



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	1.25 mm ²	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.


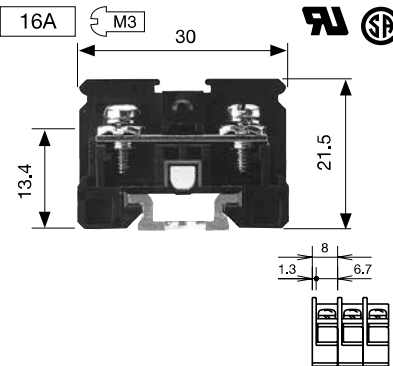
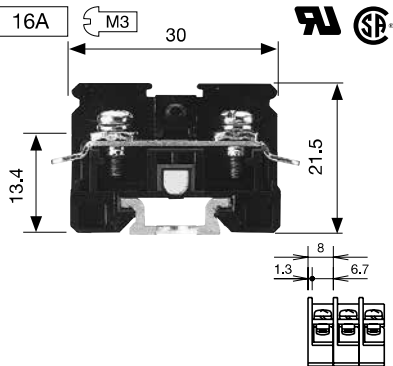


Material


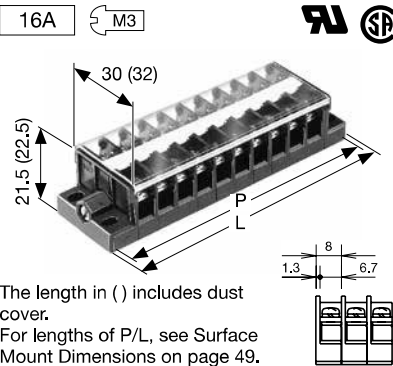
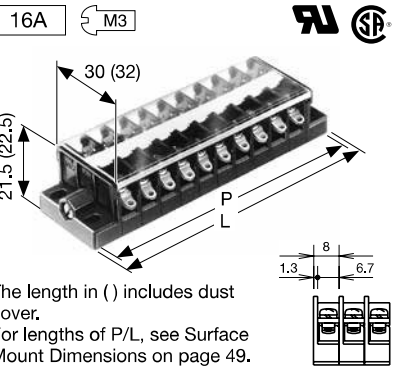
Parts	Material
Housing	Modified PPE
Terminal Metal Part	Brass (nickel-plated)
Terminal Metal Part (BD8S)	Brass (tin-plated)
Terminal Screw	Steel (zinc chromate-plated)

Accessories

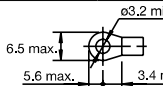
- Dust covers and marking strips are supplied with the terminal block.
- Order jumpers if required (see page 51).

BD Series Terminal Blocks

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

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 49.	The length in () includes dust cover. For lengths of P/L, see Surface Mount Dimensions on page 49.

Specifications


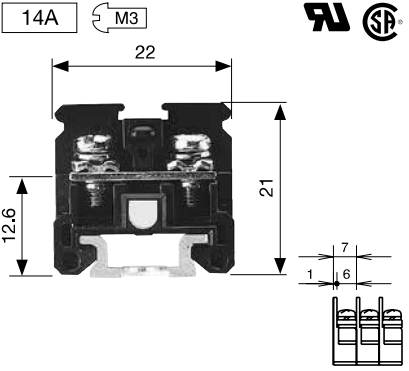
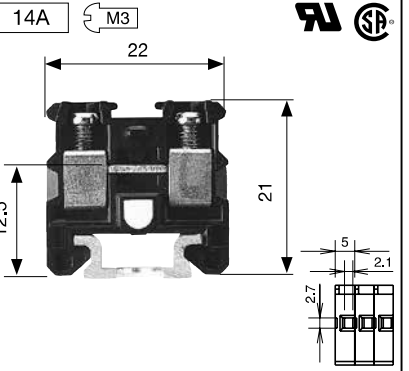
Standards		UL/CSA	JIS	UL/CSA	JIS
Ratings	Insulation Voltage	300V *1	400V	300V *1	250V
	Rated Current	15A	16A	15A	16A
	Dielectric Strength	2500V AC, 1 minute			
	Insulation Resistance	100 MΩ minimum			
	Operating Temperature	-25 to +55°C (no freezing)			
	Storage Temperature	-25 to +70°C (no freezing)			
	Operating Humidity	45 to 85% RH (no condensation)			
Wire Size		14-20 AWG (solid wire/ stranded wire)	1.25 mm ² (2 mm ²) *2	14-20 AWG (solid wire/ stranded wire)	1.25 mm ² (2 mm ²) *2
	Terminal Screw	M3			
Others	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)				


