

## High Performance Multifunctional Inverters

# FRENIC-MEGA

FRENIC-MEGA continues to provide the level of quality, robust design, easy to use interface, and competitive price for general-purpose industrial drives for which Fuji Electric is recognized for. Additionally the FRENIC-MEGA series offers more high-performance features and functions that are typically only found on “high-end” drives allowing one product family to cover a broader range of applications. Offered in a capacity range that covers 1/2Hp through 1,000Hp, that includes a common interface, common programming and industrial network connectivity, the FRENIC-MEGA is exceptionally suited for industrial applications where standardizing on one product across a facility can lead to increased productivity.



### Control Inputs/Outputs

- (9) Digital Inputs
- (2) Safety Inputs (Dedicated)
- (3) Analog Inputs
- (6) Digital Outputs:
  - (2) Relays (1 Form C & 1 Form A)
  - (4) Transistor, 56 Selectable Functions
- (2) Analog Outputs; Selectable Type:
  - 0 to 10VDC or 4 to 20mA Configurable to Provide Output Signal Proportional to 15 Different Functions
- (2) RS-485 Connections
  - RJ45 Keypad Port & Control Terminal Block Connections
- 24VDC Power Supply Rated 100mA
- High Performance LED & LCD Keypad with NEMA/UL Type 4 Approved

### Motor Control

- Multiple Power Rating
  - LD (Low Duty): 120% for 1 Min
  - MD (Medium Duty): 150% for 1 Min
  - HD (High Duty): 200% for 3s / 150% for 1 Min
- High Performance Closed Loop Vector Control with Option Card
- High Performance Sensor-less Vector Control
- Built-in Braking Transistor Up to 40HP(LD)/30HP(HD)
- Built-in Braking Resistor up to 15HP(LD)/10HP(HD)
- Single Phase Input for All Models

### Safety and Standard

- Safety Input Compliant with EN ISO13849-1,
- EN954-1, Category 3
- UL 508C, CE
- UL Premium Rating
- NEMA/UL Type 1 by Option Kit
- RoHS Directive Compliance

### Options

#### Fieldbus:

- EtherNet/IP
- PROFINET IO
- Modbus TCP
- BACnet/IP
- CC-Link
- DeviceNet
- Profibus DP
- CANopen

#### I/O Expansion:

- Keypad with USB Port
- Relay Output
- Digital Inputs and Outputs
- Analog Inputs and Outputs
- PG (Encoder) (5,12,15V)
- PG Synchronization

#### Others:

- DC/AC Reactor
- EMI/RFI Filter
- Braking Unit
- Braking Resistor
- NEMA/UL Type1 Kit

Fuji Electric's FRENIC-MEGA drive series are high performance, multifunctional inverters providing the industry's highest performance for three-phase motor applications. They offer customizable logic capabilities to replace minimum PLC use. They are designed for 24/7 operation with embedded motor protection and critical maintenance functions.



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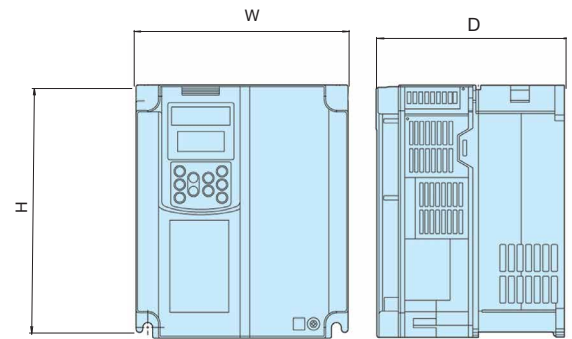


