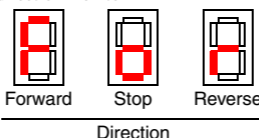
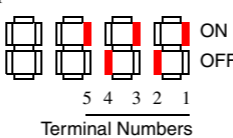
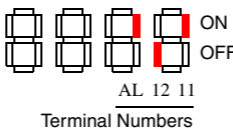




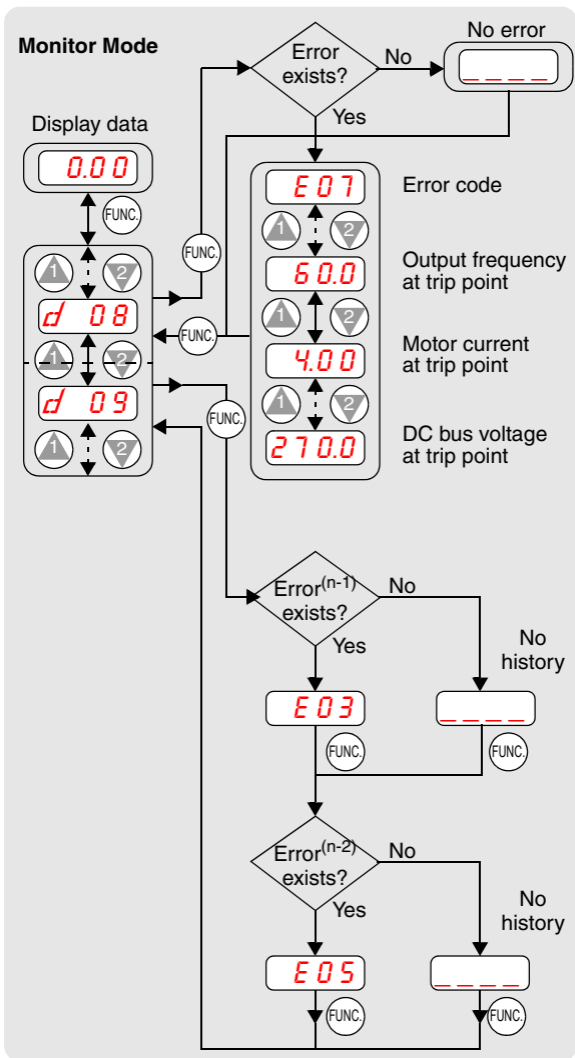
Note: After initializing the inverter, use the Powerup Test on page 8 to get the motor running again.

Parameter Tables

“D” Group: Monitoring Functions

Func. Code	Name / Description	Units
D_01	Output frequency monitor	Hz
D_02	Output current monitor	A
D_03	Rotation direction monitor  <p style="text-align: center;">Direction</p>	—
D_04	Process variable (PV), PID feedback monitor	%
D_05	Intelligent input terminal status  <p style="text-align: center;">Terminal Numbers</p>	—
D_06	Intelligent output terminal status  <p style="text-align: center;">Terminal Numbers</p>	—
D_07	Scaled output frequency monitor (output frequency x B_86 scale factor)	User-defined
D_08	Trip event monitor	—
D_09	Trip history monitor	—

Trip History Navigation Map



Parameter tables for user-settable functions follow these conventions:

- Some parameters specify an option code. Where applicable, the options codes will be in a bulleted list in the Name/Description column.
- The default values apply to all models unless otherwise noted for each parameter... –FE (Europe) / –FU (U.S.) / –FR (Japan).
- Some parameters cannot be edited during Run Mode, and certain Software Lock settings (B_31) can prohibit all edits. If in doubt, place the inverter in Stop Mode or consult the inverter manual for details.

“F” Group: Main Profile Parameters

Func. Code	Name / Description	Default Value	Set Value
F_01	Output frequency setting	0.0	
F_02	Acceleration (1) time setting	10.0	
F_03	Deceleration (1) time setting	10.0	
F_04	Keypad Run key routing • 00 Forward • 01 Reverse	00	

