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for many products

NEMA 4X AC Drives

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WARNING

NEMA 4X AC Drives

mN4X-1

For more information, y go2adc.com/innema IRONHORSE

NEMA 4X AC Drives

When you need a washdown rated AC drive without paying a high price.

AutomationDirect's IronHorse ACN, DURApulse GS20X and WEG CFW500 IP66 AC drives are feature-rich drives in a washdown rated enclosure.

AutomationDirect now offers two general purpose NEMA 4X VFDs in the DURApulse GS20X and IronHorse ACN series, as well as a high-performance NEMA 4X VFD in the WEG CFW500 series.

At AutomationDirect it is important to us that we provide highquality products, at the best price possible and that we have them in stock and ready to ship to you. We also want to make sure that we provide a great selection of products as well as several choices when it comes to sizing and functionality.

In addition to getting a high-quality drive loaded with features in a NEMA 4X rated enclosure, you also get a lot more when you buy drives from AutomationDirect.

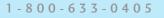
Why would I need an AC drive?

- Reduce start up current controlling the inrush current at motor start-up allows the use of smaller fuses, and reduces electrical peak load
- Reduce mechanical stress controlled/smooth starting and stopping minimize mechanical shock as well as wear and tear on the system
- Power Factor Motors have very poor power factors (especially at light loading). Drives significantly increase power factor (even at light loading) and can eliminate the need for power factor correction capacitors and/or utility power factor charges

· Variable Speed and integrated functionality - AC drives can vary motor speed and direction by operator input (keypad buttons/speed control knob) or by digital and analog inputs (from pushbuttons/switches/pots or PLC outputs) or by communication from a PLC or master controller. Basic machine control can be performed in the drive on some models (limit switches/sensors can be wired to the drive's inputs to control motor speed or direction).

Not sure that this is the right AC Drive series you need? Click for a complete selection guide





www.automationdirect.com/drives

What are the benefits of a NEMA 4X rated enclosure?

The NEMA 4X environmental rating is given to enclosures and in this case, specifically drive enclosures that are washdown duty and built to withstand a harsh environment. Food and beverage processing and water treatment facilities (both indoors and outdoors) are examples of harsh environments where the equipment will be subject to repeated high-pressure washdowns daily. The NEMA 4X enclosure also allows you to mount the VFD directly to a machine and outside of an electrical panel. This can eliminate long runs of expensive VFD cable for motor wiring, reduce the need for external VFD output filters and in some cases simply provide a convenient, self-contained motor control at the machine or conveyor with an optional OSHA certified lock-out/tag-out disconnect.

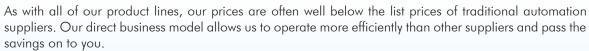


Food and beverage processing, such as this bottling line are great applications to use NEMA 4X drive as they require regular washdowns

Why buy drives from us?

There are several distinct advantages to purchasing a drive from AutomationDirect:

Price





All of the AC drives we sell have a 1 or 2-year warranty and a 30-day moneyback guarantee. If for any reason you are not satisfied with your purchase, send it back and we will refund your money.

Service

Quality



We give you options for self-service but at the same time, we are there when you need us. You can place your order online or call our customer service. Have a technical question about one of our products or need help gathering up a bill of materials for one of your projects? You can call our Free Technical Support.





Water and wastewater applications can be indoors and outdoors so are exposed to wet environments and often direct sunlight

NEMA 4X AC Drives

mN4X-3

For the latest prices, please check AutomationDirect.com.

For the latest prices, please check AutomationDirect.com.

