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### Instruction

## BUE20037/40037 Brake Unit

BUE brake units are applied to absorb the motor regeneration energy when the three-phase induction motor stops by deceleration. With BUE brake unit, the regeneration energy will be dissipated in dedicated brake resistors. To prevent mechanical or human injury, please refer to this instruction sheet before wiring. BUE brake units are suitable for DELTA AC Motor Drives VFD-E/EL Series. BUE brake units need to be used in conjunction with BR series brake resistors to provide the optimum brake characteristics.

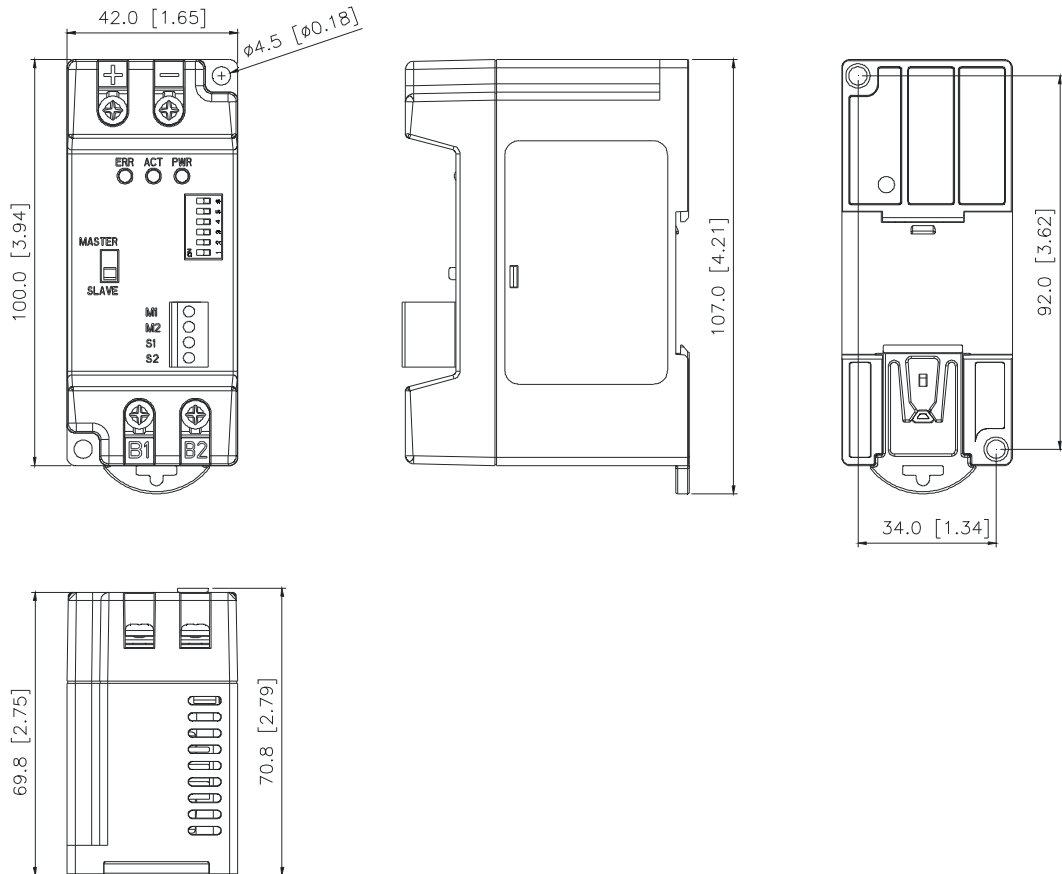
### ■ Specifications

|                          |                                       | 115/230V Series                                                         |           | 460V Series            |           |
|--------------------------|---------------------------------------|-------------------------------------------------------------------------|-----------|------------------------|-----------|
|                          |                                       | BUE-20015                                                               | BUE-20037 | BUE-40015              | BUE-40037 |
| Max. Motor Capacity (KW) |                                       | 1.5                                                                     | 3.7       | 1.5                    | 3.7       |
| Output Rating            | Max. Peak Discharge Current (A) 10%ED | 3.6                                                                     | 16        | 1.8                    | 8         |
|                          | Brake Start-up Voltage (DC)           | 328/345/362/380/400±3V                                                  |           | 656/690/725/760/800±6V |           |
| Input Rating             | DC Voltage                            | 200~400VDC                                                              |           | 400~800VDC             |           |
