

Micro AC Variable Frequency Drives (VFDs)



DURA
III PULSE
GS10



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AC Microdrives. Less is More.



AutomationDirect.com is a trusted source for AC microdrives. These drives are a great solution for speed control of low horsepower motors in simple applications.

Traditionally, AC microdrives are great when small speed adjustments are required in applications such as low torque conveyors or light duty fans and pumps. However, this drive category now includes generous I/O and many advanced features that can handle even more applications, all while keeping a low price tag.

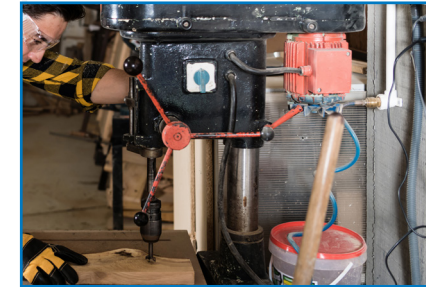
What are the benefits of AC microdrive? Why would I need an AC microdrive?

- **Small Footprint.** The installation size of AC microdrives is much smaller than most general purpose drives. They can be DIN rail or panel mounted.
- **Single-Phase Compatible.** AC microdrives allow a single-phase input with a 3-phase output to allow the ability to control a 3-phase motor when only single-phase power is available. Many models are available that accept a 120VAC single-phase input and output 230VAC 3-phase
- **Advanced Features.** AC Microdrives offer functions that are normally only found on higher-cost general purpose and high performance drives, such as dynamic braking, sensorless vector control, advanced communications protocol support and an integrated PLC or sequence programming.
- **Low Cost.** AC microdrives offer a lot of features and control for a lot less money. For low horsepower and basic control requirements, these are an excellent solution to many industrial controls and hobbyists applications.
- **Reduce Inrush Current.** Utilize AC microdrives to control the inrush current at motor start-up. This allows the use of smaller fuses, reduces electrical peak load, and reduces stress on the mechanical system.
- **Variable Speed.** AC microdrives provide the ability to trim the speed slightly lower or slightly above base speed as well as ramp the accel and decel time when changing speed or directions
- **Integrated Functionality.** Most AC microdrives 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). Some models support communication from a PLC or master controller.

What type of applications use AC microdrives?

Generally small conveyor, pump and fan applications with low horsepower motors, that need basic speed control or a few advance control features. Other areas where AC microdrives excel:

- If existing panel space is limited, the compact drive size makes it easy to install.
- If only single-phase power is available in a home or hobbyist location, these drives provide the ability to use a 3-phase motor.
- Applications that require a drive and small PLC can be replaced entirely by an AC microdrive.
- Other application examples are small lathes or drill presses.



Drill presses



Small conveyors or case erectors



Small automated storage units such as vertical carousels

Buying your AC microdrive from ADC provides several distinct advantages:



Price

As with all of our product lines, our prices are often well below the list prices of traditional automation suppliers. Our direct business model allows us to operate more efficiently than other suppliers and pass the savings on to you.



Quality

All of the AC microdrives we sell have a 1- or 2-year warranty and a 45-day moneyback guarantee. If for any reason you are not satisfied with your purchase, send it back and we will refund your money.







Service

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.

Not sure that this is the right AC Drive series you need?

