

Appendix B Accessories

B.1 All Brake Resistors & Brake Units Used in AC Motor Drives

Note: Please only use DELTA resistors and recommended values. Other resistors and values will void Delta's warranty. Please contact your nearest Delta representative for use of special resistors. The brake unit should be at least 10 cm away from AC motor drive to avoid possible interference. Refer to the "Brake unit Module User Manual" for further details.

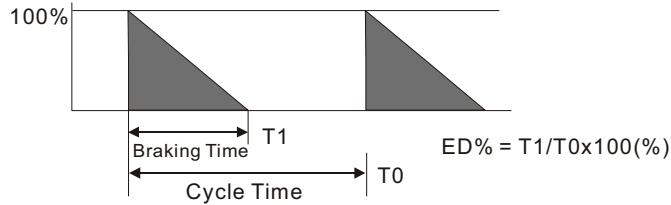
Voltage	Applicable Motor		Models	Full Load Torque KG-M	Equivalent Resistor Value (suggestion)	Brake Unit Model and No. of Units Used		Brake Resistors Model and No. of Units Used		Brake Torque 10%ED	Min. Equivalent Resistor Value for each AC Motor Drive
	hp	kW									
115V Series	0.25	0.2	VFD002EL11A	0.110	200W 250Ω	BUE-20015	1	BR200W250	1	320	200Ω
	0.5	0.4	VFD004EL11A	0.216	200W 250Ω	BUE-20015	1	BR200W250	1	170	100Ω
	1	0.75	VFD007EL11A	0.427	200W 150Ω	BUE-20015	1	BR200W150	1	140	80Ω
230V Series	0.25	0.2	VFD002EL21A/23A	0.110	200W 250Ω	BUE-20015	1	BR200W250	1	320	200Ω
	0.5	0.4	VFD004EL21A/23A	0.216	200W 250Ω	BUE-20015	1	BR200W250	1	170	100Ω
	1	0.75	VFD007EL21A/23A	0.427	200W 150Ω	BUE-20015	1	BR200W150	1	140	80Ω
	2	1.5	VFD015EL21A/23A	0.849	300W 100Ω	BUE-20015	1	BR300W100	-	107	80Ω
	3	2.2	VFD022EL21A/23A	1.262	600W 50Ω	BUE-20037	1	BR300W100	2	150	25Ω
	5	3.7	VFD037EL23A	2.080	900W 30Ω	BUE-20037	1	-	-	150	25Ω

Voltage	Applicable Motor		Models	Full Load Torque KG-M	Equivalent Resistor Value (suggestion)	Brake Unit Model BUE		Brake Resistors Model and No. of Units Used	Brake Torque 10%ED	Min. Equivalent Resistor Value for each AC Motor Drive	
	hp	kW				No. of Units Used					
460V Series	0.5	0.4	VFD004EL43A	0.216	300W 400Ω	BUE-40015	1	BR300W400	1	400	400Ω
	1	0.75	VFD007EL43A	0.427	300W 400Ω	BUE-40015	1	BR300W400	1	200	200Ω
	2	1.5	VFD015EL43A	0.849	400W 300Ω	BUE-40015	1	BR200W150	2	140	160Ω
	3	2.2	VFD022EL43A	1.262	600W 200Ω	BUE-40037	1	BR300W400	2	150	100Ω
	5	3.7	VFD037EL43A	2.080	900W 120Ω	BUE-40037	1	-		150	100Ω

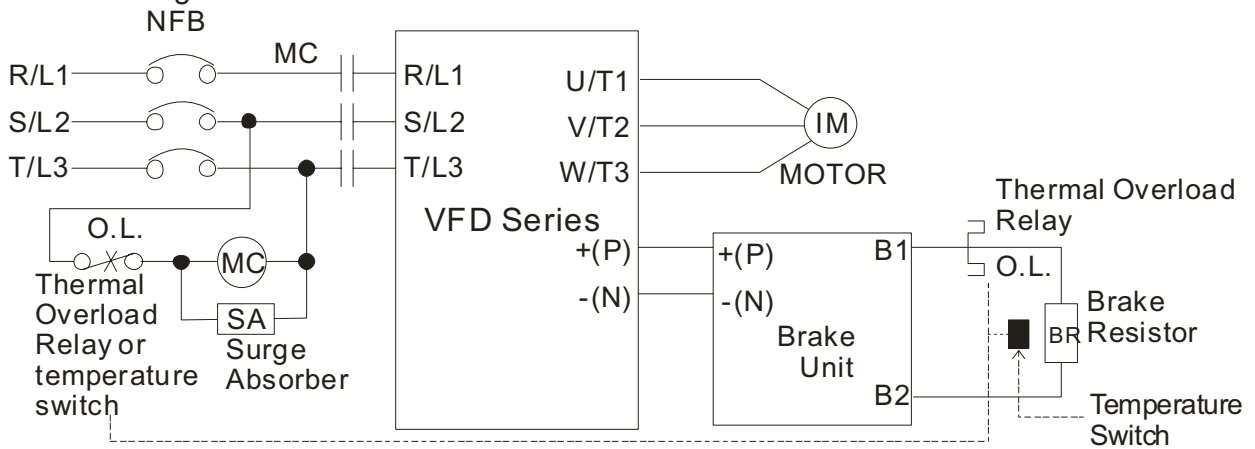


NOTE

1. Please select the brake unit and/or brake resistor according to the table. “-“ means no Delta product. Please use the brake unit according to the Equivalent Resistor Value.
2. If damage to the drive or other equipment is due to the fact that the brake resistors and the brake modules in use are not provided by Delta, the warranty will be void.
3. Take into consideration the safety of the environment when installing the brake resistors.
4. If the minimum resistance value is to be utilized, consult local dealers for the calculation of the power in Watt.
5. Please select thermal relay trip contact to prevent resistor over load. Use the contact to switch power off to the AC motor drive!
6. When using more than 2 brake units, equivalent resistor value of parallel brake unit can't be less than the value in the column “Minimum Equivalent Resistor Value for Each AC Drive” (the right-most column in the table).
7. Please read the wiring information in the user manual of the brake unit thoroughly prior to installation and operation.
8. Definition for Brake Usage ED%
 Explanation: The definition of the barke usage ED(%) is for assurance of enough time for the brake unit and brake resistor to dissipate away heat generated by braking. When the brake resistor heats up, the resistance would increase with temperature, and brake torque would decrease accordingly. Suggested cycle time is one minute



- For safety reasons, install a thermal overload relay between brake unit and brake resistor. Together with the magnetic contactor (MC) in the mains supply circuit to the drive it offers protection in case of any malfunctioning. The purpose of installing the thermal overload relay is to protect the brake resistor against damage due to frequent brake or in case the brake unit is continuously on due to unusual high input voltage. Under these circumstances the thermal overload relay switches off the power to the drive. Never let the thermal overload relay switch off only the brake resistor as this will cause serious damage to the AC Motor Drive.



Note1: When using the AC drive with DC reactor, please refer to wiring diagram in the AC drive user manual for the wiring of terminal +(P) of Brake unit.

Note2: **Do NOT** wire terminal -(N) to the neutral point of power system.