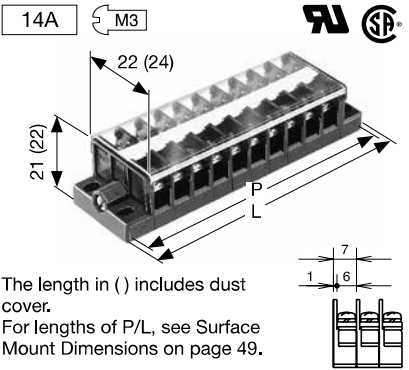
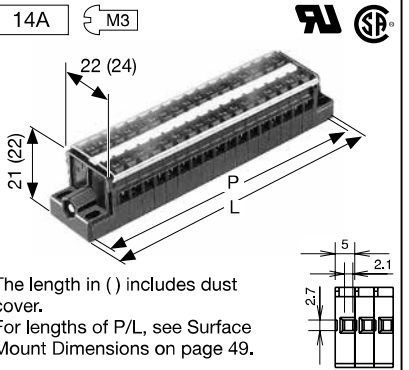
*1: The rated voltage when power is applied is 250V under UL recognition. (Example: Office automation equipment, home electric appliances, facsimile, and other information processing equipment.)

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

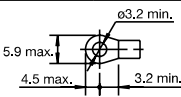
* Color code: B (black), S (blue)

BD Series Terminal Blocks

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

Part No. (Specify the no. of poles in place of □)		BD7-MB□ (Self-Lifting)	BDK5-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	320V	300V *1	250V	
	Rated Current	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) *2	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				
	Dust Cover	BDA1000 (aluminum) (see page 50) BDP1000 (steel) (see page 50)				
	Marking Strip	PVC (smooth surface)	BDC1000S (see page 50)			
		Fiber Glass (rough surface)	BNM8 (see page 51)			
	End Clip (for rail mount)	BNM10 (see page 51)				
Jumper	BDL11 (see page 51)					
	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.)

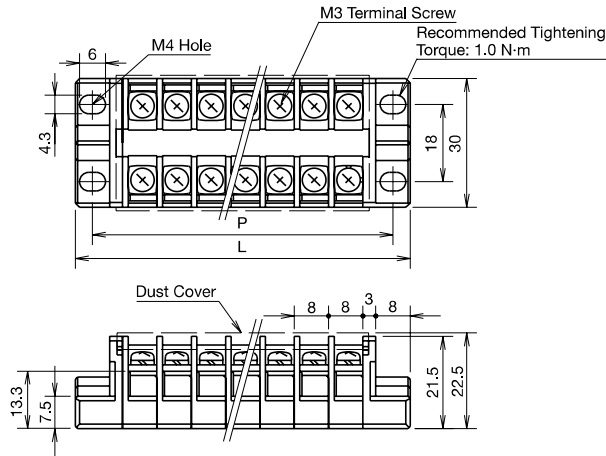
*2: The wire size in () does not comply with JIS standards.