Click for a complete selection guide

Select the Best AC Microdrive Series for Your Application

MICRO AC DRIVES	
 	 
Our most affordable VFD with sensorless vector and PID control	The smallest VFD in the world but still packed with features
Input/Output Voltages hp Range	Input/Output Voltages hp Range
120VAC 1-Phase/230VAC 0.25 - 1 hp	120VAC 1-Phase/230VAC 0.25 - 0.5 hp
230VAC 1-Phase/230VAC 0.25 - 3 hp	230VAC 1-Phase/230VAC 0.5 - 1 hp
230VAC/230VAC 0.25 - 7.5 hp	-
460VAC/460VAC 0.25 - 10 hp	-
Supported Control Modes	Supported Control Modes
V/F	V/F
Sensorless Vector (1:50)	Sensorless Vector
Built-in I/O	Built-in I/O
5 digital inputs	4 digital inputs
1 digital output	1 relay output
1 relay output	-
1 built-in analog input	-
1 built-in analog output	-
Optional I/O	Optional I/O
-	Potentiometer expansion card
-	4 Digital input expansion card
-	1 analog in / 1 analog out expansion card
-	1 analog in / 1 Relay output expansion card
-	1 Thermistor / 1 analog in / 3 Relay output expansion card
Keypad	Keypad
Non-removable keypad with optional remote keypad	Non-removable keypad with optional remote keypad
Communication Supported	Communication Supported
Modbus RTU over RS-485	-
Optional Communications	Optional Communications
-	Optional Modbus RTU communications module
-	USB programming module
Safety Ratings	Safety Ratings
-	-
Environmental Ratings	Environmental Ratings
IP20	IP20
Additional Features	Additional Features
Built-in dynamic braking	-
-	Built-in PLC
PID Control	PID Control
Free GSoft2 for configuration	Free WPS programming software for drive configuration and monitoring as well as PLC programming

CFW100 Series AC Variable Frequency Drives

Starting at
\$134.00

CFW100 Series VFDs

Technology is at your fingertips with the smallest VFD in the market, with an incredible set of built-in features. The CFW100 is a single-phase variable speed drive developed for simple applications ranging from 0.25 to 1hp (0.18 kW to 0.75 kW)

A strong partner for OEMs, it gives induction motors a selectable scalar (V/F) or voltage vector control (VW), HMI and plug-and-play philosophy, with easy and fast installation and operation.

- Robust design supports overload current of 150% for 60 seconds
- Ambient temperature: up to 50 °C
- SoftPLC functions makes it a flexible and optimized solution
- PID Controller enhances performance by monitoring changes in pressure, flow or other external data
- Communications via USB or Modbus RTU via plug-in modules
- Conformal coating Increases lifetime, protecting the electronic boards against corrosive atmospheres. Classified as 3C2 according to IEC 60721-3-3



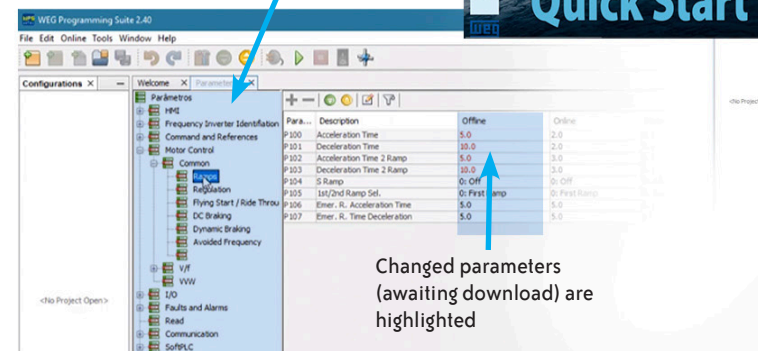
Typical Applications

- Food and beverage
- Small material handling
- Air circulation
- Medical and health sector
- Machines with single-phase power source
- New markets (solar, etc.)
- Packaging lines
- Sorting conveyors

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.

Filter and download parameters by group, or use the powerful search function to create your own parameter groups



