
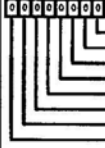



EI-9001 CONSTANT LIST (11)

Function	Constant No.	Name (Digital Operator Display)	Setting Range	Setting Unit	Factory Setting	Remarks	Change During Operation (O: Enabled X: Disabled)	*3 Constant Access Level				
								V / f	V / f with PG	Open Loop Vector	Flux Vector	
Protection	Hardware Protection	L8-03	Operation selection after OH pre-alarm (OH Pre-Alarm Sel)	0~3	1	3	0: Ramp to stop 2: Fast-stop 1: Coast to stop 3: Alarm only	X	A	A	A	A
		L8-05	Input open-phase protection selection (Ph Loss In Sel)	0,1	1	0	0: Disabled 1: Enabled	X	A	A	A	A
		L8-07	Output open-phase protection selection (Ph Loss Out Sel)	0,1	1	0	0: Disabled 1: Enabled	X	A	A	A	A
Operator	Monitor Select	01-01	Monitor selection (Monitor Select)	4~29	1	6		O	B	B	B	B
		01-02	Monitor selection after power up (Power-On Monitor)	1~4	1	1	1: Frequency reference 2: Output frequency 3: Output current 4: Selected monitor	O	B	B	B	B
		01-03	Frequency units of reference setting and monitor (Display Scaling)	0~39999	1	0		X	B	B	B	B
		01-04	Frequency units of constant setting (Display Units)	0,1	1	0	0: Hz 1: r/min	X	X	X	X	B
		01-05	Constant No. display selection (Address Display)	0,1	1	0	0: Constant number 1: MODBUS address	X	A	A	A	A
	Key Select	02-01	LOCAL/REMOTE key enable/disable (Local/Remote Key)	0,1	1	1	0: Disabled 1: Enabled	X	B	B	B	B
		02-02	STOP key during control circuit terminal operation (Oper STOP Key)	0,1	1	1	0: Disabled 1: Enabled	X	B	B	B	B
		02-03	User constant initial value (User Defaults)	0,1,2	1	0	1: Set default 2: Clear all	X	B	B	B	B
		02-04	kVA selection (Inverter Model #)	0~FF	1	-	*: Not initialized. Factory setting differs depending on the inverter capacity.	X	B	B	B	B
		02-05	Frequency reference setting method selection (Operator M. O. P.)	0,1	1	0	0: Disabled 1: Enabled	X	A	A	A	A
		02-06	Operation selection when digital operator is disconnected (Oper Detection)	0,1	1	0	0: Disabled 1: Enabled	X	A	A	A	A
		02-07	Cumulative operation time setting (Elapsed Time Set)	0~65535	1hour	-		X	A	A	A	A
		02-08	Cumulative operation time selection (Elapsed Time Run)	0,1	1	0	0: Power-on time 1: Running time	X	A	A	A	A
		02-09	Initialize mode selection (Init mode sel)	0,1,2	1	2*	0: Japanese specification 1: US specification 2: European specification * Factory setting differs depending on the area.	X	A	A	A	A

2.3 EI-9001 MONITOR CONSTANT LIST (1)

* Analog monitor output selection is disabled.