BD Series Terminal Blocks

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)



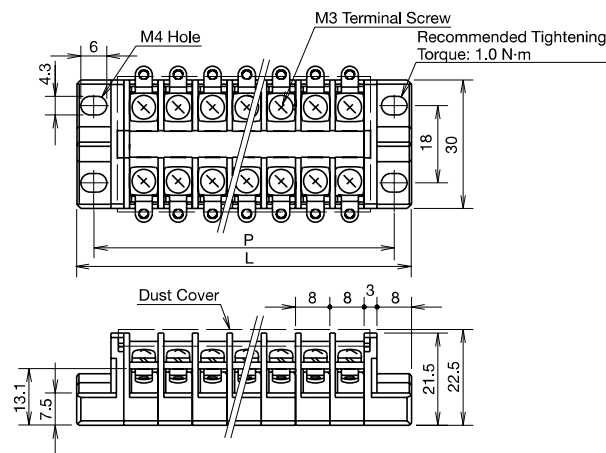
Dimensions L and P (mm)

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

BD8S-MB□ (8-mm Terminal Centers)



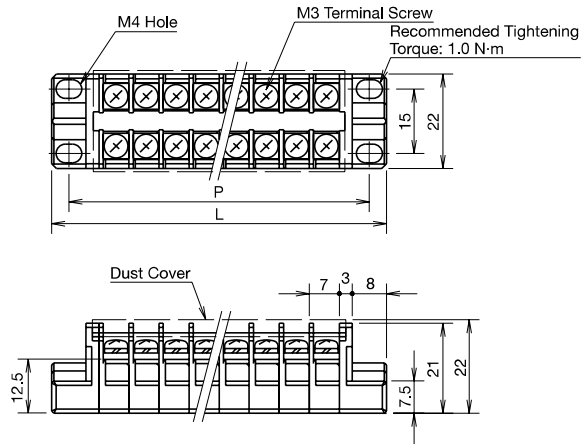
Dimensions L and P (mm)

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

BD7-MB□ (7-mm Terminal Centers)



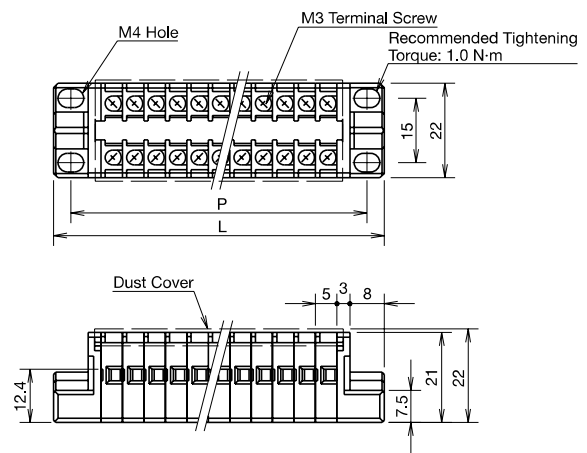
Dimensions L and P (mm)

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

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

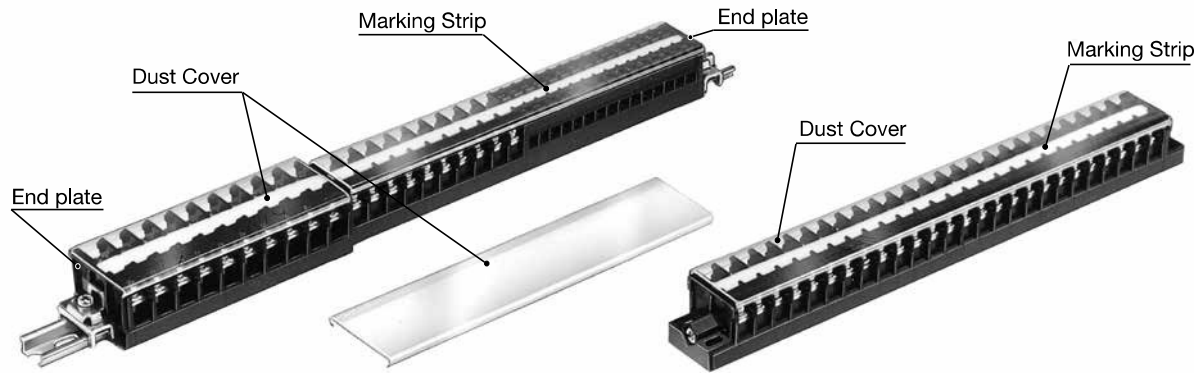
No. of Poles	16	18	20	25	30	35	40	45	50	51
L	101.2	111.1	121	145.8	170.5	195.3	220	244.8	269.5	274.5
P	93.2	103.1	113	137.8	162.5	187.3	212	236.8	261.5	266.5


