



CÔNG TY CỔ PHẦN CÔNG NGHỆ HỢP LONG

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 mm ² (2 mm ²) *	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	1.25 mm ²	50
5 mm	M3 cage screw	BDK5-RB	BDK5-RBPN50	Black		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	x	x	○		x	○
BD8S-R	x	x	○	○	x	○
BD7-RB	x	x	○	○	x	○
BDK5-RB	x	x	○	○	x	—
	50			51		
	Page					

- x: Accessories needed when mounting terminal blocks.
Order separately.
○: Order if necessary.
• Order a dust cover, marking strip (fiber), and jumper when necessary (see page 50 and 51).

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)

BD Series Terminal Blocks

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 mm², but 2 mm² 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.


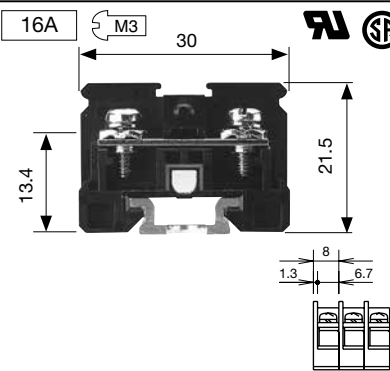
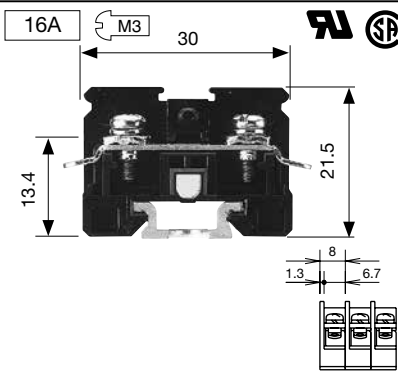
Material

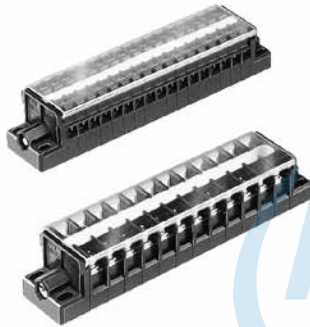
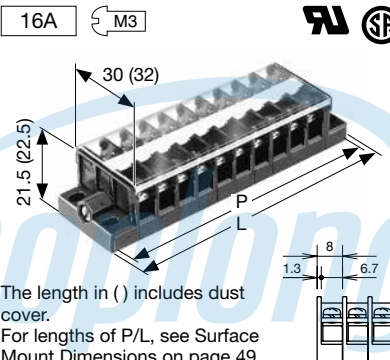
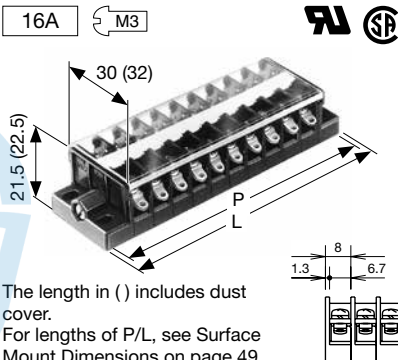
Parts	Material
Housing	Modified PPE
Terminal Metal Part	Brass (nickel-plated)
Terminal Metal Part (BD8S)	Brass (tin-plated)
Terminal Screw	Steel (zinc chromate-plated)

Accessories

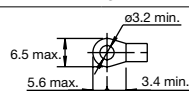
- Dust covers and marking strips are supplied with the terminal block.
- Order jumpers if required (see page 51).

INDUSTRIAL AUTOMATION

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			

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 mm ² (2 mm ²) *3	14-20 AWG (solid wire/ stranded wire)	1.25 mm ² (2 mm ²) *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 50)			
	Rail (for rail mount)	15-mm-wide DIN Rail	BDA1000 (aluminum) (see page 50)			
			BDP1000 (steel) (see page 50)			
	Dust Cover		BDC1000 (see page 50)			
	Marking Strip	PVC (glossy surface)	BDM11 (see page 51)			
		Fiber Glass (matte surface)	BDM12 (see page 51)			
	End Clip (for rail mount)		BDL11 (see page 51)			
Jumper		BNJ26W, BNJ26WB, BNJ26FW, BNJ26FWB (see page 51)				


