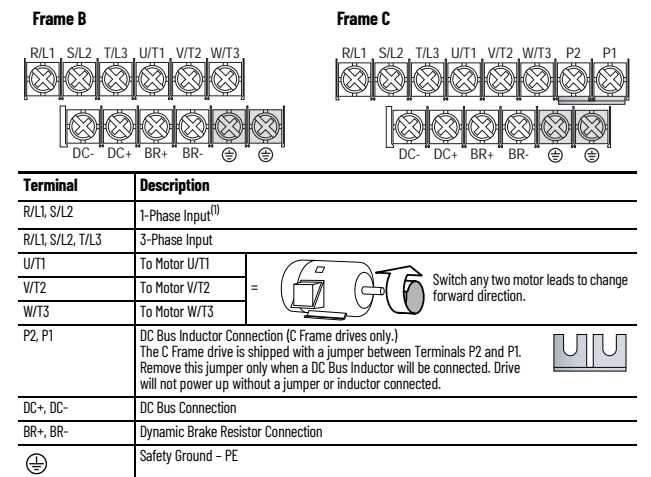
Wiring

See the PowerFlex 40P Adjustable Frequency AC Drive User Manual for instructions on how to wire the power terminals and control terminals.

Power Wiring

Power Wire Rating	Recommended Copper Wire
Unshielded 600V 75 °C (167 °F) THHN/THWN	15 Mils insulated, dry location
Shielded 600V 75 °C or 90 °C (167 °F or 194 °F) RHH/RHW-2	Anixter 0LF-7xxxx Belden 29501-29507 or equivalent
Shielded Tray rated 600V 75 °C or 90 °C (167 °F or 194 °F) RHH/RHW-2	Anixter 7V-7xxxx-36 Shawflex 2ACD/3ACD or equivalent

Power Terminal Block



(1) Single-phase operation requires a 65% derate of drive rated current.

IMPORTANT Terminal screws may become loose during shipment. Verify that all terminal screws are tightened to the recommended torque before you apply power to the drive.

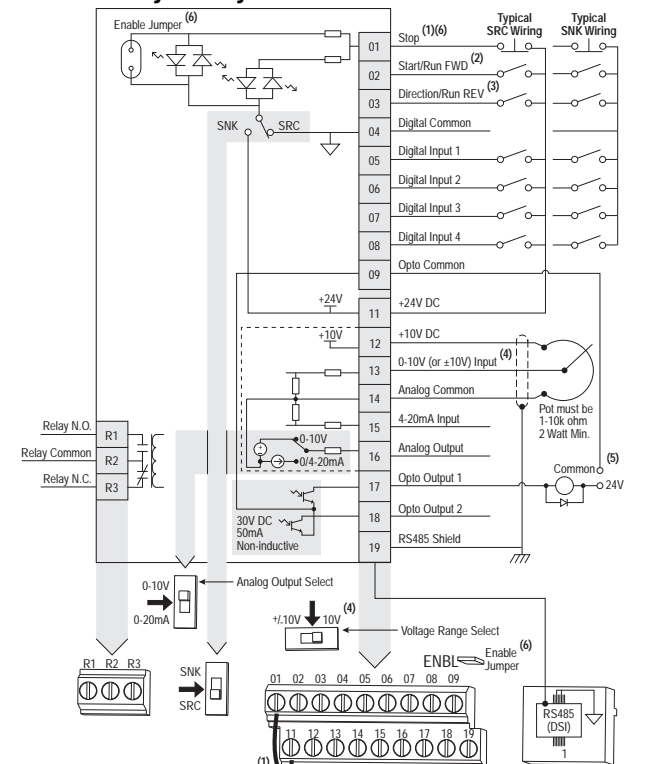
Power Terminal Block Specifications

Frame	Maximum Wire Size ⁽¹⁾	Minimum Wire Size ⁽¹⁾	Torque
B	5.3 mm ² (10 AWG)	1.3 mm ² (16 AWG)	1.7...2.2 N-m (16...19 lb-in)
C	8.4 mm ² (8 AWG)	1.3 mm ² (16 AWG)	2.9...3.7 N-m (26...33 lb-in)

(1) Maximum/minimum sizes that the terminal block accepts. These are not recommendations.