Select the Best NEMA 4X AC Drive for Your Application

	NEMA 4X RATED AC DRIVES				
IRONHORSE	DURA IIIIPULSE <i>GS</i> 20X				
	Washdown rated general purpose VFD loaded with the same features as the GS20 but able to handle the toughest environments	Washdown rated version of the high-perform 20 hp			
	Input/Output Voltages hp Range	Input/Output Voltages hp Range			
230VAC 1-phase/230VAC 1/6 - 10 hp	230VAC 1-phase/230VAC 0.5 - 3 hp	230VAC 1-phase/230VAC 0.25 - 3 hp			
230VAC/230VAC 0.5 - 20 hp	230VAC/230VAC 0.5 - 7.5 hp	230VAC/230VAC 0.25 - 10 hp			
460VAC 1-phase/460VAC 1/6 - 15 hp	460VAC/460VAC 0.5 - 10 hp	460VAC/460VAC 0.33 - 20 hp			
460VAC/460VAC 0.5 - 30 hp	-	-			
Supported Control Modes	Supported Control Modes	Supported Control Modes			
V/F	V/F (1:50)	V/F			
Sensorless Vector	Sensorless Vector (1:50)	Sensorless Vector			
-	Field Oriented Control (FOC, 1:100)	Field Oriented Control			
	-	Closed-loop flux vector			
Slip compensation	•	-			
Torque control	Torque control	Torque control			
Built-in I/O	Built-in I/O	Built-in I/O			
5 digital inputs	7 digital inputs	4 digital inputs			
1 digital output	2 digital outputs	1 digital output			
1 relay output	1 relay output	1 relay output			
2 analog inputs	2 analog inputs	1 isolated analog input			
1 analog output	1 analog output	1 isolated analog output			
Optional I/O	Optional I/O	Optional I/O			
3 Digital inputs	-	8 digital inputs			
2 Relay outputs	-	5 relay outputs			
2 Analog inputs	-	3 analog inputs			
1 Analog output	-	2 analog outputs			
-	-	Encoder, 1 channel quadrature (400kHz)			
Keypad	Keypad	Keypad			
Non-removable keypad. Optional advanced keypad can be remotely mounted	Non-removable keypad. Optional advanced keypad can be remotely mounted	Non-removable keypad. Optional remote keypads. B			
Communication Supported	Communication Supported	Communication Supported			
Modbus RTU over RS485	Modbus RTU over RS485	Modbus RTU over RS485			
Optional Communications	Optional Communications	Optional Communications			
EtherNet/IP and Modbus TCP with option card	EtherNet/IP and Modbus TCP with option card	EtherNet/IP and Modbus TCP with option card			
	-	Serial RS485 and Bacnet USB for programming connection			
Safety Ratings	Safety Ratings	Safety Ratings			
Safe Torque Off (STO) SIL2	Safe Torque Off (STO) SIL2	Safe Torque Off (STO) and Safe Stop 1 (SS1) SIL2 wit			
Environmental Ratings	Environmental Ratings	Environmental Ratings			
NEMA 4X/IP66 environmental rating	NEMA 4X/IP66 environmental rating	NEMA 4X/IP66 environmental rating			
Additional Features	Additional Features	Additional Features			
Built-in dynamic braking	Built-in dynamic braking	Built-in dynamic braking			
Built-in function block sequence controller, 18 steps max	Bulit-in PLC 2k steps	Built-in PLC			
PID control with sleep and wake	PID Control	PID control with sleep and wake			
Free VFD Suite for configuration, programming and monitoring	Free GSoft2 for configuration and GSLogic for PLC programming	Free WPS programming software for drive configurat			

mN4X-4 NEMA 4X AC Drives

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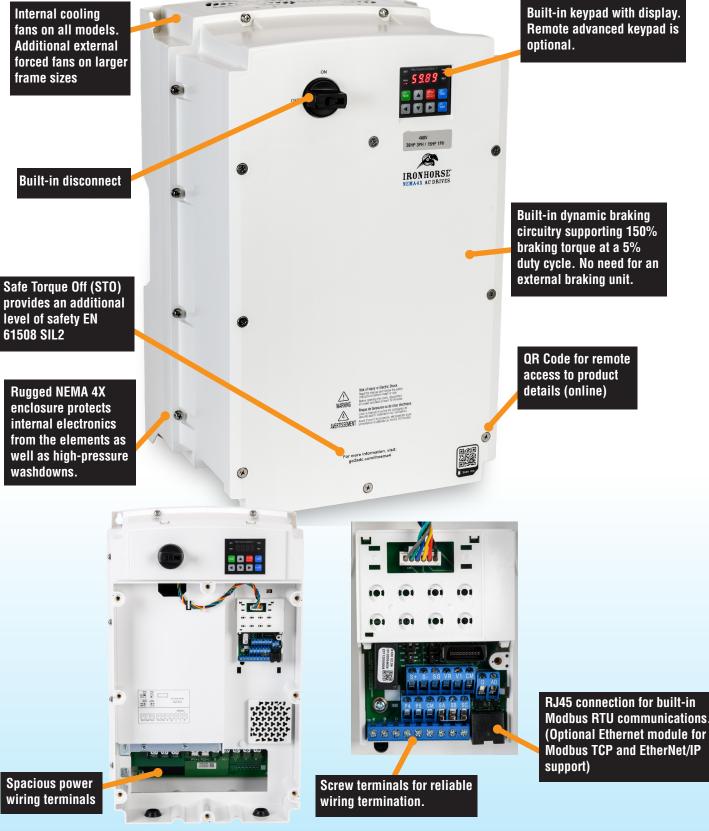
CFW500
mance CFW500. IP66/NEMA 4X enclosure and horsepower ratings up to
Basic and advanced remote keypad options
ith optional CFW500-SFY2
ation and monitoring as well as PLC programming