Changed parameters (awaiting download) are highlighted

Welcome screen takes new users right to the most common activities

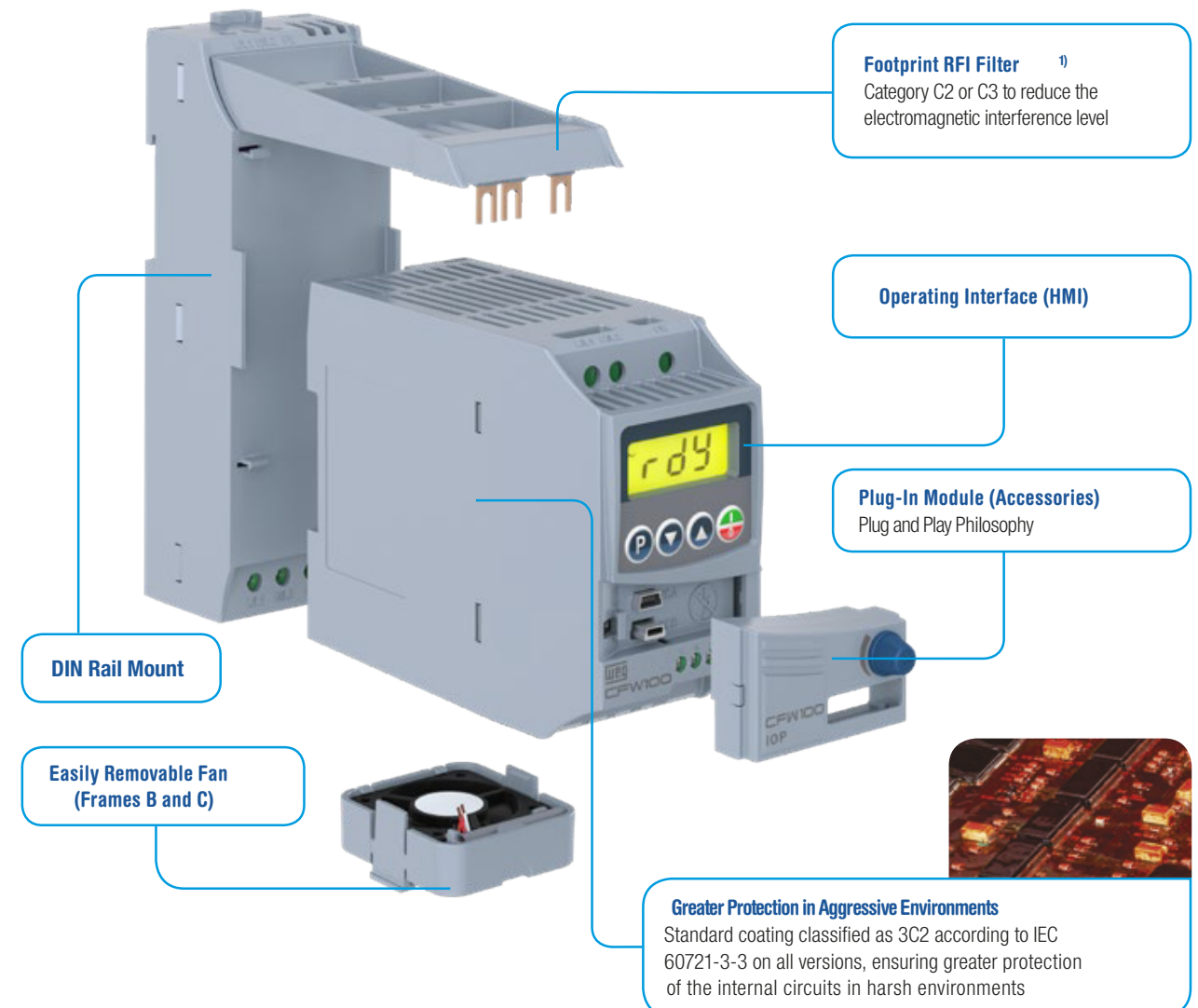
Other great Quick Start features include:

- Monitoring wizards
- Configuration wizards
- Custom monitoring windows
- Trending
- Diagnostics
- And MORE!

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CFW100 Flexibility

Compact and innovative design. Flexible selection.



Remote HMI

CFW100-KHMIR Accessory





DURAPULSE® GS10 AC Drives



DURAPULSE GS10 AC Sensorless Vector Drives

The DURAPULSE GS10 series AC drives have all of the features of the latest DURAPULSE microdrive, as well as many of the features offered on higher performance drives such as sensorless vector and PID.

