

Combination Bulletin 1336 PLUS II Variable Frequency AC Drive (VFD) with Circuit Breaker, 220V-240V (Constant Torque)

- See page 149 for product description.
- Branch circuit (overload) protection provided by the overload internal to drive.
- See page 239 for Combination Unit Short Circuit Withstand Ratings table.
- Wiring is Type A only.
- Proper placement of drive units in the MCC is essential for proper operation and life cycle of the drive. Strong consideration should be given to placing units with drives at the bottom of the section. When more than one drive unit is placed in a section, the drive unit with the highest rating should be located at the bottom of the section.
- Do not mount transformer units below drive units. Heat from transformer units may cause drive to trip.
- Control circuit transformer is required. Select on page 192.
- HIM (Human Interface Module) is required. Control logic board is required. Select on page 187.
- Bulletin 1336 PLUS II drives are UL listed and CSA certified as motor overload protective devices. An external overload relay is not required for single motor applications. The Bulletin 1336 PLUS II drive is not intended for use with single phase motors.

Maximum Continuous Output Amperes [1]	Nominal Horsepower (Nominal kW)		Space Factor	Catalog Number [2] NEMA Type 1 and Type 1 w/ gasket	Space Factor	Catalog Number [2] NEMA Type 12	Delivery Program
	The horsepower and kW ratings shown are nominal. The limiting factor in the application and use of the Bulletin 1336 PLUS II drive is the output ampere rating.						
	220-230V [3]	240V					
2.3	(0.37)	0.5	2.0	2163PA-F05CK_ _	2.0	2163PA-F05CJ_ _	PE
3.0	(0.55)	0.75		2163PA-F07CK_ _		2163PA-F07CJ_ _	
4.5	(0.75-1.1)	1		2163PA-F10CK_ _		2163PA-F10CJ_ _	
6.0	(1.5)	1.5		2163PA-F15CK_ _		2163PA-F15CJ_ _	
8.0	—	2		2163PA-F20CK_ _		2163PA-F20CJ_ _	
12	(2.2)	3		2163PA-F30CK_ _		2163PA-F30CJ_ _	
18	(3.7)	5		2163PA-F50CK_ _		2163PA-F50CJ_ _	
27	(5.5-7.5)	7.5	3.0	2163PA-007CK_ _	4.0	2163PA-007CJ_ _	PE-II
34	—	10		2163PA-010CK_ _		2163PA-010CJ_ _	
48	(11)	15	3.0 PE	2163PA-015CK_ _	6.0 20" W	2163PA-015CJ_ _	
65	(15-18.5)	20	6.0 20" W	2163PA-020CK_ _		2163PA-020CJ_ _	
77	(22)	25		2163PA-025CK_ _		2163PA-025CJ_ _	
80	—	30		2163PA-030CK_ _	6.0 25" W	2163PA-030CJ_ _	

[1] Ampere ratings are at a 4kHz carrier frequency. If carrier frequencies above 4kHz are selected, the drive output current rating **must** be derated. For complete derating information, contact your local Rockwell Automation Sales Office and/or refer to publication 1336 PLUS-5.3.

[2] The catalog numbers listed are not complete:

- Select the voltage code from table on page 206 (e.g., 2163PA-F05CKA).
- If horsepower rated, select the number from table on page 206 that corresponds to the nominal horsepower desired (e.g., 2163PA-F05CKA-33).
- If kW rated, select the number from table on page 206 that corresponds to the nominal kW desired (e.g., 2163PA-F05CKP-33K).
- Select the appropriate suffix from table on page 212 to identify the circuit breaker type (e.g., 2163PA-F05CKA-33CA or 2163PA-F05CKP-33KCA).

[3] Units at these voltages are not UL listed, cUL listed or CSA certified.

**Units—2163P**

*Combination Bulletin 1336 PLUS II Variable Frequency AC Drive (VFD) with Circuit Breaker, 380V-480V (Constant Torque)*

- See page 149 for product description.
- Branch circuit (overload) protection provided by the overload internal to drive.
- See page 239 for Combination Unit Short Circuit Withstand Ratings table.
- Wiring is Type A only.
- Proper placement of drive units in the MCC is essential for proper operation and life cycle of the drive. Strong consideration should be given to placing units with drives at the bottom of the section. When more than one drive unit is placed in a section, the drive unit with the highest rating should be located at the bottom of the section.
- Do not mount transformer units below drive units. Heat from transformer units may cause drive to trip.
- Control circuit transformer is required. Select on page 192.
- HIM (Human Interface Module) is required. Control logic board is required. Select on page 187.
- Bulletin 1336 PLUS II drives are UL listed and CSA certified as motor overload protective devices. An external overload relay is not required for single motor applications. The Bulletin 1336 PLUS II drive is not intended for use with single phase motors.

