Chapter 2

PARTS NAMES AND FUNCTIONS

This chapter contains external views of the FRENIC-Mini series and an overview of terminal blocks, including a description of the 7-segment LED monitor and keys on the keypad.

Contents

2.1 External View and Allocation of Terminal Blocks

Figures 2.1 and 2.2 show the external and bottom views of the FRENIC-Mini.

(1) External and bottom views

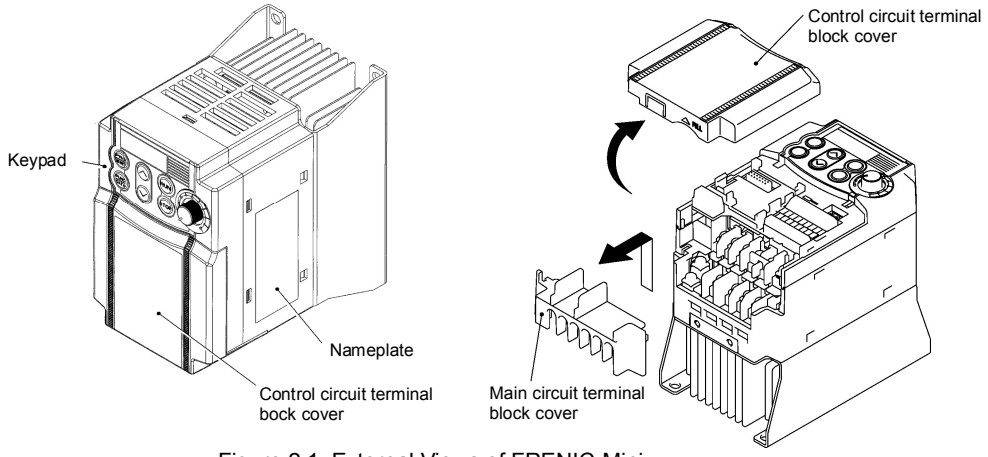
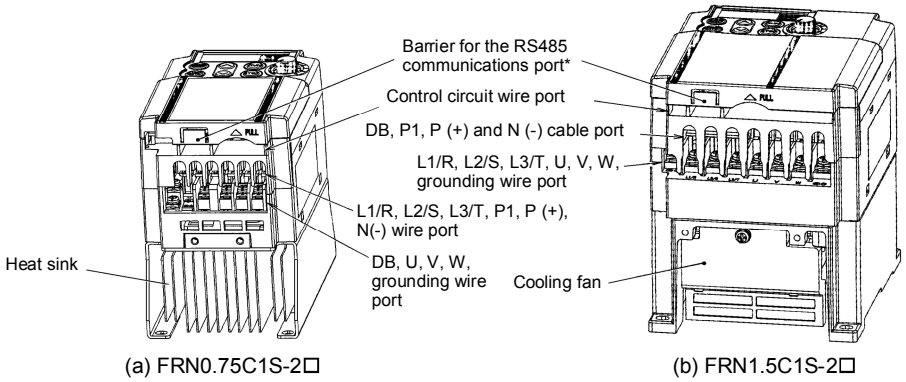


Figure 2.1 External Views of FRENIC-Mini



(a) FRN0.75C1S-2☐ (b) FRN1.5C1S-2☐

(*When connecting the RS485 communications cable, remove the control circuit terminal block cover and snip off the barrier provided in it using nippers.)

Note: A box (☐) in model names replaces A, C, E, or J depending on shipping destination.

Figure 2.2 Bottom View of FRENIC-Mini

(2) Allocation of terminals

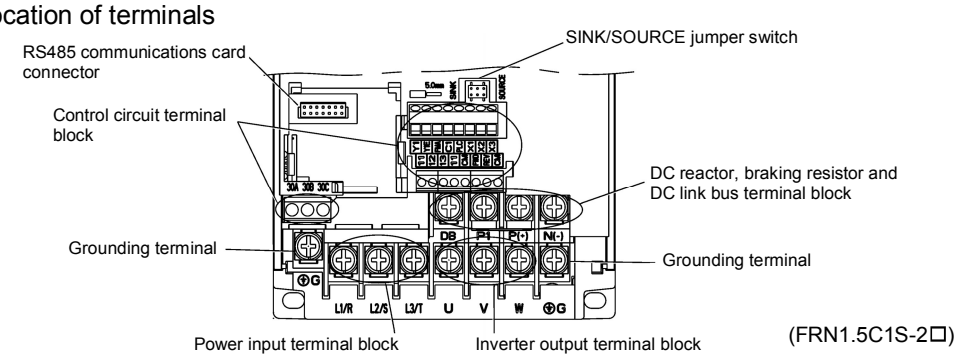


Figure 2.3 Enlarged View of the Terminal Blocks

The above figures show three-phase power source models. The terminal allocation of the power input terminals L1/R, L2/S, L3/T, and grounding terminals for single-phase models differs from that shown in above figures.

📖 Refer to Chapter 8 "SPECIFICATIONS" for details on terminal functions, allocation and connection and to Chapter 6, Section 6.2.1 "Recommended wires" when selecting wires.

📖 For details on the keys and their functions, refer to Section 2.2 "LED Monitor, Potentiometer and Keys on the Keypad." For details on keying operation and function code setting, refer to Chapter 3 "OPERATION USING THE KEYPAD."

