Information and Precautions

Chapter 1 provides information on the general intent of this manual, gives an overall description of the 1336 PLUS II Adjustable Frequency AC Drive and provides a listing of key drive features.

Manual Objectives

This publication provides planning, installation, wiring and diagnostic information for the 1336 PLUS II Drive. To assure successful installation and operation, the material presented must be thoroughly read and understood before proceeding. Particular attention must be directed to the Attention and Important statements contained within.

For J Frame information, refer to publication 1336F-IN014.

Software Compatibility

Three-Phase Drive Rating [1]			Compatible with Version . . .	Frame Reference
200-240V	380-480V	500-600V		
0.37-0.75 kW 0.5-1 HP	0.37-1.2 kW 0.5-1.5 HP	–	**1.0** & Up	**A1**
1.2-1.5 kW 1.5-2 HP	1.5-2.2 kW 2-3 HP	–	**1.0** & Up	**A2**
2.2-3.7 kW 3-5 HP	3.7 kW 5 HP	–	**1.0** & Up	**A3**
5.5 kW 7.5 HP	5.5-15 kW 7.5-20 HP	0.75-15 kW 1-20 HP	**1.0** & Up	**A4**
5.5-11 kW 7.5-15 HP	11-22 kW 15-30 HP	–	**1.0** & Up	**B1/B2**
15-22 kW 20-30 HP	30-45 kW 40-60 HP	18.5-45 kW 25-60 HP	**1.0** & Up	**C**
30-45 kW 40-60 HP	45-112 kW 60-150 HP	56-93 kW 75-125 HP	**1.0** & Up	**D**
56-93 kW 75-125 HP	112-187 kW 150-250 HP	112-224 kW 150-300 HP	**1.0** & Up	**E**
–	187-336 kW 250-450 HP	261-298 kW 350-400 HP	**1.0** & Up	**F**
–	187-448 kW 250-600 HP	224-448 kW 300-600 HP	**1.0** & Up	**G**

[1] **kW and HP are constant torque.**

General Precautions

ATTENTION: This drive contains ESD (Electrostatic Discharge) sensitive parts and assemblies. Static control precautions are required when installing, testing, servicing or repairing this assembly. Component damage may result if ESD control procedures are not followed. If you are not familiar with static control procedures, reference A-B publication 8000-4.5.2, "Guarding Against Electrostatic Damage" or any other applicable ESD protection handbook.

ATTENTION: An incorrectly applied or installed drive can result in component damage or a reduction in product life. Wiring or application errors, such as, undersizing the motor, incorrect or inadequate AC supply, or excessive ambient temperatures may result in malfunction of the system.

ATTENTION: Only personnel familiar with the 1336 PLUS II Adjustable Frequency AC Drive and associated machinery should plan or implement the installation, start-up and subsequent maintenance of the system. Failure to comply may result in personal injury and/or equipment damage.

ATTENTION: To avoid a hazard of electric shock, verify that the voltage on the bus capacitors has discharged before performing any work on the drive. Measure the DC bus voltage at the + & - terminals of TB1. The voltage must be 0.0V DC.

Conventions Used in this Manual

To help differentiate parameter names and display text from other text the following conventions will be used:

- Parameter Names will appear in [brackets]
- Display Text will appear in "quotes"

Catalog Number Explanation

The diagram on the following page describes the 1336 PLUS II catalog numbering scheme.

1336F – BR F30 – AA – EN – MODS

First Position
Bulletin Number

Second Position
Voltage

Letter	Voltages
AQ	200-240V AC or 310V DC
BR	380-480VAC or 513-620V DC
CW	500-600V AC or 775V DC
A	200-240V AC
B	380-480V AC
BP/BPR④	380-480V AC (F Frame)
BX	Special Rating
C	500-600V AC
CP/CPR④	500-600V AC (F Frame)
Q	310V DC
R	513-620V DC
RX	Special Rating
W	775V DC

Third Position
Nominal HP Rating

Refer to table below for ratings and possible voltage combinations.

