

BA Series



Key features of the BA series include:

- Self-contained: end plates are not required
- Rugged heavy-duty construction
- Current capacities up to 40A
- 3-pole units available as 1 piece (no endplates are needed)
- Fuse blocks with blown fuse indicators



Specifications

Power Blocks




| | | Part Numbers | BA111T | BA211T | BA311T | BA411S | |
|-----------------------|------------------------|--------------|----------------------------------|------------------------------------|------------------------------------|----------------------------------|----------------|
| Specifications | Appearance | | | | | | |
| | Width | | 0.984" (25mm) | 1.201" (30.5mm) | 1.358" (34.5mm) | 0.630" (16mm) | |
| | Approvals | | UL, CSA | UL, CSA | UL, CSA | UL, CSA | |
| | No. of Poles | | 3 | 3 | 3 | 1 | |
| | Wire Sizes | | 22 to 14 AWG (2mm ²) | 22 to 12 AWG (3.5mm ²) | 18 to 10 AWG (5.5mm ²) | 16 to 6 AWG (14mm ²) | |
| | Voltage/Current | UL/CSA | | 300V / 15A | 300V / 20A | 150V / 30A | 600V / 40A |
| | | JIS | | 600V / 16A | 600V / 21A | 600V / 40A | 600V / 70A |
| | Terminals | Size | | M3 | M3.5 | M4 | M5 |
| | | Type | | Standard screw | Standard screw | Standard screw | Standard screw |
| | Mounting | | | 35mm DIN rail | 35mm DIN rail | 35mm DIN rail | 35mm DIN rail |
| | Terminal Torque | (N-m) | | 0.6 - 1.0 | 1.0 - 1.3 | 1.4 - 2.0 | 2.6 - 3.7 |
| | | (in-lbs.) | | 5.3 - 8.9 | 8.9 - 11.5 | 12.4 - 17.8 | 23.1 - 32.8 |
| | DIN Rail Stop | | | BNL-5 | BNL-5 | BNL-5 | BNL-5 |
| | Dust Cover | | | BNC220 | BNC220 | BNC230 | BNC320 |
| Marking Strip | PVC | | BNM7 | BNM7 | BNM7 | BNM7 | |
| | Fiberglass | | BNM9 | BNM9 | BNM9 | BNM9 | |
| | End clip | | BNM3 | BNM3 | BNM3 | BNM3 | |



1. BNDN1000 aluminum DIN rails are available in 1 meter lengths.
2. Marking strips are available in 1 meter lengths.

Specifications con't

Fuse Blocks

| | | Part Numbers | BAF111SU | BAF111SNU | BAF111SDU |
|-----------------------------|-----------------------------|----------------------------------|---|---|---|
| Specifications | Appearance | |  |  |  |
| | Width | | 0.630" (16mm) | 0.630" (16mm) | 0.630" (16mm) |
| | Blown Fuse Indicator | | None | Neon (100 to 300V AC) | LED (24V DC) |
| | Approvals | | UL, CSA | UL, CSA | UL, CSA |
| | No. of Poles | | 1 | 1 | 1 |
| | Wire Sizes | | 18 to 10 AWG (5.5mm ²) | 18 to 10 AWG (5.5mm ²) | 18 to 10 AWG (5.5mm ²) |
| | Current | | 10A maximum | 10A maximum | 10A maximum |
| | Terminals | Size | M4 | M4 | M4 |
| | | Type | Standard screw | Standard screw | Standard screw |
| | Mounting | | 35mm DIN rail | 35mm DIN rail | 35mm DIN rail |
| | Terminal Torque | (N-m) | 1.4 - 2.0 | 1.4 - 2.0 | 1.4 - 2.0 |
| | | (in-lbs.) | 12.4 - 17.8 | 12.4 - 17.8 | 12.4 - 17.8 |
| | DIN Rail Stop | | BNL-5 | BNL-5 | BNL-5 |
| | Dust Cover | | — | — | — |
| Marking Strip | | BNM7 | BNM7 | BNM7 | |
| Applicable Fuse Size | | 1/4" x 1-1/4" (6.35 x 31.8mm) | 1/4" x 1-1/4" (6.35 x 31.8mm) | 1/4" x 1-1/4" (6.35 x 31.8mm) | |



BNDN1000 aluminum DIN rails are available in 1 meter lengths.