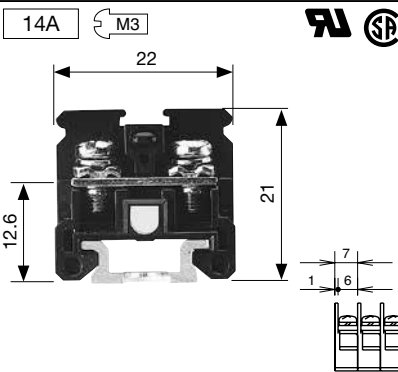
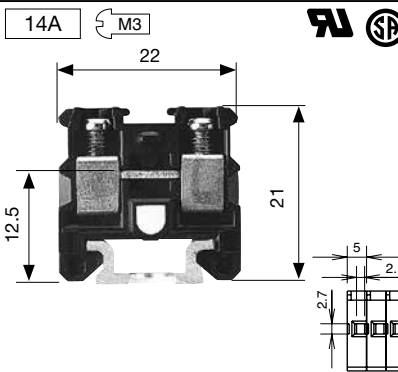
*1: The rated voltage when power is applied is 250V under UL recognition. (Example: Office automation equipment, home electric appliances, facsimile, and other information processing equipment.)

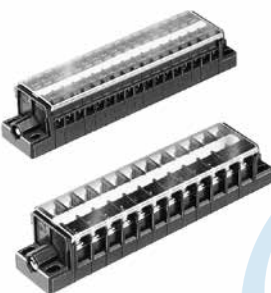
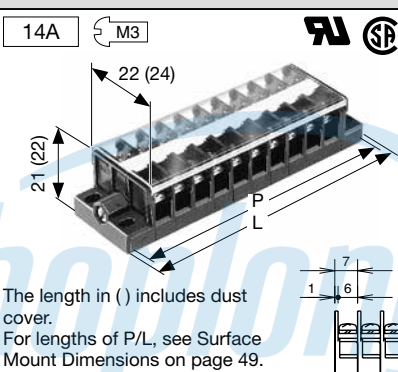
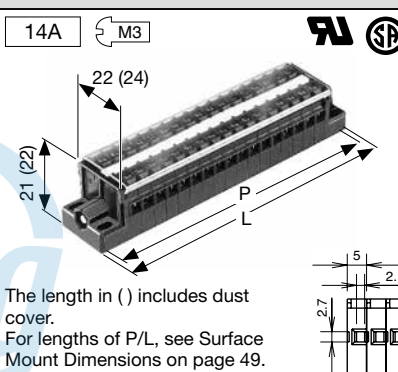
*2: The rated current differs according to operating conditions. See "Selecting Terminal Blocks by Current According to JIS Standards" on page 4.

*3: The wire size in () does not comply with JIS standards.

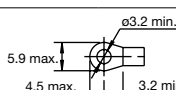
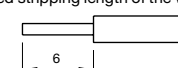
* Color code: B (black), S (blue)

BD Series Terminal Blocks

Terminal Centers		7-mm Terminal Centers	5-mm Terminal Centers
Style		BD7-RB (Self-Lifting)	BKD5-RB (Cage Clamp)
Rail Mount			

Part No. (Specify the no. of poles in place of □)		BD7-MB□ (Self-Lifting)	BKD5-MB□ (Cage Clamp)
Surface Mount		 <p>The length in () includes dust cover. For lengths of P/L, see Surface Mount Dimensions on page 49.</p>	 <p>The length in () includes dust cover. For lengths of P/L, see Surface Mount Dimensions on page 49.</p>

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 mm ² (2 mm ² max) *3	16-20AWG (solid wire)	1.25 mm ²	
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 50)			
	Rail (for Rail Mount)	15-mm-wide DIN Rail	BDA1000 (aluminum) (see page 50)			
			BDP1000 (steel) (see page 50)			
	Dust Cover		BDC1000S (see page 50)			
	Marking Strip	PVC (smooth surface)	BNM8 (see page 51)			
		Fiber Glass (rough surface)	BNM10 (see page 51)			
	End Clip (for rail mount)		BDL11 (see page 51)			
Jumper		BDJ10, BDJ10B, BDJ10F, BDJ10FB (see page 51)		—		

*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.)

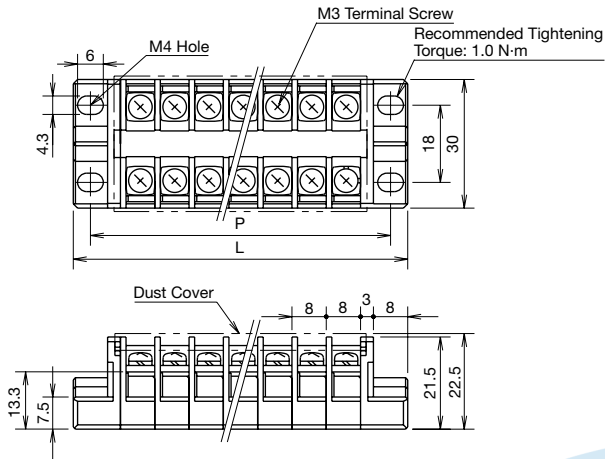
*2: The rated current differs according to operating conditions. See "Selecting Terminal Blocks by Current According to JIS Standards" on page 4.

