BD Series Terminal Blocks

Space-saving miniature terminal blocks. Surface mount and DIN rail mount available.

- Surface mount terminal blocks available.
- Rail mount can be mounted on 15-mm-wide DIN rails.
- BD8 rail mount available in black or blue color.
- Flame-resistant plastic (UL94V-0).
- Can be mounted on the rail easily.
- Space-saving low profile style
- Safe robust construction
- Complies with JIS C 2811.
- UL recognized and CSA certified.

Applicable Standards	Mark	Certification Organization/ File No.
UL1059		UL recognized File No. E78117
CSA 22.2 No. 158		CSA (File No. LR64803)

Rail Mount

Terminal centers	Terminal Shape	Part No.	Ordering No.	Housing Color	Wire Size	Package Quantity
8 mm	M3 screw (self-lifting)	**BD8-RB**	**BD8-RBPN50**	Black	1.25 mm² (2 mm²) ∗	50
		BD8-RS	**BD8-RSPN50**	Blue		50
	M3 screw / solder (self-lifting)	**BD8S-RB**	**BD8S-RBPN50**	Black		50
		BD8S-RS	**BD8S-RSPN50**	Blue		50
7 mm	M3 screw (self-lifting)	**BD7-RB**	**BD7-RBPN50**	Black		50
5 mm	M3 cage screw	**BDK5-RB**	**BDK5-RBPN50**	Black	1.25 mm²	50

∗ The applicable rated wire size is 1.25mm², but 2mm² wire can also be connected.
The wire size in ( ) does not comply with JIS standards.

Accessories

Part No.	Accessories (sold separately)					
	End Plate	Rail	Dust Cover	Marking Strip	End Clip	Terminal Jumper
BD8-R	×	×	○	○	×	○
BD8S-R	×	×	○	○	×	○
BD7-RB	×	×	○	○	×	○
BDK5-RB	×	×	○	○	×	—
	1103			1104		
	Page					

×: Accessories needed when mounting terminal blocks. Order seperately.
○: Order if necessary.
- Dust cover and marking strip (fiber) is supplied with the terminal block.
- Order a jumper when necessary (see page 1104).

Tightening Torque for Terminal Screw

For safe use of the terminal blocks, tighten the screw as shown below.

Terminal Screw	M3
Recommended Tightening Torque	0.6 to 1.0 N·m

Material

Parts Name	Material
Housing	Modified PPE
Terminal Metal Part	Brass (nickel-plated)
Terminal Metal Part (BD8S only)	Brass (tin-plated)
Terminal Screw	Steel (zinc chromate-plated)

Surface Mount

Terminal centers	Terminal Shape	Part No. (□: No. of Poles)	Housing Color	No. of Poles	Wire Size
8 mm	M3 screw (self-lifting)	**BD8-MB**□	Black	2 to 35	1.25 (2) mm^2 *
8 mm	M3 screw/solder (self-lifting)	**BD8S-MB**□	Black	2 to 35	1.25 (2) mm^2 *
7 mm	M3 screw (self-lifting)	**BD7-MB**□	Black	2 to 40	1.25 (2) mm^2 *
5 mm	M3 cage clamp	**BDK5-MB**□	Black	2 to 56	1.25 mm^2 *

* The rated applicable wire size is 1.25 mm^2, but 2 mm^2 wires can also be connected.

Ordering Information

When ordering, specify the Part No. and the number of poles required. Dust covers and marking strips are supplied with terminal blocks.

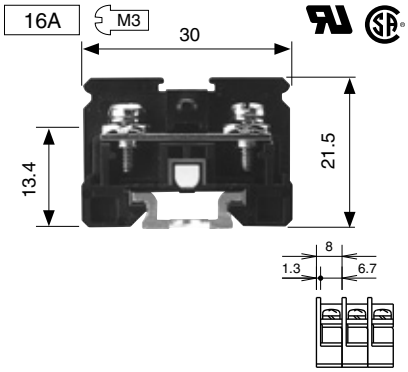
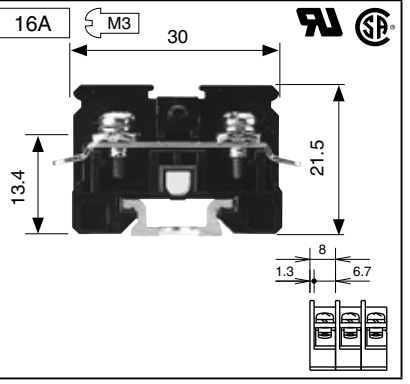
Material

