



PowerFlex Specifications

Category	Specification						
Protection	PowerFlex 70 Drive	200-208V Drive	240V Drive	380/400 Drive	480V Drive	600V Drive	690V Drive
	AC Input Overvoltage Trip:	247VAC	285VAC	475VAC	570VAC	690VAC	
	AC Input Undervoltage Trip:	120VAC	138VAC	233VAC	280VAC	345VAC	
	Bus Overvoltage Trip:	350VDC	405VDC	675VDC	810VDC	1013VDC	
	Bus Undervoltage Trip:	176VDC	204VDC	339VDC	407VDC	998VDC	
	Nominal Bus Voltage:	281VDC	324VDC	540VDC	648VDC	810VDC	
	PowerFlex 700						
	AC Input Overvoltage Trip:	See PowerFlex 70 above					
	AC Input Undervoltage Trip:	See PowerFlex 70 above					
	Bus Overvoltage Trip:	Adjustable					
	Bus Undervoltage Trip:	Adjustable					
	Nominal Bus Voltage:	See PowerFlex 70 above					
	All Drives						
Heat Sink Thermistor:	Monitored by microprocessor overtemp trip						
Drive Overcurrent Trip							
Software Current Limit:	20-160% of rated current						
Hardware Current Limit:	200% of rated current (typical)						
Instantaneous Current Limit:	220-300% of rated current (dependent on drive rating)						
Line transients:	up to 6000 volts peak per IEEE C62.41-1991						
Control Logic Noise Immunity:	Showering arc transients up to 1500V peak						
Power Ride-Thru:	15 milliseconds at full load						
Logic Control Ride-Thru:	0.5 seconds minimum, 2 seconds typical						
Ground Fault Trip:	Phase-to-ground on drive output						
Short Circuit Trip:	Phase-to-phase on drive output						
Agency Certification	The drive is designed to meet 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. NEMA 250 - Enclosures for Electrical Equipment IEC 146 - International Electrical Code.						
		UL and cUL Listed to UL508C and CAN/CSA-C2.2 No. 14-M91					
		Marked for all applicable European Directives ⁽¹⁾ EMC Directive (89/336/EEC) Emissions EN 61800-3 Adjustable Speed electrical power drive systems Part 3 Immunity EN 61800-3 Second Environment, Restricted Distribution Low Voltage Directive (73/23/EEC) EN 60204-1 Safety of Machinery –Electrical Equipment of Machines EN 50178 Electronic Equipment for use in Power Installations					

Category	Specification	
Environment	Altitude:	1000 m (3300 ft) max. without derating
	Ambient Operating Temperature without derating:	
	Open Type:	0 to 50 degrees C (32 to 122 degrees F)
	IP20:	0 to 50 degrees C (32 to 122 degrees F)
	NEMA Type 1:	0 to 40 degrees C (32 to 104 degrees F)
	IP56, NEMA Type 4X	0 to 40 degrees C (32 to 104 degrees F)
	Storage Temperature (all const.):	-40 to 70 degrees C (-40 to 158 degrees F)
Relative Humidity:	5 to 95% non-condensing	
Shock:	15G peak for 11ms duration (± 1.0 ms)	
Vibration:	0.152 mm (0.006 in.) displacement, 1G peak	
Electrical	Voltage Tolerance:	-10% of minimum, +10% of maximum.
	Frequency Tolerance:	47-63 Hz.
	Input Phases:	Three-phase input provides full rating for all drives. Single-phase operation provides 50% of rated current.
	Displacement Power Factor	
	PF70 - C & D Frame Drives:	0.92 lagging (entire speed range)
	PF70 - A & B Frame Drives:	0.64 lagging
PF700	TBD	
Efficiency:	97.5% at rated amps, nominal line volts.	
Max. Short Circuit Current Rating: Using Recommended Fuse or Circuit Breaker Type	Maximum short circuit current rating to match specified fuse/circuit breaker capability.	
Control	Method:	Sine coded PWM with programmable carrier frequency. Ratings apply to all drives (refer to the <i>Derating Guidelines</i>). The drive can be supplied as 6 pulse or 12 pulse in a configured package.
	Carrier Frequency	
	PF70 - A-D Frame Drives:	2-10 kHz. Drive rating based on 4 kHz
	PF700 - 0-3 Frames:	2-10 kHz. Drive rating based on 4 kHz
	Output Voltage Range:	0 to rated motor voltage
	Output Frequency Range:	0 to 400 Hz.
	Frequency Accuracy	
	Digital Input:	Within $\pm 0.01\%$ of set output frequency.
	Analog Input:	Within $\pm 0.4\%$ of maximum output frequency.
	Speed Regulation - Open Loop with Slip Compensation:	$\pm 0.5\%$ of base speed across a 40:1 speed range.
	Selectable Motor Control:	Sensorless Vector with full tuning. Standard V/Hz with full custom capability. PF700 adds flux vector.
	Stop Modes:	Multiple programmable stop modes including - Ramp, Coast, DC-Brake, Ramp-to-Hold and S-curve.
	Accel/Decel:	Two independently programmable accel and decel times. Each time may be programmed from 0 - 3600 seconds in 0.1 second increments
Intermittent Overload:	110% Overload capability for up to 1 minute 150% Overload capability for up to 3 seconds	
Current Limit Capability:	Proactive Current Limit programmable from 20 to 160% of rated output current. Independently programmable proportional and integral gain.	
Electronic Motor Overload Protection	Class 10 protection with speed sensitive response. Investigated by U.L. to comply with N.E.C. Article 430. U.L. File E59272, volume 12.	

⁽¹⁾ Applied noise impulses may be counted in addition to the standard pulse train causing erroneously high [Pulse Freq] readings.