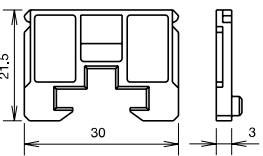

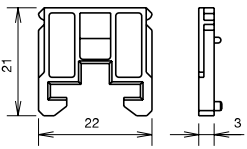

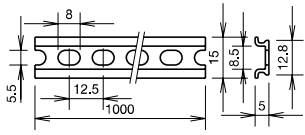

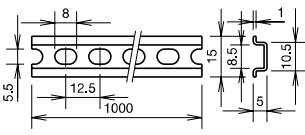

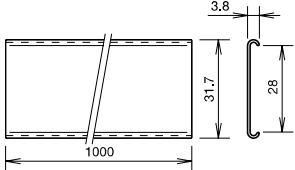
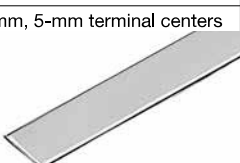
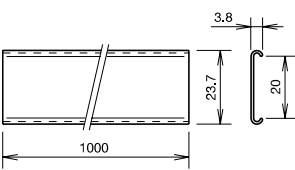
No. of Poles	52	53	54	55	56	Calculation Formula
L	279.4	284.35	289.3	294.25	299.2	$L = 22 + (4.95n)^{\pm 0.5}$
P	271.4	276.35	281.3	286.25	291.2	$P = 14 + (4.95n)^{\pm 0.5}$

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

BD Series Terminal Blocks

Accessories



	Shape	Part No.	Ordering No.	Package Quantity	Dimensions	Remarks	
End Plate	8-mm terminal centers  Material: Modified PPE	Black	BDE11B	BDE11BPN10	10		<ul style="list-style-type: none"> 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		<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 Aluminum, 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 	
	DIN Rail 15-mm wide Steel, Length: 1m 	BDP1000	BDP1000PN10	10			
Dust Cover	8-mm terminal centers  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□ 	
	7-mm, 5-mm terminal centers  Polycarbonate, Length: 1m	BDC1000S	BDC1000SPN10	10			

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	 t = 0.5	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	 t = 0.5	BD7-RB BD7-MB□ BDK5-RB BDK5-MB□
		Fiber glass (matte surface)	BNM10	BNM10PN10	10		
End Clip	Steel (zinc-plated)	BDL11	BDL11PN10	10	 M3 Screw 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	Ring	BNJ26W	BNJ26WPN10	 Dashed lines: Insulation	20A	10
			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	Ring	BDJ10	BDJ10PN10	 Dashed lines: Insulation	10A	10
			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

$$L_1 = 12.5 \times N$$

$$L_2 = L_1 - 25$$

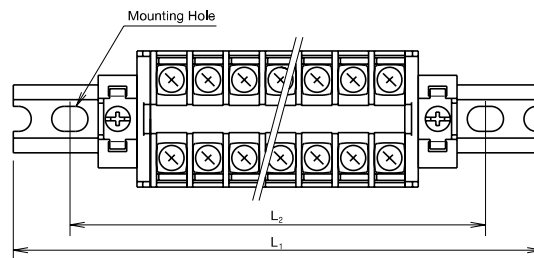
N: Rounded up numerical number from the calculated value of M.
(Example: N for 19.1 is 20)