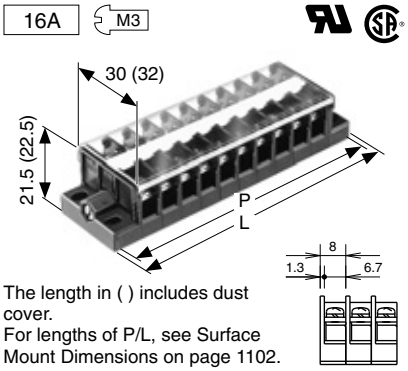
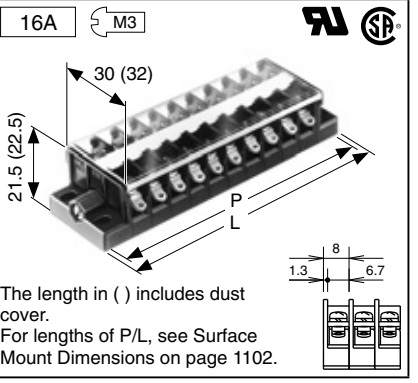
Parts	Material
Housing	Modified PPE
Terminal Metal Part	Brass (nickel-plated)
Terminal Metal Part (BD8S)	Brass (tin-plated)
Terminal Screw	Steel (zinc chromate-plated)

Accessories

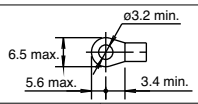
- Dust covers and marking strips are supplied with the terminal block.
- Order jumpers if required (see page 1104).

BD Series Terminal Blocks

Terminal Centers		8 mm Terminal Centers	
Rail Mount	Part No. (Specify a color code in place of ∗.)	BD8-R∗ (Self-Lifting)	BD8S-R∗ (Screw / Solder)
			

	Part No. (Specify the no. of poles in place of □.)	BD8-MB□ (Self-Lifting)	BD8S-MB□ (Screw / Solder)
Surface Mount		 The length in ( ) includes dust cover. For lengths of P/L, see Surface Mount Dimensions on page 1102.	 The length in ( ) includes dust cover. For lengths of P/L, see Surface Mount Dimensions on page 1102.

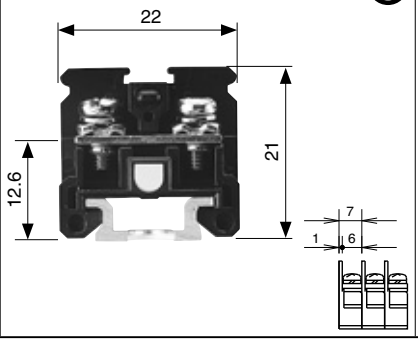
Specifications

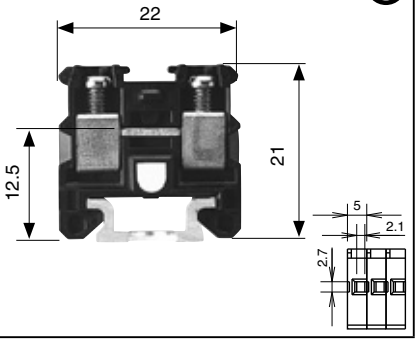
Standards			UL/CSA	JIS	UL/CSA	JIS
Ratings	Insulation Voltage		300V ∗1	380V	300V ∗1	250V
	Rated Current ∗2		15A	16A	15A	16A
	Dielectric Strength		2500V AC, 1 minute			
	Insulation Resistance		100 MΩ minimum			
	Operating Temperature		–25 to +55°C (no freezing)			
	Storage Temperature		–25 to +70°C (no freezing)			
	Operating Humidity		45 to 85% RH (no condensation)			
	Wire Size		14-20 AWG (solid wire/ stranded wire)	1.25 mm² (2 mm²) ∗3	14-20 AWG (solid wire/ stranded wire)	1.25 mm² (2 mm²) ∗3
Others	Terminal Screw		M3			
	Crimping Terminal					
	Maximum No. of Crimping Terminals		2		1	
	Housing Color (color code)		Black (B), Blue (S). Only black available for surface mount terminal blocks			
	Weight		4.8g (per pole)			
Accessories	End Plate (for rail mount)		BDE11∗ (see page 1103)			
	Rail (for rail mount)	15-mm-wide DIN Rail	BDA1000 (aluminum) (see page 1103)			
			BDP1000 (steel) (see page 1103)			
	Dust Cover		BDC1000 (see page 1103)			
	Marking Strip	PVC (glossy surface)	BDM11 (see page 1104)			
		Fiber Glass (matte surface)	BDM12 (see page 1104)			
	End Clip (for rail mount)		BDL11 (see page 1104)			
	Jumper		BNJ26W, BNJ26WB, BNJ26FW, BNJ26FWB (see page 1104)			