NEMA 4X AC Drives

For the latest prices, please check AutomationDirect.com.

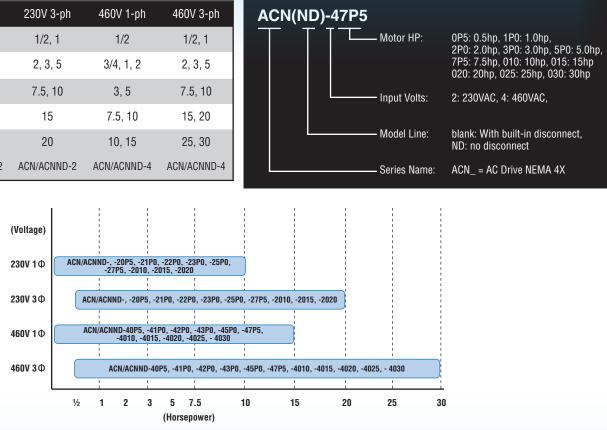
IronHorse® ACN Series NEMA 4X AC Drives

The ACN (with disconnect) and ACNND (without disconnect) series of NEMA 4X sensorless vector AC drives bridge the gap between a micro drive and high-performance VFD. The ACN series AC drives have features normally only found on more expensive drives but in a NEMA 4X enclosure and at a great price.





	230V 1-ph	230V 3-ph	460V 1-ph	460V 3-ph
Frame 1 - HP	1/2	1/2, 1	1/2	1/2, 1
Frame 2 - HP	1, 1-1/2, 2	2, 3, 5	3/4, 1, 2	2, 3, 5
Frame 3 - HP	3, 5	7.5, 10	3, 5	7.5, 10
Frame 4 - HP	7.5	15	7.5, 10	15, 20
Frame 5- HP	10	20	10, 15	25, 30
Part #s	ACN/ACNND-2	ACN/ACNND-2	ACN/ACNND-4	ACN/ACNND-4



Optional Keypad Accessories

In addition to the built-in keypad, the ACN series drives offer the ACN-LCD, an optional, advanced function display. This supports additional monitoring and status display on a single screen, plus simplified parameter navigation.



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Option Cards

Option cards can be used to expand the available hardwired I/O on an ACN series drive or add Ethernet communications. The ACN-EIO adds 2 analog input channels, 1 analog output channel, 3 discrete input points and 2 relay output points. The ACN-ETH adds Ethernet communications support which allows the drive to communicate using EtherNet/IP or Modbus TCP protocols.



Not sure that this is the right AC Drive series you need? Click for a complete selection guide

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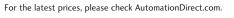
NEMA 4X AC Drives

Additional ACN Series Features

These are just some of the features for the ACN series drives. You will be hard-pressed to find a drive for the same price with all of the features it supports.