Control Terminal Block

Control I/O Wiring Block Diagram



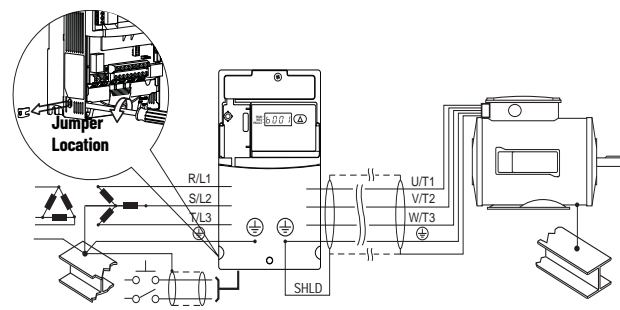
	30V DC	125V AC	240V AC	P036 [Start Source]	Stop	I/O Terminal 01 Stop
Resistive	3.0 A	3.0 A	3.0 A	3-Wire	Per P037	Per P037 ⁽⁶⁾
Inductive	0.5 A	0.5 A	0.5 A	2-Wire	Per P037	Coast
				2-W Lvl Sens	Per P037	Per P037 ⁽⁶⁾
				2-W Hi Speed	Per P037	Coast
				RS485 Port	Per P037	Coast
				Momt FWD/REV	Per P037	Per P037 ⁽⁶⁾

IMPORTANT

- I/O Terminal 01 is always a coast to stop input except when P036 [Start Source] is set to "3-Wire", "2-W Lvl Sens" or "Momt FWD/REV" control. In three wire control, I/O Terminal 01 is controlled by P037 [Stop Mode]. All other stop sources are controlled by P037 [Stop Mode].
- The drive is shipped with a jumper installed between I/O Terminals 01 and 11. Remove this jumper when using I/O Terminal 01 as a stop or enable input.

- Two wire control shown. For three wire control, use a momentary input on I/O Terminal 02 to command a start. Use a maintained input for I/O Terminal 03 to change direction.
- The function of I/O Terminal 03 is fully programmable. Program with E202 [Digital Term 3].
- Match the Voltage Range Select DIP switch setting with the control scheme for proper Uni-Polar or Bipolar operation.
- When using an opto output with an inductive load such as a relay, install a recovery diode parallel to the relay as shown, to prevent damage to the output.
- When the ENBL jumper is removed, I/O Terminal 01 will always act as a hardware enable, causing a coast to stop without software interpretation.

General Grounding Requirements

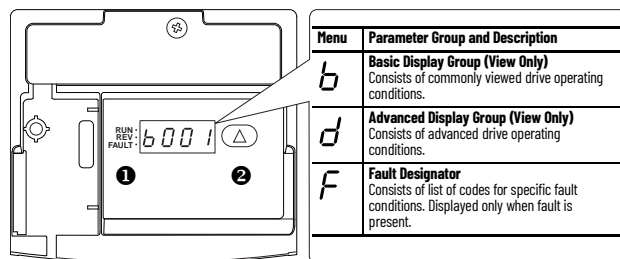


IMPORTANT The MOV to ground jumper must be removed if the drive is installed on an ungrounded (IT mains) or resistive grounded distribution system. Tighten screw after jumper removal.

Prepare For Drive Startup

ATTENTION: Power must be applied to the drive to perform the following startup procedures. Some of the voltages present are at incoming line potential. To avoid electric shock hazard or damage to equipment, only qualified service personnel should perform the following procedure. Thoroughly read and understand the procedure before beginning. If an event does not occur while performing this procedure, **Do Not Proceed. Remove All Power** including user supplied control voltages. User supplied voltages may exist even when main AC power is not applied to the drive. Correct the malfunction before continuing.

Integral Keypad



No.	LED (Color)	No.	LED (Color)		
1	Run/Direction Status (Red)	1	Fault Status (Red)		
No.	Key	Name	No.	Key	Name
2		Up arrow			

Smart Start-Up with Program Group Parameters

The PowerFlex 40P is designed so that start up is simple and efficient. The Program Group contains the most commonly used parameters.

= Stop drive before changing this parameter.

