

Yaskawa General-Purpose Inverter Technical Information

Inverter Division
Yaskawa Electric Corporation



Classification	Basic Information of Drive Selection	Model	GN	Document No.	E-C-04-GN-04
Title	Selecting a Braking Unit or Braking Resistor				

For Varispeed F7

Inverter			Braking unit		Braking Resistor Unit *1													
					Inverter-mounted Type (3 %ED, 10 sec. max.) *2,3						Separately-installed Type (10 %ED, 10 sec. max.) *3							
Voltage	Max. Applicable Motor Output kW	Model CIMR-F7A	Model CDBR-□□	No. of Used	Model ERF-150WJ□	Resistance	Code No.	No. of Used	Braking Torque % ⁵	Diagram	Model LKEB-□□	Specifications of Resistor	No. of Used	Braking Torque % ⁵	Connectable Min. Resistance Value ⁴	Diagram		
																	200V Class	0.4
0.75	20P7	201	200 Ω	R007505	1	125	A	20P7	70W 200 Ω	1	125	48 Ω	B					
1.5	21P5	101	100 Ω	R007504	1	125	A	21P5	260W 100 Ω	1	125	48 Ω	B					
2.2	22P2	700	70 Ω	R007503	1	120	A	22P2	260W 70 Ω	1	120	16 Ω	B					
3.7	23P7	620	62 Ω	R007510	1	100	A	23P7	390W 40 Ω	1	125	16 Ω	B					
5.5	25P5	—	—	—	—	—	—	—	25P5	520W 30 Ω	1	115	16 Ω	B				
7.5	27P5	—	—	—	—	—	—	—	27P5	780W 20 Ω	1	125	9.6 Ω	B				
11	2011	—	—	—	—	—	—	—	2011	2400W 13.6 Ω	1	125	9.6 Ω	B				
15	2015	—	—	—	—	—	—	—	2015	3000W 10 Ω	1	125	9.6 Ω	B				
18.5	2018	—	—	—	—	—	—	—	2015	3000W 10 Ω	1	100	9.6 Ω	B				
22	2022	2022B	1	—	—	—	—	—	—	2022	4800W 6.8 Ω	1	125	6.4 Ω	C			
30	2030	2015B	2	—	—	—	—	—	—	2015	3000W 10 Ω	2	125	9.6 Ω	D			
37	2037	2015B	2	—	—	—	—	—	—	2015	3000W 10 Ω	2	100	9.6 Ω	D			
45	2045	2022B	2	—	—	—	—	—	—	2022	4800W 6.8 Ω	2	120	6.4 Ω	D			
55	2055	2022B	2	—	—	—	—	—	—	2022	4800W 6.8 Ω	2	100	6.4 Ω	D			
75	2075	2110B	1	—	—	—	—	—	—	2022	4800W 6.8 Ω	3	110	1.6 Ω	E			
90	2090	2110B	1	—	—	—	—	—	—	2022	4800W 6.8 Ω	4	120	1.6 Ω	E			
110	2110	2110B	1	—	—	—	—	—	—	2018	4800W 8 Ω	5	100	1.6 Ω	E			
400V Class	0.4	40P4	Built-in		751	750 Ω	R007508	1	230	A	40P7	70W 750 Ω	1	230	96 Ω	B		
	0.75	40P7			751	750 Ω	R007508	1	130	A	40P7	70W 750 Ω	1	130	96 Ω	B		
	1.5	41P5			401	400 Ω	R007507	1	125	A	41P5	260W 400 Ω	1	125	64 Ω	B		
	2.2	42P2			301	300 Ω	R007506	1	115	A	42P2	260W 250 Ω	1	135	64 Ω	B		
	3.7	43P7			201	200 Ω	R007505	1	110	A	43P7	390W 150 Ω	1	135	32 Ω	B		
	5.5	45P5			—	—	—	—	—	—	—	45P5	520W 100 Ω	1	135	32 Ω	B	
	7.5	47P5			—	—	—	—	—	—	—	47P5	780W 75 Ω	1	130	32 Ω	B	
	11	4011			—	—	—	—	—	—	—	4011	1040W 50 Ω	1	135	20 Ω	B	
	15	4015			—	—	—	—	—	—	—	4015	1560W 40 Ω	1	125	20 Ω	B	
	18.5	4018			—	—	—	—	—	—	—	4018	4800W 32 Ω	1	125	19.2 Ω	B	
	22	4022			4030B	1	—	—	—	—	—	—	4022	4800W 27.2 Ω	1	125	19.2 Ω	C
	30	4030			4030B	1	—	—	—	—	—	—	4030	6000W 20 Ω	1	125	19.2 Ω	C
	37	4037			4045B	1	—	—	—	—	—	—	4037	9600W 16 Ω	1	125	12.8 Ω	C
	45	4045			4045B	1	—	—	—	—	—	—	4045	9600W 13.6 Ω	1	125	12.8 Ω	C
	55	4055			4030B	2	—	—	—	—	—	—	4030	6000W 20 Ω	2	135	19.2 Ω	D
	75	4075			4045B	2	—	—	—	—	—	—	4045	9600W 13.6 Ω	2	145	12.8 Ω	D
	90	4090			4220B	1	—	—	—	—	—	—	4030	6000W 20 Ω	3	100	3.2 Ω	E
	110	4110			4220B	1	—	—	—	—	—	—	4030	6000W 20 Ω	3	100	3.2 Ω	E
132	4132	4220B	1	—	—	—	—	—	—	4045	9600W 13.6 Ω	4	140	3.2 Ω	E			
160	4160	4220B	1	—	—	—	—	—	—	4045	9600W 13.6 Ω	4	140	3.2 Ω	E			
185	4185	4220B	1	—	—	—	—	—	—	4045	9600W 13.6 Ω	4	120	3.2 Ω	E			
220	4220	4220B	1	—	—	—	—	—	—	4037	9600W 16 Ω	5	110	3.2 Ω	E			
300	4300	4220B	2	—	—	—	—	—	—	4045	9600W 13.6 Ω	6	110	3.2 Ω	—			

* 1 When connecting a mounting type resistor or braking resistor unit, set system constant L3-04 to 0 (stall prevention disabled during deceleration). If operating without changing the constant, motor does not stop at set deceleration time.

2 When connecting mounting type braking resistor, set system constant L8-01 to 1 (braking resistor protection enabled).

3 Load factor during deceleration to stop a load with constant torque. With constant output or continuous regenerative braking, the load factor is smaller than the specified value.

4 Resistance value per one braking unit. Select a resistance value that is larger than connectable minimum resistance value to obtain enough braking torque.

5 For an application with large regenerative power such as hoisting, the braking torque or other items may exceed the capacity of a braking unit with a braking resistor in a standard combination (and result in capacity overload). Contact your YASKAWA representatives when the braking torque or any other item exceeds the values in the table.

6 The CDBR-2045B and CDBR-4090B control units are also available. Contact your Yaskawa representative for details.