∗1: The rated voltage when power is applied is 250V under UL recognition. (Example: Office automation equipment, home electric appliances, facsimile, and other information processing equipment.)
∗2: The rated current differs according to operating conditions. See “Selecting Terminal Blocks by Current According to JIS Standards” on page 1057.
∗3: The wire size in ( ) does not comply with JIS standards.
∗ Color code: B (black), S (blue)

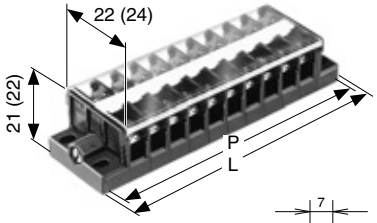
BD Series Terminal Blocks

Terminal Centers		7-mm Terminal Centers	5-mm Terminal Centers
Rail Mount	Style	BD7-RB (Self-Lifting)	BDK5-RB (Cage Clamp)
		14A M3	14A M3

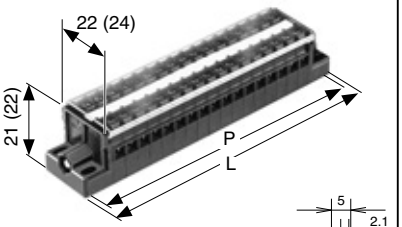




Surface Mount	Part No. (Specify the no. of poles in place of □)	BD7-MB□ (Self-Lifting)	BDK5-MB□ (Cage Clamp)
		14A M3	14A M3

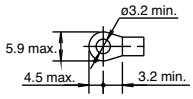
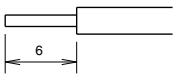


The length in ( ) includes dust cover.
For lengths of P/L, see Surface Mount Dimensions on page 1102.



The length in ( ) includes dust cover.
For lengths of P/L, see Surface Mount Dimensions on page 1102.

Specifications

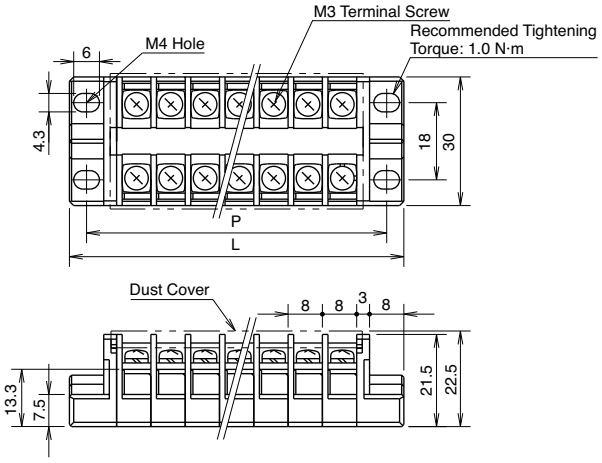
Standards			UL/CSA	JIS	UL/CSA	JIS
Ratings	Insulation Voltage		300V ∗1	250V	300V ∗1	250V
	Rated Current ∗2		10A	14A	10A	14A
	Dielectric Strength		2500V AC / 1 minute			
	Insulation Resistance		100 MΩ or more			
	Operating Temperature		–25 to +55°C (no freezing)			
	Storage Temperature		–25 to +70°C (no freezing)			
	Operating Humidity		45 to 85% RH (no condensation)			
	Wire Size		16-20 AWG (solid wire/ stranded wire)	1.25 mm² (2 mm² max) ∗3	16-20AWG (solid wire)	1.25 mm²
Others	Terminal Screw		M3			
	Crimping Terminal				Recommended stripping length of the wire cage 	
	Maximum No. of Crimping Terminals		2		1	
	Housing Color		Black			
	Weight (approx.)		3.6g (per pole)		3.4g (per pole)	
Accessories	End Plate (for rail mount)		BDE12B (see page 1103)			
	Rail (for Rail Mount)	15-mm-wide DIN Rail	BDA1000 (aluminum) (see page 1103)			
			BDP1000 (steel) (see page 1103)			
	Dust Cover		BDC1000S (see page 1103)			
	Marking Strip	PVC (smooth surface)	BNM8 (see page 1104)			
		Fiber Glass (rough surface)	BNM10 (see page 1104)			
	End Clip (for rail mount)		BDL11 (see page 1104)			
	Jumper		BDJ10, BDJ10B, BDJ10F, BDJ10FB (see page 1104)		—	

