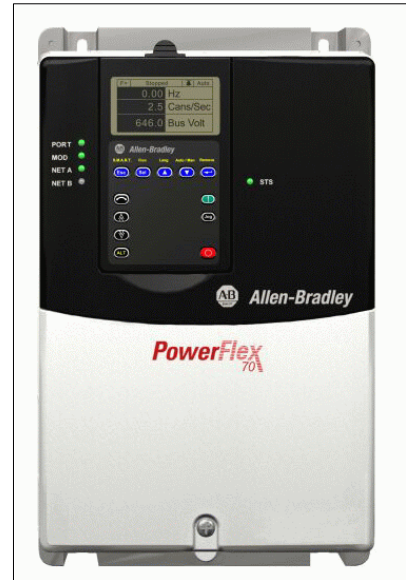


# Product Details and Certifications

**Product: 20AD014M0AYNANC0**

Description: PowerFlex70 AC Drive, 480 VAC, 3 PH, 14 Amps, 10 HP Normal Duty, 7.5 HP Heavy Duty, IP20/Type 1 w/Conformal Coating, No HIM (Blank Plate), Brake IGBT Installed, Without Drive Mounted Brake Resistor, Second Environment Filter per CE EMC directive (89/336/EEC), No Communication Module, Enhanced Control, No Feedback



Representative Photo Only (actual product may vary based on configuration selections)

**BASE DRIVE INFORMATION**

Input Voltage	480 VAC, 3 PH
Current Rating	14 Amps
Enclosure	IP20/Type 1 w/Conformal Coating
Frame Size	Frame Size C
Output Current Information	Output Amps: 14A Cont, 16.5A 1 Min, 22A 3 Sec
Control and I/O	Enhanced Control
Documentation	Manual
Brake IGBT	Brake IGBT
Filter Options	Second Environment Filter per CE EMC directive (89/336/EEC)

**OPTIONS INFORMATION**

Base Plus Options	Base Plus Options Method
Human Interface Module	No HIM (Blank)
Internal Communication Module	No Communication Module
Feedback Option	No Feedback



**Dimensions and Weight**

Weight (kg / lbs)	6.89 / 15.2
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**Recommended Spare Parts**

20A-DG01	1	PF70 DriveGuard Safe-Off Interface
AK-M9-115VAC-1	1	115VAC Digital Interface
SK-M9-FAN1-ABCD1	2	N1 FRAMES A, B, C, & D EXT FAN
SK-M9-FAN2-CDE1	1	INT FAN FOR N1 - N4X/12 FRAME E & N1 FRAMES C & D

## PowerFlex Specifications

Category	Specification							
Protection	<b>PowerFlex 70 Drive</b>	<b>200-208V Drive</b>	<b>240V Drive</b>	<b>380/400 Drive</b>	<b>480V Drive</b>	<b>600V Drive</b>	<b>690V Drive</b>	
	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		
	<b>PowerFlex 700</b>							
	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							
<b>All Drives</b>								
Heat Sink Thermistor:	Monitored by microprocessor overtemp trip							
Drive Overcurrent Trip:	Monitored by microprocessor overtemp 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 <sup>(1)</sup> 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
Electrical	Shock:	15G peak for 11ms duration ( $\pm 1.0$ ms)
	Vibration:	0.152 mm (0.006 in.) displacement, 1G peak
	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.	

<sup>17)</sup> Applied noise impulses may be counted in addition to the standard pulse train causing erroneously high [Pulse Freq] readings.

**Short Circuit Ratings Data Sheet for 20AD014M0AYNANC0**

Operational Rating	Dual Element Time Delay Fuses			Non-Time Delay Fuses			Circuit Breakers							Rating Reference	File Ref: UL	File Ref: CSA	Comments
	SCCR [kA]	Max Fuse Size [A]	Fuse Class	SCCR [kA]	Max Fuse Size [A]	Fuse Class	CB Type	Catalog Number	SCCR [kA]	SCCR [kA]	SCCR [kA]	SCCR [kA]	SCCR [kA]				
	600V			600V					240V	480V	480Y/277V	600V	600Y/347V				
ND: 10 HP	200	30	CC, T, RK1 or J	200	50	CC, T, RK1 or J	UL 508 Manual Motor Controller	140M-C2E-C16	—	30	—	30	—	User Guide	E59272	cUL	
—	—	—	—	—	—	—	UL 508 Type E Comb. Motor Controller	140M-C2E-C16	—	—	30	—	—	User Guide	E59272	cUL	
—	—	—	—	—	—	—	UL 489 MCCB	140U-H6C3-C50	100	65	—	—	25	User Guide	E59272	cUL	
—	—	—	—	—	—	—	UL 489 MCP	TBD	TBD	TBD	TBD	TBD	TBD	User Guide	E59272	cUL	
HD: 7.5 HP	200	30	CC, T, RK1 or J	200	50	CC, T, RK1 or J	UL 508 Manual Motor Controller	140M-C2E-C16	—	30	—	30	—	User Guide	E59272	cUL	
—	—	—	—	—	—	—	UL 508 Type E Comb. Motor Controller	140M-C2E-C16	—	—	30	—	—	User Guide	E59272	cUL	
—	—	—	—	—	—	—	UL 489 MCCB	140U-H6C3-C50	100	65	—	—	25	User Guide	E59272	cUL	
—	—	—	—	—	—	—	UL 489 MCP	TBD	TBD	TBD	TBD	TBD	TBD	User Guide	E59272	cUL	