| Protection               | Heat Sink Overheat                    | Temperature over +100°C                                                 |           |                        |           |
|                          | Power Charge Display                  | Blackout until bus (+~-) voltage below 50VDC                            |           |                        |           |
| Environment              | Installation Location                 | Indoor (no corrosive gases, metallic dust)                              |           |                        |           |
|                          | Operating Temperature                 | -10℃~+50℃                                                               |           |                        |           |
|                          | Storage Temperature                   | -20℃~+60℃                                                               |           |                        |           |
|                          | Humidity                              | 90%R.H., Non-condensing                                                 |           |                        |           |
|                          | Vibration                             | 9.8m/s <sup>2</sup> (1G) under 20Hz,2m/s <sup>2</sup> (0.2G) at 20~50Hz |           |                        |           |
| Mechanical Configuration |                                       | Wall-mounted enclosed type IP20                                         |           |                        |           |

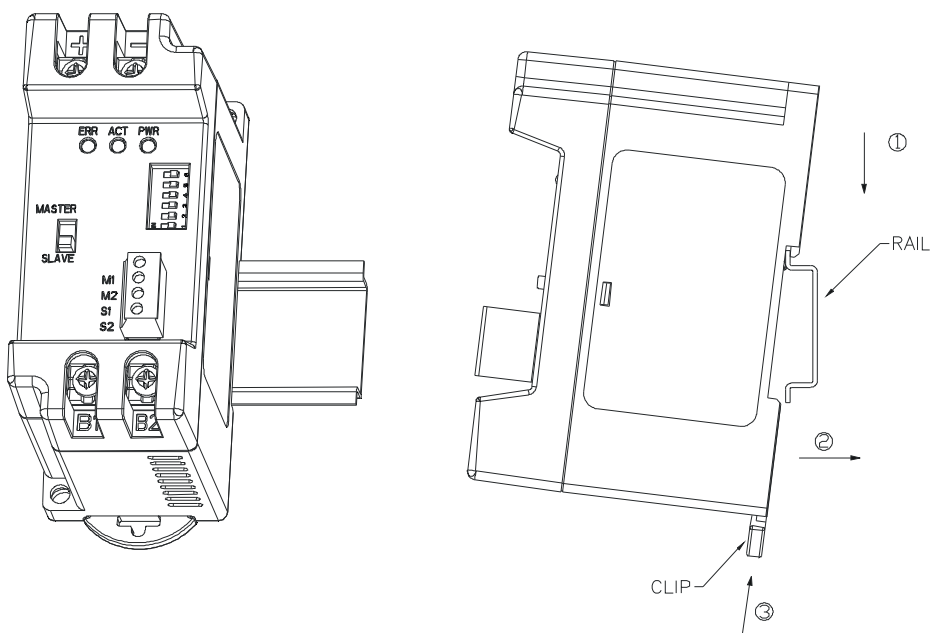
### Brake resistor

| TYPE      | L1  | L2  | H  | D   | W  | MAX. WEIGHT(g) |
|-----------|-----|-----|----|-----|----|----------------|
| BR080W200 | 140 | 125 | 20 | 5.3 | 60 | 160            |
| BR080W750 | 140 | 125 | 20 | 5.3 | 60 | 160            |
| BR300W400 | 215 | 200 | 30 | 5.3 | 60 | 750            |