∗1: The rated voltage when power is applied is 250V under UL recognition. (Example: Office automation equipment, home electric appliances, facsimile, and other information processing equipment.)
∗2: The rated current differs according to operating conditions. See “Selecting Terminal Blocks by Current According to JIS Standards” on page 1057.
∗3: The wire size in ( ) does not comply with JIS standards.

Surface Mount Dimensions

- L (Length of the terminal block) and P (mounting hole centers) are nominal dimensions for each terminal block. Because the terminal blocks are combined together with bolts, there may be differences in the dimensions depending on the number of poles combined.

BD8-MB□ (8-mm Terminal Centers)



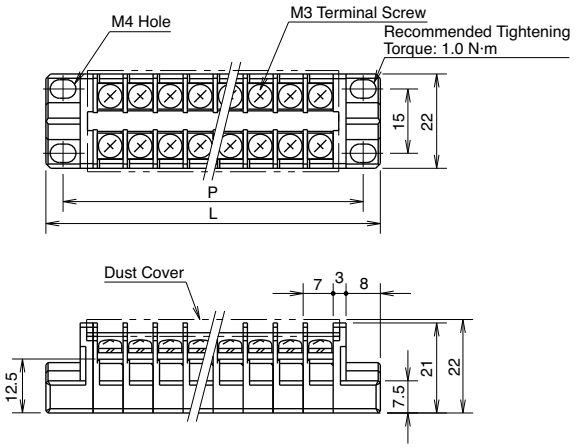
Dimensions L and P (mm)

No. of Poles	2	3	4	5	6	8	10	12	14	15
L	37.9	45.85	53.8	61.75	69.7	85.6	101.5	117.4	133.3	141.25
P	29.9	37.85	45.8	53.75	61.7	77.6	93.5	109.4	125.3	133.25

No. of Poles	16	18	20	25	30	35	Calculation Formula
L	149.2	165.1	181	220.75	260.5	300.3	$L = 22 + (7.95n)^{\pm 0.5}$
P	141.2	157.1	173	212.75	252.5	292.3	$P = 14 + (7.95n)^{\pm 0.5}$

Weight (per pole): 4.8g (BD8)
n = number of poles

BD7-MB□ (7-mm Terminal Centers)



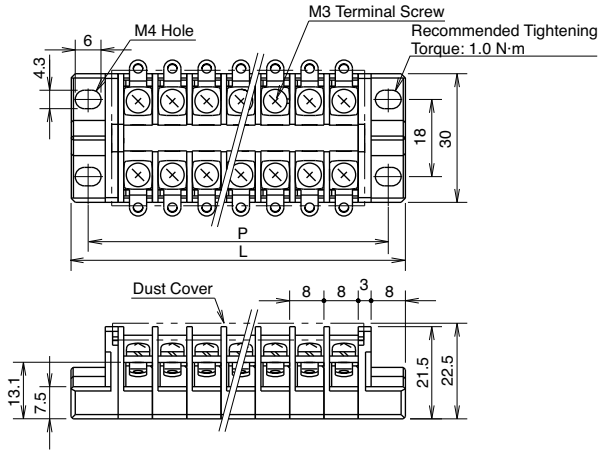
Dimensions L and P (mm)

