Fuji Electric

Innovating Energy Technology

Compact and High Performance Inverters

FRENIC-Mini (C2) Series

FEA-ACDR-BR-105a

FRENIC-Mini (C2) Inverters

Compact and High Performance Inverters

The FRENIC-Mini (C2) is our newest generation inverter and is fully compatible with the previous model (C1), offering extended horsepower (up to 20HP) in a compact design. Our most user-friendly drive yet, the performance of the FRENIC-Mini (C2) has been improved and comes standard with RS-485, torque vector control, permanent magnet motor, and PID control. This rich functionality is coupled with a compact design for a superior user experience, and customers will enjoy the ease-of-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.

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
Built-In 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

PM Motor Control Capability
Control: V/F control, Slip compensation, Auto-toque boost, Dynamic torque vector control system
Rating: 150% for 1 min
200% for 0.5 sec

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	FLA	Mass lbs.	H	W	D
115V Single Phase	FRN0001C2S-6U	1/8	0.7	1.5	4.72	3.15	3.94
	FRN0002C2S-6U	1/4	1.4	1.5	4.72	3.15	3.94
	FRN0003C2S-6U	1/2	2.5	1.8	4.72	3.15	4.53
	FRN0005C2S-6U	1	4.2	2.9	5.12	4.33	5.47
230V Single Phase	FRN0001C2S-7U	1/8	0.8(0.7)	1.3	4.72	3.15	3.15
	FRN0002C2S-7U	1/4	1.5(1.4)	1.3	4.72	3.15	3.15
	FRN0004C2S-7U	1/2	3.5(2.5)	1.5	4.72	3.15	3.74
	FRN0006C2S-7U	1	5.5(4.2)	2.0	4.72	3.15	5.51
	FRN0010C2S-7U	2	9.2(7.0)	4.0	5.12	4.33	5.87
	FRN0012C2S-7U	3	12.0(10.0)	5.5	7.09	5.51	5.47
230V Three Phase	FRN0001C2S-2U	1/8	0.8(0.7)	1.3	4.72	3.15	3.15
	FRN0002C2S-2U	1/4	1.5(1.4)	1.3	4.72	3.15	3.15
	FRN0004C2S-2U	1/2	3.5(2.5)	1.5	4.72	3.15	3.74
	FRN0006C2S-2U	1	5.5(4.2)	1.8	4.72	3.15	4.72
	FRN0010C2S-2U	2	9.2(7.0)	3.7	5.12	4.33	5.47
	FRN0012C2S-2U	3	12.0(10.0)	3.7	5.12	4.33	5.47
	FRN0020C2S-2U	5	19.1(16.5)	5.5	7.09	5.51	5.47
	FRN0025C2S-2U	7.5	25.0(23.5)	6.8	8.66	7.09	6.22
	FRN0033C2S-2U	10	33.0(31.0)	6.8	8.66	7.09	6.22
	FRN0047C2S-2U	15	47.0(44.0)	9.8	10.24	8.66	7.48
	FRN0060C2S-2U	20	60.0(57.0)	9.8	10.24	8.66	7.48
460V Three Phase	FRN0002C2S-4U	1/2	1.8(1.5)	2.6	5.12	4.33	4.53
	FRN0004C2S-4U	1	3.1(2.5)	2.9	5.12	4.33	5.47
	FRN0005C2S-4U	2	4.3(3.7)	3.7	5.12	4.33	5.47
	FRN0007C2S-4U	3	6.3(5.5)	3.7	5.12	4.33	5.47
	FRN0011C2S-4U	5	10.5(9.0)	5.5	7.09	5.51	5.47
	FRN0013C2S-4U	7.5	13	6.8	8.66	7.09	6.22
	FRN0018C2S-4U	10	18	6.8	8.66	7.09	6.22
	FRN0024C2S-4U	15	24	9.8	10.24	8.66	7.48
	FRN0030C2S-4U	20	30	9.8	10.24	8.66	7.48

When ambient temperature exceeds 40°C (104°F), use (##) data. See the Instruction manual INR-SI-47-1729a-E for detail.

Options

- NEMA/UL Type1 Kit
- DIN Rail Adapter (5HP and Less)
- DB Resistor (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% 0.5 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

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