

AC Drives Selection Guide



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Fuji Electric

Reach the PINNACLE of Performance and Reliability

When you work with Fuji Electric, you aren't just getting a manufacturer of quality products — you're getting a partner who can support your business to overcome challenges. That's what the Pinnacle of Performance and Reliability is all about — products with the best quality, world-class applications expertise, and unwavering dedication to help your business reach new levels of success.

Fuji Electric has been a global manufacturing leader since 1923, and we are proud to offer a broad product portfolio of Drives and HMI solutions to our customers around the world. Since 1970, Fuji Electric Corp. of America has been a trusted provider of variable frequency drives and power electronics across North, Central, and South America. Our reputation is built on reliable quality, superior performance, and cutting-edge innovation.



Backed by a robust global logistics network, Fuji Electric offers custom, cost-effective solutions that combine advanced technology with long-lasting performance. Our versatile product range serves a wide array of industries, including conveyors, water treatment, HVAC, elevators, and more. The FRENIC Series of low-voltage inverters delivers the features and flexibility to meet diverse requirements—ensuring energy savings, reduced maintenance, and improved environmental performance.

AC Drives Overview

Series	Application	Input Voltage	Applicable Motor Capacity
FRENIC-Mini (C2)	<ul style="list-style-type: none"> Fans Pumps Conveyors Food Machinery Chemical Machinery 	115VAC - 1-Phase	1/8 to 1 HP
		230VAC - 1-Phase	1/8 to 3 HP
		230VAC - 3-Phase	1/8 to 20 HP
		460VAC - 3-Phase	1/8 to 20 HP
FRENIC-Ace (E2)	<ul style="list-style-type: none"> Fans Pumps Conveyors Elevators Press Machinery Textile Machinery Chemical Machinery 	230VAC - 1-Phase	1/8 to 3 HP
		230VAC - 3-Phase	1/4 to 40 HP
		460VAC - 3-Phase	1/4 to 40 HP
FRENIC-MEGA (G1)	<ul style="list-style-type: none"> Compressors Centrifugal Pumps Machine Tools Chillers Extruders 	230VAC - 3-Phase	1/2 to 150 HP
		460VAC - 3-Phase	1/2 to 1000 HP
FRENIC-MEGA (G2)	<ul style="list-style-type: none"> Compressors Centrifugal Pumps Machine Tools Chillers Extruders HVAC Water Pumping 	230VAC - 3-Phase	1/2 to 150 HP
		460VAC - 3-Phase	1/2 to 1200 HP

Available Keypads

FRENIC Series offers multiple keypad options for your application.



The FRENIC-MEGA (G2)'s full feature keypad includes Bluetooth connectivity. The FRENIC Mobile Loader is a free configuration and troubleshooting bluetooth connected phone App tool for enhanced user productivity panel mounted.



FRENIC-Loader Software

All FRENIC Series inverters come with complimentary programming/troubleshooting PC software.



FRENIC-Mini (C2) General Purpose Micro Inverter



FRENIC-Mini (C2) Series of AC Drives combines ease of use with high performance, offering rich functionality in a compact size. The C2 Series strikes an optimal balance between price and performance.

- V/F and Dynamic Torque Vector Control
- Fastest CPU processor in its class
- PID Control Function
- PM Motor Control
- Built in RS-485/Modbus

Key Options:

- NEMA/UL Type 1 kit
- Din Rail Adapter (Up to 5HP)
- Remote/USB Keypad

Applications Motor Capacity

115VAC - 1-Phase	1/8 to 1HP
230VAC - 1-Phase	1/8 to 3 HP
230VAC - 3-Phase	1/8 to 20 HP
460VAC - 3-Phase	1/8 to 20 HP

FRENIC-Ace (E2) High Performance Customizable Inverter



Ideal for OEMs, the FRENIC-ACE is a high performance, full featured AC Drive designed to suit a wide variety of applications.

- Variety of Vector Control Modes
- Customizable Logic up to 200 steps
- PM Motor Control
- Dual Channel RS-485 Port
- Built-in Safe Torque Off (STO) Input
- Multiple Power Ratings
- Password Protection

Key Options:

- NEMA/UL Type 1 Kit
- USB/Multi Function Keypad
- I/O Expansion Adapter
- Fieldbus Communication Card
- External Cooling Adapter

Applications Motor Capacity

230VAC - 1-Phase	1/8 to 3 HP
230VAC - 3-Phase	1/4 to 40 HP
460VAC - 3-Phase	1/4 to 40 HP

FRENIC-MEGA (G1) High Performance Multifunctional Inverter



The FRENIC-MEGA Drive is versatile and compact, utilizing Fuji Electric's own IGBT technology and offering customers a multi-rated specification solution for virtually all AC Drive applications.

- Sensorless Vector Control Mode
- Advanced PID Functions
- Built-In Safe Torque Off (STO) Input
- Removable Control Terminals
- 3 Available Option Ports
- Multi Function Keypad as Standard

Key Options:

- NEMA/UL Type 1 kit
- USB Keypad
- I/O Expansion Adapter
- Fieldbus Communication Card
- External Cooling Adapter

Applications Motor Capacity

230VAC - 3-Phase	1/2 to 150 HP
460VAC - 3-Phase	1/2 to 1000 HP

FRENIC-MEGA (G2) High Performance Multifunctional Inverter



The FRENIC-MEGA Drive is versatile and compact, utilizing Fuji Electric's own IGBT technology and offering customers a multi-rated specification solution for virtually all AC Drive applications.