No. of Poles	2	3	4	5	6	8	10	12	14	15
L	35.8	42.7	49.6	56.5	63.4	77.2	91	104.8	118.6	125.5
P	27.8	34.7	41.6	48.5	55.4	69.2	83	96.8	110.6	117.5

No. of Poles	16	18	20	25	30	35	40	Calculation Formula
L	132.4	146.2	160	194.5	229	263.5	298	$L = 22 + (6.9n)^{\pm 0.5}$
P	124.4	138.2	152	186.5	221	255.5	290	$P = 14 + (6.9n)^{\pm 0.5}$

Weight (per pole): 3.6g (BD7)
n = number of poles

BD8S-MB□ (8-mm Terminal Centers)



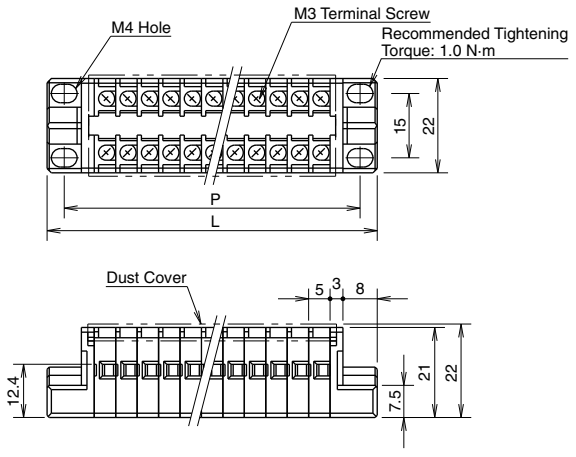
Dimensions L and P (mm)

No. of Poles	2	3	4	5	6	8	10	12	14	15
L	37.9	45.85	53.8	61.75	69.7	85.6	101.5	117.4	133.3	141.25
P	29.9	37.85	45.8	53.75	61.7	77.6	93.5	109.4	125.3	133.25

No. of Poles	16	18	20	25	30	35	Calculation Formula
L	149.2	165.1	181	220.75	260.5	300.3	$L = 22 + (7.95n)^{\pm 0.5}$
P	141.2	157.1	173	212.75	252.5	292.3	$P = 14 + (7.95n)^{\pm 0.5}$

Weight (per pole): 4.8g (BD8)
n = number of poles

BDK5-MB□ (5-mm Terminal Centers)



Dimensions L and P (mm)

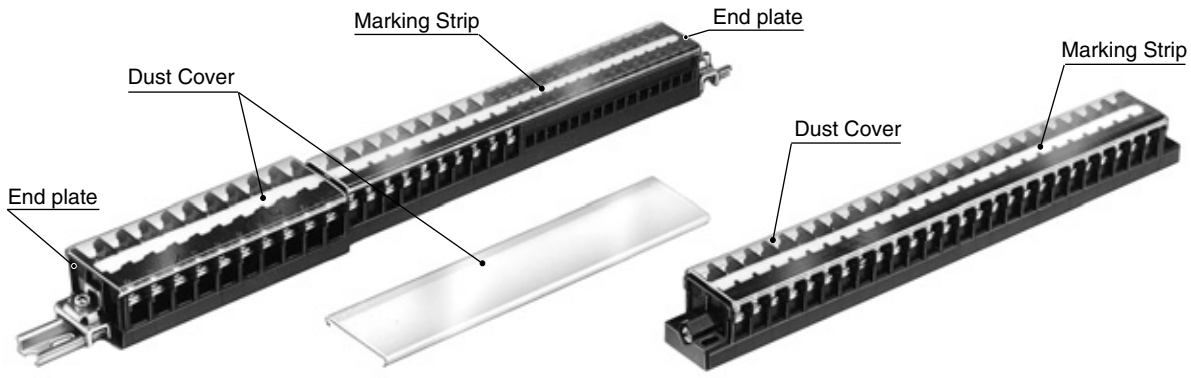
No. of Poles	2	3	4	5	6	8	10	12	14	15
L	31.9	36.9	41.8	46.8	51.7	61.6	71.5	81.4	91.3	96.3
P	23.9	28.9	33.8	38.8	43.7	53.6	63.5	73.4	83.3	88.3