- Broad offering from 1/2 to 30 hp NEMA 4X
- 230VAC: three-phase up to 20Hp, single phase up to 10hp
- 460VAC: three-phase up to 30HP, single-phase up to 15hp
- Single-phase UL Ratings 230 or 460 VAC input
- Supports several different control modes including V/Hz, slip compensation, sensorless vector and torque control
- Can be used with AC induction motors or permanent magnet AC motors (PMAC)
- Lockable, integrated disconnect or no disconnect models
- Constant Torque (Heavy Duty) ratings only
- Flexible carrier frequency to 15khz
- Output frequency to 400Hz (120Hz sensorless vector)
- STO Safe Torque Off (SIL2)
- Built-in user sequence programming of 18 steps
- Built-in RJ45 port for fast & easy programming
- Free downloadable software for drive configuration
- Optional LCD text-based advanced keypad can be remotely mounted with IP66 case

- · Local/Remote control mode selection or digital/comm input with Hand/Off/Auto control
- Momentary power loss restarts
- PCB conformal coating
- 100kA Short Circuit Current Rating
- DC Bus Connection Terminals
- Analog I/O configurable 2 Inputs and 1 output
- 2-Motor Control
- Built-in Dynamic Braking
- PID Controller including sleep and wake
- Password protection
- RTD and/or PTC input motor protection
- High speed communication interfaces with MODBUS RTU built-in, with optional EtherNet/IP and Modbus TCP Communication Card
- Fire Mode Run fire mode during emergencies to have uninterrupted smoke removal and system pressure
- 18-month warranty
- CE, TÜV Nord, UL, cUL



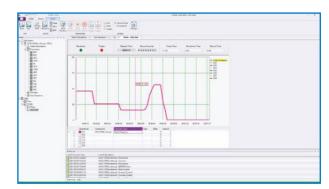
ACN Series Programming

The ACN series VFDs support creating new drive configurations, upload/download new drive configurations, edit/ compare drive configurations and more using VFD Suite (available as a free download). The software is also available on a USB card if needed. VFD Suite also includes the ACN manual for complete instructions and parameter explanations.





VFD Suite allows you to see everything there is to know about the connected drive



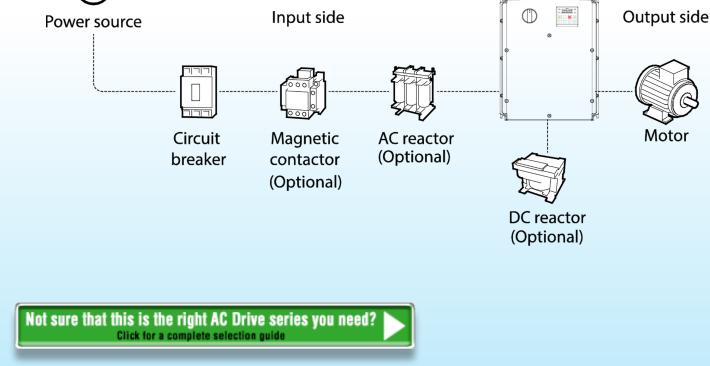
VFD Suite supports advanced functionality such as trending and programming of the built-in sequence controller

Additional Features of VFD Suite

- Utilize Parameter Wizard for easy configuration

- Tune the drive PID loop
- View real-time key operating parameters
- View drive faults
- (18 steps maximum)

The ACN-232C allows for a quick and simple connection for programming the ACN series drives. Programming the drives is also supported over Modbus TCP and EtherNet/IP if an ACN-ETH is installed.



mN4X-8 NEMA 4X AC Drives

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	SIV SECTIONS		

See all parameters available in the connected ACN series drive

- Archive/Store multiple drive configurations on your PC
- Trend drive operation parameters
- Start/Stop drive and switch directions,
- provided drive is set up for remote operation
- Program Function blocks for simple control applications

NEMA 4X AC Drives



DURAPULSE® GS20X AC Drives

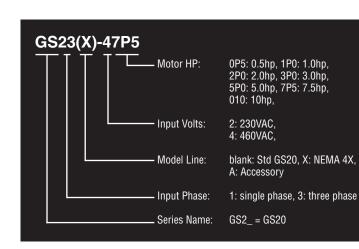


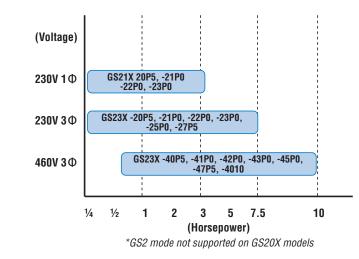
DURA IIIIPULSE GS20X EtherNet/IP^{*}

DURAPULSE GS20X NEMA 4X AC Drives

The DURApulse GS20X series line of NEMA 4X sensorless vector AC drives delivers all of the features and performance of the GS20 drive* including PID, sensorless vector and field oriented control modes but adds a washdown rating up to 10hp. The GS20X comes in a NEMA 4X/IP66 enclosure to withstand the rigors of extreme environments. The GS20X also offers an optional NEMA 4X disconnect to make installation simple.