Dimensions

| Part No. | Diagram |
|---------------|---------|
| BA111T | |
| BA211T | |
| BA311T | |

| Part No. | Diagrams |
|---------------|----------|
| BA411S | |
| BAF111 | |

Accessories








Part Numbers: End Plates, DIN Rail Stops, Stand-Offs, DIN Rail and Dust Covers

| Description | Appearance | Use with | Part No. | Remarks |
|---------------------|---|--|-------------------------------------|---|
| End Plates |  | BNH10W BNH15MW BNH15LW | BNE15W | |
| | | BNH30W | BNE30W | |
| | | BNF10SW BNF10NW BNF10DW | BNE20 | |
| | | BNH50W | BNE50W | |
| | | BN75W | BNE75W | |
| | | BN150W | BNE150W | |
| | | BNDH15W | BNDE15W | |
| DIN Rail Stops |  | BNH10W BNH15MW BNH15LW BNH30W BNH50W BNF10SW BNF10NW BNF10DW BA111T BA211T BA311T BA411S BAF111SU BAF111SDU | BNL5 (small) | <ol style="list-style-type: none"> DIN rail stops prevent side-to-side movement. The BNL-5 width is 0.375" (9.5mm). |
| | | BN75W BN150W | BNL6 (medium) | <ol style="list-style-type: none"> DIN rail stops prevent side-to-side movement. The BNL-6 width is 0.375" (9.5mm). To firmly stabilize these higher profile terminal blocks, the BNL-6 has a higher profile than the BNL-5. |
| | | BNDH15W BN200NW# BN400NW# | BNL8 (large) | <ol style="list-style-type: none"> DIN rail stops prevent side-to-side movement. The BNL-8 width is 0.571" (14.5mm). # = number of poles. |
| DIN Rail Stand-Offs |  | All series | BNS3 | 1.46" (37mm) height |
| | | | BNS4 | 3.03" (77mm) height |
| DIN Rail |  | All series | BNDN1000 (length 39.37" (1m)) | <ol style="list-style-type: none"> For calculating the rail lengths required, see the instructions on page P-18. The DIN rail material is aluminum. |
| Dust Covers |  | BNDH15W BNH10W BNH15MW BNH15LW BNH30W | BNC230 | The overall length is 39.37" (1,000mm). The material is polycarbonate. |
| | | BNH50W | BNC320 | |
| | | BN75W | BNC420 | |
| | | BN150W | BNC520 | |
| | | BN200 | BAC820 | |
| | | BN400 | BNC1000 | |

P
Terminal Blocks

Accessories con't

Part Numbers: Rods, Nuts, Marking Strips, Dust Covers, and Jumpers

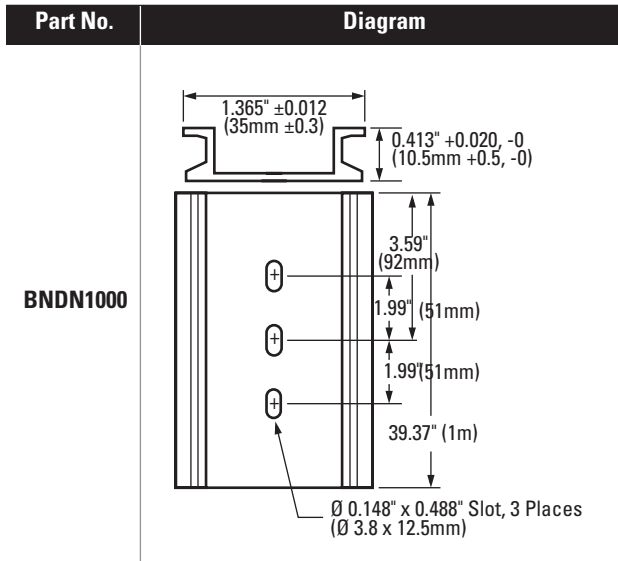
| Description | Appearance | Use with | Part No. | Remarks |
|------------------------|---|---------------------|--------------|---|
| Marking Strips |  | All series | BNM7 | Material: polyvinyl chloride (PVC) Strip dimensions are 0.37"x39" (9.5 x 1,000mm). |
| | | | BNM9 | Material: fiberglass Strip dimensions are 0.37"x39" (9.5 x 1,000mm). |
| Marking Strip Fastener |  | All series | BNM3 | Used to prevent marking strips from sliding out. |
| Ring Terminal Jumpers |  | BNH10W | BNJ16 | Jumpers come standard with 6 points. Note: insulated jumpers available - add "B" to end of part number. For example, BNJ26WB. |
| | | BNH15MW | BNJ26W | |
| | | BNH15LW | BNJ46 | |
| | | BNH30W | BNJ56 | |
| | | BNDH15W | BNJ26W | |
| Fork Terminal Jumpers |  | BNH10W | BNJ16F | Jumpers come standard with 6 points. Note: insulated jumpers available - add "B" to end of part number. For example, BNJ26WB. |
| | | BNH15MW | BNJ26FW | |
| | | BNH15LW | BNJ46F | |
| | | BNH30W | BNJ56F | |
| | | BNDH15W | BNJ26FW | |
| Surface Mount Bracket |  | BNDH15W (dual-deck) | BNDL2 | Used to surface mount dual-deck terminal blocks. (BNDL2). |
| M4 Thread Rod |  | BNDH15W | BNR1 (265mm) | 1. Rod and connecting nuts are used to mount dual-decks collectively. 2. Each connecting nut set includes 1 hex connecting nut and 1 round connecting nut. |
| | | | BNR2 (500mm) | |
| Connecting Nuts |  | BNR1 BNR2 | BNN1 | 3. The BNR1 rod dimensions are 0.027" x 10.43" (0.7 x 265mm). 4. The BNR2 rod dimensions are 0.027" x 19.69" (0.7 x 500mm). |