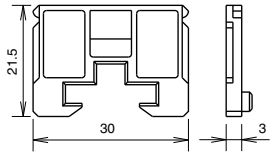
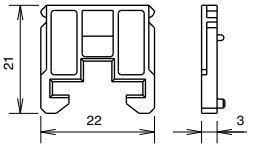
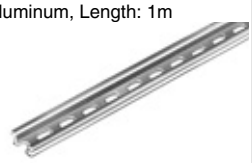
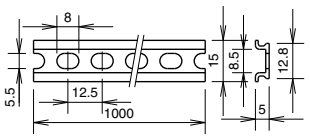
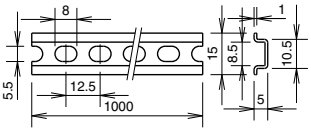
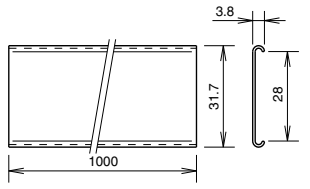
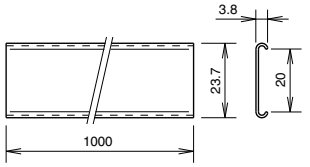
No. of Poles	16	18	20	25	30	35	40	45	50	51
L	101.2	111.1	121	145.8	170.5	195.3	220	244.8	269.5	274.5
P	93.2	103.1	113	137.8	162.5	187.3	212	236.8	261.5	266.5

No. of Poles	52	53	54	55	56	Calculation Formula
L	279.4	284.35	289.3	294.25	299.2	$L = 22 + (4.95n)^{\pm 0.5}$
P	271.4	276.35	281.3	286.25	291.2	$P = 14 + (4.95n)^{\pm 0.5}$

Weight (per pole): 3.4g (BDK5)
n = number of poles

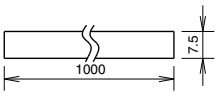
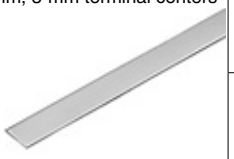
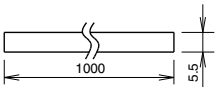
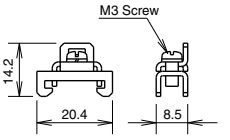
Accessories

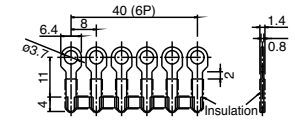
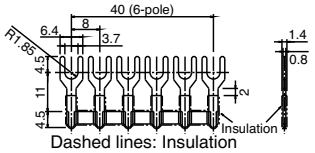
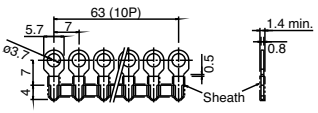
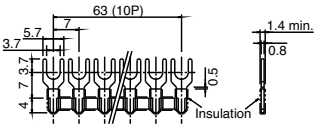


	Shape		Part No.	Ordering No.	Package Quantity	Dimensions	Remarks
End Plate	8-mm terminal centers  Material: Modified PPE	Black	**BDE11B**	**BDE11BPN10**	10		• Used for ends of terminal blocks. For use on: BD8-R∗ BD8S-R∗ • Weight: 1g
		Blue	**BDE11S**	**BDE11SPN10**			
	7-mm, 5-mm terminal centers  Material: Modified PPE	Black	**BDE12B**	**BDE12BPN10**	10		• Used for ends of terminal blocks. For use on: BD7-RB BDK5-RB • Weight: 1g
Rail	DIN Rail 15-mm wide Aluminum, Length: 1m 	**BDA1000**		**BDA1000PN10**	10		• DIN rail for mounting terminal blocks. For use on: BD8-R∗ BD8S-R∗ BD7-RB BDK5-RB
	DIN Rail 15-mm wide Steel, Length: 1m 	**BDP1000**		**BDP1000PN10**	10		
Dust Cover	8-mm terminal centers  Polycarbonate, Length: 1m	**BDC1000**		**BDC1000PN10**	10		• Transparent plastic cover for terminal blocks. For use on: BD8-R∗ BD8-MB□ BD8S-R∗ BD8S-MB□
	7-mm, 5-mm terminal centers  Polycarbonate, Length: 1m	**BDC1000S**		**BDC1000SPN10**	10		• Transparent plastic cover for terminal blocks. For use on: BD7-RB∗ BD7-MB□ BDK5-RB∗ BDK5-MB□