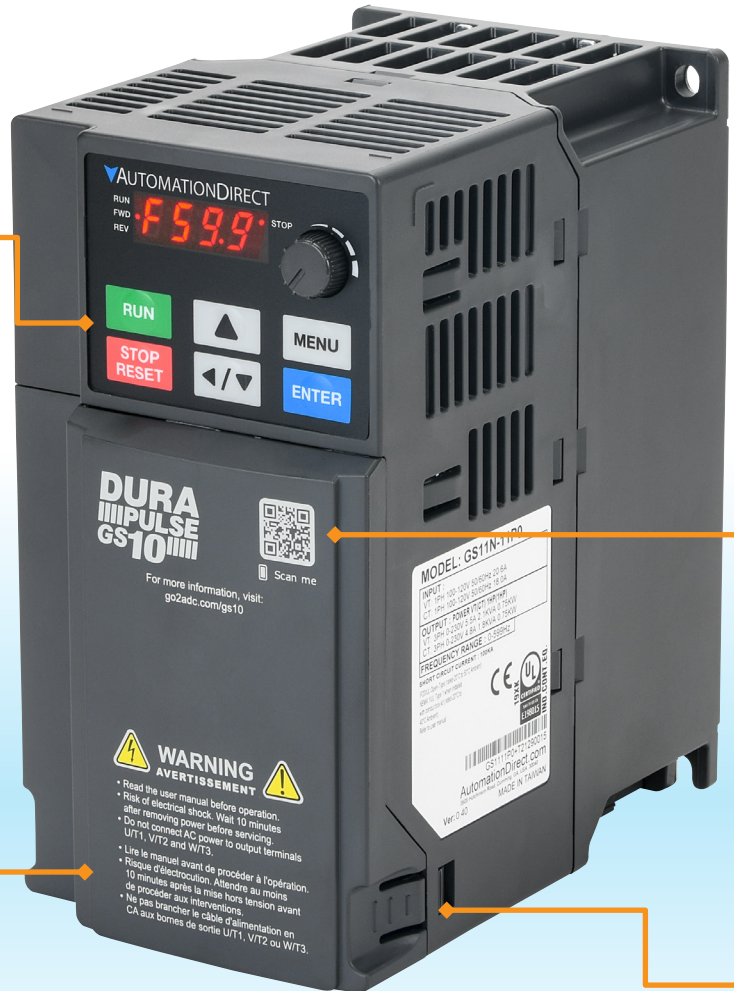
Starting at
\$119.00



	120V 1-ph	230V 1-ph	230V 3-ph	460V 3-ph
Frame A - HP	1/4, 1/2	1/4, 1/2	1/4, 1/2, 1	1/2, 1
Frame B - HP		1	2	2
Frame C - HP	1	2, 3	3, 5	3, 5
Frame D - HP			7.5	7.5, 10
Part #s	GS11N-1xxx	GS11N-2xxx	GS13N-2xxx	GS13N-4xxx

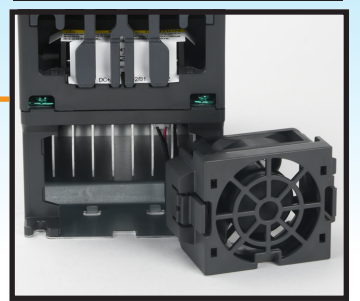
Built-in Keypad with 4-digit, 7 segment LED display; Speed control potentiometer and optional remote keypad.

Removable RFI jumper (depends on application needs)

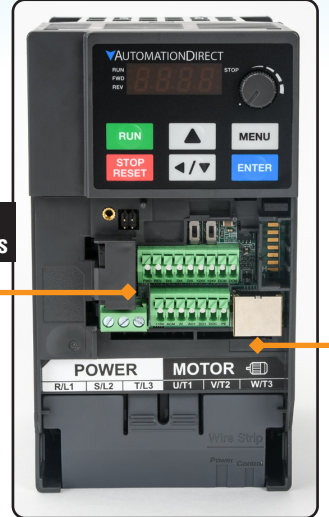


QR Code for remote access to product details (online)

Removable fan, fast & easy to replace



Spring clamp terminal blocks



Built-in RS-485 w/ Modbus RTU

Zero-Stack Installation

Zero-stack installation saves time, money and panel space by allowing the GS10 drives to be mounted right up next to each other.