“A” Group: Standard Functions

Func. Code	Name / Description	Default Value -FE / -FU / -FR	Set Value
A_01	Frequency source setting <ul style="list-style-type: none"> • 00 Keypad potentiometer • 01 Control terminal • 02 Function F_01 setting 	01 / 01 / 00	
A_02	Run command source setting <ul style="list-style-type: none"> • 01 Input terminal FW or RV (assignable) • 02 Run key on keypad, or digital operator 	01 / 01 / 02	
A_03	Base frequency setting	50.0 / 60.0 / 60.0	
A_04	Maximum frequency setting	50.0 / 60.0 / 60.0	
A_11	O/OI-L input active range start frequency	0.0	
A_12	O/OI-L input active range end frequency	0.0	
A_13	O/OI-L input active range start voltage	0	
A_14	O/OI-L input active range end voltage	100	
A_15	O/OI-L input start frequency enable <ul style="list-style-type: none"> • 00 Use A_11 starting value) • 01 Use 0 Hz 	01	
A_16	External frequency filter time constant	8	
A_20	Multi-speed frequency setting	0	
A_21	Multi-speed frequency settings	0 / 0 / 5	
A_22		0 / 0 / 10	
A_23		0 / 0 / 15	
A_24		0 / 0 / 20	
A_25		0 / 0 / 30	
A_26		0 / 0 / 40	
A_27		0 / 0 / 50	
A_28		0 / 0 / 60	
A_29..		0 / 0 / 0	
..A_35			
A_38	Jog frequency setting	1.0	
A_39	Jog stop mode <ul style="list-style-type: none"> • 00 Free-run stop, jogging disabled during motor run • 01 Controlled deceleration, jogging disabled during motor run • 02 DC braking to stop, jogging disabled during motor run 	00	

Func. Code	Name / Description	Default Value -FE / -FU / -FR	Set Value
A_41	Torque boost method selection • 00 Manual torque boost • 01 Automatic torque boost	00	
A_42	Manual torque boost value	11	
A_43	Manual torque boost frequency adjustment	10.0	
A_44	V/f characteristic curve selection • 00 V/f constant torque • 01 V/f variable torque	00	
A_45	V/f gain setting	100	
A_51	DC braking enable • 00 Disable • 01 Enable	00	
A_52	DC braking frequency setting	0.5	
A_53	DC braking wait time	0.0	
A_54	DC braking force during deceleration	0	
A_55	DC braking time for deceleration	0.0	
A_61	Frequency upper limit setting	0.0	
A_62	Frequency lower limit setting	0.0	
A_63 A_65 A_67	Jump (center) frequency setting	0.0	
A_64 A_66 A_68	Jump (hysteresis) frequency width setting	0.5	
A_71	PID Enable • 00 PID operation OFF • 01 PID operation ON	00	
A_72	PID proportional gain	1.0	
A_73	PID integral time constant	1.0	
A_74	PID derivative time constant	0.0	
A_75	PV scale conversion	1.00	
A_76	PV source setting • 00 [OI] terminal (current input) • 01 [O] terminal (voltage input)	00	
A_81	AVR function select • 00 AVR enabled • 01 AVR disabled • 02 AVR enabled except during decel	02 / 00 / 02	

Func. Code	Name / Description	Default Value -FE / -FU / -FR	Set Value
A_82	AVR voltage select	230/230/200 400/460/400	
A_92	Acceleration (2) time setting	15.0	
A_93	Deceleration (2) time setting	15.0	
A_94	Select method to switch to Acc2/Dec2 profile • 00 2CH input from terminal • 01 transition frequency	00	
A_95	Acc1 to Acc2 frequency transition point	0.0	
A_96	Dec1 to Dec2 frequency transition point	0.0	
A_97	Acceleration curve selection • 00 Linear • 01 S-curve	00	
A_98	Deceleration curve selection • 00 Linear • 01 S-curve	00	

“B” Group: Fine-tuning Functions

Func. Code	Name / Description	Default Value -FE / -FU / -FR	Set Value
B_01	Selection of automatic restart mode • 00 Alarm output after trip, automatic restart disabled • 01 Restart at 0Hz • 02 Resume operation after frequency matching • 03 Resume previous freq. after freq. matching, then decelerate to stop and display trip info	00	
B_02	Allowable under-voltage power failure time	1.0	
B_03	Retry wait time before motor restart	1.0	

Func. Code	Name / Description	Default Value -FE / -FU / -FR	Set Value
B_12	Level of electronic thermal setting	Rated current of each inverter	
B_13	Electronic thermal characteristic • 00 Reduced torque • 01 Const. torque	01 / 01 / 00	
B_21	Overload restriction operation mode • 00 Disabled • 01 Enabled for accel and constant speed • 02 Enabled for constant speed only	01	
B_22	Overload restriction setting	Rated current x 1.25	
B_23	Deceleration rate at overload restriction	1.0	
B_31	Software lock mode selection • 00 Low-level access, [SFT] blocks edits • 01 Low-level access, [SFT] blocks edits (except F_01 and Multi-speed parameters) • 02 No access to edits • 03 No access to edits except F_01 and Multi-speed parameters	01	
B_32	Reactive current setting Note: For Japanese (-FR) versions, only -055LFR, -055HFR, -075LFR, and -075HFR models support this function.	58% rated current	
B_81	[FM] terminal analog meter adjustment	80	
B_82	Start frequency adjustment	0.5	
B_83	Carrier frequency setting	5.0 / 5.0 / 12.0	
B_84	Initialization mode (parameters or trip history) • 00 Trip history clear • 01 Parameter initialization	00	
B_85	Country code for initialization • 00 Japan version • 01 Europe version • 02 US version	01 / 02 / 00	
B_86	Frequency scaling conversion factor	1.0	
B_87	STOP key enable • 00 Enable • 01 Disable	00	