Maximum Continuous Output Amperes [1]	Nominal Horsepower (Nominal kW) <small>The horsepower and kW ratings shown are nominal. The limiting factor in the application and use of the Bulletin 1336 PLUS II drive is the output ampere rating.</small>		Space Factor	Catalog Number [2] NEMA Type 1 and Type 1 w/ gasket	Space Factor	Catalog Number [2] NEMA Type 12	Delivery Program	
	380-415V [3]	480V						
1.1	(0.25)	0.5	2.0	2163PA-F05CK_ _	2.0	2163PA-F05CJ_ _	PE for 380-415V  SC for 480V	
1.6	(0.37-0.55)	0.75		2163PA-F07CK_ _		2163PA-F07CJ_ _		
2.1	(0.75)	1		2163PA-F10CK_ _		2163PA-F10CJ_ _		
2.8	(1.1)	1.5		2163PA-F15CK_ _		2163PA-F15CJ_ _		
3.8	(1.5)	2		2163PA-F20CK_ _		2163PA-F20CJ_ _		
5.3	(2.2)	3		2163PA-F30CK_ _		2163PA-F30CJ_ _		
8.4	(3.7)	5		2163PA-F50CK_ _		2163PA-F50CJ_ _		
13.3	(5.5)	7.5	3.0 SC	2163PA-F75CK_ _	3.0	2163PA-F75CJ_ _		
16.1	(7.5)	10		2163PA-F100CK_ _		2163PA-F100CJ_ _		
24.0	(11)	15		2163PA-F150CK_ _		2163PA-F150CJ_ _		
27.0	(15)	20		2163PA-F200CK_ _		2163PA-F200CJ_ _		
39.0	(18.5)	25		2163PA-025CK_ _		2163PA-025CJ_ _		
45.0	(22)	30	6.0 20" W	2163PA-030CK_ _	6.0 20" W	2163PA-030CJ_ _	PE-II for 380-415V  SC-II for 480V	
60.0	(30)	40		2163PA-040CK_ _		2163PA-040CJ_ _		
75.0	(37)	50		2163PA-050CK_ _		2163PA-050CJ_ _		
77.0	—	60	6.0 20" W <sup>[4]</sup>	2163PA-X060CK_ _	6.0 25" W	2163PA-X060CJ_ _		
85.0	(45)	—		2163PA-060CK_ _		6.0 35" W 20" D <sup>[4]</sup>		2163PA-060CJ_ _
106	(55)	75		2163PA-075CK_ _				2163PA-075CJ_ _
138	(75)	100		2163PA-100CK_ _				2163PA-100CJ_ _
173	(90)	125	2163PA-125CK_ _	2163PA-125CJ_ _				

[1] Ampere ratings are at a 4kHz carrier frequency. If carrier frequencies above 4kHz are selected, the drive output current rating **must** be derated. For complete derating information, contact your local Rockwell Automation Sales Office and/or refer to publication 1336 PLUS-5.3.

[2] The catalog numbers listed are not complete:

- Select the voltage code from table on page 206 (e.g., 2163PA-F05CKB).
- If horsepower rated, select the number from table on page 206 that corresponds to the nominal horsepower desired (e.g., 2163PA-F05CKB-33).
- If kW rated, select the number from table on page 206 that corresponds to the nominal kW desired (e.g., 2163PA-F05CKN-33K).
- Select the appropriate suffix from table on page 212 to identify the circuit breaker type (e.g., 2163PA-F05CKB-33CA or 2163PA-F05CKN-33KCA).

[3] Units at these voltages are not UL listed, cUL listed or CSA certified.

[4] Frame mounted 20" deep without vertical wireway. Horizontal bus is 5" deeper than standard.