*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)



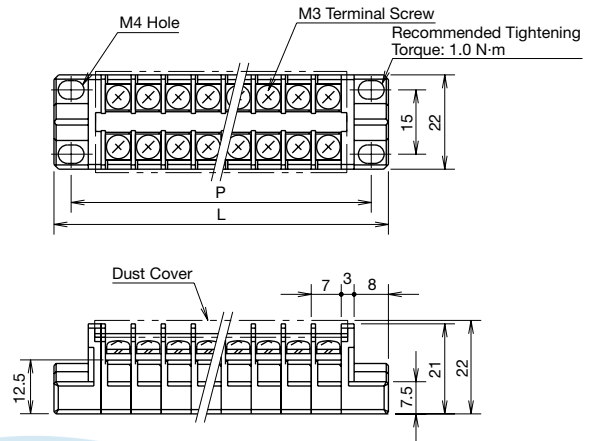
Dimensions L and P (mm)

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	$L = 22 + (7.95n)^{+0.5}$
P	141.2	157.1	173	212.75	252.5	292.3	$P = 14 + (7.95n)^{+0.5}$

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

BD7-MB□ (7-mm Terminal Centers)



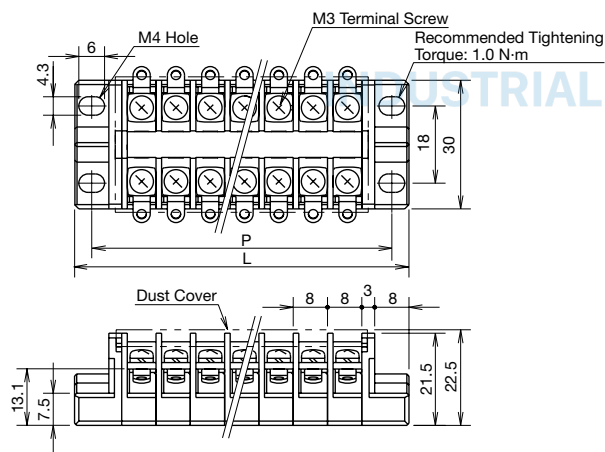
Dimensions L and P (mm)

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	$L = 22 + (6.9n)^{+0.5}$
P	124.4	138.2	152	186.5	221	255.5	290	$P = 14 + (6.9n)^{+0.5}$

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

BD8S-MB□ (8-mm Terminal Centers)



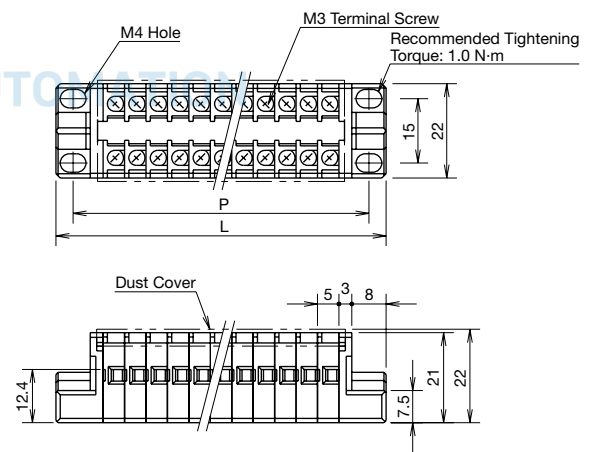
Dimensions L and P (mm)

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	$L = 22 + (7.95n)^{+0.5}$
P	141.2	157.1	173	212.75	252.5	292.3	$P = 14 + (7.95n)^{+0.5}$

