

Compact and High Performance Inverters  
***FRENIC-Mini (C2) Series***



**FE** Fuji Electric

**FRENIC-Mini**

**⚠ WARNING ⚠**

- RISK OF INJURY OR ELECTRIC SHOCK
- Refer to the instruction manual before installation and operation.
- Do not remove any cover while applying power and at least 5min. after disconnecting power.
- Securely ground (earth) the equipment.

**⚠ 警告 ⚠**

- けが、感電のおそれあり
- 据え付け、運転の前に必ず取扱説明書を熟読してその指示に従うこと
- 通電中および電源しや断接5分以内は表面カバーを開けないこと
- 確実に接地をおこなうこと

Only type B of RCD is allowed.  
See manual for details. (3PH Series)  
The supply neutral must be earthed. (400V Series)

# FRENIC-Mini (C2) Inverters

## Compact and High Performance Inverters

The next generation FRENIC-Mini inverter is high performance in a compact drive. Get our most user-friendly drive yet; with its rich functionality, compact design, simple operation, and global compatibility, the new FRENIC-Mini elevates the performance of a wide range of devices and equipment including conveyors, fans, pumps, centrifugal separators, and food processing machines. Its capabilities give you the system integration, energy efficiency, reduced labor, and lower overall costs for which you are looking.

## Features

### ■ Control Inputs/Outputs

Qty 5 Digital Inputs: X1 – X3, FWD, & REV Programmable, 21 Selectable Functions  
Qty 2 Analog Inputs: Qty 1 – 0 to +10Vdc & Qty 1 – 4 to 20mA  
Qty 2 Digital Outputs: Qty 1 Form C Relay & Qty 1 Transistor, 23 Selectable Functions  
Qty 2 Analog Output: Selectable Type: 0 to 10Vdc or 4 to 20mA, 43 Selectable Proportional Output Signal Functions  
Qty 1 RS-485 Connections: RJ45 Port  
Operator's KEYPAD having LED Display Indicating System Operation and Associated Unit Conversion Displayed  
Keypad indication of Operations, Number of times unit placed in operation, Duration and kWh output  
24Vdc Output Terminal: 50mA Maximum Supply

### ■ Fully Compatible with Existing Products (FRENIC-Mini C1)

External Dimensions: Interchangeable  
Installed Dimensions: Interchangeable  
Number of Terminals: Same for both main circuit and controllers  
Terminal Position: Compatible terminal with length  
Function Codes: Compatible function codes  
RS-485 Communication: Shared communication protocol

### ■ Flexibility

FRENIC-Mini Keypad Displays Speed, Current, Frequency or Voltage output, PID operating data, Configurable to indicate process operating units  
Optional USB keypad  
PC Programming Loader Software  
Easier Maintenance Data: Mock malfunction, Number of startup, Cumulative motor running time, Total power, Trip history etc.  
Automatic Energy Savings Control: Optimum control of drive and motor loss  
PID Controller with Sleep mode, Proportional, Integral & Differential parameter settings to maximize control  
Cooling Fan ON/OFF control function  
V/F non-linear 3 step settings  
2 Motor switch control  
Brake signal  
Rotation direction control  
Single phase Input models are available  
Synchronous Motor control

### ■ Motor Control

Control: V/F control, Slip compensation, Auto-torque boost, Dynamic torque vector control system  
Rating: 150% for 1 min

### ■ Safety and Standard

EN61800-5-1 (Low Voltage Directive)  
UL 508C, CE  
Optional NEMA/UL Type 1 Kit  
RoHS Directive Compliance