**Units—2163P**

*Combination Bulletin 1336 PLUS II Variable Frequency AC Drive (VFD) with Circuit Breaker, 480V (Variable Torque)*

- See page 149 for product description.
- Branch circuit (overload) protection provided by the overload internal to drive.
- See page 239 for Combination Unit Short Circuit Withstand Ratings table.
- Wiring is Type A only.
- Proper placement of drive units in the MCC is essential for proper operation and life cycle of the drive. Strong consideration should be given to placing units with drives at the bottom of the section. When more than one drive unit is placed in a section, the drive unit with the highest rating should be located at the bottom of the section.
- Do not mount transformer units below drive units. Heat from transformer units may cause drive to trip.
- Control circuit transformer is required. Select on page 192.
- HIM (Human Interface Module) is required. Control logic board is required. Select both on page 187.
- Bulletin 1336 PLUS II drives are UL listed and CSA certified as motor overload protective devices. An external overload relay is not required for single motor applications. The Bulletin 1336 PLUS II drive is not intended for use with single phase motors.

Maximum Continuous Output Amperes [1]	Nominal Horsepower	Space Factor	Catalog Number [2] NEMA Type 1 and Type 1 w/ gasket	Space Factor	Catalog Number [2] NEMA Type 12	Delivery Program
	The horsepower ratings shown are nominal. The limiting factor in the application and use of the Bulletin 1336 PLUS II drive is the output ampere rating. <b>480V</b>					
1.2	0.5	2.0	2163PA-F05VK_ _	2.0	2163PA-F05VJ_ _	SC
1.7	0.75		2163PA-F07VK_ _		2163PA-F07VJ_ _	
2.3	1		2163PA-F10VK_ _		2163PA-F10VJ_ _	
3.0	1.5		2163PA-F15VK_ _		2163PA-F15VJ_ _	
4.0	2		2163PA-F20VK_ _		2163PA-F20VJ_ _	
6.0	3		2163PA-F30VK_ _		2163PA-F30VJ_ _	
9.0	5		2163PA-F50VK_ _		2163PA-F50VJ_ _	
15.4	7.5-10	3.0	2163PA-F75VK_ _	3.0	2163PA-F75VJ_ _	SC
22.0	15		2163PA-F100VK_ _		2163PA-F100VJ_ _	
27.0	20		2163PA-F200VK_ _		2163PA-F200VJ_ _	
34.0	25		2163PA-020VK_ _		2163PA-020VJ_ _	
42.0	30	6.0 20" W SC-II	2163PA-025VK_ _	6.0 20" W SC-II	2163PA-025VJ_ _	SC-II
65.0	40-50		2163PA-040VK_ _		2163PA-040VJ_ _	
75.0	60		2163PA-050VK_ _		2163PA-050VJ_ _	
96.0	75	6.0 35" W 20" D[3]	2163PA-060VK_ _	6.0 35" W 20" D[3]	2163PA-060VJ_ _	PE-II
120	100		2163PA-075VK_ _		2163PA-075VJ_ _	
150	125		2163PA-100VK_ _		2163PA-100VJ_ _	
180	150		2163PA-125VK_ _		2163PA-125VJ_ _	

[1] Ampere ratings are at a 4kHz carrier frequency. If carrier frequencies above 4kHz are selected, the drive output current rating **must** be derated. For complete derating information, contact your local Rockwell Automation Sales Office and/or refer to publication 1336 PLUS-5.3.

[2] The catalog numbers listed are not complete:

- Select the voltage code from table on page 206 (e.g., 2163PA-F05VKB).
- Select the number from table on page 206 that corresponds to the nominal horsepower desired (e.g., 2163PA-F05VKB-33).
- Select the appropriate suffix from table on page 212 to identify the circuit breaker type (e.g., 2163PA-F05VKB-33CA).

[3] Frame mounted 20" deep without vertical wireway. Horizontal bus is 5" deeper than standard.

## Units—2163P

### Combination Bulletin 1336 PLUS II Variable Frequency AC Drive (VFD) with Circuit Breaker, 600V (Constant Torque)

- See page 149 for product description.
- Branch circuit (overload) protection provided by the overload internal to drive.
- See page 239 for Combination Unit Short Circuit Withstand Ratings table.
- Wiring is Type A only.
- Proper placement of drive units in the MCC is essential for proper operation and life cycle of the drive. Strong consideration should be given to placing units with drives at the bottom of the section. When more than one drive unit is placed in a section, the drive unit with the highest rating should be located at the bottom of the section.
- Do not mount transformer units below drive units. Heat from transformer units may cause drive to trip.
- Control circuit transformer is required. Select on page 192.
- HIM (Human Interface Module) is required. Control logic board is required. Select both on page 187.
- Bulletin 1336 PLUS II drives are UL listed and CSA certified as motor overload protective devices. An external overload relay is not required for single motor applications. The Bulletin 1336 PLUS II drive is not intended for use with single phase motors.