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

A: Thickness of each terminal block

n: The number of terminal blocks

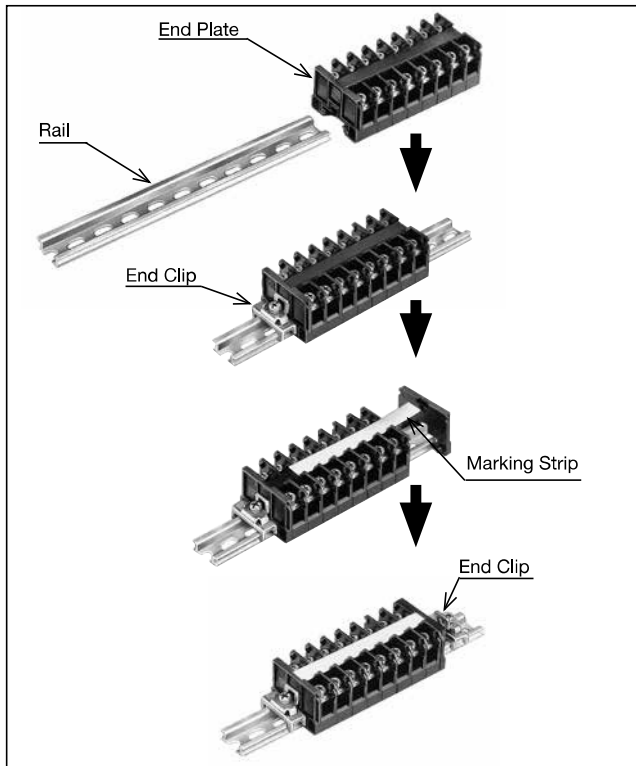
Note: This formula is for calculating the maximum rail length including tolerance. Depending on the combination of terminal blocks, the required rail length may be shorter than the calculated value, particularly when many terminal blocks are combined.



BD Series Terminal Blocks

Instructions

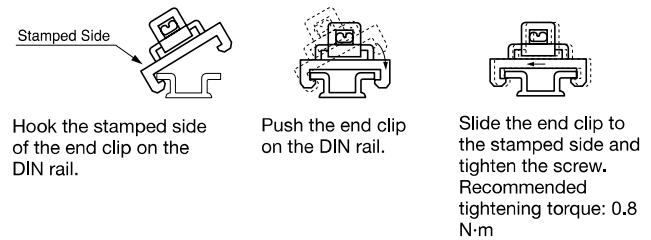
Installation of Rail Mount Terminal Blocks



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 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



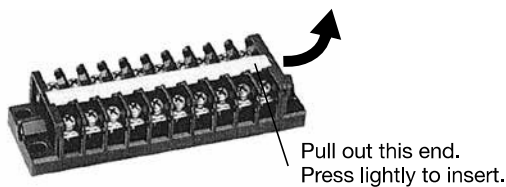
Installing Surface Mount Terminal Blocks

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	

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.



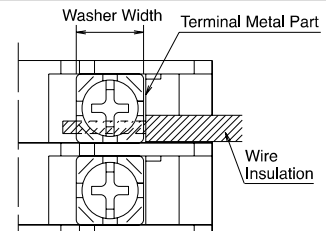
Notes on Wiring

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.



Ordering Terms and Conditions

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- (1) Rated values, performance values, and specification values of IDEC products listed in this Catalog are values acquired under respective conditions in independent testing, and do not guarantee values gained in combined conditions.
Also, durability varies depending on the usage environment and usage conditions.
- (2) Reference data and reference values listed in Catalogs are for reference purposes only, and do not guarantee that the product will always operate appropriately in that range.
- (3) The specifications / appearance and accessories of IDEC products listed in Catalogs are subject to change or termination of sales without notice, for improvement or other reasons.
- (4) The content of Catalogs is subject to change without notice.

