JECA FAIR 2018
57th
JECA PRODUCTS AWARD
Japan Electrical Construction Association
Honorable mention

ZERO SCREW™ Terminal Block Supporting Up to 500A **EF2** Series

ZERO SCREW™

JIS C 8201-7-1
NECA C 2811 (Old JIS 2811)

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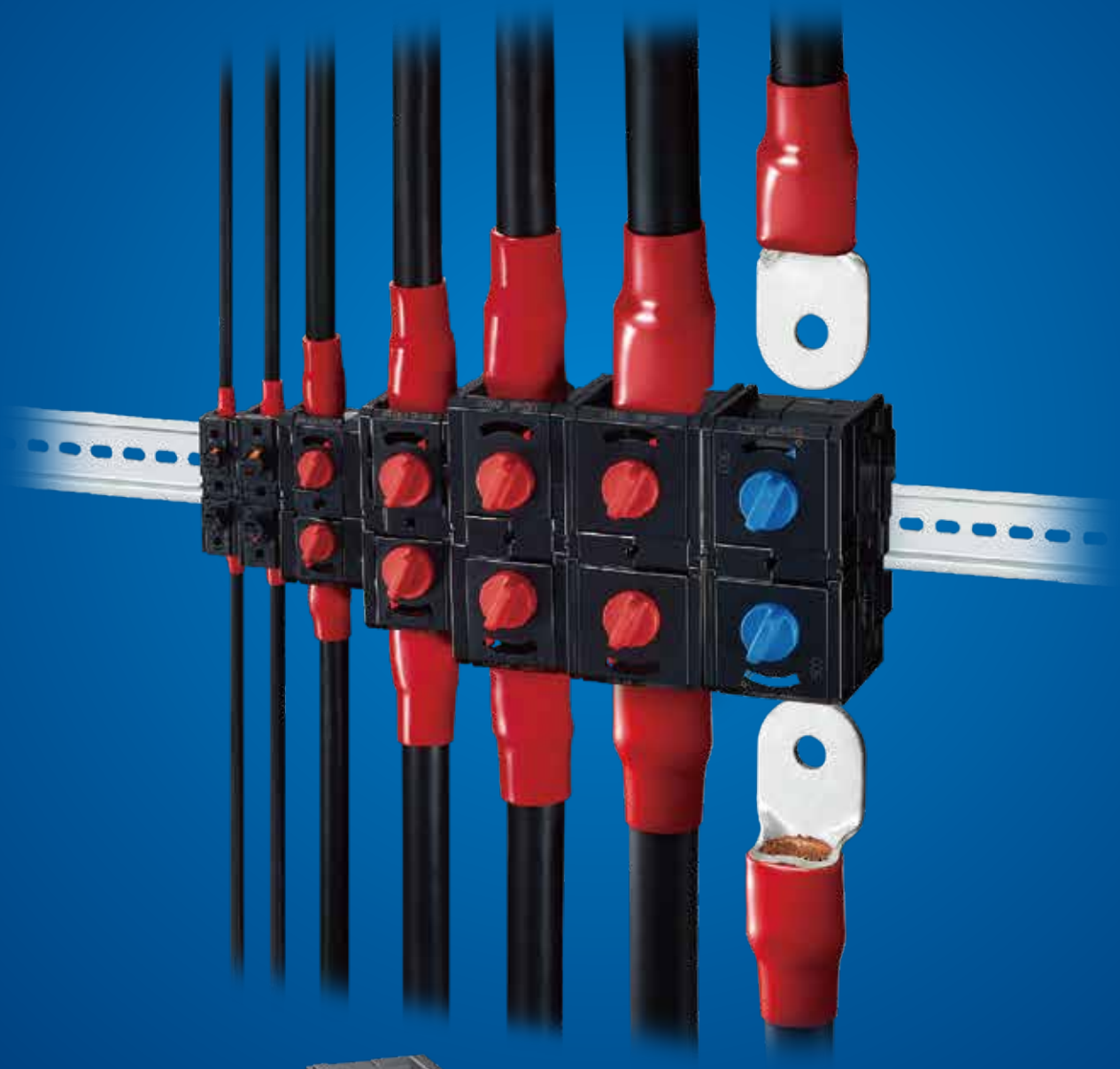

Push Type　Hybrid Type　Twist Type

Next-Generation Terminal Block that Connects in a Single Action

HIROSE ELECTRIC CO., LTD.