Function	Constant No.	Name (Digital Operator Display)	Setting Unit	Remarks	Analog Monitor Output Level	#3 Constant Access Level			
						V / f	V / f with PG	Open Loop Vector	Flux Vector
Monitor	U1-01	Frequency reference (Frequency Ref)	0.01Hz	Setting unit differs depending on setting of 01-03.	10V/max. output frequency	Q	Q	Q	Q
	U1-02	Output frequency (Output Freq)	0.01Hz	Setting unit differs depending on setting of 01-03.	10V/max. output frequency	Q	Q	Q	Q
	U1-03	Output current (Output Current)	0.1A	Setting unit is 0.01A for 7.5kW or less.	10V/inverter rated current	Q	Q	Q	Q
	U1-04	Control method * (Control Method)	-	0 : V/f control 1 : V/f with PG feedback 2 : Open loop vector 3 : Flux vector	-	Q	Q	Q	Q
	U1-05	Motor speed (Motor Speed)	0.01Hz		10V/max. output frequency	x	Q	Q	Q
	U1-06	Output voltage (Output Voltage)	0.1V		10V/220V or 440V	Q	Q	Q	Q
	U1-07	DC bus voltage (DC Bus Voltage)	1V		10V/440V or 880V	Q	Q	Q	Q
	U1-08	Output power (Output kWatts)	0.1kW		10V/inverter capacity (kW)	Q	Q	Q	Q
	U1-09	Torque reference (internal) (Torque Reference)	0.1%		10V/motor rated torque	x	x	Q	Q
	U1-10	Input terminal status * (Input Term Sts)	-	 <ul style="list-style-type: none"> Control circuit terminal 1 : "Closed" Control circuit terminal 2 : "Closed" Control circuit terminal 3 : "Closed" Control circuit terminal 4 : "Closed" Control circuit terminal 5 : "Closed" Control circuit terminal 6 : "Closed" Control circuit terminal 7 : "Closed" Control circuit terminal 8 : "Closed" 	-	Q	Q	Q	Q
	U1-11	Output terminal status * (Output Term Sts)	-	 <ul style="list-style-type: none"> Control circuit terminal 9-10 : "Closed" Control circuit terminal 25 : "Closed" Control circuit terminal 28 : "Closed" Not used Not used Not used Not used Not used Fault contact output operates 	-	Q	Q	Q	Q
	U1-12	Operation status * (Int Otl Sts 1)	-	 <ul style="list-style-type: none"> During run During zero-speed During reverse run During reset signal inputting During speed agree Inverter operation ready Minor fault Major fault 	-	Q	Q	Q	Q
	U1-13	Cumulative operation time * (Elapsed Time)	1hour		-	Q	Q	Q	Q
	U1-14	Software No. (at FLASH side) * (FLASH ID)	-		-	Q	Q	Q	Q
	U1-15	Control circuit terminal 13 input voltage (Term 13 Level)	0.1%		10V/10V	B	B	B	B
	U1-16	Control circuit terminal 14 input voltage (Term 14 Level)	0.1%		10V/10V or 20mA	B	B	B	B
	U1-17	Control circuit terminal 16 input voltage (Term 16 Level)	0.1%		10V/10V	B	B	B	B
	U1-18	Motor secondary current (Iq) (Mot SEC Current)	0.1%		10V/motor rated primary current	B	B	B	B
	U1-19	Motor exciting current (Id) (Mot EXC Current)	0.1%		10V/motor rated primary current	x	x	B	B
	U1-20	Output frequency after soft-start (SFS Output)	0.01Hz		10V/max. output frequency	A	A	A	A
	U1-21	ASR input (ASR Input)	0.01%		10V/max. output frequency	x	A	x	A

EI-9001 MONITOR CONSTANT LIST (2)

* Analog monitor output selection is disabled.