Maximum Continuous Output Amperes [1]	Nominal Horsepower	Space Factor	Catalog Number [2] NEMA Type 1 and Type 1 w/ gasket	Space Factor	Catalog Number [2] NEMA Type 12	Delivery Program
	The horsepower ratings shown are nominal. The limiting factor in the application and use of the Bulletin 1336 PLUS II drive is the output ampere rating. <b>600V</b>					
2.0	1	3.0	2163PA-F10CK_ _	3.0	2163PA-F10CJ_ _	PE in United States, SC in Canada
4.0	2		2163PA-F20CK_ _		2163PA-F20CJ_ _	
6.0	3		2163PA-F30CK_ _		2163PA-F30CJ_ _	
8.0	5		2163PA-F50CK_ _		2163PA-F50CJ_ _	
10	7.5		2163PA-F75CK_ _		2163PA-F75CJ_ _	
12	10		2163PA-F100CK_ _		2163PA-F100CJ_ _	
19	15		2163PA-F150CK_ _		2163PA-F150CJ_ _	
24	20		2163PA-F200CK_ _		3.5	
30	25	6.0 20" W	2163PA-025CK_ _	6.0 20" W	2163PA-025CJ_ _	PE-II in United States SC-II in Canada
35	30		2163PA-030CK_ _		2163PA-030CJ_ _	
45	40		2163PA-040CK_ _		2163PA-040CJ_ _	
57	50		2163PA-050CK_ _		2163PA-050CJ_ _	
62	60		2163PA-060CK_ _	6.0 25" W	2163PA-060CJ_ _	
85	75	6.0 35" W 20" D <sup>[3]</sup>	2163PA-075CK_ _	6.0 35" W 20" D <sup>[3]</sup>	2163PA-075CJ_ _	PE-II
109	100		2163PA-100CK_ _		2163PA-100CJ_ _	
138	125		2163PA-125CK_ _		2163PA-125CJ_ _	

[1] Ampere ratings are at a 4kHz carrier frequency. If carrier frequencies above 4kHz are selected, the drive output current rating **must** be derated. For complete derating information, contact your local Rockwell Automation Sales Office and/or refer to publication 1336 PLUS-5.3.

[2] The catalog numbers listed are not complete:

- Select the voltage code from table on page 206 (e.g., 2163PA-F05CKC).
- Select the number from table on page 206 that corresponds to the nominal horsepower desired (e.g., 2163PA-F10CKC-35).
- Select the appropriate suffix from table on page 212 to identify the circuit breaker type (e.g., 2163PA-F10CKC-35CA).

[3] Frame mounted 20" deep without vertical wireway. Horizontal bus is 5" deeper than standard.

## Configuration Tables

### Control Voltage Type for Bulletins 2162, 2163, 2164, and 2165

Line Voltage	Voltage Code
220/230	P <sup>[1],[2]</sup>
240	A <sup>[2]</sup>
380	N <sup>[1],[2]</sup>
400	KN <sup>[1],[2]</sup>
415	I <sup>[1],[2]</sup>
480	B
600	C

[1] Units at these voltages are not UL listed or CSA certified.

[2] Not applicable to 2164 or 2165.

### Horsepower Ratings for All Bulletins

Motor Hp	Number	Motor Hp	Number	Motor Hp	Number	Motor Hp	Number
0.125	30	3	38	40	46	250	56
0.25	31	5	39	50	47	300	57
0.33	32	7.5	40	60	48	350	58
0.50	33	10	41	75	49	400	59
0.75	34	15	42	100	50		
1	35	20	43	125	51	450	60
1.5	36	25	44	150	52	500	61
2	37	30	45	200	54		

### kW Ratings for Bulletins 2154, 2155, 2162, and 2163 <sup>[1]</sup>

kW	Number	kW	Number
0.25	32K	37	47K
0.37	33K	45	48K
0.55	34K	55	49K
0.75	35K	75	50K
1.1	36K	90	51K
1.5	37K	110	52K
2.2	38K	132	53K
3.7	39K	150	54K
5.5	40K	160	55K
7.5	41K	185	56K
11	42K	200	57K
15	43K	220	58K
18.5	44K	250	59K
22	45K		
30	46K		

[1] kW rated units are not UL listed, cUL listed or CSA certified.