- Sensorless Vector Control Mode
- Customizable Logic up to 260 steps
- Advanced PID Functions
- Built-In Safe Torque Off (STO) Input
- Removable Control Terminals
- 3 Available Option Ports
- Multi Function Keypad as Standard

Key Options:

- NEMA/UL Type 1 kit
- USB Keypad
- I/O Expansion Adapter
- Fieldbus Communication Card
- External Cooling Adapter

Applications Motor Capacity

230VAC - 3-Phase	1/2 to 150 HP
460VAC - 3-Phase	1/2 to 1200 HP

Specifications

	Model Series	FRENIC-Mini	FRENIC-Ace	FRENIC-MEGA	FRENIC-MEGA
Ratings	Product Series Code	C2	E2	G1	G2
	HP & Voltage	1/8 - 1HP, 1ph 115V 1/8 - 3HP, 1ph 230V 1/2 - 20HP, 3ph 230V 1/8 - 20HP, 3ph 460V	1/8 - 3HP, 1ph 230V* 1/4 - 40HP, 3ph 230V* 1 - 40HP, 3ph 460V*	1/2 - 150HP, 3ph 230V* 1/2 - 1000HP, 3ph 460V*	1/2 - 150HP, 3ph 230V* 1/2 - 1200HP, 3ph 460V*
	Overload Capability	HD: 150% - 1 min 200% - 0.5 sec	HHD: 150% - 1 min 200% - 0.5 sec HND: 120% - 1 min	LD: 120% - 1 min HD: 150% - 1 min 200% - 3 sec	HND: 120% - 1 min HHD: 150% - 1 min 200% - 3 sec
Control Mode	V/f Control	Standard	Standard	Standard	Standard
	V/f Control with Encoder	-	Option	Option	Option OPC-PG, OPC-PG2, OPC-PG22
	Dynamic Torque Vector Control	Standard	Standard	Standard	Standard
	Dynamic Torque Vector Control with Encoder	-	-	Option	Option OPC-PG, OPC-PG2, OPC-PG22
	Vector Control with Encoder	-	Option	Option	Option OPC-PG, OPC-PG2, OPC-PG22
Specifications	PM Motor Control	Standard	Standard	Option	Option OPC-PMP-G2
	Analog Input	2	2	3	3
	Analog Output	1	2	2	2
	Digital Input	5	7	9	11
	Digital Output	2	3	6	6
	Max. Output Frequency	400Hz	500Hz	400Hz	599Hz
	Customizable Logic	-	Available	Available	Available
	Safety function	-	STO	STO	2 Inputs
	Remote Keypad	TP-E1	-	-	-
	Remote Keypad with USB port	TP-E1U	TP-E1U	TP-E1U	TP-E1U
	Multi Function Keypad	-	TP-A1-E2C	TP-G1-J1 TP-G1W-J1	Standard
Communications	Multi Function Keypad with Gasket	-	-	(Standard Equipped)	Standard
	Modbus RTU	Standard	Standard	Standard	Standard
	DeviceNet	-	OPC-DEV	OPC-G1-DEV	OPC-DEV
	Profibus DP	-	OPC-PDP3	OPC-G1-PDP2	OPC-PDP2
	Profinet RT	-	OPC-PRT	OPC-PRT2/OPC-PRT3	OPC-ETM
	Ethernet I/P	-	OPC-ETH2	OPC-PRT3	OPC-ETM
	Modbus TCP	-	-	OPC-PRT3	OPC-ETM
	BACNet MS/TP	-	-	-	Standard
	BACNet IP	-	-	OPC-PRT3	OPC-PRT3
	LonWorks®	-	-	-	-
	Metasys® N2	-	-	-	-
	APOGEE® FLN (P1)	-	-	-	-
	CANOpen	-	OPC-COP	OPC-G1-COP	OPC-COP2
	CC-Link	-	OPC-CCL	OPC-G1-CCL	OPC-CCL
	T-Link	-	-	OPC-G1-TL	OPC-TL
Environment	Altitude	No derating up to 3000 ft (1000m) or less			
	EMC Filter	Option - Lead Time	Option - Lead Time	Option - Lead Time	Option - Lead Time
	Heat Sink Through Panel Mounting	Available	Available	Available	FRN0032G2S-2GU through FRN0115G2S-2GU FRN0018G2S-4GU through FRN0060G2S-4GU Standard for 75 HP HHD or 100 HP HND and All Larger HPs
	DC Reactor	as option	as option	~ 75HP: as option 100HP ~: supplied with drive	Option
	UL Open Type	Standard	Standard	Option	Standard IP00/IP20 Type 1 Kit Option
	NEMA/UL Type1	Standard (IP20)	Standard (IP20)	Standard (IP20/IP00)	-
	NEMA/UL Type12 UL / cUL, CE, RoHs	- Yes	- Yes	- Yes	- Yes

* Capacity varies by duty level. Capacity shown is low duty



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