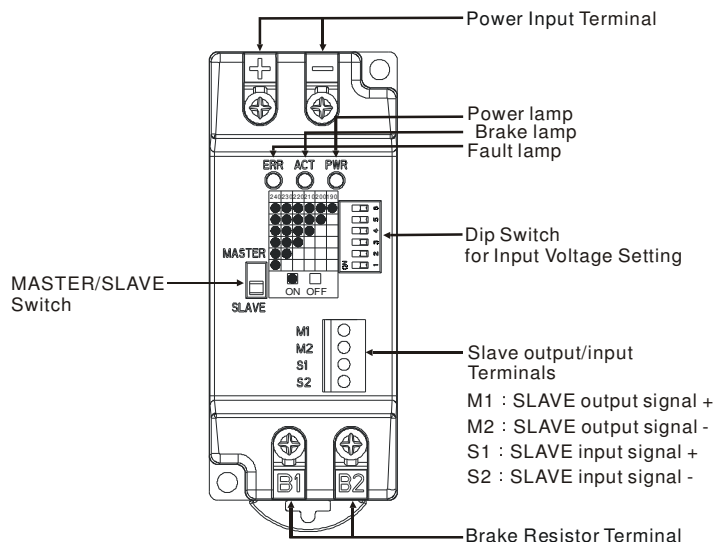
### Brake Unit



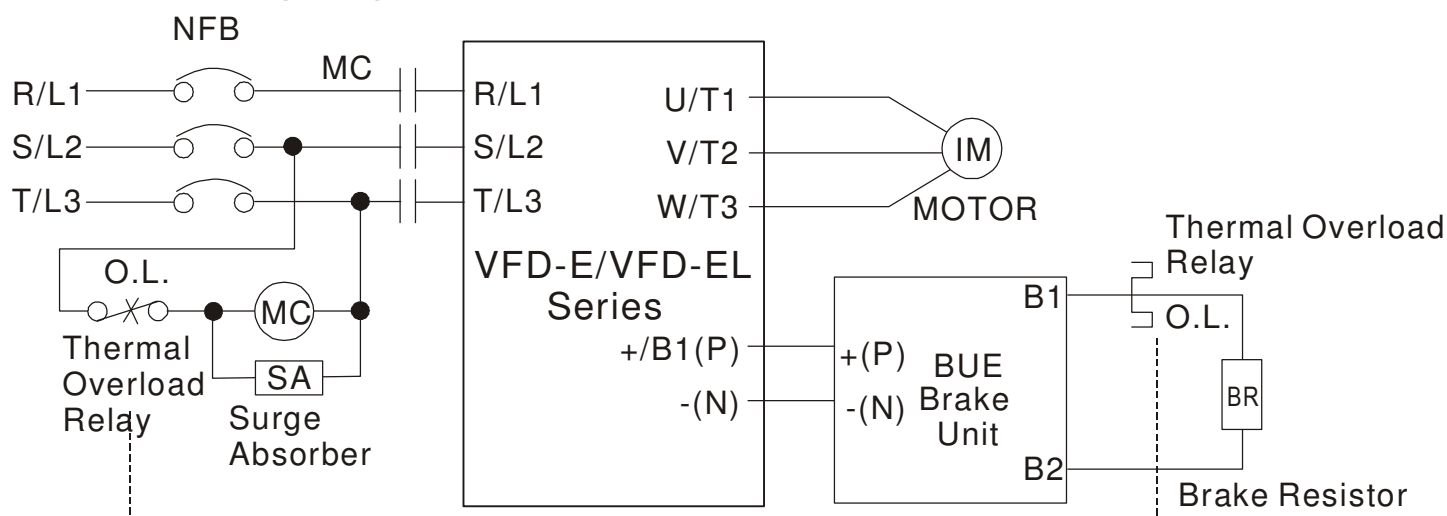
### DIN Rail Installation



### ■ Outline



### ■ Basic Wiring Diagram



Note1: When the AC drive uses with DC reactor, please refer to the wiring diagram in the VFD-E/EL user manual for wiring terminal +(P) of brake unit.

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

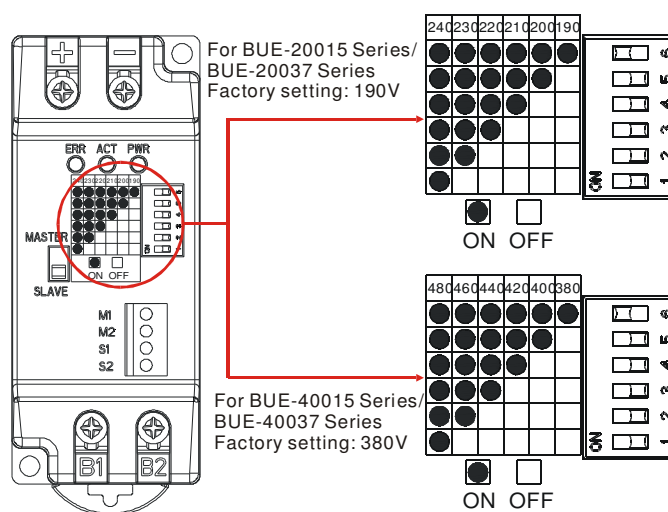
### ■ The Voltage Settings

The power source of the brake unit is the DC power from the + (P) and - (N) terminals of the AC motor drive. Therefore, it is an important step to set the voltage by the input voltage of the AC motor drive before operation. This setting will affect the voltage level of the brake unit.