No.	Parameter	Min/Max	Display/Options	Default
P031	[Motor NP Volts] Set to the motor nameplate rated volts.	20/Drive Rated Volts	1V AC	Based on Drive Rating
P032	[Motor NP Hertz] Set to the motor nameplate rated frequency.	15/500 Hz	1 Hz	60 Hz
P033	[Motor OL Current] Set to the maximum allowable motor current.	0.0/(Drive Rated Amps*2)	0.1 A	Based on Drive Rating
P034	[Minimum Freq] Sets the lowest frequency the drive will output continuously.	0.00/500.0 Hz	0.1 Hz	0.0 Hz
P035	[Maximum Freq] Sets the highest frequency the drive will output.	0.00/500.0 Hz	0.1 Hz	60.0 Hz
P036	[Start Source] Sets the control scheme used to start the drive.	1/6	1 = "3-Wire" 2 = "2-Wire" 3 = "2-W Lvl Sens" 4 = "2-W Hi Speed" 5 = "Comm Port" 6 = "Momt FWD/REV"	5
P037	[Stop Mode] Active stop mode for all stop sources [e.g. keypad, run forward (I/O Terminal O2), run reverse (I/O Terminal O3), RS485 port] except as noted below. Important: I/O Terminal O1 is always a coast to stop input except when P036 [Start Source] is set for "3-Wire" control. When in three wire control, I/O Terminal O1 is controlled by P037 [Stop Mode].	0/9	0 = "Ramp, CF" ⁽¹⁾ 1 = "Coast, CF" ⁽¹⁾ 2 = "DC Brake, CF" ⁽¹⁾ 3 = "DCBrkAuto, CF" ⁽¹⁾ 4 = "Ramp" 5 = "Coast" 6 = "DC Brake" 7 = "DC BrakeAuto" 8 = "Ramp+EM B,CF" 9 = "Ramp+EM Brk" ⁽¹⁾ Stop input also clears active fault.	0
P038	[Speed Reference] Sets the source of the speed reference to the drive. Important: When A051 or A052 [Digital Inx Sel] is set to option 2, 4, 5, 6, 13 or 14 and the digital input is active, A051, A052, A053 or A054 will override the speed reference commanded by this parameter. Refer to Chapter 1 of the PowerFlex 40P User Manual for details.	1/9	1 = "InternalFreq" 2 = "0-10V Input" 3 = "4-20mA Input" 4 = "Preset Freq" 5 = "Comm Port" 6 = "Stp Logic" 7 = "Anlg In Mult" 8 = "Encoder" 9 = "Positioning"	5
P039	[Accel Time 1] Sets the rate of accel for all speed increases.	0.0/600.0 s	0.1 s	10.0 s
P040	[Decel Time 1] Sets the rate of decel for all speed decreases.	0.1/600.0 s	0.1 s	10.0 s
P041	[Reset To Defaults] Resets all parameter values to factory defaults.	0/1	0 = "Ready/Idle" 1 = "Factory Rset"	0
P042	[Voltage Class] Sets the voltage class of 600V drives.	2/3	2 = "Low Voltage" (480V) 3 = "High Voltage" (600V)	3
P043	[Motor OL Ret] Enables/disables the Motor Overload Retention function.	0/1	0 = "Disabled" 1 = "Enabled"	0

Fault Codes

To clear a fault, press and hold the Up Arrow key for three seconds, cycle power or set A100 [Fault Clear] to 1 or 2.

Fault Code Descriptions

No.	Fault	Description
F2	Auxiliary Input ⁽¹⁾	Check remote wiring.
F3	Power Loss	Monitor the incoming AC line for low voltage or line power interruption.
F4	UnderVoltage ⁽¹⁾	Monitor the incoming AC line for low voltage or line power interruption.
F5	OverVoltage ⁽¹⁾	Monitor the AC line for high line voltage or transient conditions. Bus overvoltage can also be caused by motor regeneration. Extend the decel time or install dynamic brake option.

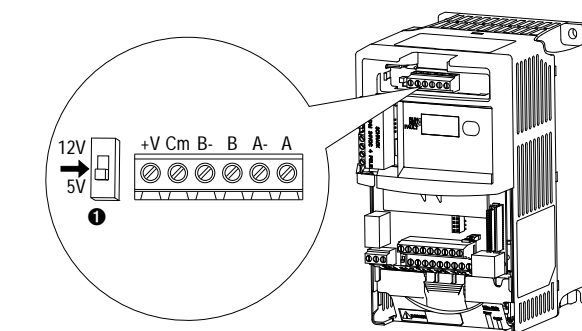
Fault Code Descriptions (Continued)