4 0 0	CONTRACTOR OF CO	e	Arrange
	230V 1-ph	230V 3-ph	460V 3-ph
Frame A - HP	½, 1 , 2	½, 1 , 2	½, 1 , 2 , 3
Frame B - HP	3	3, 5	5
Frame C - HP		7.5	7.5, 10
Part #s	GS21X	GS23X	GS23X

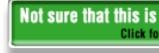






Ethernet communications over Ethernet/IP and Modbus TCP or add a backup to the built-in 24VDC power supply.









NEMA 4X AC Drives

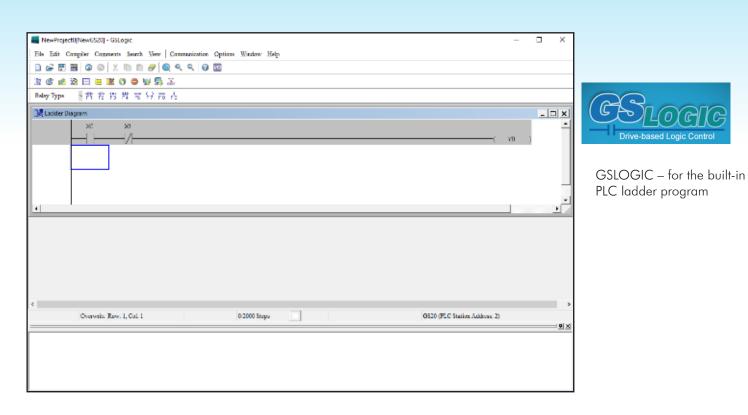
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GS20X Programming

The GS20X VFDs support parameter configuration, setup and troubleshooting via the GSOFT2 The GS20X VFDs support parameter configuration, setup and neuclosite and in the GS20X VFDs support parameter configuration, setup and neuclosite and its setup and its set



	Parameters										- C
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		Selected	Pr. NO 00.00	Modbus 0000h	Description Identity Code	Unit	Data 205	Default 0	Min 0	Max 65535	Attribute Read-Only
	- 1-BASIC PARAMETER 01 - 2-DIGITAL IN/OUT 02		00.00	0000h	Rated Current	Amps	7.50	0.00	0.00	655.35	Read-Only Read-Only
			00.01	0001h	Parameter Reset	Amps	0	0.00	0.00	13	Writable
SOFT2 – for parameter	- 4-MULTI 5-MOTOR PARAMETER 0		00.02	0002h	Start up Display		-	0	0	3	Writable
onfiguration, setup,	6-PROTECTION 06		00.03	0003h	User Display		~ .	3	0	65	Writable
oubleshooting & FW upgrade	7-SPECIAL 07		00.04	0004h	H page scale		1.00	1.00	0.00	160.00	Writable
obleshooling & I w opgrude			00.06	0005h	Firmware Version		1.04	1.00	0.00	655.35	Read-Only
	10-SPEED FEEDBACK 10		00.07	0007h	Password Decoder		0	0	0	65535	Writable
	- 11-ADVANCE SET 11		00.08	0008h	Password Input		0	0	0	65535	Writable
	- 12-RESERVE 12 - 13-MACRO 13		00.09	0009h	Reserved		0	0	0	65535	Read-Only
	14-PROTECTION(2) 14		00.10	000Ah	Control Method		-	0	0	2	Writable
	Selected Parameters		00.11	000Bh	Velocity Mode			0	0	6	Writable
			00.12	000Ch	Reserved		0	0	0	65535	Read-Only
			00.13	000Dh	Reserved		2	2	0	2	Read-Only
			00.14	000Eh	Reserved		0	0	0	65535	Read-Only
			00.15	000Fh	Reserved		0	0	0	65535	Read-Only
			00.16	0010h	Duty Selection		1:Constant Torque	1	0	1	Writable
			00.17	0011h	Carry Frequency	KHz	4	4	2	15	Writable
			00.18	0012h	GS Drive Series		20	20	0	30	Read-Only
			00.10	00101	DI C CO (DA C A		•	~		erene	P 101



For the latest prices, please check AutomationDirect.com.