Function	Constant No.	Name (Digital Operator Display)	Setting Unit	Remarks	Analog Monitor Output Level	*3 Constant Access Level			
						V / f	V / f with PG	Open Loop Vector	Flux Vector
Monitor	U1-22	ASR output (ASR Output)	0.01%	Analog monitor output level becomes 10V/max. output frequency with V/f control.	10V/motor rated primary current	x	A	x	A
	U1-23	Speed deviation (Speed Deviation)	0.01%		10V/max. output frequency	x	A	x	A
	U1-24	PID feedback amount (PID Feedback)	0.01%		10V/max. output frequency	A	A	A	A
	U1-25	DI-16H input status * (DI-16 Reference)	-	Displays an input value according to the setting of F3-01. (ex.) At lower digit 8-bit ON. Binary selection: 256, BCD selection: 99	-	A	A	A	A
	U1-26	Output voltage reference Vq (Voltage Ref (Vq))	0.1V		10V/220V or 440V	x	x	A	A
	U1-27	Output voltage reference Vd (Voltage Ref (Vd))	0.1V		10V/220V or 440V	x	x	A	A
	U1-28	Software No. (at CPU side) * (CPU ID)	-		-	A	A	A	A
	Fault Trace	U2-01	Current fault (Current Fault)	-		-	Q	Q	Q
U2-02		Last fault (Last Fault)	-		-	Q	Q	Q	Q
U2-03		Frequency reference at fault (Frequency Ref)	0.01Hz		-	Q	Q	Q	Q
U2-04		Output frequency at fault (Output Freq)	0.01Hz		-	Q	Q	Q	Q
U2-05		Output current at fault (Output Current)	0.1A		-	Q	Q	Q	Q
U2-06		Motor speed at fault (Motor Speed)	0.01Hz		-	x	Q	Q	Q
U2-07		Output voltage reference at fault (Output Voltage)	0.1V		-	Q	Q	Q	Q
U2-08		DC bus voltage at fault (DC Bus Voltage)	1V		-	Q	Q	Q	Q
U2-09		Output power at fault (Output kWatts)	0.1kW		-	Q	Q	Q	Q
U2-10		Torque reference at fault (Torque Reference)	0.1%		-	x	x	Q	Q
U2-11		Input terminal status at fault (Input Term Sts)	-	Displays the same status at that of U1-10.	-	Q	Q	Q	Q
U2-12		Output terminal status at fault (Output Term Sts)	-	Displays the same status at that of U1-11.	-	Q	Q	Q	Q
U2-13		Operation status at fault (Inverter Status)	-	Displays the same status at that of U1-12.	-	Q	Q	Q	Q
U2-14		Cumulative operation time at fault (Elapsed Time)	1hour		-	Q	Q	Q	Q
Fault History	U3-01	Most recent fault (Last Fault)	-		-	Q	Q	Q	Q
	U3-02	Second most recent fault (Fault Message 2)	-		-	Q	Q	Q	Q
	U3-03	Third most recent fault (Fault Message 3)	-		-	Q	Q	Q	Q
	U3-04	Fourth/oldest fault (Fault Message 4)	-		-	Q	Q	Q	Q
	U3-05	Cumulative operation time at fault (Elapsed Time 1)	1hour		-	Q	Q	Q	Q
	U3-06	Accumulated time of second fault (Elapsed Time 2)	1hour		-	Q	Q	Q	Q
	U3-07	Accumulated time of third fault (Elapsed Time 3)	1hour		-	Q	Q	Q	Q
	U3-08	Accumulated time of fourth/ oldest fault (Elapsed Time 4)	1hour		-	Q	Q	Q	Q

2.4 MULTI-FUNCTION I/O TERMINAL SETTING LIST

Set Value	Multi-function Input Terminal Function (H1-01, 02, 03, 04, 05, 06)	Multi-function Output Terminal Function (H2-01, 02, 03)	Multi-function Analog Input Terminal Function (H3-05)
00	3-Wire sequence (FWD/REV run selection)	During run	Auxiliary frequency reference
01	Local/remote selection	Zero-speed	FGAIN
02	Option/inverter selection	Frequency agree 1	FBIAS
03	Multi-step speed reference 1	Desired frequency agree 1	Not used
04	Multi-step speed reference 2	Frequency detection 1	VBIAS
05	Multi-step speed reference 3	Frequency detection 2	Accel/decel time reduction coefficient
06	Jog reference selection	Inverter operation ready	DC injection braking current
07	Accel/decel time selection 1	During undervoltage detection	Overtorque detection level
08	External baseblock (NO contact)	During baseblock	Stall prevention level during run
09	External baseblock (NC contact)	Frequency reference mode	Frequency reference lower limit level
0A	Accel/decel prohibit (hold)	Operation reference mode	Jump frequency
0B	Inverter overheat alarm	During overtorque detection 1 (NO contact output)	PID feedback
0C	Multi-function analog input enable/disable	Frequency reference missing	Not used
0D	Speed control cancel	Braking resistor fault	
0E	Speed control integral reset	Fault	
0F	Not used	Not used	
10	UP command	Alarm	FWD torque limit
11	DOWN command	During fault reset	REV torque limit
12	FJOG command	Timer output	Regeneration side torque limit
13	RJOG command	Frequency agree 2	Torque reference (at torque control), limit (at speed control)
14	Fault reset	Desired frequency agree 2	Torque compensation
15	Emergency stop	Frequency detection 3	FWD/REV torque limits
16	Not used	Frequency detection 4	Not used
17	Not used	During overtorque detection 1 (NC contact)	
18	Timer Input	During overtorque detection 2 (NO contact)	
19	PID control cancel	During overtorque detection 2 (NC contact)	
1A	Accel/decel time selection 2	During reverse run	
1B	Constant write-in prohibit	During baseblock	
1C	Not used	Motor selection	
1D	Not used	Motoring/regenerating mode	
1E	Analog frequency reference S/H	During retry	
1F	Analog input terminal (13/14) selection	OL1 pre-alarm	
20	External fault	OH pre-alarm	
21-2F	Not used	Not used	
30		During current/torque limiting	
31		During speed limit	
32		Not used	
33		Zero-servo completed	
37		During run	
34-5F		Not used	
60	DC injection braking command		
61	External search command 1		
62	External search command 2		
63	Energy-saving operation		
67-70	Not used		
71	Speed/torque control selection		
72	Zero-servo command		
73-76	Not used		
77	Speed control proportional gain selection		
7B-FF	Not used		