GS13N-47P5

Motor HP:

0P2: 0.25hp, 0P5: 0.5hp, 1P0: 1.0hp, 2P0: 2.0hp, 3P0: 3.0hp, 5P0: 5.0hp, 7P5: 7.5hp, 010: 10hp

Input Volts:

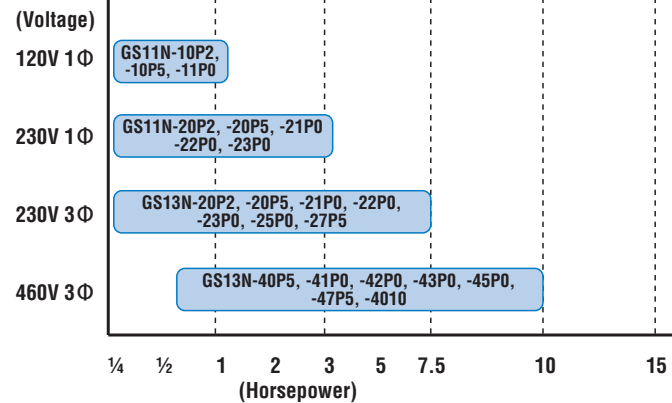
1: 120VAC, 2: 230VAC, 4: 460VAC,

Input Phase:

1: single phase, 3: three phase

Series Name:

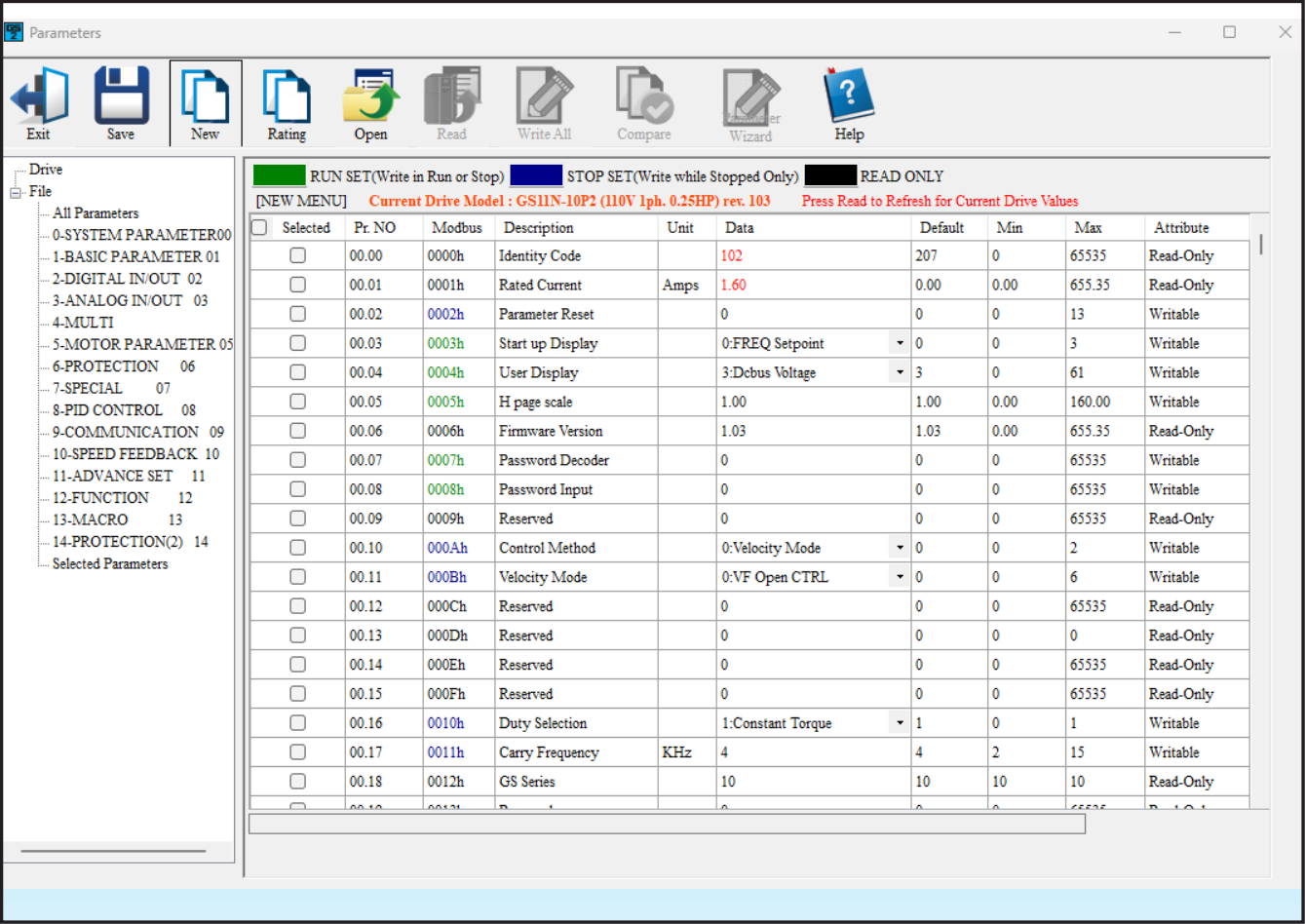
GS1_ = GS10



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

GS10 Programming

The GS10 VFDs support parameter configuration, setup and troubleshooting via the GSOF2 software.