GS20X Control Modes

The GS20X supports three different control modes offering various levels of torque output control at different speed ranges. Also available is torgue control mode that allows the drive to control the level of torque as opposed to speed. Torque control mode is a feature usually only found on higher cost drives.

		V/F Mode (+encoder)	Torque Control	SVC Mode	FOC Mode	
Induction Torque		150% @ 3Hz	150%	150% @ 3Hz	200% @ 0.5Hz	
Motor (IM)	Accuracy	1:50 speed control	+/- 15%	1:50 speed control	1:100 speed control	
Permanent Magnet (PM)	Torque	NA	150%+/- 15%	100% @ ^{1/20} rated Hz	NA	
	Accuracy		10070171-1076	1:20 speed control		

GS20X Additional Features

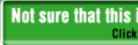
These are just some of the features that the GS20X has. You will be hard-pressed to find a drive for the same price with all of the features it supports. In addition to what was mentioned the GS20X also supports.

- V/Hz Control, Sensorless Vector Control, Field Oriented Control
- Torque Control Mode
- Maximum frequency 0-599Hz
- Multiple motor support, supports up to 4 induction motor switching control from a single VFD
- Built-in braking chopper
- DEB, deceleration energy backup, controls motor deceleration during power loss
- 100kA short circuit current rating
- STO Safe Torque Off
- 100% Conformal coating (IEC 60721-3-3 class 3C2) on PCBs provides moisture, corrosion & dustproof in critical environments

GS Drive Accessories

- Line reactors
- VTF output filters
- High speed Class J fuses and fuse holders • Dynamic braking resistors and DBUs
- EMI and RFI filters
- Replacement cooling fans





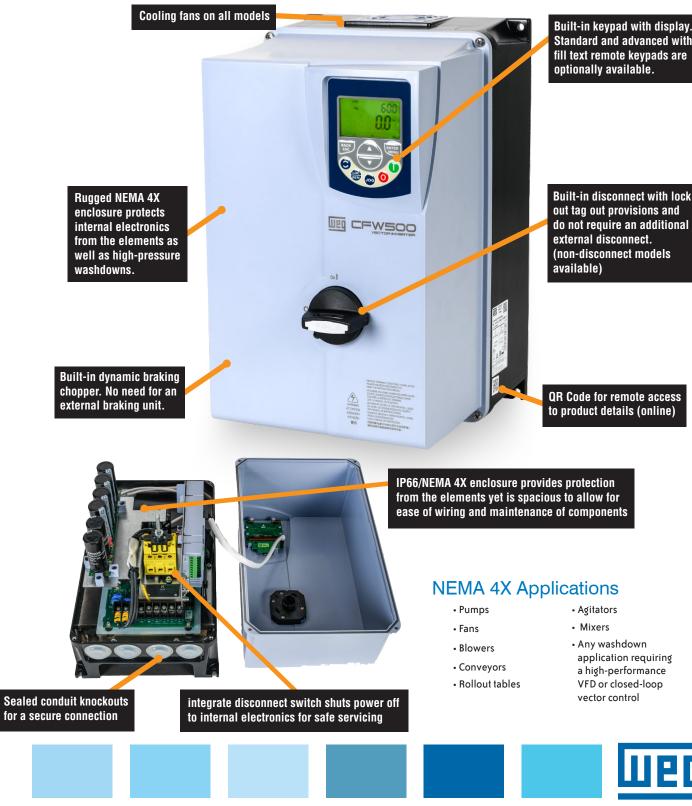
- Built-in PLC (up to 2,000 steps)
- USB programming
- Built-in RS485 communications (Modbus RTU)
- Optional Ethernet communications Modbus TCP and Ethernet/IP
- Generous built-in I/O
- Analog inputs +/- 10VDC, 0-10VDC, 0-20mA/4-20mA
- 7 Digital inputs, 2 relay outputs
- Pulse in/out 33KHz pulse input & output
- Compact size
- One-year warranty
- UL, CE listed



