

Fuji Electric is the world's top class market share manufacturer of general -purpose inverter in the 5HP class or below. Based on our experience and customer's needs, we have now integrated our advanced designs and industry-leading technologies to develop a new inverter series, called FRENIC-Mini.

Ideal functions to meet various needs

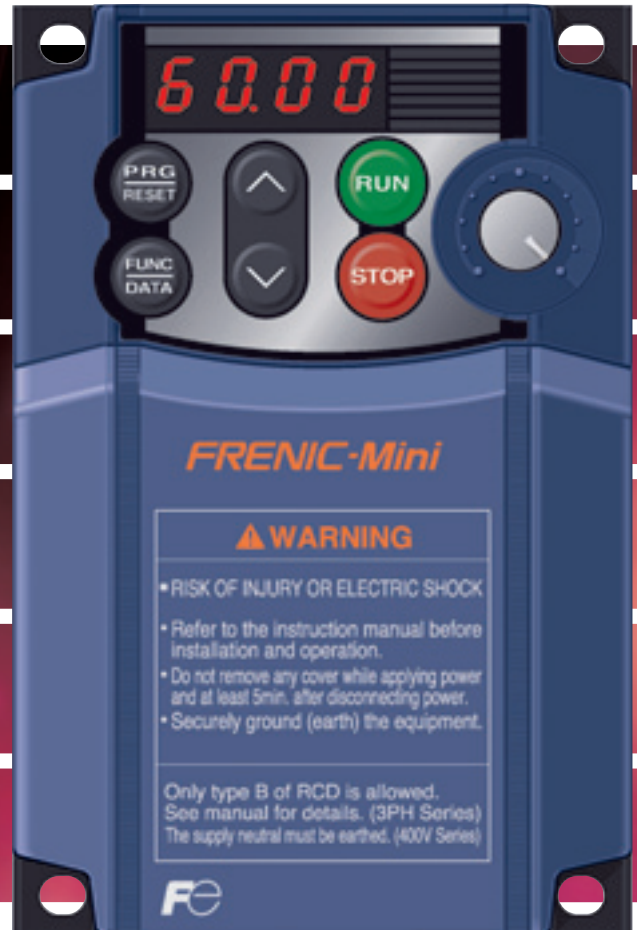
New, compact design

Simple operation

Multiple Options

A broad range of model variations

Global products



Variation

Standard type

Applicable motor rating(HP)	Three-phase 230V	Three-phase 460V	Single-phase 230V	Single-phase 115V
1/8	FRNF12C1S-2U		FRNF12C1S-7U	FRNF12C1S-6U
1/4	FRNF25C1S-2U		FRNF25C1S-7U	FRNF25C1S-6U
1/2	FRNF50C1S-2U	FRNF50C1S-4U	FRNF50C1S-7U	FRNF50C1S-6U
1	FRN001C1S-2U	FRN001C1S-4U	FRN001C1S-7U	FRN001C1S-6U
2	FRN002C1S-2U	FRN002C1S-4U	FRN002C1S-7U	
3	FRN003C1S-2U	FRN003C1S-4U	FRN003C1S-7U	
5	FRN005C1S-2U	FRN005C1S-4U		