For accessory dimensions, see page P-14.

Dimensions

Dimensions: DIN Rail



Dimensions: Jumpers

| Part No. | Diagram | Dimensions | | | | | | |
|--------------------------|---------|-------------------|-------------------|-------------------|---------------------|-------------------|--------------------|-------------------|
| | | A | B | C | D | E* | F | G |
| BNJ16 | | 0.156" (4mm) | 0.433" (11mm) | 0.224" (6mm) | 0.146" (4mm) | 0.276" (7mm) | 1.365" (35mm) | — |
| BNJ16F (fork) | | 0.433" (11mm) | 0.144" (3.7mm) | 0.224" (6mm) | 0.146" (4mm) | 0.276" (7mm) | 1.365" (35mm) | 0.156" (4mm) |
| BNJ26W | | 0.175" (4.5mm) | 0.429" (11mm) | 0.25" (6.4mm) | Ø 0.144" (3.7mm) | 0.312" (8mm) | 1.56" (40mm) | — |
| BNJ26FW (fork) | | 0.429" (11mm) | 0.175" (4.5mm) | 0.25" (6.4mm) | Ø 0.144" (3.7mm) | 0.312" (8mm) | 1.56" (40mm) | 0.175" (4.5mm) |
| BNJ46 | | 0.215" (5.5mm) | 0.429" (11mm) | 0.32" (8.2mm) | Ø 0.165" (4.2mm) | 0.41" (10.5mm) | 2.048" (52.5mm) | — |
| BNJ46F (fork) | | 0.429" (11mm) | 0.175" (4.5mm) | 0.32" (8.2mm) | Ø 0.165" (4.2mm) | 0.41" (10.5mm) | 2.048" (52.5mm) | 0.215" (5.5mm) |
| BNJ56 | | 0.234" (6mm) | 0.371" (9.5mm) | 0.363" (9.3mm) | Ø 0.164" (4.2mm) | 0.468" (12mm) | 2.34" (60mm) | — |
| BNJ56F (fork) | | 0.371" (9.5mm) | 0.228" (5.8mm) | 0.363" (9.3mm) | Ø 0.164" (4.2mm) | 0.468" (12mm) | 2.34" (60mm) | 0.234" (6mm) |



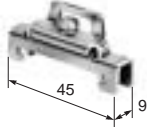
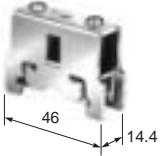
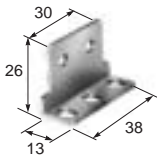
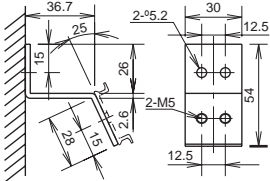
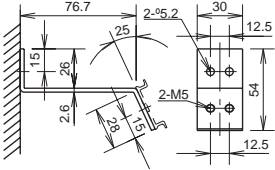
- 1.* Dimension E on center.
- 2.Thickness + 0.8mm (0.0315").