Specify the color code in place of ∗. B (black), S (blue)
□: Number of poles

BD Series Terminal Blocks

Shape		Material	Part No.	Ordering No.	Package Quantity	Dimensions (mm)	Terminal Block
Marking Strip	8-mm terminal centers 	PVC (glossy surface)	**BDM11**	**BDM11PN10**	10		BD8-R∗ BD8-MB□ BD8S-R∗ BD8S-MB□
		Fiber glass (matte surface)	**BDM12**	**BDM12PN10**	10		
	7-mm, 5-mm terminal centers 	PVC (glossy surface)	**BNM8**	**BNM8PN10**	10		BD7-RB BD7-MB□ BDK5-RB BDK5-MB□
		Fiber glass (matte surface)	**BNM10**	**BNM10PN10**	10		
End Clip		Steel (zinc-plated)	**BDL11**	**BDL11PN10**	10	 Weight: Approx. 4g Recommended tightening torque: 0.5 to 0.7 N·m	BD8-R∗ BD8S-R∗ BD7-RB BDK5-RB

Description			Part No.	Ordering No.	Dimensions	Rated Current	Package Quantity	Applicable Terminal Block
Jumper	For 6-pole 8-mm Terminal Centers Material: Brass (nickel-plated)	Ring	**BNJ26W**	**BNJ26WPN10**	 Dashed lines: Insulation	20A	10	BD8-R∗ BD8-MB□ BD8S-R∗ BD8S-MB□
			BNJ26WB Insulation: PVC	**BNJ26WBPN10**			10	
		Fork	**BNJ26FW**	**BNJ26FWPN10**	 Dashed lines: Insulation	20A	10	
			BNJ26FWB Insulation: PVC	**BNJ26FWBPN10**			10	
	For 10-pole 7-mm Terminal Centers Material: Brass (nickel-plated)	Ring	**BDJ10**	**BDJ10PN10**	 Dashed lines: Insulation	10A	10	BD7-RB BD7-MB□
			BDJ10B Insulation: PVC	**BDJ10BPN10**			10	
		Fork	**BDJ10F**	**BDJ10FPN10**	 Dashed lines: Insulation	10A	10	
			BDJ10FB Insulation: PVC	**BDJ10FBPN10**			10	

Calculating the Rail Length (When the same type terminal block is mounted)

BDA and BDP Rails

$L_1 = 12.5 \times N$

$L_2 = L_1 - 25$

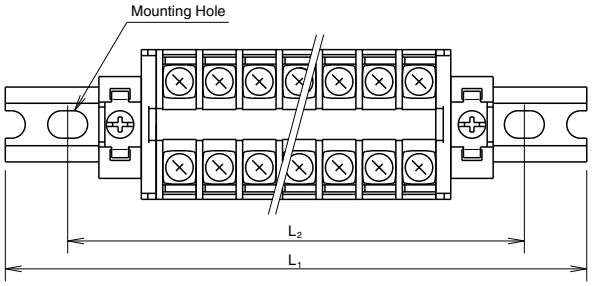
N: Rounded up numerical number from the calculated value of M. (Example: N for 19.1 is 20)