## Configuration Tables

### Circuit Breaker Type for Horsepower and kW Rated Units for Bulletins 2155E, 2155F, 2155G, 2155H and 2155J\*

Rating (Amperes)	Instantaneous Circuit Breakers <sup>[1]</sup> (For motor applications where transient inrush currents exceed 13 times the full load current, contact your local Rockwell Automation Sales Office.)			Inverse Time (Thermal Magnetic or Solid-State) Circuit Breakers <sup>[2]</sup>									
	High I.C.			Standard I.C.		Medium I.C.		High I.C.					
	Suffix	Frame		Suffix	Frame	Suffix	Frame	Suffix	Frame				
3	CA	HMCP	CT	FDB	CB	FD	CM	HFD					
5													
9													
16													
24													
25													
30													
35													
37													
54													
97										FDB JD	FD <sup>[3]</sup>	CM	HFD <sup>[3]</sup> HJD
108										JD	FD <sup>[4]</sup>	CM	HFD HJD
135										JD	—	CM	HJD
180										JD KD	—	CM	HJD HKD
201										JD KD	—	CM	HJD HKD
240										KD	—	CM	HKD
251										KD LD	—	CM	HKD HLD
317										LD	—	CM	HLD
360 - 361										LD	—	CM	HLD
480										LD	—	CM	HLD
500	LD MDL	—	CM	HLD HMDL									

[1] Refer to publication 2100-TD001x-EN-P, *CENTERLINE Motor Control Centers HMCP Circuit Breakers*, for more information.

[2] Refer to publication 2100-TD002x-EN-P, *CENTERLINE Motor Control Centers Thermal Magnetic Circuit Breakers*, for more information.

[3] 30 Hp maximum at 240V, 50 Hp maximum at 480V and 600V, 22kW maximum at 220-230V, and 37kW maximum at 380-415V.

[4] 30Hp maximum at 240V, 50HP maximum at 480-600V, 22kW maximum at 220-230V, and 37kW maximum at 380-415V.

[5] Not available at 240V, 350 Hp maximum at 480V, 450 Hp maximum at 600V, 132kW maximum at 220-230V, and 220kW maximum at 380-415V.

### Circuit Breaker Type for Bulletins 2163P, 2163Q, 2163R, 2165Q, and 2165R \* , †

Type	Instantaneous High Interrupting Capacity			Inverse Time (Thermal Magnetic) Standard Interrupting Capacity				Inverse Time (Thermal Magnetic) Medium Interrupting Capacity		Inverse Time (Thermal Magnetic) High Interrupting Capacity			
Hp Range	0.5-60	75-150 <sup>[1]</sup>	—	0.5-40	50-60	60-150 <sup>[1]</sup>	—	0.5-40	50	0.5-40	50-60	60-150 <sup>[1]</sup>	—
kW Range	0.25-37	45-75	90	0.25-22 <sup>[2]</sup>	18.5, 30-37 <sup>[3]</sup>	22, 45-75 <sup>[4]</sup>	90	0.25-22 <sup>[2]</sup>	18.5, 30-37 <sup>[3]</sup>	0.25-22 <sup>[2]</sup>	18.5, 30-37 <sup>[3]</sup>	22, 45-75 <sup>[4]</sup>	90
Suffix	CA	CA	CA	CT <sup>[5]</sup>	CT <sup>[5]</sup>	CT <sup>[6]</sup>	CT	CB <sup>[5]</sup>	CB <sup>[5]</sup>	CM <sup>[5]</sup>	CM <sup>[5]</sup>	CM <sup>[6]</sup>	CM
Frame Size	HMCP	HMCP250	HMCP400	FDB	FDB	JD	KD	FD	FD	HFD	HFD	HJD	HKD

[1] 150 Hp rating for 480V variable torque applications only.

[2] Only available through 15kW at 220-230V.

[3] 18.5kW rating is at 220-230V only.

[4] 22kw rating is at 220-230V only.

[5] Only available through 30 Hp at 240V, through 50 Hp at 480V, and through 60 Hp at 600V.

[6] Used for 60 Hp at 480V.

\* For combination short circuit withstand ratings, see page 236.

† Refer to publication 2100-TD002x-EN-P, *CENTERLINE Motor Control Centers Thermal Magnetic Circuit Breakers*, for more information.