

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)			FRNF12 C1S-2U	FRNF25 C1S-2U	FRNF50 C1S-2U	FRN001 C1S-2U	FRN002 C1S-2U	FRN003 C1S-2U	FRN005 C1S-2U	FRNF50 C1S-4U	FRN001 C1S-4U	FRN002 C1S-4U	FRN003 C1S-4U	FRN005 C1S-4U			
Applicable motor rating *1)			HP	1/8	1/4	1/2	1	2	3	5	1/2	1	2	3	5		
Output ratings	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													
Input ratings	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)	(with DCR)	A	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		
Braking	Torque *8)		%	150		100		50		30		100		50		30	
	Torque *9)		%	—		150						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)

\*10) 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))

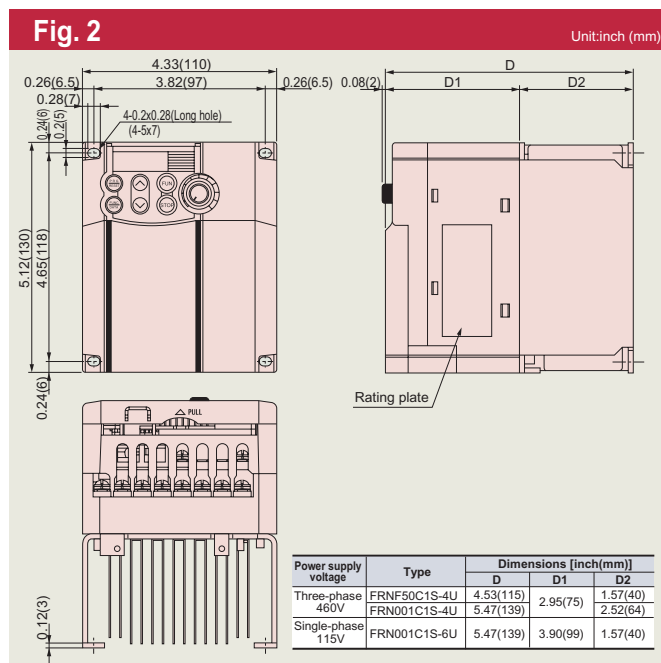
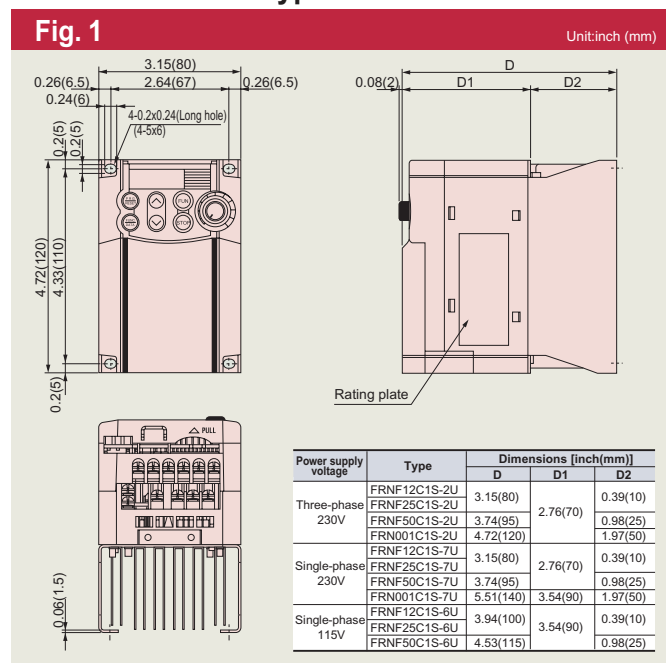
If this value is 2 to 3%, use AC REACTOR (ACR).

\*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.

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