2.2 LED Monitor, Potentiometer and Keys on the Keypad

As shown at the right, the keypad consists of a 7-segment LED monitor, a potentiometer (POT), and six keys.

The keypad allows you to run and stop the motor, monitor running status, and switch to the menu mode. In the menu mode, you can set the function code data to match your operating requirements and monitor I/O signal states, maintenance information, and alarm information.

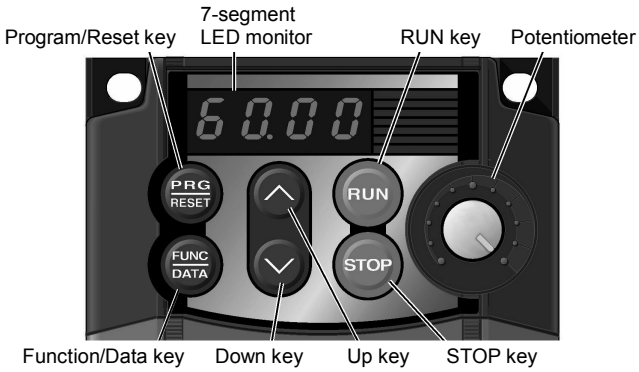


Figure 2.4 Keypad

Table 2.1 Overview of Keypad Functions

Monitor, Potentiometer and Keys	Functions
60.00	Four-digit, 7-segment LED monitor which displays the running status, data settings, and alarm status of the inverter according to the operation modes*. In Running mode, the monitor displays running status information (e.g., output frequency, current, and voltage). In Programming mode, it displays menus, function codes and their data. In Alarm mode, it displays an alarm code which identifies the error factor if the protective function is activated.
	Potentiometer (POT) which is used to manually set frequency, auxiliary frequencies 1 and 2 or PID process command.
RUN	RUN key. Press this key to run the motor.
STOP	STOP key. Press this key to stop the motor.
∧ / ∨	UP/DOWN keys. Press these keys to select the setting items and change the function data displayed on the LED monitor.
PRG RESET	Program/Reset key. Press this key to switch the operation modes* of the inverter. Pressing this key in Running mode switches the inverter to Programming mode and vice versa. In Alarm mode, pressing this key after removing the error factor will switch the inverter to Running mode.
FUNC DATA	Function/Data key. Pressing this key in Running mode switches the information displayed (output frequency (Hz), current (Amps) or voltage (V)). Pressing this key in Programming mode displays the function code and sets the data entered using ∧ / ∨ keys or the POT. Pressing this key in Alarm mode displays information concerning the alarm code currently displayed on the LED monitor.

* FRENIC-Mini features three operation modes--Running, Programming, and Alarm modes. Refer to Chapter 3, Section 3.1 "Overview of Operation Modes."

■ LED monitor

In Running mode, the LED monitor displays running status information (output frequency, current or voltage); in Programming mode, it displays menus, function codes and their data; in Alarm mode, it displays an alarm code which identifies the error factor if the protective function is activated.

If one of LED4 through LED1 is blinking, it means that the cursor is at this digit, allowing you to change it.

If the decimal point of LED1 is blinking, it means that the currently displayed data is a PID process command, not the frequency data usually displayed.

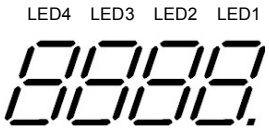


Figure 2.5 7-Segment LED Monitor

Table 2.2 Alphanumeric Characters on the LED Monitor

Character	7-segment	Character	7-segment	Character	7-segment	Character	7-segment
0	0	9	9	i	ı	r	r
1	1	A	A	J	J	S	S
2	2	b	b	K	μ	T	Γ
3	3	C	C	L	L	u	u
4	4	d	d	M	Π	V	U
5	5	E	E	n	n	W	⅃
6	6	F	F	o	o	X	⊦
7	7	G	G	P	P	y	y
8	8	H	H	q	q	Z	Z
Special characters and symbols (numbers with decimal point, minus and underline)							
0. - 9.	0. – 9.	-	-	_	_		

■ Repeat function of ⌃ / ⌄ keys

⌃ / ⌄ keys have a repeat function which helps you change displayed data speedily as follows:

Usually you press ⌃ / ⌄ keys once to increase or decrease the displayed value by 1, respectively.

If you hold down either key so as to activate the repeat function, the displayed value will keep changing in steps of 1 speedily. Note that when changing some function code data during running of the inverter (not always possible), the displayed data will keep changing more slowly. This is to ensure safe and stable operation.

■ Continuous holding-down function for Program/Reset (PRG/RESET) key

Holding down the (PRG/RESET) key longer (approx. one second or longer) moves the cursor on the LED monitor. In Running mode, the cursor moves along digits; in Programming mode, it moves not only along digits but to the next function code.

■ Simultaneous keying

Simultaneous keying means depressing two keys at the same time (expressed by "+"). FRENIC-Mini supports simultaneous keying as listed below.

(For example, the expression "(STOP) + (▲) keys" stands for pressing the (▲) key while holding down the (STOP) key.)

Operation modes	Simultaneous keying	Used to:
Running mode	(STOP) + (▲) keys	Control entry to/exit from jogging operation.
Programming mode	(STOP) + (▲) keys	Change special function code data. (Refer to codes F00 and H03 in Chapter 9 "FUNCTION CODES.")
	(STOP) + (▼) keys	
Alarm mode	(STOP) + (PRG/RESET) keys	Switch to Programming mode.