P

Terminal Blocks

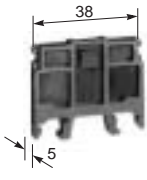
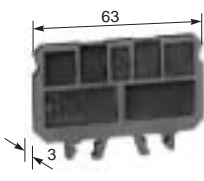
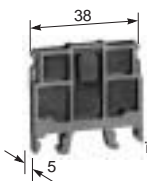
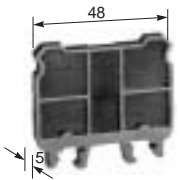
Dimensions (con't)

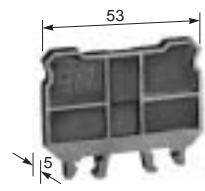
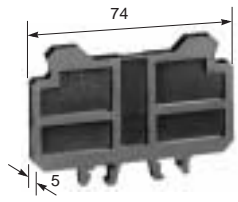
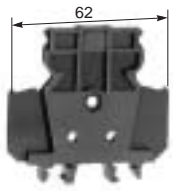
Dimensions: DIN Rail Stops and Stand-Offs

| Part No. | Dimensions |
|--|---|
| BNL-5 |  |
| BNL-6 | |
| BNL-6 shown, BNL-5 same except without back crossbar | |
| BNL-8 |  |
| BNDL2 |  |
| BNS3 |  |
| BNS4 |  |

Dimensions (con't)


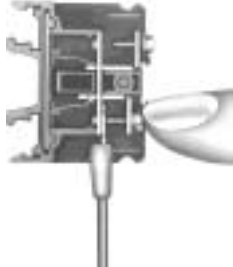


Dimensions: End Plates

| Part No. | Dimensions |
|---------------|---|
| BNE15W |  |
| BNE20 |  |
| BNE30W |  |
| BNE50W |  |



| Part No. | Dimensions |
|----------------|---|
| BNE75W |  |
| BNE150W |  |
| BNDE15W |  |

Instructions

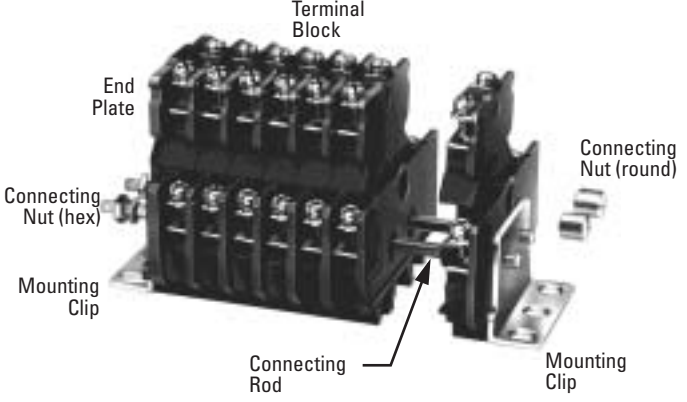
Wiring Touch-Down Terminal Blocks: BNH Series

| Instructions | Step 1 | Step 2 | Step 3 | Step 4 |
|--|---|--|---|---|
| Step 1. Insert the wire (or crimping terminal) into the terminal block with the terminal screws in the open position. (Use of crimping terminals is optional.) |  |  |  |  |
| Step 2. Push the terminal screw down to hold the wire in place. | | | | |
| Step 3. Hold the terminal screw down, and tighten with a screwdriver. | | | | |
| Step 4. To remove the wire, loosen the terminal screw and pull up until wire is released. | | | | |

Installation and Removal of Terminal Blocks

| Instructions | Appearance |
|--|---|
| <p>Step 1. Slide the terminal blocks onto the DIN rail from one end.</p> <p>Step 2. Use BNL5 or BNL6 end clips to secure the terminal block row and to prevent side-to-side movement. BNH10W, BNH15MW, BNH15LW, and BNH30W can be installed from the middle of a DIN rail.</p> <p>Step 3. To install, place the terminal block on top of the DIN rail and push down until both edges of the terminal block snap onto the DIN rail.</p> <p>Step 4. To remove the terminal block, use the BND2 removal tool as shown on the right.</p> |  <p>Removal Tool BND2</p>  |