WEG CFW500 IP66/NEMA 4X AC Drives

The WEG CFW500 Wash series is a redesign of the most successful high performance CFW500 series product line. The CFW500 washdown version is one of the most compact and full-featured washdown drives on the market. One of the key "new" advantages of the redesigned CFW500 NEMA 4X is the outdoor rated keypad. (most keypads on NEMA 4X VFDs are NOT outdoor rated)

The new version with IP66/NEMA 4X protection rating increases the product robustness, ensuring protection against the ingress of dust and water jets from any direction, which allows its use and installation both indoors and outdoors.



For the latest prices, please check AutomationDirect.com.



	230V 1-ph	230V 3-ph	460V 3-ph	C
Frame A - HP	¼, ½, 1, 2, 3	¹ ⁄4, ¹ ⁄2, 1, 2, 3, 5	¹ / _{3,} ½, 1 , 2, 3, 5	
Frame B - HP	1	7.5, 10	10, 15, 20	

Optional Accessories



personnel if there is a hazardous event due to a fault

in operating machines. The embedded safety functions

STO and SS1 provide machine builders a cost-effective

solution to design protective measures and reduce the

risk from unexpected and hazardous movement in

I/O plug-in modules such as the CFW500-IOS, CFW500-IOD, CFW500-IOAD, CFW500-IOR-B and CFW500-ENC allow for additional I/O to be expanded or a 2-channel quadrature encoder to be used with the VFD.

While ethernet communications modules such as the CFW500-CETH-IP and CFW500-CEMB-TCP allow the drive to communicate over the Ethernet protocols EtherNet/IP and Modbus TCP, respectively.

The CFW500-MMF flash memory module allows the download and upload of all VFD settings with the need to power the drive up or connect using the software.

mN4X-14 NEMA 4X AC Drives

1 - 8 0 0 - 6 3 3 - 0 4 0 5

- application requiring a high-performance





industrial machines and processes.

application safety requirements

saving space and installation costs

Safety functions integrated in the CFW500 drive,

making it easier to comply with the machine and

• Fewer components, no need for additional wiring,

• Easier installation, commissioning and maintenance

• No electromechanical components, meaning faster

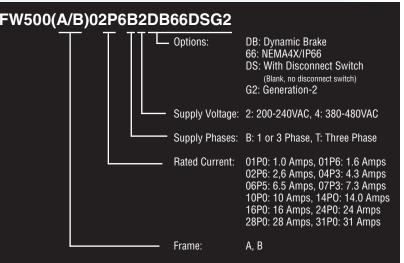
responses and a higher degree of productivity

• Due to the high safety performance level SIL3,

use of external safety relays for cables and

emergency pushbuttons monitoring

the CFW500 with Safety module may avoid the



Other Optional Modules

Communications modules such as the CFW500-CUSB, CFW500-CRS232 and CFW500-CRS485-B expand serial communication functionalities.

The advanced remote keypad HMI-01 is a text keypad and a basic, non-text keypad, the CFW500-HMIR is also available. As well as connection cables and a mounting frame for these optional keypads.



Not sure that this is the right AC Drive series you need? Click for a complete selection guide

NEMA 4X AC Drives

mN4X-15

Additional CFW500 IP66/NEMA 4X Features

The IP66 models of the CFW500 line have the following features:

- Broad offering from 1/4 to 20 hp IP66/NEMA 4X
- 200-240V (single-phase/3-phase and 3-phase only models) and 380-480V input voltage
- 230VAC: three-phase up to 10Hp, single phase input up to 5hp
- 460VAC: three-phase up to 20HP
- NEMA 4X(IP66) Enclosure
- Available with and without disconnect switch
- Suitable for indoor and outdoor use (including direct sunlight)
- Heavy Duty rated 150% current overload capacity
- Speed and torque control down to 0 (zero) rpm
- Precision of 0.01% for speed control
- Same programming as other WEG VFDs including CFW500-IP20, CFW300 and CFW100
- Built-in SoftPLC
- Scalar, Vector Control (Sensorless and closed-loop with encoder feedback) & VVW PM (suitable for fan, Pump and compressor)
- 0 to 500 Hz output frequency
- 2.5 to 15 kHz adjustable switching frequency (5 kHz standard)
- Built-in 24Vdc Power supply (max. 150 mA)