Table 1: The voltage selection and operation level of the PN DC voltage

| 115V/230V Model<br>AC Power Voltage | Brake Start-up voltage<br>DC Bus (+(P), -(N)) Voltage | 460V Model<br>AC Power Voltage | Brake Start-up voltage<br>DC Bus (+(P), -(N)) Voltage |
|-------------------------------------|-------------------------------------------------------|--------------------------------|-------------------------------------------------------|
| 190Vac                              | 330Vdc                                                | 380Vac                         | 660Vdc                                                |
| 200Vac                              | 345Vdc                                                | 400Vac                         | 690Vdc                                                |
| 210Vac                              | 360Vdc                                                | 420Vac                         | 725Vdc                                                |
| 220Vac                              | 380Vdc                                                | 440Vac                         | 760Vdc                                                |
| 230Vac                              | 400Vdc                                                | 460Vac                         | 800Vdc                                                |

NOTE: Input Power With Tolerance  $\pm 10\%$



## New Product Launch Announcement

No.200801

### Brake Resistors/Units for Delta VFD AC Motor Drives Series

| Voltage         | Applicable Motor |      | Full-load output torque KG-M | Equivalent brake resistor for each AC drive | Brake Unit Model and Quantity |   | Brake Resistor Model and Quantity |   | Brake Torque 10% ED% | Min. Equivalent Resistor Value for Each AC Drive | Typical Thermal Overload Relay Value |
|-----------------|------------------|------|------------------------------|---------------------------------------------|-------------------------------|---|-----------------------------------|---|----------------------|--------------------------------------------------|--------------------------------------|
|                 | HP               | kW   |                              |                                             |                               |   |                                   |   |                      |                                                  |                                      |
| 115/230V Series | 1/4              | 0.2  | 0.110                        | 200W 250Ω                                   | BUE20015                      | 1 | BR200W250                         | 1 | 320                  | 200Ω                                             | 2A                                   |
|                 | 1/2              | 0.4  | 0.216                        | 200W 250Ω                                   | BUE20015                      | 1 | BR200W250                         | 1 | 170                  | 100Ω                                             | 3A                                   |
|                 | 1                | 0.75 | 0.427                        | 200W 150Ω                                   | BUE20015                      | 1 | BR200W150                         | 1 | 140                  | 80Ω                                              | 4A                                   |
|                 | 2                | 1.5  | 0.849                        | 300W 100Ω                                   | BUE20015                      | 1 | BR300W100                         | 1 | 107                  | 80Ω                                              | 4A                                   |
|                 | 3                | 2.2  | 1.262                        | 600W 50Ω                                    | BUE20037                      | 1 | BR300W100                         | 2 | 150                  | 25Ω                                              | 12A                                  |
|                 | 5                | 3.7  | 2.080                        | 900W 30Ω                                    | BUE20037                      | 1 | -                                 | - | 150                  | 25Ω                                              | 12A                                  |
| 460V            | 1/2              | 0.4  | 0.216                        | 300W 400Ω                                   | BUE40015                      | 1 | BR300W400                         | 1 | 400                  | 400Ω                                             | 2A                                   |
|                 | 1                | 0.75 | 0.427                        | 300W 400Ω                                   | BUE40015                      | 1 | BR300W400                         | 1 | 200                  | 200Ω                                             | 3A                                   |
|                 | 2                | 1.5  | 0.849                        | 400W 300Ω                                   | BUE40015                      | 1 | BR200W150                         | 1 | 140                  | 160Ω                                             | 4A                                   |
|                 | 3                | 2.2  | 1.262                        | 300W 400Ω                                   | BUE40037                      | 1 | BR300W400                         | 2 | 150                  | 100Ω                                             | 6A                                   |
|                 | 5                | 3.7  | 2.080                        | 900W 120Ω                                   | BUE40037                      | 1 | -                                 | - | 150                  | 100Ω                                             | 6A                                   |

### Ordering information

| Type       | Function   | minimum order | Model no.      |
|------------|------------|---------------|----------------|
| Brake unit | Brake unit | 6pcs          | BUE20037/40037 |

### Except release date

| Model no.      | date       | CE/UL approval |
|----------------|------------|----------------|
| BUE20037/40037 | Mar. /2008 |                |