GSOF2 – for parameter configuration, setup, troubleshooting, monitoring & firmware upgrade

GS10 Control Modes

		V/F Mode (+encoder)	SVC Mode
Induction Motor (IM)	Torque	150% @ 3Hz	150% @ 3Hz
	Accuracy	1:50 speed control	1:50 speed control
Permanent Magnet (PM)	Torque	NA	100% @ 1/20 rated Hz
	Accuracy		1:20 speed control

GS10 Additional Features

GS10 drives also support:

- V/Hz Control and Sensorless Vector Control
 - Maximum Frequency Output 599Hz
 - Multiple motor support, supports up to 2 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
 - Circuit boards have conformal coating for improved environmental tolerance
 - Built-in RS485 communications (Modbus RTU)
- Analog input, selectable voltage or current.
 - Analog output, voltage
 - Digital I/O: 5 inputs, 2 outputs
 - Mounting, NEMA1 conduit box; DIN rail adapter; EMC shield plate; Top-wire mounting plate (all optional)
 - Compact size
 - Fire Mode – Run fire mode during emergencies to have uninterrupted smoke removal and system pressure
 - Multi-Pump Control and Auto Operation functions
 - Two-year warranty
 - UL, CE listed

GS Drive Accessories

- VTF output filters
 - High speed Class J fuses and fuse holders
 - Dynamic braking resistors and DBUs
- EMI and RFI filters
 - Replacement cooling fans
 - Conduit box kits
- DIN rail mounting kits
 - Remote keypads
 - Line reactors



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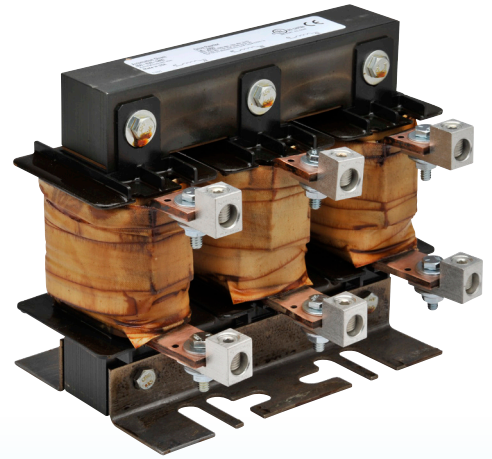
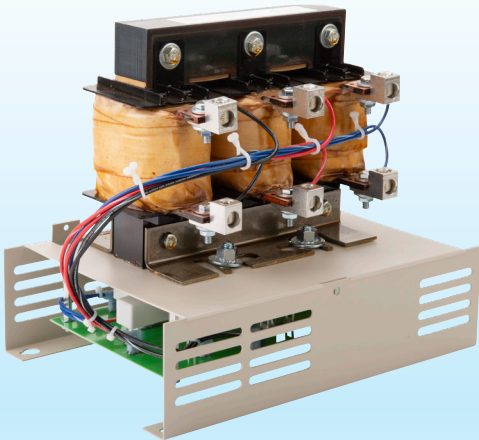
AC Drive Accessories

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.

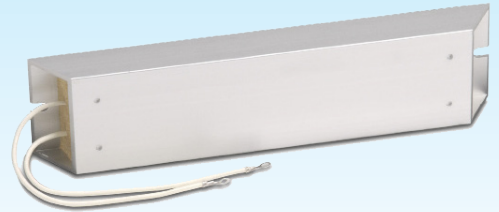
Output filters also provide other benefits, such as reduced motor heating, increased motor bearing life, and reduced common mode current.

- 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.

- 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