- Built-in RS-485 (Modbus RTU) communication
- Four isolated programmable digital inputs
- One programmable relay output (1NO, 1NC, 240vac 0.5A)
- One programmable transistor output
- One isolated programmable analog input (0-10V, 0/4-20mA)
- One isolated programmable analog output (0-10V, 0/4-20mA)
- Protective features: Over current (Phase-Phase short circuit in the output or phase-ground short circuit in the output), Under/overvoltage, overtemperature in heatsink, motor overload, IGBT overload and external fault
- Control features: Linear and "S" ramp acceleration and deceleration, local/remote control, DC braking, torque boost, motor slip compensation, electronic pot, preset speeds, adjustable V/Hz profile, maximum and minimum adjustable frequency limits, two skip frequencies, adjustable output current limit, JOG, ride-thru, flying start and PID regulator
- Same keypad with backlight as of CFW500 product line with Main display line, secondary display line and bar graph display
- Ambient: 14°F (-10°C) to 104°F (40°C), 3300ft (1000m) altitude, 5-95% humidity, non-condensing
- WPS compatible

Free WPS Programming Suite Software

That's right! The WPS software is a free download. This is a fully featured software suite for drive configuration, monitoring AND for programming the built-in PLC it's all in one easy-to-use package.



Other great Quick Start features include:

- Monitoring Wizards
- Trending Configuration Wizards Diagnostics
- Custom Monitoring Windows And MORE!

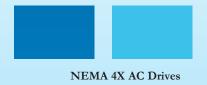
Output side Input side Power source -1-1-Motor Circuit AC reactor Magnetic (Optional) breaker contactor (Optional) DC reactor (Optional)

Not sure that this is the right AC Drive series you need? Click for a complete selection guide



www.automationdirect.com/drives







AC Drive Accessories

AC Line Reactors

Line reactors are an option to protect and optimize any AC drive and motor installation. Input line reactors provide many benefits to AC drives, including less nuisance tripping, reduced drive downtime, improved power factor, increased drive life, and sensitive equipment protection.

When used on the load side between the AC drive and the motor, reactors decrease voltage spikes between the motor and drive, increasing the reliability and longevity of both. Recommended for load-side applications with wiring lengths of 100 feet or less.

- Voltage support of 120 VAC and 230 VAC single-phase;
- 230, 460, and 575 VAC three-phase
- Sizes up to 361 Amps





VFD Output Filters

VTF series output (dV/dt) filters provide protection against harmful reflected waves between the VFD output and AC motor. These are recommended for any application when motor protection is critical or for any motor wiring distance from 100-1,000 feet. The filters ensure voltage spikes are limited to below 1,000 V.

Output filters also provide other benefits, such as reduced motor heating, increased motor bearing life, and reduced common mode current.

- Voltage support of 208-600 VAC
- Sizes up to 362 Amps
- NEMA1 versions available for mounting outside of the panel

GS Brake Resistors

Brake resistors are used to increase the braking torque of the AC drive, for frequently repeated ON-OFF cycles of the AC drive, or for decelerating a load with large inertia. Brake resistors are compatible with various AC drives (check specifications for selection).

- Available power ratings from 80 W to 9.6 kW
- Resistance ratings from 3.3 to 750 Ohms
- Available in encapsulated, panel mount,

and in a NEMA 1 enclosure with temperature switch







CROHM Brake resistors

CROHM brake resistors are designed and manufactured in the USA with ISO 9001 certification. They can be used with any AC drive up to 600 V (check specifications for selection). These resistors come enclosed in a NEMA 1 enclosure and include a built-in temperature switch.

- ${\scriptstyle \bullet}$ Available power ratings from 240 W to 18 kW
- Resistance ratings from 3.7 to 400 Ohms
- Stainless steel bus bars
- Pre-wired terminal blocks
- CSA compliance to CSA 22.2 and UL 508 standard
- CE compliant