Standard specifications

Three-phase series

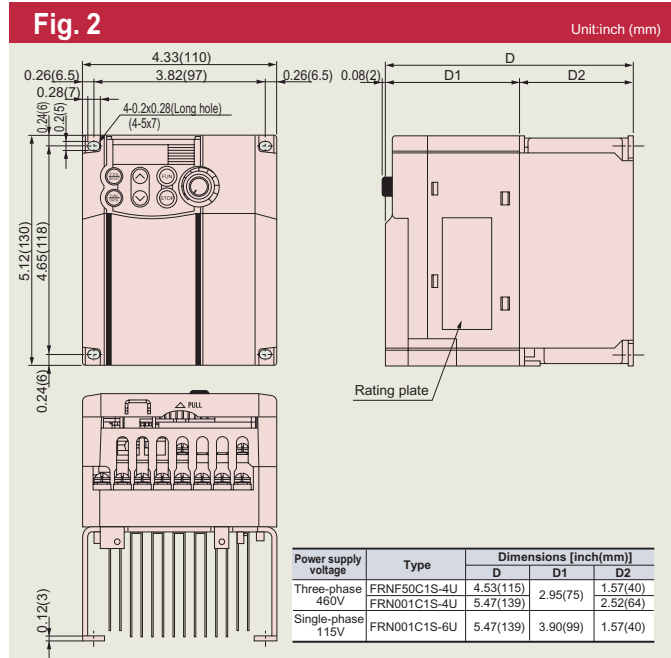
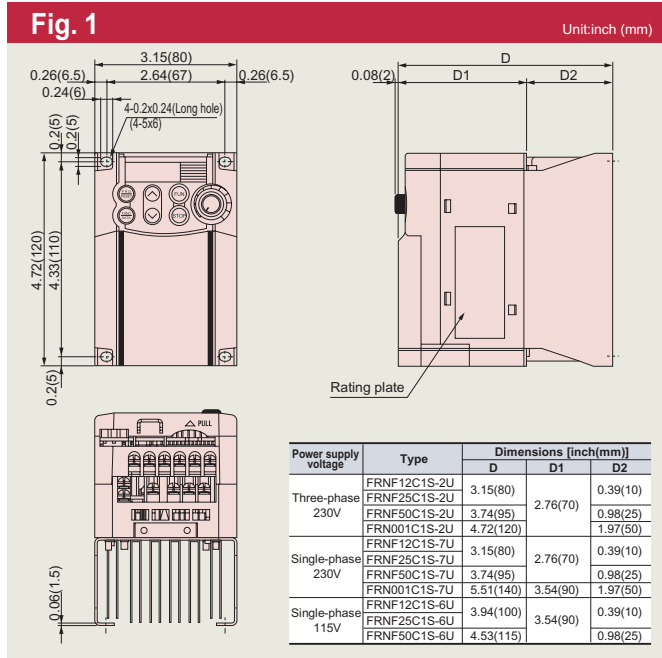
Item		Specifications													
Input power source		Three-phase 230V							Three-phase 460V						
Type (FRN___C1S-_U)		FRNF12C1S-2U	FRNF25C1S-2U	FRNF50C1S-2U	FRN001C1S-2U	FRN002C1S-2U	FRN003C1S-2U	FRN005C1S-2U	FRNF50C1S-4U	FRN001C1S-4U	FRN002C1S-4U	FRN003C1S-4U	FRN005C1S-4U		
Applicable motor rating *1)		HP	1/8	1/4	1/2	1	2	3	5	1/2	1	2	3	5	
Rated capacity *2)		kVA	0.31	0.59	1.1	1.9	3.1	4.3	6.7	1.1	1.9	2.9	4.3	7.1	
Rated voltage *3)		V	Three-phase, 200V/50Hz, 200, 220, 230V/60Hz							Three-phase, 380, 400, 415V/50Hz, 380, 400, 440, 460V/60Hz					
Rated current *4)		A	0.8 (0.7)	1.5 (1.4)	3.0 (2.5)	5.0 (4.2)	8.0 (7.0)	11.0 (10.0)	17.0 (16.5)	1.5	2.5	3.7	5.5	9.0	
Overload capability		150% of rated current for 1min, 200% of rated current for 0.5s													
Rated frequency		50, 60Hz													
Phases, voltage, frequency		Three-phase, 200 to 240V, 50/60Hz							Three-phase, 380 to 480V, 50/60Hz						
Voltage/frequency variations		Voltage: +10 to -15% (Voltage unbalance *10) : 2% or less							Frequency: +5 to -5%						
Momentary voltage dip capability *5)		When the input voltage is 165V or more, the inverter continues operation. If it drops below 165V, the inverter operates for 15ms.							When the input voltage is 300V or more, the inverter continues operation. If it drops below 300V, the inverter operates for 15ms.						
Rated current *6)		A	(with DCR)	0.57	0.93	1.6	3.0	5.7	8.3	14.0	0.85	1.6	3.0	4.4	7.3
			(without DCR)	1.1	1.8	3.1	5.3	9.5	13.2	22.2	1.7	3.1	5.9	8.2	13.0
Required power supply capacity *7)		kVA	0.2	0.3	0.6	1.1	2.0	2.9	4.9	0.6	1.1	2.0	2.9	4.9	
Torque *8)		%	150		100		50	30	100		50	30			
Torque *9)		%	—		150										
DC injection braking		Starting frequency: 0.0 to 60.0Hz Braking time: 0.0 to 30.0s Braking level: 0 to 100% of rated current													
Enclosure (IEC 60529)		IP20, UL open type *11)													
Cooling method		Natural cooling					Fan cooling			Natural cooling		Fan cooling			
Weight		lbs.(kg)	1.3(0.6)	1.3(0.6)	1.3(0.6)	1.5(0.7)	3.7(1.7)	3.7(1.7)	5.1(2.3)	2.4(1.1)	2.6(1.2)	3.7(1.7)	3.7(1.7)	5.1(2.3)	

*1) Fuji's 4-pole standard motor
 *2) Rated capacity is calculated by regarding the output rated voltage as 220V for three-phase 230V and single-phase 230V, and as 440V for three-phase 460V.
 *3) Output voltage cannot exceed the power supply voltage.
 *4) Use the inverter at the current given in () or below when the carrier frequency setting is higher than 4kHz (F25:4 to 5) or the ambient temperature is 40°C(104°F) or higher.
 *5) Tested under the standard load condition (85% load for nominal applied motor).
 *6) Calculated under Fuji-specified conditions.

*7) Obtained when a DC REACTOR (option) is used.
 *8) Average braking torque obtained with AVR control OFF (Varies with the efficiency of the motor).
 *9) Average braking torque obtained by use of external braking resistor (standard type available as option)
 $\text{Voltage unbalance [\%]} = \frac{\text{Max voltage [V]} - \text{Min voltage [V]}}{\text{Three-phase average voltage [V]}} \times 67$ (IEC 61800-3 (5.2.3))
 If this value is 2 to 3%, use AC REACTOR (ACR).
 *11) NEMA1 kit (option) is required for the enclosure conforming to the UL standard TYPE1 (NEMA1). Use the inverter in the ambient temperature range from -10 to +40°C(14 to 104°F).

External Dimensions

Without EMC filter type



Note) The symbols ** followed by the inverter type FRN□□□C1S-2U represent the following numeral codes: 21 (Braking resistor built-in type), None (Standard)

Safety Precautions

Before using this inverter, carefully read the instruction manual, specifications, etc. or consult us or the shop of purchase to fully understand the correct usage of the inverter.

Fuji Electric FA Components & Systems Co., Ltd.
Fuji Electric Corp. of America
http://www.fujielectric.com/products/ac_drives/