### ■ Warranty

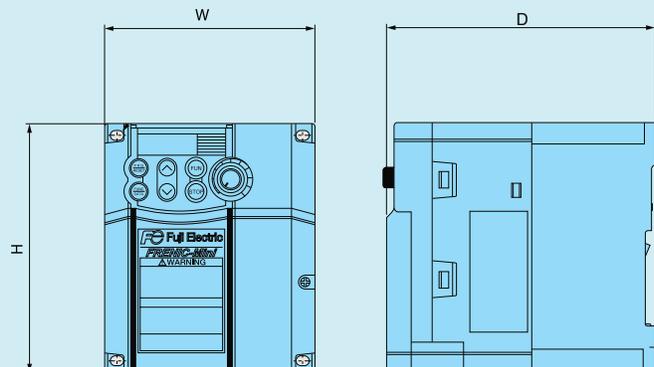
3 years from date of shipment

## Dimensions

	Model	HP	Mass lbs.	H	W	D
115V Single Phase	FRN0001C2S-6U	1/8	1.5	4.72	3.15	3.94
	FRN0002C2S-6U	1/4	1.5	4.72	3.15	3.94
	FRN0003C2S-6U	1/2	1.8	4.72	3.15	4.53
	FRN0005C2S-6U	1	2.9	5.12	4.33	5.47
230V Single Phase	FRN0001C2S-7U	1/8	1.3	4.72	3.15	3.15
	FRN0002C2S-7U	1/4	1.3	4.72	3.15	3.15
	FRN0004C2S-7U	1/2	1.5	4.72	3.15	3.74
	FRN0006C2S-7U	1	2.0	4.72	3.15	5.51
	FRN0010C2S-7U	2	4.0	5.12	4.33	5.87
	FRN0012C2S-7U	3	5.5	7.09	5.51	5.47
230V Three Phase	FRN0001C2S-2U	1/8	1.3	4.72	3.15	3.15
	FRN0002C2S-2U	1/4	1.3	4.72	3.15	3.15
	FRN0004C2S-2U	1/2	1.5	4.72	3.15	3.74
	FRN0006C2S-2U	1	1.8	4.72	3.15	4.72
	FRN0010C2S-2U	2	3.7	5.12	4.33	5.47
	FRN0012C2S-2U	3	3.7	5.12	4.33	5.47
	FRN0020C2S-2U	5	5.5	7.09	5.51	5.47
	FRN0025C2S-2U	7.5	6.8	8.66	7.09	6.22
	FRN0033C2S-2U	10	6.8	8.66	7.09	6.22
	FRN0047C2S-2U	15	9.8	10.24	8.66	7.48
	FRN0060C2S-2U	20	9.8	10.24	8.66	7.48
	460V Three Phase	FRN0002C2S-4U	1/2	2.6	5.12	4.33
FRN0004C2S-4U		1	2.9	5.12	4.33	5.47
FRN0005C2S-4U		2	3.7	5.12	4.33	5.47
FRN0007C2S-4U		3	3.7	5.12	4.33	5.47
FRN0011C2S-4U		5	5.5	7.09	5.51	5.47
FRN0013C2S-4U		7.5	6.8	8.66	7.09	6.22
FRN0018C2S-4U		10	6.8	8.66	7.09	6.22
FRN0024C2S-4U		15	9.8	10.24	8.66	7.48
FRN0030C2S-4U		20	9.8	10.24	8.66	7.48

## Options

- NEMA/UL Type1 Kit
- DIN Rail Adaptor (5HP and Less)
- DB Resister (1/2HP and Above)
- USB Keypad
- CE Filter



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## Specifications

Capacity	115V Single phase: 1/8 to 1HP 230V Single phase: 1/8 to 3HP 230V Three phase: 1/8 to 20HP 460V Three phase: 1/2 to 20HP
Overload Capability	150% 1 min; 200% .05 sec
Input Power	115V/230V Single/Three phase: 200 to 240V, 50/60Hz 460V Three phase: 380 to 480V, 50/60Hz Voltage: +10% to -15% (unbalance 2% or less) Frequency: +5% to -5%
Control	V/F control (Induction Motor) Dynamic Torque Vector control (Induction Motor) Permanent Magnet/Synchronous motor V/F control
Output Frequency	0.1 to 400Hz
Output Accuracy	Analog setting: +/-2% of maximum frequency Digital setting: +/- 0.01% of maximum frequency (by keypad setting)
Starting Torque	150% running at 1Hz with Slip compensation and auto-torque boost
Braking Transistor	Built-in except 1/4HP and less
Ambient Temperature	-10 to 50°C (14 to 122°F) for operation -25 to 75°C (-13 to 158°F) for storage
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	Sea level to 3300ft (1000m):No Derate 3300ft(1000m) to 9900ft(3000m): with Derating
Enclosure	UL Open type, NEMA/UL Type 1 by Option Kit
Standard	UL508C, EN 61800-5-1:2007