$$M = \frac{(A + 0.1)\, n + 68.5}{12.5}$$

A: Thickness of each terminal block

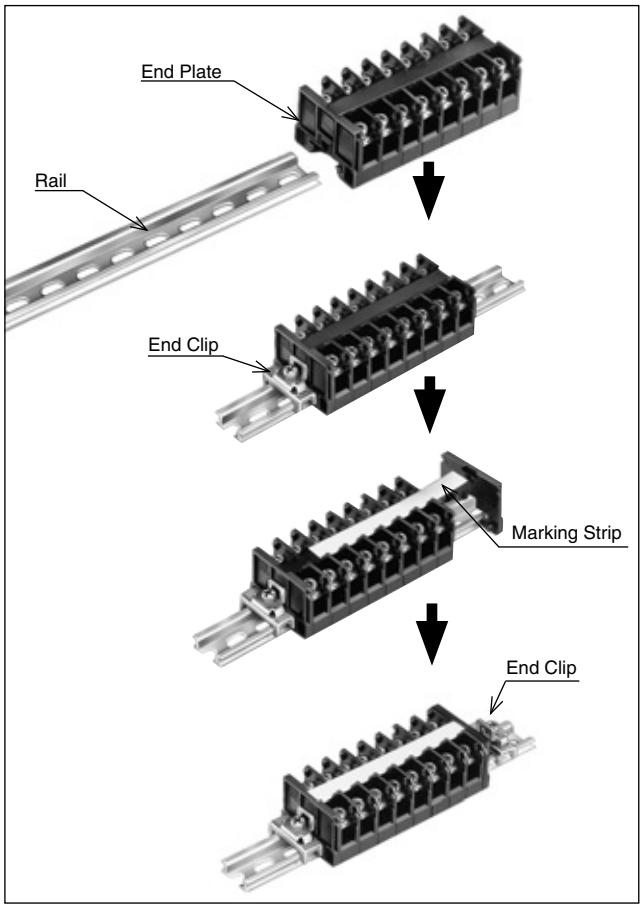
n: The number of terminal blocks

Note: This formula is for calculating the maximum rail length including tolerance. Depending on the combination of terminal blocks, the required rail length may be shorter than the calculated value, particularly when many terminal blocks are combined.



Instructions

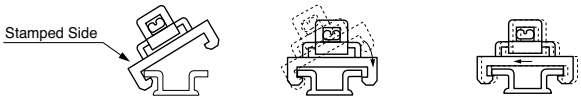
Installation of Rail Mount Terminal Blocks



When using DIN Rail

1. Determine the length of the DIN rail according to the width of the terminal blocks.
2. Assemble the terminal blocks with an end plate on one side, and then install them onto the DIN rail. (When mounting BD8, BD7, and BDK5 series on the same DIN rail, use end plates at the end of assemblies of each series.
3. Install a end clip (BDL11) so that the terminal blocks are mounted in the center of the DIN rail. See “Installing the end clip” below.
4. Insert the marking strip and fasten with another end plate.
5. Install the end clip (BDL11) on the other end of the terminal block
6. Cover the terminal block with the dust cover.

Installing the end clip



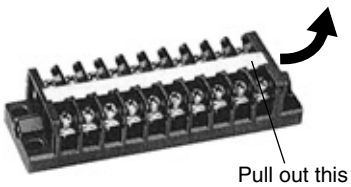
Hook the stamped side of the end clip on the DIN rail.

Push the end clip on the DIN rail.

Slide the end clip to the stamped side and tighten the screw. Recommended tightening torque: 0.8 N·m

Installing and Removing the Marking Strip

When removing the marking strip, pull out the end of the marking strip with the tip of a screwdriver.
To install, insert the marking strip into the terminal block from one end and press in the other end of the marking strip.



Installing Surface Mount Terminal Blocks

To install surface mount terminal blocks, use four screws and tighten four corners of the terminal blocks to a torque of 1.0 N·m maximum.
For screw types and tightening torque, see the table below.
See page 1102 for mounting hole dimensions.

Screw Size (For BD8)	Screw Size (For BD/BDK5)	Tightening Torque
M4 screw only	—	1.0 N·m maximum
M4 screw + M4 plain washer	M3 screw + M3 plain washer	
	M3.5 screw + M3.5 plain washer	
M4 screw + M4 plain washer + M4 spring washer	M3 screw + M3 plain washer+ M3 spring washer	
	M3.5 screw + M3.5 plain washer + M3.5 spring washer	

Notes on Wiring

Crimping Terminals

- When using crimping terminals, be sure to use insulated terminals to prevent electric shocks.

Without Crimping Terminals

- Insert the wire until the insulation comes into contact with the terminal metal part.
- Strip the insulation so that the wire is longer than the width of the wire clamp.
- When connecting two wires, use wires of the same size.