No.	Fault	Description
F6	Motor Stalled ⁽¹⁾	Increase [Accel Time x] or reduce load so drive output current does not exceed the current set by parameter A089 [Current Limit].
F7	Motor Overload ⁽¹⁾	An excessive motor load exists. Reduce load so drive output current does not exceed the current set by parameter P033 [Motor OL Current]. Verify A084 [Boost Select] setting.
F8	Heatsink OvrTemp ⁽¹⁾	Check for blocked or dirty heat sink fins. Verify that ambient temperature has not exceeded 40 °C (104 °F) for IP 30/NEMA 1/UL Type 1 installations or 50 °C (122 °F) for Open type installations. Check fan.
F12	HW OverCurrent	Check programming. Check for excess load, improper DC boost setting, DC brake volts set too high or other causes of excess current.
F13	Ground Fault	Check the motor and external wiring to the drive output terminals for a grounded condition.
F29	Analog Input Loss ⁽¹⁾	An analog input is configured to fault on signal loss. A signal loss has occurred. Check parameters. Check for broken/loose connections at inputs.
F33	Auto Rstrt Tries	Correct the cause of the fault and manually clear.
F38	Phase U to Gnd	Check the wiring between the drive and motor.
F39	Phase V to Gnd	Check motor for grounded phase.
F40	Phase W to Gnd	Replace drive if fault cannot be cleared.
F41	Phase UV Short	Check the motor and drive output terminal wiring for a shorted condition.
F42	Phase UW Short	Replace drive if fault cannot be cleared.
F43	Phase VW Short	
F48	Params Defaulted	The drive was commanded to write default values to EEPROM. Clear the fault or cycle power to the drive. Program the drive parameters as needed.
F63	SW OverCurrent ⁽¹⁾	Check load requirements and A098 [SW Current Trip] setting.
F64	Drive Overload	Reduce load or extend Accel Time.
F70	Power Unit	Cycle power. Replace drive if fault cannot be cleared.
F71	Net Loss	The communication network has faulted. Cycle power. Check communications cabling. Check network adapter setting. Check external network status.
F80	SVC Autotune	The autotune function was either cancelled by the user or failed. Restart procedure.
F81	Comm Loss	If adapter was not intentionally disconnected, check wiring to the port. Replace wiring, port expander, adapters or complete drive as required. Check connection. An adapter was intentionally disconnected. Turn off using A105 [Comm Loss Action]. Connecting I/O Terminal O4 to ground may improve noise immunity.
F100	Parameter Checksum	Restore factory defaults.
F111	Enable Hardware	DriveGuard Safe-Off Option (Series B) board is installed and the ENBL enable jumper has not been removed. Remove the ENBL enable jumper. Cycle power. DriveGuard Safe-Off Option (Series B) board has failed. Remove power to the drive. Replace DriveGuard Safe-Off Option (Series B) board. Hardware Enable circuitry has failed. Replace drive.
F122	I/O Board Fail	Cycle power. Replace drive if fault cannot be cleared.

⁽¹⁾ Auto-Reset/Run type fault. Configure with parameters A092 and A093.

Encoder Interface

The PowerFlex 40P Encoder Interface can source 5V or 12V power and accept 5, 12, or 24 volt single ended or differential inputs.



Terminal Description

No.	Signal	Description
+V	5V..12V Power ⁽¹⁾	Internal power source 250 mA (isolated).
Cm	Power Return	
B-	Encoder B (NOT)	Quadrature B input.
B	Encoder B	
A-	Encoder A (NOT)	Single channel, pulse train, or quadrature A input.
A	Encoder A	
1	Output	DIP switch selects 12 or 5 volt power supplied at terminals "+V" and "Cm" for the encoder.

⁽¹⁾ When using 12V Encoder power, 24V I/O power, maximum output current at I/O Terminal 11 is 50 mA.

IMPORTANT

A quadrature encoder provides rotor speed and direction. Therefore, the encoder must be wired such that the forward direction matches the motor forward direction. If the drive is reading encoder speed but the position regulator or other encoder function is not working properly, remove power to the drive and swap the A and A (NOT) encoder channels or swap any two motor leads. Drives using FRN 2.xx and greater will fault when an encoder is incorrectly wired and E216 [Motor Fdbk Type] is set to option 5 "Quad Check".

Specifications

Agency Certifications

	Listed to UL508C and CSA C22.2 No. 14		Australian Radiocommunications Act, compliant with: EN 61800-3
	Marked for all applicable European Directives EMC Directive: 2014/30/EU: EN 61800-3 LV Directive: 2014/35/EU: EN 61800-5-1 Machinery Directive: 2006/42/EC: EN 61800-5-2		Certified to ISO 13849-1: Performance Level d (Safety Category 3). Meets Functional Safety (FS) when used with the DriveGuard Safe-Off Option (Series B).
	KCC-REM-RAA-220		
	EMC Regulations: 2016 No. 1091: EN 61800-3 LV Regulations: 2016 No. 1101: EN 61800-5-1 Machinery Regulations: 2008 No. 1597: EN 61800-5-2		

The drive is also designed to meet the appropriate portions of the following specifications:
NFPA 70 - US National Electrical Code
NEMA ICS 3.1 - Safety standards for Construction and Guide for Selection, Installation and Operation of Adjustable Speed Drive Systems.
IEC 146 - International Electrical Code.