2. Note on applications

- (1) If using IDEC products in combination with other products, confirm the applicable laws / regulations and standards.
Also, confirm that IDEC products are compatible with your systems, machines, devices, and the like by using under the actual conditions. IDEC shall bear no liability whatsoever regarding the compatibility with IDEC products.
- (2) The usage examples and application examples listed in Catalogs are for reference purposes only. Therefore, when introducing a product, confirm the performance and safety of the instruments, devices, and the like before use. Furthermore, regarding these examples, IDEC does not grant license to use IDEC products to you, and IDEC offers no warranties regarding the ownership of intellectual property rights or non-infringement upon the intellectual property rights of third parties.
- (3) When using IDEC products, be cautious when implementing the following.
 - i. Use of IDEC products with sufficient allowance for rating and performance
 - ii. Safety design, including redundant design and malfunction prevention design that prevents other danger and damage even in the event that an IDEC product fails
 - iii. Wiring and installation that ensures the IDEC product used in your system, machine, device, or the like can perform and function according to its specifications
- (4) Continuing to use an IDEC product even after the performance has deteriorated can result in abnormal heat, smoke, fires, and the like due to insulation deterioration or the like. Perform periodic maintenance for IDEC products and the systems, machines, devices, and the like in which they are used.
- (5) IDEC products are developed and manufactured as general-purpose products for general industrial products. They are not intended for use in the following applications, and in the event that you use an IDEC product for these applications, unless otherwise agreed upon between you and IDEC, IDEC shall provide no guarantees whatsoever regarding IDEC products.
 - i. Use in applications that require a high degree of safety, including nuclear power control equipment, transportation equipment (railroads / airplanes / ships / vehicles / vehicle instruments, etc.), equipment for use in outer space, elevating equipment, medical instruments, safety devices, or any other equipment, instruments, or the like that could endanger life or human health
 - ii. Use in applications that require a high degree of reliability, such as provision systems for gas / waterworks / electricity, etc., systems that operate continuously for 24 hours, and settlement systems
 - iii. Use in applications where the product may be handled or used deviating from the specifications or conditions / environment listed in the Catalogs, such as equipment used outdoors or applications in environments subject to chemical pollution or electromagnetic interference
If you would like to use IDEC products in the above applications, be sure to consult with an IDEC sales representative.

3. Inspections

We ask that you implement inspections for IDEC products you purchase without delay, as well as thoroughly keep in mind management/maintenance regarding handling of the product before and during the inspection.

4. Warranty

(1) Warranty period

The warranty period for IDEC products shall be one (1) year after purchase or delivery to the specified location. However, this shall not apply in cases where there is a different specification in the Catalogs or there is another agreement in place between you and IDEC.

(2) Warranty scope

Should a failure occur in an IDEC product during the above warranty period for reasons attributable to IDEC, then IDEC shall replace or repair that product, free of charge, at the purchase location / delivery location of the product, or an IDEC service base. However, failures caused by the following reasons shall be deemed outside the scope of this warranty.

- i. The product was handled or used deviating from the conditions / environment listed in the Catalogs
- ii. The failure was caused by reasons other than an IDEC product
- iii. Modification or repair was performed by a party other than IDEC
- iv. The failure was caused by a software program of a party other than IDEC
- v. The product was used outside of its original purpose
- vi. Replacement of maintenance parts, installation of accessories, or the like was not performed properly in accordance with the user's manual and Catalogs
- vii. The failure could not have been predicted with the scientific and technical standards at the time when the product was shipped from IDEC
- viii. The failure was due to other causes not attributable to IDEC (including cases of force majeure such as natural disasters and other disasters)

Furthermore, the warranty described here refers to a warranty on the IDEC product as a unit, and damages induced by the failure of an IDEC product are excluded from this warranty.

5. Limitation of liability

The warranty listed in this Agreement is the full and complete warranty for IDEC products, and IDEC shall bear no liability whatsoever regarding special damages, indirect damages, incidental damages, or passive damages that occurred due to an IDEC product.

6. Service scope

The prices of IDEC products do not include the cost of services, such as dispatching technicians. Therefore, separate fees are required in the following cases.

- (1) Instructions for installation / adjustment and accompaniment at test operation (including creating application software and testing operation, etc.)
- (2) Maintenance inspections, adjustments, and repairs
- (3) Technical instructions and technical training
- (4) Product tests or inspections specified by you

The above content assumes transactions and usage within your region. Please consult with an IDEC sales representative regarding transactions and usage outside of your region. Also, IDEC provides no guarantees whatsoever regarding IDEC products sold outside your region.

IDEC CORPORATION

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