2.5 CONSTANTS THAT CAN BE CHANGED BY SETTING CONTROL METHOD (A1-02)

Constant No.	Name (Digital Operator Display)	Setting Range	Setting Unit	Factory Setting			
				V / f A1-02=0	V / f with PG A1-02=1	Open Loop Vector A1-02=2	Flux Vector A1-02=3
B3-01	Speed search at start (SpdSrch at Start)	0, 1	1	0	1	0	1
C3-01	Slip compensation gain (Slip Comp Gain)	0.0~2.5	0.1	0.0	-	1.0	1.0
C3-02	Slip compensation primary delay time (Slip Comp Time)	0~10000	1msec	2000	-	200	-
C4-02	Torque compensation time constant (Torq Comp Time)	0~10000	1msec	200	200	20	-
C5-01	ASR proportional gain 1 (ASR P Gain 1)	0.00~300.00	0.01	-	0.20	-	20.00
C5-02	ASR integral time 1 (ASR I Time 1)	0.000~10.000	0.001sec	-	1.000	-	0.500
C5-03	ASR proportional gain 2 (ASR P Gain 2)	0.00~300.00	0.01	-	0.02	-	20.00
C5-04	ASR integral time 2 (ASR I Time 2)	0.000~10.000	0.001sec	-	1.000	-	0.500
E1-07 E4-04	Mid. output frequency (Mid frequency A, V/F2 Mid Freq)	0.0~400.0	0.1Hz	3.0	3.0	3.0	0.0
E1-08 E4-05	Mid. output frequency voltage (Mid Voltage A, V/F2 Min Voltage)	0.0~255.0 (0.0~510.0)	0.1V	*	*	11.0 (22.0)	0.0
E1-09 E4-06	Min. output frequency (Min Frequency, V/F2 Min Freq)	0.0~400.0	0.1Hz	1.5	1.5	0.5	0.0
E1-10 E4-07	Min. output frequency voltage (Min Voltage, V/F2 Min Voltage)	0.0~255.0 (0.0~510.0)	0.1V	*	*	2.0 (4.0)	0.0
F1-09	Overspeed detection delay time (PG Overspd Time)	0.0~2.0	0.1sec	-	1.0	-	0.0
L3-03	Stall prevention level during acceleration (StallP OHP Lvl)	0~100	1%	50	50	100	-

Note : Values in the parentheses are for 440V class.

* Factory setting differs depending on the inverter capacity as follows.

220V class

INVERTER CAPACITY (kW)	0.4~1.5	2.2~45	55, 75
E1-08 E4-05	15.0	14.0	12.0
E1-10 E4-06	9.0	7.0	6.0

440V class

INVERTER CAPACITY (kW)	0.4~1.5	2.2~45	55~300
E1-08 E4-05	30.0	28.0	24.0
E1-10 E4-06	18.0	14.0	12.0

2.6 CONSTANTS THAT CAN BE CHANGED BY SETTING INVERTER CAPACITY (02-04) (1)

220V Class

Constant No.	Name	Unit	Factory Setting										
			0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
-	Inverter Capacity	kW	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
02-04	kVA selection	1	0	1	2	3	4	5	6	7	8	9	A
C6-01	Carrier frequency upper limit	kHz	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	10.0
-	Carrier frequency upper limit range	kHz	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	12.5
C6-02	Carrier frequency lower limit	kHz	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	10.0
C6-03	Carrier frequency proportional gain	1	0	0	0	0	0	0	0	0	0	0	0
E2-01	Motor rated current	A	1.90	3.30	6.20	8.50	14.00	19.60	26.60	39.7	53.0	65.8	77.2
E2-02	Motor rated slip	H _z	2.90	2.50	2.60	2.90	2.73	1.50	1.30	1.70	1.60	1.67	1.70
E2-03	Motor no-load current	A	1.20	1.80	2.80	3.00	4.50	5.10	8.00	11.2	15.2	15.7	18.5
E2-05	Motor-line-to-line resistance	Ω	9.842	5.156	1.997	1.601	0.771	0.399	0.288	0.230	0.138	0.101	0.079
E2-06	Motor leak inductance	%	18.2	13.8	18.5	18.4	19.6	18.2	15.5	19.5	17.2	20.1	19.5
L2-02	Momentary power loss ride-through	sec	0.7	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
L2-03	Min. baseblock time	sec	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.7	0.7	1.0	1.0

220V Class

Constant No.	Name	Unit	Factory Setting				
			30	37	45	55	75
-	Inverter Capacity	kW	30	37	45	55	75
02-04	kVA selection	1	B	C	D	E	F
C6-01	Carrier frequency upper limit	kHz	10.0	10.0	10.0	10.0	10.0
-	Carrier frequency upper limit range	kHz	10.0	10.0	10.0	10.0	10.0
C6-02	Carrier frequency lower limit	kHz	10.0	10.0	10.0	10.0	10.0
C6-03	Carrier frequency proportional gain	1	0	0	0	0	0
E2-01	Motor rated current	A	105.0	131.0	160.0	190.0	260.0
E2-02	Motor rated slip	H _z	1.80	1.33	1.60	1.43	1.39
E2-03	Motor no-load current	A	21.9	38.2	44.0	45.6	72.0
E2-05	Motor-line-to-line resistance	Ω	0.064	0.039	0.030	0.022	0.023
E2-06	Motor leak inductance	%	20.8	18.8	20.2	20.5	20.0
L2-02	Momentary power loss ride-through	sec	2.0	2.0	2.0	2.0	2.0
L2-03	Min. baseblock time	sec	1.0	1.0	1.0	1.0	1.0

CONSTANTS THAT CAN BE CHANGED BY SETTING INVERTER CAPACITY (02-04) (2)

440V Class

Constant No.	Name	Unit	Factory Setting										
			0.4	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5
-	Inverter Capacity	kW	0.4	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5
02-04	kVA selection	1	20	21	22	23	24	25	26	27	28	29	2A
06-01	Carrier frequency upper limit	kHz	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
-	Carrier frequency upper limit range	kHz	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
06-02	Carrier frequency lower limit	kHz	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
06-03	Carrier frequency proportional gain	1	0	0	0	0	0	0	0	0	0	0	0
E2-01	Motor rated current	A	1.00	1.60	3.10	4.20	7.00	7.00	9.80	13.30	19.9	26.5	32.9
E2-02	Motor rated slip	H _z	2.90	2.60	2.50	3.00	2.70	2.70	1.50	1.30	1.70	1.60	1.67
E2-03	Motor no-load current	A	0.60	0.80	1.40	1.50	2.30	2.30	2.60	4.00	5.6	7.6	7.8
E2-05	Motor-line-to-line resistance	Ω	38.198	22.459	10.100	6.495	3.333	3.333	1.595	1.152	0.922	0.550	0.403
E2-06	Motor leak inductance	%	18.2	14.3	18.3	18.7	19.3	19.3	18.2	15.5	19.6	17.2	20.1
L2-02	Momentary power loss ride-through	sec	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
L2-03	Min. baseblock time	sec	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.7	0.7	0.7	1.0

440V Class

Constant No.	Name	Unit	Factory Setting											
			22	30	37	45	55	75	110	160	185	220	300	
-	Inverter Capacity	kW	22	30	37	45	55	75	110	160	185	220	300	
02-04	kVA selection	1	2B	2C	2D	2E	2F	30	32	34	35	36	37	
06-01	Carrier frequency upper limit	kHz	15.0	15.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	2.0	2.0	2.0
-	Carrier frequency upper limit range	kHz	15.0	15.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	2.5	2.5	2.5
06-02	Carrier frequency lower limit	kHz	15.0	15.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	1.0	1.0	1.0
06-03	Carrier frequency proportional gain	1	0	0	0	0	0	0	0	0	0	36	36	36
E2-01	Motor rated current	A	38.6	52.3	65.6	79.7	95.0	130.0	190.0	270.0	310.0	370.0	500.0	
E2-02	Motor rated slip	H _z	1.70	1.80	1.33	1.60	1.46	1.39	1.40	1.35	1.30	1.30	1.25	
E2-03	Motor no-load current	A	9.2	10.9	19.1	22.0	24.0	36.0	49.0	70.0	81.0	96.0	130.0	
E2-05	Motor-line-to-line resistance	Ω	0.316	0.269	0.155	0.122	0.088	0.092	0.046	0.029	0.025	0.020	0.014	
E2-06	Motor leak inductance	%	23.5	20.7	18.8	19.9	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
L2-02	Momentary power loss ride-through	sec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
L2-03	Min. baseblock time	sec	1.0	1.0	1.0	1.0	1.0	1.0	4.0	4.0	4.0	4.0	4.0	

2.7 CONSTANTS THAT CAN BE CHANGED BY SETTING V/f PATTERN (E1-03) (ENABLED ONLY IN V/f CONTROL)

220V class (0.75 to 1.5kw)

(For 440V class, the voltage is doubled.)

Application	Specifications	E1-03	V/f Pattern #1	Application	Specifications	E1-03	V/f Pattern #1	
General-purpose	50Hz	0		High Starting Torque	Low starting torque	⑧		
	60Hz	60Hz Saturation	① F			High starting torque	⑨	
		50Hz Saturation	②			Low starting torque	A	
72Hz	③		High Speed Operation (Machine Tools)	90Hz	C			
Variable Torque Characteristics	50Hz	Variable torque 3		④	120Hz	D		
		Variable torque 2		⑤				
Variable Torque Characteristics	60Hz	Variable torque 3	⑥	180Hz	E			
		Variable torque 2	⑦					

*1 Consider the following items as the conditions for selecting a V/f pattern. They must be suitable for :

- (1) The voltage and frequency characteristics of motor.
- (2) The maximum rotation speed of motor.

*2 Selecting high starting torque only in the following conditions. Normally, this selection is not required.

- (1) The wiring distance is long (150m and above).
- (2) Voltage drop at startup is large.
- (3) AC reactor is inserted in the input or output of the inverter.
- (4) A motor smaller than the nominal output of the inverter is used.

220V class(2.2 to 45kw)
 (For 440V class,the voltage is twice.)

Application	Specifications	E1-03	V/f Pattern #1	Application	Specifications	E1-03	V/f Pattern #1
General-purpose	50Hz	0		High Starting Torque	50Hz	⑧	
	60Hz	① F			60Hz	A	
	60Hz	②			60Hz	B	
Variable Torque Characteristics	72Hz	③		High Speed Operation (Machine Tools)	90Hz	C	
	50Hz	④			120Hz	D	
	50Hz	⑤			180Hz	E	
60Hz	⑥						
60Hz	⑦						

*1 Consider the following items as the conditions for selecting a V/f pattern. They must be suitable for :

- (1) The voltage and frequency characteristics of motor.
- (2) The maximum rotation speed of motor.

*2 Selecting high starting torque only in the following conditions. Normally, this selection is not required.

- (1) The wiring distance is long (150m and above).
- (2) Voltage drop at startup is large.
- (3) AC reactor is inserted in the input or output of the inverter.
- (4) A motor smaller than the nominal output of the inverter is used.

220V Class (55kw and above)
 (For 440V class, the voltage.)

Application	Specifications	EI-03	V/f Pattern #1	Application	Specifications	EI-03	V/f Pattern #1
General-purpose	50Hz	0		High Starting Torque	50Hz>	⑧	
	60Hz	① F			60Hz>	⑨	
	50Hz Saturation	②			60Hz>	A	
Variable Torque Characteristics	72Hz	③		High Speed Operation (Machine Tools)	90Hz	C	
	50Hz	④			120Hz	D	
	60Hz>	⑤			180Hz	E	

*1 Consider the following items as the conditions for selecting a V/f pattern. They must be suitable for :

- (1) The voltage and frequency characteristics of motor.
- (2) The maximum rotation speed of motor.

*2 Selecting high starting torque only in the following conditions. Normally, this selection is not required.

- (1) The wiring distance is long (150m and above).
- (2) Voltage drop at startup is large.
- (3) AC reactor is inserted in the input or output of the inverter.
- (4) A motor smaller than the nominal output of the inverter is used.