Control Inputs

Digital inputs, programmable/semi-programmable	Analog inputs, isolated
Bandwidth: 10 Rad/s for open and closed loop Input current: 6 mA	Resolution: 10-bit 4...20 mA Analog: 250 Ω input impedance 0...10V DC Analog: 100 kΩ input impedance External Pot: 1...10 kΩ, 2 W min
SRC (Source) mode: 18...24V = ON 0...6V = OFF	SNK (Sink) mode: 0...6V = ON 18...24V = OFF

Encoder

Type: Incremental, dual channel
Supply: 12V, 250 mA, 12V, 10 mA minimum inputs isolated with differential transmitter, 250 kHz max
Quadrature: 90°, ±27° @ 25 °C (77 °F)
Duty cycle: 50%, +10%
Requirements: Encoders must be line driver type, quadrature (dual channel) or pulse (single channel), 3.5...26V DC output, single-ended or differential and capable of supplying a minimum of 10 mA per channel. Allowable input is DC up to a maximum frequency of 250 kHz. The encoder I/O automatically scales to allow 5V, 12V and 24V DC nominal voltages.

Control Output

Relay output, programmable form C	Opto outputs, programmable	Analog output, non-isolated
Resistive rating: 3.0 A @ 30V DC, 125V AC and 240V AC Inductive rating: 0.5 A @ 30V DC, 125V AC and 240V AC	30V DC, 50 mA non-inductive	Resolution: 10-bit 0...10V DC analog: 1 kΩ min 4...20 mA analog: 525 Ω max

Fuses and Circuit Breakers

Recommended Fuse Type: UL Class J, T, or Type BS88: 600V (550V) or equivalent
Recommended Circuit Breakers: HMCP or equivalent

Protective Features

Motor Protection: I ² t overload protection - 150% for 60 s, 200% for 3 s (Provides Class 10 protection)
Overcurrent: 200% hardware limit, 300% instantaneous fault
Over Voltage: 200...240V AC Input - Trip occurs @ 405V DC bus voltage (equivalent to 290V AC incoming line) 380...480V AC Input - Trip occurs @ 810V DC bus voltage (equivalent to 575V AC incoming line) 460...600V AC Input - Trip occurs @ 1005V DC bus voltage (equivalent to 717V AC incoming line)
Under Voltage: 200...240V AC Input - Trip occurs @ 210V DC bus voltage (equivalent to 150V AC incoming line) 380...480V AC Input - Trip occurs @ 390V DC bus voltage (equivalent to 275V AC incoming line) 460...600V AC Input: - If P042 = 3 "High Voltage" trip occurs @ 487V DC bus voltage (344V AC incoming line); - If P042 = 2 "Low Voltage" trip occurs @ 390V DC bus voltage (275V AC incoming line)

Trip:

Ground fault: Phase-to-ground on drive output
Short circuit: Phase-to-phase on drive output

Control Ride-through: Minimum ride-through is 0.5 s - typical value 2 s

Faultless Power Ride-through: 100 ms

Dynamic Braking

Internal brake IGBT included with all ratings except No Brake versions. See Appendix B of the PowerFlex 40P User Manual for DB resistor ordering information.

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation. You can view or download publications at rok.auto/literature.

Resource	Description
PowerFlex 40P User Manual, FRN, publication 220-UM001	Provides detailed information on the parameters and specifications of the PowerFlex 40P drives.
AC Drive Installation Considerations, publication DRIVES-IN003	Provides additional information that is needed to install PowerFlex AC drives properly.
Wiring and Grounding for Pulse Width Modulated (PWM) AC Drives, publication DRIVES-IN001	Provides basic information that is needed to wire and ground PWM AC drives properly.
Industrial Automation Wiring and Grounding, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
PowerFlex AC Drive Performance Specifications per Ecodesign Regulation (EU) 2019/1781, publication PFLEX-ID003	Provides specifications per Ecodesign Regulation (EU) 2019/1781 and UK SI 2021 No. 745, including efficiency class.
Product Certifications website, rok.auto/certifications	Provides declarations of conformity, certificates, and other certification details.

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, and product notification updates.	rok.auto/support
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Technical Documentation Center	Quickly access and download technical specifications, installation instructions, and user manuals.	rok.auto/techdocs
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	rok.auto/pcdc

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Waste Electrical and Electronic Equipment (WEEE)



At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

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