Func. Code	Name / Description	Default Value -FE / -FU / -FR	Set Value
B_88	Restart mode after FRS <ul style="list-style-type: none"> • 00 Restart from 0Hz • 01 Restart from frequency detected from actual speed of motor 	00	
B_89	Data select for digital operator OPE-J <ul style="list-style-type: none"> • 01 Output frequency (D_01) • 02 Output current (D_02) • 03 Motor direction (D_03) • 04 PID PV feedback (D_04) • 05 Input states for input terminals (D_05) • 06 Output states for output terminals (D_06) • 07 Scaled output frequency (D_07) 	01	

“C” Group: Intelligent Terminal Functions

Func. Code	Name / Description	Default Value -FE / -FU / -FR	Set Value
C_01	Terminal [1] function	00	
C_02	Terminal [2] function	01	
C_03	Terminal [3] function	02 / 16 / 02	
C_04	Terminal [4] function	03 / 13 / 03	
C_05	Terminal [5] function	18	
C_11	Terminal [1] active state	00	
C_12	Terminal [2] active state	00	
C_13	Terminal [3] active state	00	
C_14	Terminal [4] active state	00 / 01 / 00	
C_15	Terminal [5] active state	00	

Func. Code	Name / Description		Default Value -FE / -FU / -FR	Set Value
C_21	Terminal [11] function	Six option codes available (see page 22)	01	
C_22	Terminal [12] function		00	
C_23	[FM] signal selection	Three option codes available (see page 22)	00	
C_31	Terminal [11] active state (-FU)	<ul style="list-style-type: none"> • 00 Normally open (NO) • 01 Normally closed (NC) 	— / 00 / —	
	Reserved (-FE / -FR)		00 / — / 00	
C_32	Terminal [12] active state (-FU)		— / 00 / —	
	Terminal [11] active state (-FE / -FR)		00 / — / 00	
C_33	Alarm relay terminal active state		01	
C_41	Overload level setting		Rated current of each inverter	
C_42	Frequency arrival setting for accel		0.0	
C_43	Arrival frequency setting for decel		0.0	
C_44	PID deviation level setting		3.0	
C_91	Debug mode enable • 00 Display • 01 No display		00	

Intelligent Input Terminal Listing

Symbol	Code	Input Terminal Name
FWD	00	Forward Run/Stop
RV	01	Reverse Run/Stop
CF1	02	Multi-speed select, Bit 0 (LSB)
CF2	03	Multi-speed select, Bit 1
CF3	04	Multi-speed select, Bit 2
CF4	05	Multi-speed select, Bit 3 (LSB)
JG	06	Jogging
2CH	09	2-stage accel and decel
FRS	11	Free-run stop
EXT	12	External trip
USP	13	Unattended start protection
SFT	15	Software lock
AT	16	Analog input voltage/current sel.
RS	18	Reset inverter
PTC	19	PTC thermistor thermal protection

Intelligent Output Terminal Listing

Symbol	Code	Input Terminal Name
RUN	00	Run signal
FA1	01	Freq. arrival type 1 – constant speed
FA2	02	Freq. arrival type 2 – over-frequency
OL	03	Overload advance notice signal
OD	04	Output deviation for PID control
AL	05	Alarm signal

Analog Input Configuration

The following tables show the parameter settings required for various analog input signal types.

[AT]	External Frequency Command Input
OFF	[O] — [L]
ON	[OI] — [L]
(not assigned to any input terminal)	Summation of [O] — [L] and [OI] — [L]

Analog Output Function Listing

The following table shows all three functions available for assignment to the analog output terminal:

- Terminal [FM], option set by C_23

Option Code	Function Name	Description	Corresponding Signal Range
00	Output frequency	Actual motor speed, represented by PWM signal	0 to max. freq. in Hz
01	Output current	Motor current (% of maximum rated output current), represented by PWM signal	0 to 200%
02	Digital output frequency	Output frequency	0 to max. freq. in Hz

Notes: