AF-300 E11™ Adjustable Frequency Drive

The AF-300 E11™ adjustable frequency drive is GE Fuji Drives' new generation of micro drives. GE Fuji Drives recognized your need for a high performance, full featured compact drive and designed the AF-300 E11 drive with these features in mind. This product is specifically intended for original equipment manufacturers who require maximum performance in a minimal space for a cost effective system. When you purchase a standard drive from GE Fuji, you receive not only a quality product, but quality service that's available 24 hours a day, seven days a week from the OnSite Support℠ Service Center.

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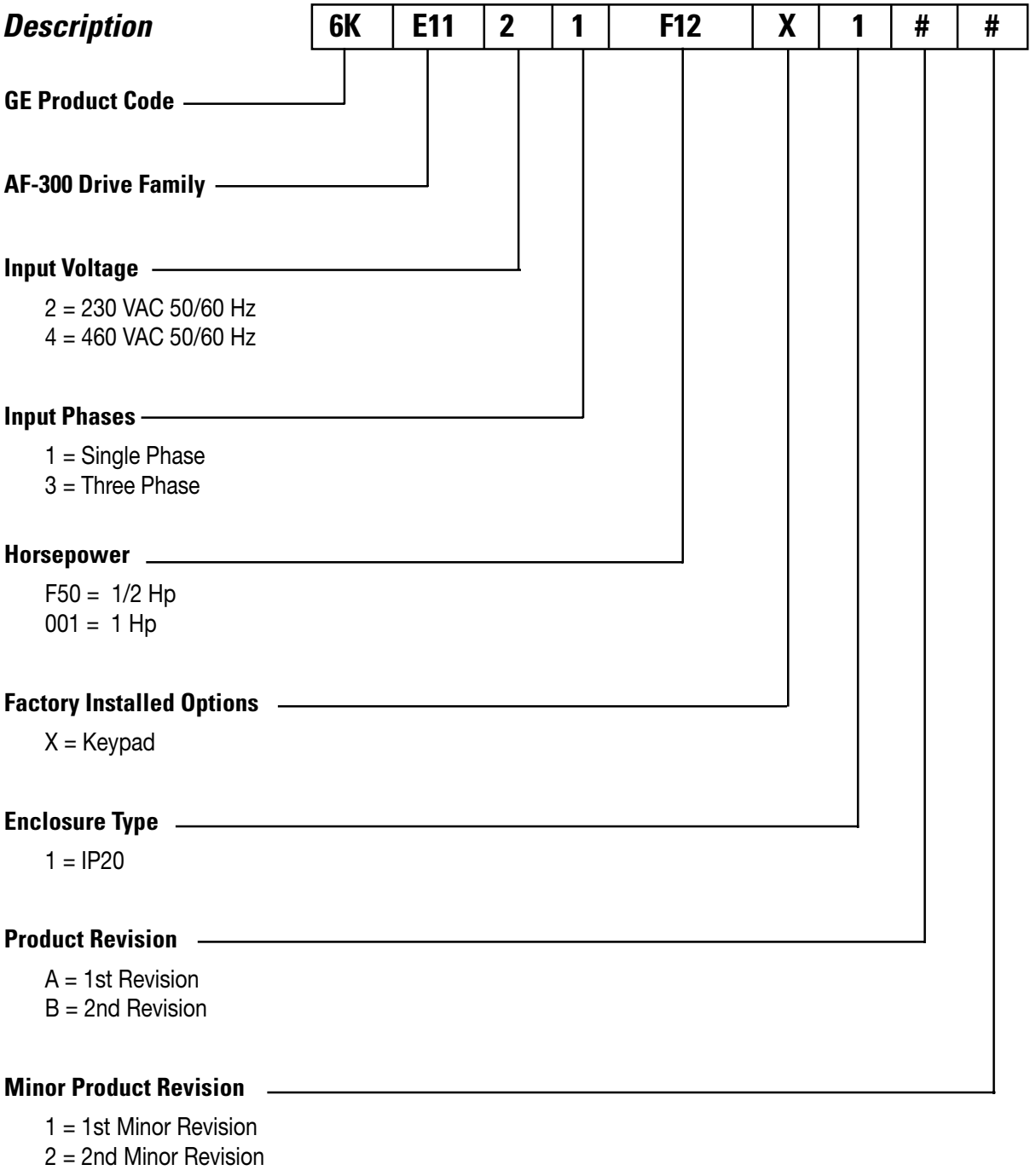
AF-300 E11 Model Numbering System Diagram



Pricing, Dimensions & Weights

HP Rating	Enclosure	Output Current (A)	Overloard (A) (150% 1min.)	Model No.	Catalog No.	List Price GO5-E11	Dimensions H x W x D (inches)	Weight (lbs)
230 VAC, Single phase, 50/60Hz Input								
1/8	IP20	0.7	1.1	6KE1121F12X1 ##	D5810	460.	5.12 x 2.76 x 3.78	1.3
1/4	IP20	1.4	2.1	6KE1121F25X1 ##	D5811	471.	5.12 x 2.76 x 3.98	1.5
1/2	IP20	2.5	3.8	6KE1121F50X1 ##	D5812	535.	5.12 x 2.76 x 4.65	1.5
1	IP20	4	6.0	6KE1121001X1 ##	D5813	606.	5.12 x 4.18 x 4.96	2.8
2	IP20	7	10.5	6KE1121002X1 ##	D5814	706.	5.12 x 6.69 x 6.22	4.0
3	IP20	10	15.0	6KE1121003X1 ##	D5815	885.	5.12 x 6.69 x 6.22	4.3
230 VAC, 3 phase, 50/60Hz Input								
1/8	IP20	0.7	1.1	6KE1123F12X1##	D5801	361.	5.12 x 2.76 x 3.78	1.3
1/4	IP20	1.4	2.1	6KE1123F25X1##	D5802	386.	5.12 x 2.76 x 3.98	1.3
1/2	IP20	2.5	3.8	6KE1123F50X1##	D5803	433.	5.12 x 2.76 x 4.65	1.5
1	IP20	4.0	6.0	6KE1123001X1##	D5804	484.	5.12 x 2.76 x 5.67	1.8
2	IP20	7.0	10.5	6KE1123002X1##	D5805	556.	5.12 x 4.18 x 5.91	2.9
3	IP20	10.0	15.0	6KE1123003X1##	D5806	618.	5.12 x 4.18 x 5.91	2.9
5	IP20	16.5	24.8	6KE1123005X1##	D5807	860.	5.12 x 6.69 x 6.22	4.4
7.5	IP20	23.5	35.3	6KE1123007X1##	D5808	1,360.	8.66 x 7.09 x 6.22	9..9
10	IP20	31.0	46.5	6KE1123010X1##	D5809	1,452.	8.66 x 7.09 x 6.22	9.9
460 VAC, 3 phase, 50/60Hz Input								
1/2	IP20	1.4	2.1	6KE1143F50X1##	D5816	556.	5.12 x 4.18 x 4.96	2.4
1	IP20	2.1	3.2	6KE1143001X1##	D5817	587.	5.12 x 4.18 x 5.91	2.6
2	IP20	3.7	5.6	6KE1143002X1##	D5818	675.	5.12 x 4.18 x 6.7	2.9
3	IP20	5.3	8.0	6KE1143003X1##	D5819	783.	5.12 x 4.18 x 6.7	3.1
5	IP20	8.7	13.1	6KE1143005X1##	D5820	979.	5.12 x 6.69 x 6.22	4.2
7.5	IP20	12	18.0	6KE1143007X1##	D5821	1,483.	8.66 x 7.09 x 6.22	9.9
10	IP20	16	24.0	6KE1143010X1##	D5822	1,576.	8.66 x 7.09 x 6.22	9.9

Indicates product revision
NOTE: minimum order qty. of 10 required.

Options & Accessories

Description	Model No.	Catalog No.	List Price GO-5P11
230 VAC 0.125, 0.5-1 Hp Resistor	6KE$32DBR001	A3201	300.
230 VAC 2-3 Hp Resistor	6KE$32DBR003	A3202	400.
230 VAC 5 Hp Resistor	6KE$32DBR005	A3203	450.
230 VAC 7.5 Hp Resistor	6KE$32DBR007	A3204	530.
230 VAC 10 Hp Resistor	6KE$32DBR010	A3205	650.
460 VAC 0.5-1 Hp Resistor	6KE$34DBR001	A3210	450.
460 VAC 2-3 Hp Resistor	6KE$34DBR003	A3211	525.
460 VAC 5 Hp Resistor	6KE$34DBR005	A3212	600.
460 VAC 7.5 Hp Resistor	6KE$34DBR007	A3213	850.
460 VAC 10 Hp Resistor	6KE$34DBR010	A3214	950.
EMI/RFI Filter 230V Single phase 1/8, 1/4, 1/2 Hp	EFL040E117	TBD	*
EMI/RFI Filter 230V Single phase 1 Hp	EFL075E117	TBD	*
EMI/RFI Filter 230V Single phase 2, 3 Hp	EFL220E117	TBD	*
EMI/RFI Filter 230V Three phase 1/8, 1/4, 1/2, 1 Hp	EFL075SP2	A3719	*
EMI/RFI Filter 230V Three phase 2, 3, 5 Hp	EFL370SP2	A3431	*
EMI/RFI Filter 230V Three phase 7.5, 10 Hp	EFL750SP2	A3432	*
EMI/RFI Filter 460V Three phase 1/2, 1 Hp	EFL075E114	TBD	*
EMI/RFI Filter 460V Three phase 2, 3 Hp	EFL220E114	TBD	*
EMI/RFI Filter 460V Three phase 5 Hp	EFL400E114	TBD	*
EMI/RFI Filter 460V Three phase 7.5, 10 Hp	EFL750E114	TBD	*
DeviceNet Serial Communication	OPCE11SDEVU	TBD	*
Profibus DP Serial Communication	OPCE11SPDPU	TBD	*
Interbus-S Serial Communication	OPCE11SIBSU	TBD	*
Modbus Plus Serial Communication	OPCE11SMBPU	TBD	*
CAN Serial Communication	OPCE11SCOPU	TBD	*

TBD: catalog number to be determined later - not released at time of printing

* Consult factory for pricing

EMI/RFI Filters

Fully tested filters that are incorporated into the system for the drive to meet CE requirements. The filter units have been tested with the drives to meet CE guidelines covering electromagnetic and radio frequency interference abatement, EC Directive 89/336/EEC.

Dynamic Braking

The dynamic braking option has been designed to allow faster deceleration rates then could be achieved via a coast stop. The option consists of a dynamic braking module and dynamic braking resistors.

Important application notes:

- The standard option has been designed for stopping a load with an inertia equal to or less than the applied motor's rotor inertia.
- High inertia or overhauling loads may cause extended deceleration times which could cause option overheating and tripping of the drive unit.
- The option is not holding a brake. It will not prevent a motor at rest from rotating.

NOTE: Refer to drive's instruction manual installation and connection section for details.

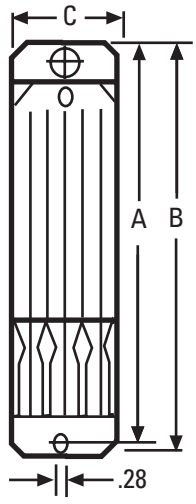
Nominal Applied Motor Hp	Max. Braking Torque [%] E11	Dynamic Braking Module	Dynamic Braking Resistor	Qty. Reqd.	Total Ohms	Total kW	Cont. Max. Braking time[s] (100% torque)	Repetitive 100% Braking Torque Duty[%] (100s or less)
230 VAC, Input Power								
1/8, 1/4	150	BUILT-IN	6KE$32DBR001	1	100	0.2	90	37
1/2	150	BUILT-IN	6KE$32DBR001	1	100	0.2	45	22
1	150	BUILT-IN	6KE$32DBR001	1	100	0.2	45	18
2	150	BUILT-IN	6KE$32DBR003	1	40	0.4	45	10
3	150	BUILT-IN	6KE$32DBR003	1	40	0.4	30	7
5	150	BUILT-IN	6KE$32DBR005	1	33	0.4	20	5
7.5	150	BUILT-IN	6KE$32DBR007	1	20	0.8	20	5
10	150	BUILT-IN	6KE$32DBR010	1	15	0.9	10	5
460 VAC, Input Power								
1/2	150	BUILT-IN	6KE$34DBR001	1	200	0.2	45	22
1	150	BUILT-IN	6KE$34DBR001	1	200	0.2	45	10
2	150	BUILT-IN	6KE$34DBR003	1	160	0.4	45	10
3	150	BUILT-IN	6KE$34DBR003	1	160	0.4	30	7
5	150	BUILT-IN	6KE$34DBR005	1	130	0.4	20	5
7.5	150	BUILT-IN	6KE$34DBR007	1	80	0.8	20	5
10	150	BUILT-IN	6KE$34DBR010	1	60	0.9	10	5

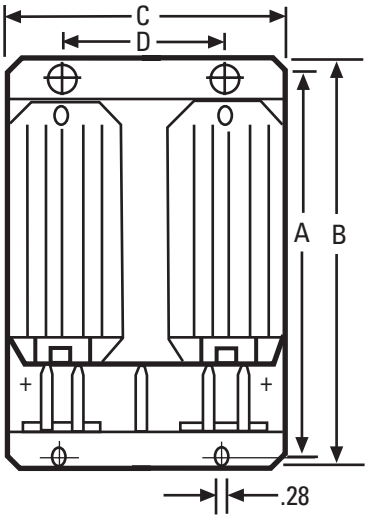
Dynamic Braking Resistors

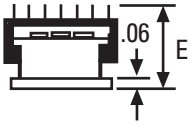
Model No.	Catalog No.	Hp	List Price GO-5E$
230 VAC Dynamic Braking Resistors			
6KE$32DBR001	A3201	0.125, 0.5 and 1	300.
6KE$32DBR003	A3202	2 and 3	400.
6KE$32DBR005	A3203	5	450.
6KE$32DBR007	A3204	7.5	530.
6KE$32DBR010	A3205	10	650.
460 VAC Dynamic Braking Resistors			
6KE$34DBR001	A3210	1/2, 1	450.
6KE$34DBR003	A3211	2 and 3	525.
6KE$34DBR005	A3212	5	600.
6KE$34DBR007	A3213	7.5	850.
6KE$34DBR010	A3214	10	950.

E11 4-009

Dynamic Braking Resistors Dimensions







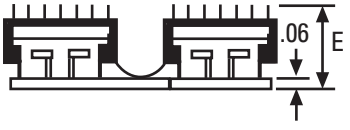


Figure A **Figure B**

Figure A					Figure B					
Cat. No.	A	B	C	E	Cat. No.	A	B	C	D	E
6KE$32DBR001	11.61	12.2	2.52	2.64	6KE$32DBR007	16.93	17.72	5.59	3.54	2.66
6KE$34DBR001					6KE$34DBR007	17.91	18.50	5.59	2.91	2.64
6KE$32DBR003	13.07	13.58	2.99	3.70	6KE$32DBR010	14.57	15.35	6.14	3.54	3.54
6KE$32DBR005					6KE$34DBR010	19.49	20.08	5.59	2.91	2.64
6KE$34DBR003	17.91	18.5	2.52	2.64						
6KE$34DBR005										

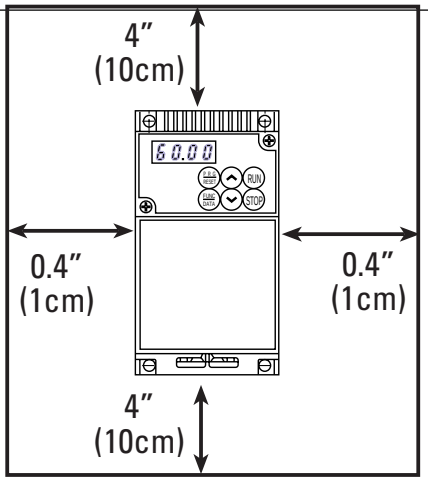
Standard Specifications

Environmental Conditions	
Installation Location	Free from corrosive gases, flammable gases, oil mist, dust and direct sunlight. Indoor use only.
Altitude	1000m or less. Applicable to 3000m with power derating (-10%/1000m)
Ambient Temperature	-10 to +50°C (+14°F to 122°F)
Ambient Humidity	5 to 95% RH (non-condensing)
Vibration	3mm: 2 to less than 9 Hz 9.8 m/s^2: 9 to less than 20 Hz 2 m/s^2: 20 to less than 55 Hz 1 m/s^2: 55 to less than 200 Hz
Storage Condition	Temperature: -25°C to +65°C (-4°F to 149°F) Humidity: 5 to 95% RH (non-condensing)
Input	
Rated Input AC Voltage	200 to 240 Vac 50/60 Hz, 1 phase (1/8 to 3 hp) 200 to 230 Vac 50/60 Hz, 3 phase (1/8 to 10 hp) 380 to 480 Vac 50/60 Hz, 3 phase (1/2 to 10 hp) Voltage: -15% to +10%; voltage unbalance: within 3%; frequency ± 5%
Output	
Setting	Maximum frequency: 50 to 400 Hz Base frequency: 25 to 400 Hz Starting frequency: 0.1 to 60.0 Hz; holding time: 0.0 to 10.0s Carrier frequency: 0.75 to 15kHz
Accuracy (Stability)	Digital setting: ±0.01% of maximum frequency (from -10°C to +50°C) Analog setting: ±0.2% of maximum frequency (at 25°C ± 10°C)
Setting Resolution	Digital setting: 0.01 Hz at maximum frequency up to 99.99 Hz, (0.1 Hz at maximum frequency of 100.0 Hz and above) Analog setting: 1/3000 of maximum frequency (ex. 0.02 Hz at 60 Hz, 0.04 Hz at 120 Hz, 0.15 Hz at 400 Hz) Link setting: 1/20000 of maximum frequency or 0.01 Hz fixed (ex. 0.003 Hz at 60 Hz, 0.006 Hz at 120 Hz, 0.02 Hz at 400 Hz,)
Control	
Control Method	V/f control (sinusoidal PWM control) Dynamic torque vector control (sinusoidal PWM control)
Operation Method	Keypad operation: RUN or STOP key Digital input signal: Forward/Reverse command, Coast-to-Stop command, etc. Link operation: RS485 (standard), Profibus-DP, Interbus-S™, DeviceNet™, Modbus Plus™, CAN Open (option)
Frequency Setting	Keypad operation: UP or DOWN keys External potentiometer of 1 to 5k ohm Analog input: 0 to +10 Vdc (0 to +5 Vdc), 4 to 20 mA dc Multistep frequency: up to 16 different frequencies can be selected by digital input signal Link operation: RS485 (standard) Profibus-DP, Interbus-S™, DeviceNet™, Modbus Plus™, CAN Open (option)

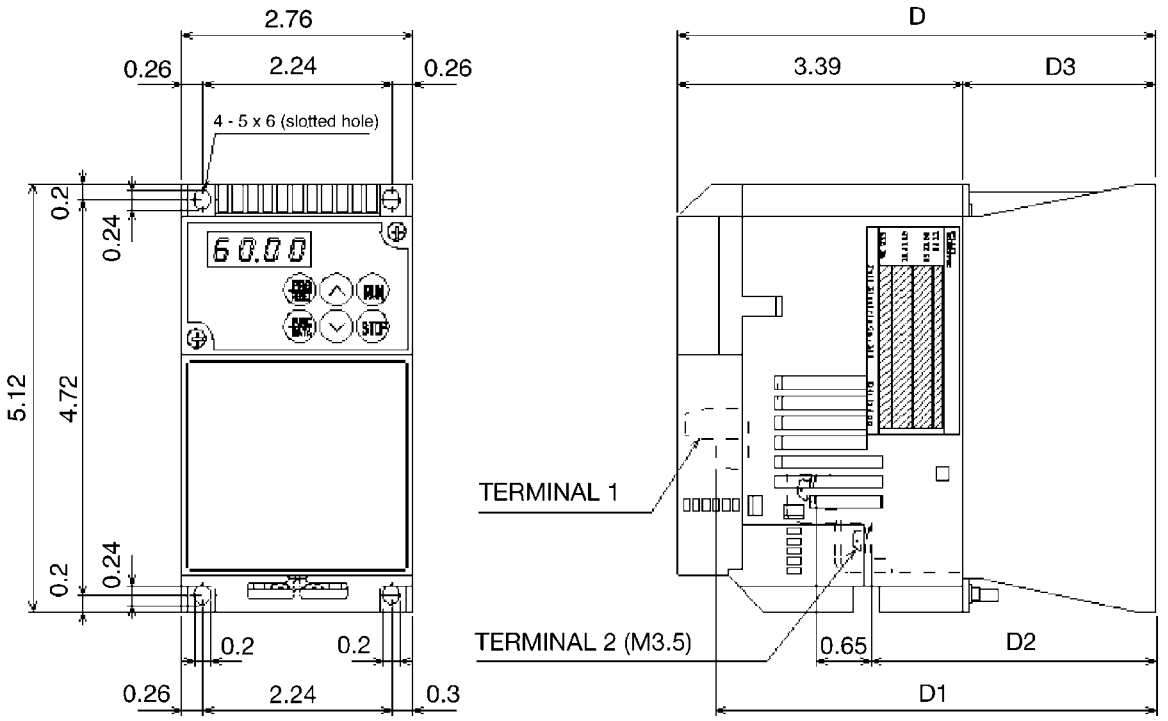
Standard Specifications (cont.)

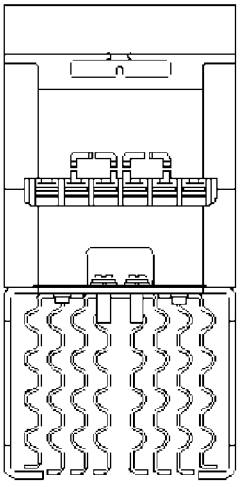
Acceleration/Deceleration Time	0.01 to 3600s (independently adjustable acceleration and deceleration, 2 different times are selectable)
Voltage/Frequency (V/F) Characteristics	Adjustable at base and maximum frequency with AVR control: 320 to 480V (460V series). 80 to 240V (230V series)
Restart After Momentary specified for the drive Power Failure	Drive restarts without causing the motor to stop if the automatic restart is
Frequency Limiter	High and low limiters can be preset
Bias Frequency	Bias frequency can be preset (-400 to +400 Hz)
Jump Frequency Control	Jump frequency (3 points) and its common jump hysteresis width (0 to 30 Hz) can be preset
Torque Boost	Selectable by load characteristics: constant torque load (auto/manual), variable torque load (manual)
Protection	
Overload	Protects the drive by electronic thermal and detection of drive temperature
Overvoltage	Detects dc link circuit overvoltage to stop drive (460V series: 800 Vdc, 230V series: 400 Vdc)
Overheating	Protects the drive by detection of drive temperature
Motor Overload	Electronic thermal overload relay can be selected for standard motor or drive motor
Motor Protection by cally PTC Thermistor	When the motor temperature exceeds allowable value, the drive trips automati-
Options	
Standard	EMI Filters, DB Resistors
Communications	Profibus-DP, Interbus-S™, DeviceNet™, Modbus Plus™, CAN Open (option)

Mounting Space



Dimensions

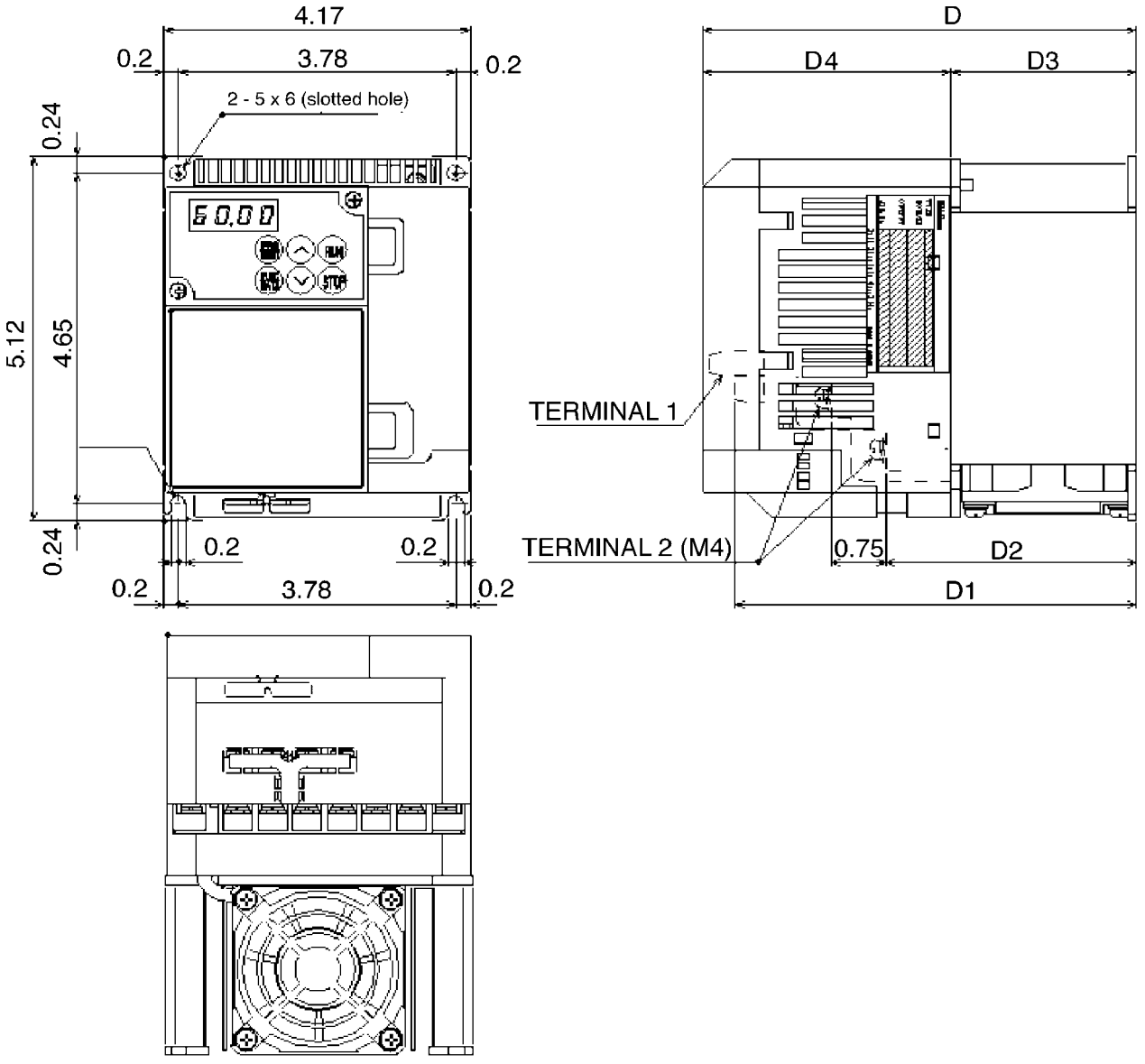




Model No.	Nominal applicable motor [Hp]	External dimensions (inches)			
		D	D1	D2	D3
6KE1123F12X1**	1/8	3.78	3.35	1.5	0.39
6KE1121F12X1**					
6KE1123F25X1**	1/4	3.98	3.55	1.7	0.59
6KE1121F25X1**					
6KE1123F50X1**	1/2	4.65	4.22	2.37	1.26
6KE1121F50X1**					
6KE1123001X1**	1	5.67	5.24	3.39	2.28

** Indicates product revision

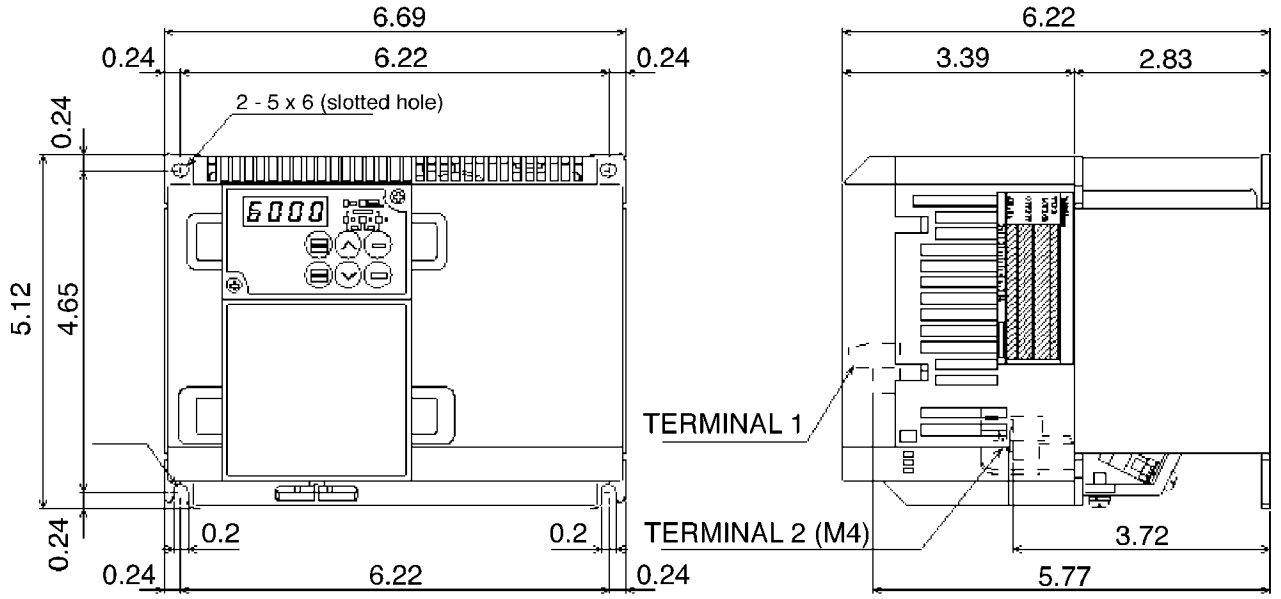
Dimensions

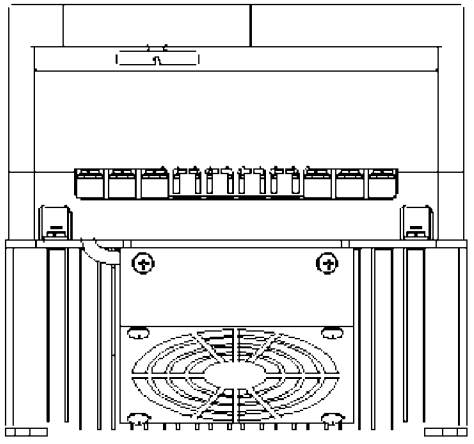


Model No.	Nominal applicable motor [Hp]	External dimensions (inches)				
		D	D1	D2	D3	D4
6KE1123002X1**	2	5.91	5.46	3.41	2.52	3.39
6KE1123003X1**	3	5.91	5.46	3.41	2.52	3.39
6KE1121001X1**	1	4.96	4.51	2.46	1.57	3.39
6KE1143F50X1**	1/2	4.96	4.51	2.46	1.57	3.39
6KE1143001X1**	1	5.91	5.46	3.41	2.52	3.39
6KE1143002X1**	2	6.69	6.24	3.41	2.52	4.17
6KE1143003X1**	3	6.69	6.24	3.41	2.52	4.17

**Indicates product revision

Dimensions

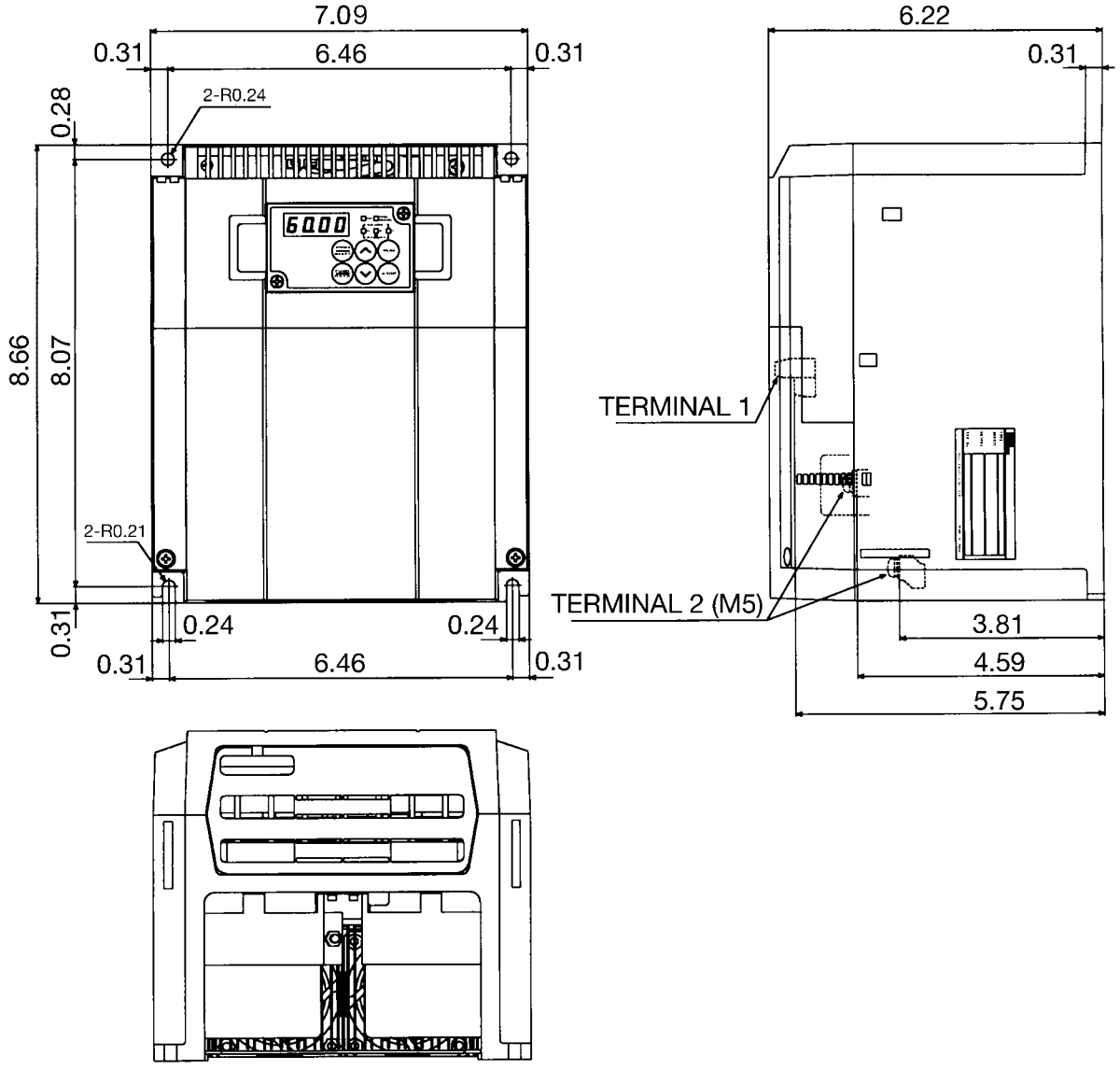




Model No.	Nominal applicable motor [Hp]
6KE1123005X1**	5
6KE1121002X1**	2
6KE1121003X1**	3
6KE1143005X1**	5

**Indicates product revision

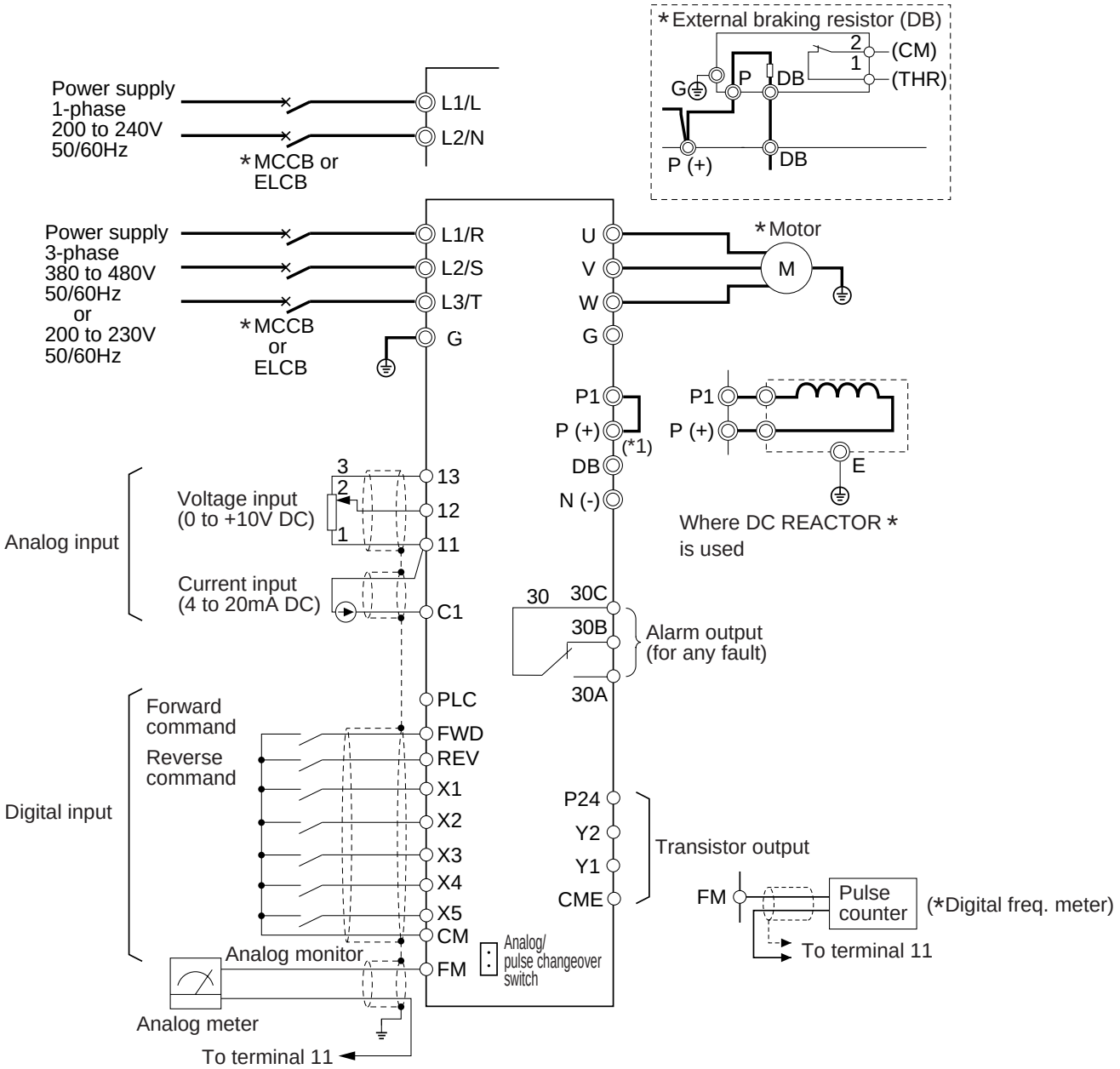
Dimensions



Model No.	Nominal applicable motor [Hp]
6KE1123007X1**	7.5
6KE1123010X1**	10
6KE1143007X1**	7.5
6KE1143010X1**	10

**Indicates product revision

Basic Wiring Diagrams



Notes