Mounting Double-Deck Terminal Blocks

| Instructions | Appearance |
|--|--|
| <p>DIN Rail Mount:</p> <p>Step 1. First install the end plate. Then mount the terminal blocks onto the DIN rail.</p> <p>Step 2. To prevent side-to-side movement on the DIN rail, use the BNL-8 mounting clip at both ends of the rail.</p> |  |
| <p>Panel Mount:</p> <p>Step 1. Assemble a row of terminal blocks with end plates on exposed end(s).</p> <p>Step 2. Use BNDL2 mounting clips at both ends of a row.</p> <p>Step 3. With the two holes of the mounting clip aligned with the terminal block holes, insert a connecting rod through each hole.</p> <p>Step 4. Secure the ends of the connecting rods with the connecting nuts, as shown below.</p> | |

Calculating DIN Rail Lengths

| Instructions | Appearance |
|--|------------|
| <p>Step 1. Add widths of all terminal blocks (reference pages K-4 through K-9).</p> <p>Step 2. Add the endplate thickness (usually only one).</p> <p>Step 3. Add the DIN rail stop widths (usually two are used).</p> <p>Step 4. Round to the nearest 2" (50mm) increment to allow for DIN rail hole spacing.</p> <p>Step 5. Add 1" (25mm) to ensure 0.5" (12.5mm) of clearance at each end of the DIN rail.</p> | |

DIN Rail Stop Dimensions

| Part No. | Width |
|----------|----------------|
| BNL-5 | .374" (9.5mm) |
| BNL-6 | .374" (9.5mm) |
| BNL-8 | .571" (14.5mm) |

Torque Specifications

| Screw Size | M3 | M3.5 | M4 | M5 | M6 | M8 | M10 | M12 | Diagram |
|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|---------|
| Torque | | | | | | | | | |
| (N-m) | 0.6 to 1.0 | 1.0 to 1.3 | 1.4 to 2.0 | 2.6 to 3.7 | 3.9 to 5.4 | 10 to 13.5 | 21 to 28 | 38 to 49 | |
| (kgf-cm) | 6.1 to 10.2 | 10.2 to 13.3 | 14.3 to 20.4 | 26.5 to 37.7 | 39.8 to 55.1 | 102 to 138 | 214 to 286 | 388 to 500 | |
| Dimension A | 0.257" (6.6mm) | 0.332" (8.5mm) | 0.371" (9.5mm) | 0.499" (12.8mm) | 0.655" (16.8mm) | 0.890" (22.8mm) | 1.279" (32.8mm) | 1.981" (50.8mm) | |
| Dimension B | 0.129" (3.3mm) | 0.156" (4mm) | 0.176" (4.5mm) | 0.176" (4.5mm) | 0.234" (6mm) | 0.312" (8mm) | 0.429" (11mm) | 0.546" (14mm) | |
| Dimension C | 0.195" (5mm) | 0.195" (5mm) | 0.234" (6mm) | 0.254" (6.5mm) | 0.332" (8.5mm) | 0.429" (11mm) | 0.624" (16mm) | 1.014" (26mm) | |
| Dimension D | Ø 0.125" (3.2mm) | Ø 0.140" (3.6mm) | Ø 0.164" (4.2mm) | Ø 0.203" (5.2mm) | Ø 0.242" (6.2mm) | Ø 0.332" (8.5mm) | Ø 0.410" (10.5mm) | Ø 0.488" (12.5mm) | |

Rated Current

| Applicable Wire | Rated at 60°C |
|-------------------------------|---------------|
| 22 AWG (0.3mm ²) | 3A |
| 20 AWG (0.5mm ²) | 5A |
| 18 AWG (0.75mm ²) | 7A |
| 16 AWG (1.25mm ²) | 10A |
| 14 AWG (2mm ²) | 15A |
| 12 (3.5mm ²) | 20A |
| 10 (5.5mm ²) | 30A |
| 6 (14mm ²) | 50A |
| 4 (22mm ²) | 75A |
| 0 (38mm ²) | 100A |
| 00 (60mm ²) | 150A |
| 0000 (100mm ²) | 200A |
| 300mcm (150mm ²) | 300A |
| 400mcm (200mm ²) | 350A |

UL/CSA ratings are specified. The current carrying capacity depends on the rating of the wire used, as shown.