Fourth Position
Enclosure Type

Code	Type
AA	IP 20 (NEMA 1)
AE	IP 20 (NEMA 1)/EMC
AF	IP 65 (NEMA 4)③
AJ	IP 54 (NEMA 12)③
AN	IP 00 (Open)

Fifth Position
Language Group①

Code	Language
EN	English
FR	French
DE	German
IT	Italian
ES	Spanish
JP	Japanese ⑤

Sixth Position
Options

Code	Description
Human Interface Module, Snap-In, IP20 (NEMA Type 1)	
HASB	Snap-In Cradle/Blank Plate
HASP	Programmer Only
HCSP	Programmer Only & Upload/Download Capability
HAS1	Programmer/Controller w/Analog Pot
HCS1	Programmer/Controller w/Analog Pot & Upload/Download Capability
HAS2	Programmer/Controller w/Digital Pot
HCS2	Programmer/Controller w/Digital Pot & Upload/Download Capability
Human Interface Module, IP65/54 (NEMA Type 4/12)	
HJP	Programmer Only
HJ2	Programmer/Controller w/Digital Pot
Communication Options –– B Frame & Up (Adapter 6)	
GM1	Single Point Remote I/O B Frame
GM2	RS-232/422/485, DF1 & DH485 B Frame
GM5	DeviceNet™
GM6	Enhanced DeviceNet™
Communication Options –– All Frames (Adapter 1)	
GMS1	GM1 with Snap-In Cradle
GMS2	GM2 with Snap-In Cradle
GMS5	GM5 with Snap-In Cradle
GMS6	GM6 with Snap-In Cradle
Control Interface Options	
L4	TTL Contact
L4E	TTL Contact & Encoder Feedback
L7E	TTL Contact & Encoder Fdbck. for use with Encoder Loss Detection
L5	24V AC/DC
L5E	24V AC/DC & Encoder Feedback
L8E	24V AC/DC & Encoder Feedback for use with Encoder Loss Detection
L6	115V AC
L6E	115V AC & Encoder Feedback
L9E	115V AC & Encoder Feedback for use with Encoder Loss Detection
Analog Interface Options – Slot A	
• Choose No More than One – Configurable Inputs/Outputs are 10V or 20mA	
LA2	Two Isolated Configurable Inputs
LA6	One Isolated Bi-polar Input (±10V or ±20mA) and One Isolated Thermistor Input
LA7	One Isolated Bi-polar Input (±10V or ±20mA) and One Isolated Configurable Input
Analog Interface Options – Slot B	
• Choose No More than One – Configurable Inputs/Outputs are 10V or 20mA	
LA1	Single-ended, Non-isolated Configurable (including Pot) Input & 2 Single-ended, Non-isolated Outputs (1 - Configurable, 1 - 20mA)
LA3	Two Isolated Configurable Outputs
LA4	One Isolated Configurable Input & Output
LA5	Isolated Pulse Input, Non-isolated Pulse Output & Single-ended, Non-isolated Configurable Output
Common Mode Choke –– F & G Frame (must be specified for F Frame)	
CM	Internal Common Mode Choke (factory installed)
NCM	No Common Mode Choke

Voltage and Nominal HP Rating Combinations

Code	Rating	AQ	BR	CW	A	B	BP/ BPR	BX	C	CP/ CPR	Q	R	RX	W
F05	0.37 (0.5)	●	●											
F07	0.56 (0.75)	●	●											
F10	0.75 (1)	●	●	●										
F15	1.2 (1.5)	●	●											
F20	1.5 (2)	●	●	●										
F30	2.2 (3)	●	●	●										
F50	3.7 (5)	●	●	●										
F75	5.5 (7.5)	●	●	●										
F100	7.5 (10)		●	●										
F150	11 (15)		●	●										
F200	15 (20)		●	●										
007	5.5 (7.5)				●						●			
010	7.5 (10)				●						●			
015	11 (15)				●	●					●	●		
020	15 (20)				●	●					●	●		
025	18.5 (25)				●	●			●		●	●		●
030	22 (30)				●	●			●		●	●		●
040	30 (40)				●	●		●	●		●	●	●	●
050	37 (50)				●	●			●		●	●		●
060	45 (60)				●	●		●	●		●	●	●	●
075	56 (75)				●	●			●		●	●		●
100	75 (100)				●	●			●		●	●		●
125	93 (125)				●	●			●		●	●		●
150	112 (150)					●		●	●			●	●	●
200	149 (200)					●			●			●		●
250	187 (250)②					●	●	●	●			●	●	●
300	224 (300)②					●	●		●			●		●
350	261 (350)②					●	●		●	●		●		●
400	298 (400)②					●	●		●	●		●		●
450	336 (450)②					●	●		●			●		●
500	373 (500)②					●			●			●		●
600	448 (600)					●			●			●		●

① Language must be specified to ensure shipment of appropriate User Manual.

② G Frame Standard Drives in enclosed construction are supplied through the *Configured Drives Program* and will have an "A" suffix after the HP rating.

③ D through G Frame drives in IP 65 (NEMA Type 4) and IP 54 (NEMA Type 12) configurations are supplied through the Configured Drives Program.

④ "xPR" has a "roll-in" type chassis. ⑤ Not available with v5.001 & later.