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

BKD5-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

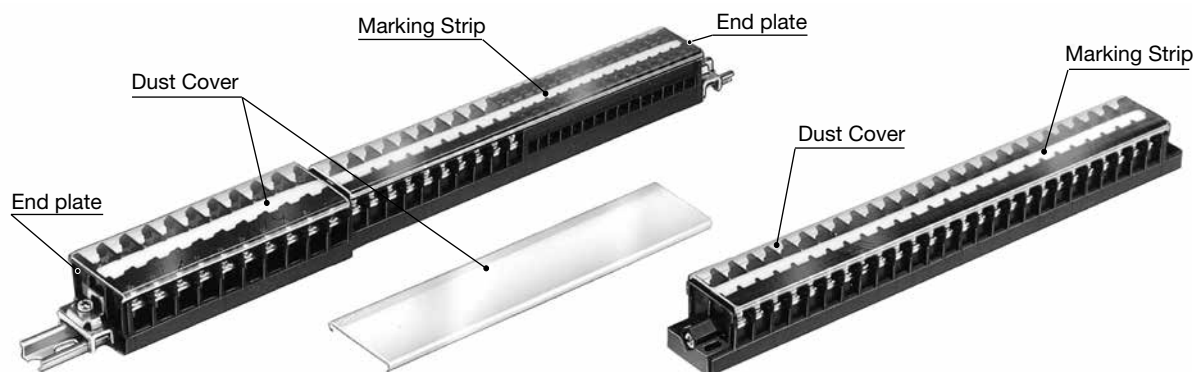
No. of Poles	16	18	20	25	30	35	40	45	50	51
L	101.2	111.1	121	145.8	170.5	195.3	220	244.8	269.5	274.5
P	93.2	103.1	113	137.8	162.5	187.3	212	236.8	261.5	266.5



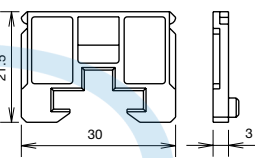
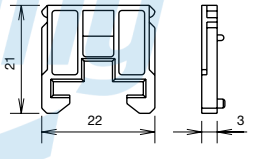

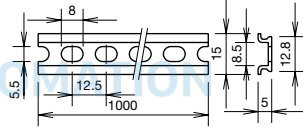
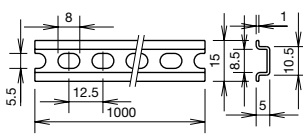

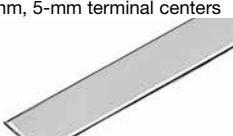
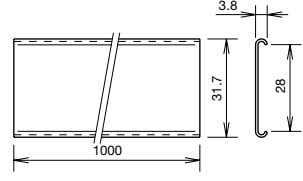
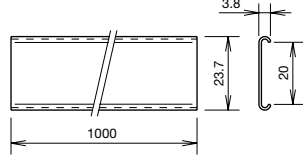
No. of Poles	52	53	54	55	56	Calculation Formula
L	279.4	284.35	289.3	294.25	299.2	$L = 22 + (4.95n)^{+0.5}$
P	271.4	276.35	281.3	286.25	291.2	$P = 14 + (4.95n)^{+0.5}$

Weight (per pole): 3.4g (BKD5)
n = number of poles


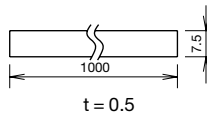
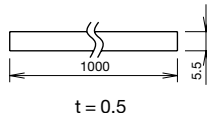

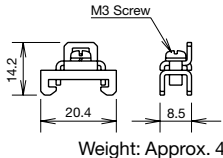
BD Series Terminal Blocks

Accessories



Shape	Part No.	Ordering No.	Package Quantity	Dimensions	Remarks
End Plate  Material: Modified PPE  Material: Modified PPE	Black	BDE11B	10		<ul style="list-style-type: none"> Used for ends of terminal blocks. For use on: BD8-R* BD8S-R* Weight: 1g
	Blue	BDE11S			
	Black	BDE12B	10		<ul style="list-style-type: none"> Used for ends of terminal blocks. For use on: BD7-RB BDK5-RB Weight: 1g
Rail  DIN Rail 15-mm wide Steel, Length: 1m	BDA1000	BDA1000PN10	10		<ul style="list-style-type: none"> DIN rail for mounting terminal blocks. For use on: BD8-R* BD8S-R* BD7-RB BDK5-RB
	BDP1000	BDP1000PN10	10		
Dust Cover  Polycarbonate, Length: 1m  Polycarbonate, Length: 1m	BDC1000	BDC1000PN10	10		<ul style="list-style-type: none"> Transparent plastic cover for terminal blocks. For use on: BD8-R* BD8-MB□ BD8S-R* BD8S-MB□
	BDC1000S	BDC1000SPN10	10		<ul style="list-style-type: none"> 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