## Specifications & Dimensions

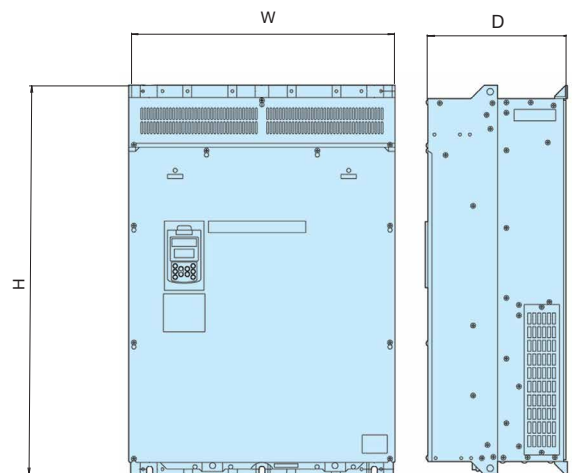
Capacity (HP)	230V: 0.5 - 150HP (LD) 0.5 - 125HP (HD) 460V: 0.5 - 1000HP (LD) 150 - 700HP (MD) 0.5 - 900HP (HD)	Starting Torque (Open loop)	≤ 30HP(HD): 200% at 0.3Hz ≥ 40HP(HD): 180% at 0.3Hz
Overload Capability	LD (Low Duty): 120% 1min, MD (Middle Duty): 150% 1min HD (High Duty): 150% 1mini, 200% 3s	Braking Transistor	≤ 30HP(HD), 40HP (LD): Built-in
Input Power	230V Series: Single/Three Phase 200 to 240V, 50/60Hz 460V Series: Single/Three phase 380 to 480V, 50/60Hz Voltage: +10% to -15% (unbalance 2% or less) Frequency: +5% to -5%	Braking Resistor	≤ 10HP(HD), 15HP (LD): Built-in
Control	V/F Control Dynamic Torque Vector Control Sensorless Vector Control Closed Loop Vector Control	DC Reactor	≥ 75HP(LD), 100HP(HD): Comes with Drive (External)
Output Voltage	230V Series: Three Phase 200 to 240V (with AVR Function) 460V Series: Three Phase 380 to 480V (with AVR Function)	Ambient Temperature	-10 to 50°C (14 to 122°F) for Operation, -25 to 65°C (-13 to 149°F) for Storage
Output Stability	Analog Setting: ±0.2% of Maximum Frequency Digital setting: ±0.01% of Maximum Frequency (by Keypad)	Storage Temperature	-25 to +65°C (-13 to 149 °F)
Output Frequency	V/F, Dynamic Torque Vector Control: 500Hz Maximum (HD), 120Hz (MD, LD) Sensorless Vector Control: 120Hz Maximum Closed Loop Vector Control: 200Hz Maximum	Relative Humidity	5 to 95% RH (without condensation)
		Installation Location	IEC60664-1 Pollution Degree 2 (Free from Corrosive Gases, Flammable Gases, Oil Mist, Dust and Direct Sunlight) Indoor Use Only
		Altitude	≤ 3,300ft (1,000m) , 3,300ft (1,000m) to 9,900ft (3,000m) with Derating
		Enclosure	UL Open Type, NEMA/UL Type 1 by Option Kit
		Safety	EN ISO13849-1, EN954-1, Category 3
		Standard	UL, cUL: UL508C, C22.2 No. 14, EN61800-5:2007 CE: EN61800-5-1, RoHS: 2002/96/EC

Model Number and Weight				Dimensions (Inches)		
230V	Mass lbs.	460V	Mass lbs.	W	H	D
FRNF50G1S-2U	3.8	FRNF50G1S-4U	3.8	4.33	10.24	5.20
FRN001G1S-2U	4.4	FRN001G1S-4U	4.4			5.71
FRN002G1S-2U	6.2	FRN002G1S-4U	5.7	7.68		
FRN003G1S-2U	6.6	FRN003G1S-4U	6.0			
FRN005G1S-2U	6.6	FRN005G1S-4U	6.6	8.66	15.75	7.68
FRN007G1S-2U	14	FRN007G1S-4U	14			
FRN010G1S-2U	14	FRN010G1S-4U	14	9.84		
FRN015G1S-2U	14	FRN015G1S-4U	14			
FRN020G1S-2U	13	FRN020G1S-4U	13	12.60	21.65	10.04
FRN025G1S-2U	21	FRN025G1S-4U	21			
FRN030G1S-2U	21	FRN030G1S-4U	21	13.98	26.57	10.63
FRN040G1S-2U	22	FRN040G1S-4U	22			
FRN050G1S-2U	55	FRN050G1S-4U	55	20.87	29.53	11.22
FRN060G1S-2U	71	FRN075G1S-4U	68			
-	-	FRN100G1S-4U	73	26.77	34.65	14.17
FRN075G1S-2U	93	FRN125G1S-4U	93			
FRN100G1S-2U	95	-	-	20.87	29.13	12.40
FRN125G1S-2U	137	-	-			
FRN150G1S-2U	232	-	-	39.37	55.12	17.32
-	-	FRN150G1S-4U	137			
-	-	FRN200G1S-4U	141	34.65	61.02	19.69
-	-	FRN250G1S-4U	207			
-	-	FRN300G1S-4U	216	26.77	39.37	14.17
-	-	FRN350G1S-4U	284			
-	-	FRN450G1S-4U	309	34.65	55.12	17.32
-	-	FRN500G1S-4U	540			
-	-	FRN600G1S-4U	540	39.37	61.02	19.69
-	-	FRN700G1S-4U	728			
-	-	FRN800G1S-4U	728	39.37	61.02	19.69
-	-	FRN900G1S-4U	1169			
-	-	FRN1000G1S-4U	1169			

40Hp (LD) & below



50Hp (LD) & Above



FEA-ACDR-DS-105