Shape	Material	Part No.	Ordering No.	Package Quantity	Dimensions (mm)	Terminal Block
Marking Strip 	PVC (glossy surface)	BDM11	BDM11PN10	10		BD8-R* BD8-MB□ BD8S-R* BD8S-MB□
	Fiber glass (matte surface)	BDM12	BDM12PN10	10		
	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	20A	10	BD8-R* BD8-MB□ BD8S-R* BD8S-MB□
		BNJ26WB Insulation: PVC	BNJ26WBPN10		10	
	Fork	BNJ26FW	BNJ26FWPN10	20A	10	
		BNJ26FWB Insulation: PVC	BNJ26FWBPN10		10	
	Ring	BDJ10	BDJ10PN10	10A	10	BD7-RB BD7-MB□
		BDJ10B Insulation: PVC	BDJ10BPN10		10	
	Fork	BDJ10F	BDJ10FPN10	10A	10	
		BDJ10FB Insulation: PVC	BDJ10FBPN10		10	

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

BDA and BDP Rails

$$L_1 = 12.5 \times N$$

$$L_2 = L_1 - 25$$

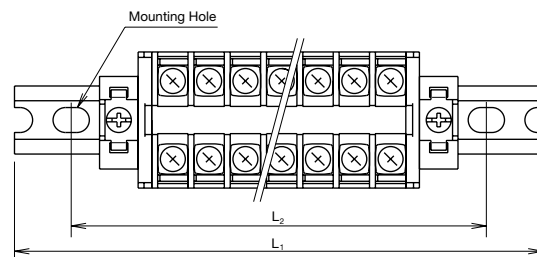
N: Rounded up numerical number from the calculated value of M.
(Example: N for 19.1 is 20)

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

A: Thickness of each terminal block

n: The number of terminal blocks

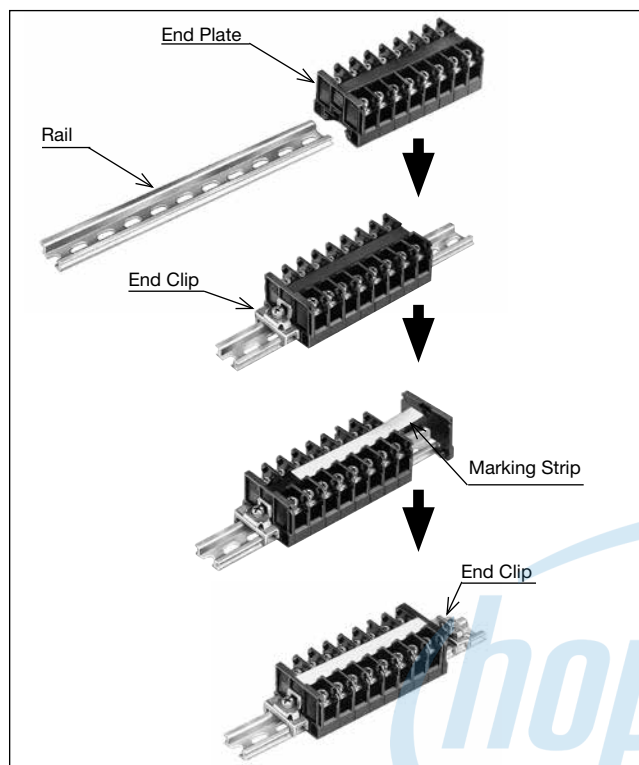
Note: This formula is for calculating the maximum rail length including tolerance. Depending on the combination of terminal blocks, the required rail length may be shorter than the calculated value, particularly when many terminal blocks are combined.



BD Series Terminal Blocks

Instructions

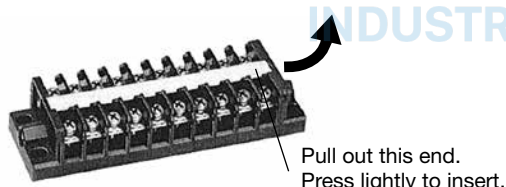
Installation of Rail Mount Terminal Blocks



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.

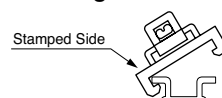
To install, insert the marking strip into the terminal block from one end and press in the other end of the marking strip.



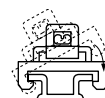
When using DIN Rail

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 an 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.

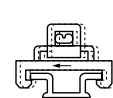
Installing the end clip



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 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 49 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	

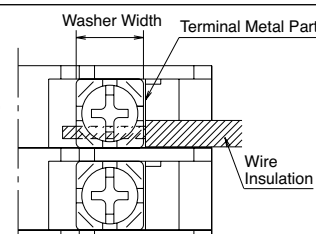
Notes on Wiring

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.



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