EF2 Series

ZERO SCREW™ Terminal Block Supporting Up to 500A

Product		500	400	250	200	150	60	30
Part Number	Push Type	-	-	-	-	-	EF2-D60B-1	EF2-D60BA-1
	Twist Type	EF2A-D500B-1	EF2A-D400B-1	EF2A-D250B-1	EF2A-D200B-1	EF2A-D150B-1	-	-
	One-sided screw Type (Push)	-	-	-	-	-	EF2-DH60B-1	EF2-D30BA-1
	One-sided screw Type (Twist)	EF2A-DH500B-1	EF2A-DH400B-1	EF2A-DH250B-1	EF2A-DH200B-1	EF2A-DH150B-1	-	-
Image								
Rated Current		500A : 250mm² (500MCM)	400A : 200mm² (400MCM)	310A : 150mm² (250MCM)	175A : 60mm² (1/0 AWG) 240A :100mm² (4/0 AWG)	94A : 22mm² (4 AWG) 132A : 38mm² (2 AWG) 175A : 60mm² (1/0 AWG)	40A : 5.5mm² (10 AWG) 50A : 8mm² (8 AWG) 70A : 14mm² (6 AWG)	16A : 1.25mm² (16 AWG) 21A : 2mm² (14 AWG) 30A : 3.5mm² (12 AWG) 40A : 5.5mm² (10 AWG)
Rated Voltage		1,000V AC、1,500V DC				600V AC/DC		
Operating Temperature		-25 to +105℃ (Includes current rising due to current flow.)						
Contact Resistance		0.1mΩ Max. (1A DC)				1mΩ Max. (1A DC)		
Withstanding Voltage		5,000V AC for 1 min.				2,500V AC for 1 min.		
Mating Durability		50 times						
Environmental Standards		RoHS2 compliant						
Compatible Terminal		R250-16 from Nichifu or JST, or equivalent terminal	R200-16 from Nichifu or JST, or equivalent terminal	R150-16 from Nichifu or JST, or equivalent terminal	R60-12 or R100-12 from Nichifu or JST, or equivalent terminal	R22-12, R38-12 or R60-12 from Nichifu or JST, or equivalent terminal	R5.5-6, R8-5 or R14-5 from Nichifu or JST, or equivalent terminal	R1.25-5, R2-5, R3.5-4 or R5.5-4 from Nichifu or R1.25, R2-5, 3.5-R4 or R5.5-4 from JST, or equivalent terminal

●Please choose a terminal with the largest hole diameter available.

⚠ *Terminal thickness is important. Using an inappropriate crimp terminal may result in performance degradation and serious accident. Please make sure to use applicable terminals.

Part Number Configuration

EF2 - DH 150B -1 (01)

❶ ❷ ❸ ❹ ❺ ❻ ❼

❶Series Name
EF2 : Push type
EF2A : Twist

❷Mount Type
D : DIN rail mount type

❸Connection Type
Blank : Single action type
H : One-sided screw type

❹Current Capacity

❺Protect Design
Blank=No protection design
B, BA= With protection Design

❻Linked Quality
(D150 type only)

❼Plate, Others
Blank=With end plate
(01)=No end plate
(10)(11)=UL and TÜV certified

Crimp Terminal Conformity Table

Current Capacity	R1.25	R2	R3.5	R5.5	R8	R14	R22	R38	R60	R100	R150	R200	R250
30	✓	✓	✓	✓	×	×	×	×	×	×	×	×	×
60	×	×	×	✓	✓	✓	×	×	×	×	×	×	×
150	×	×	×	×	×	×	✓	✓	✓	×	×	×	×
200	×	×	×	×	×	×	×	×	✓	✓	×	×	×
250	×	×	×	×	×	×	×	×	×	×	✓	×	×
400	×	×	×	×	×	×	×	×	×	×	×	✓	×
500	×	×	×	×	×	×	×	×	×	×	×	×	✓

✓ : Usable crimp terminals ×: Unusable crimp terminals

Safety Precautions

⚠ Warnings

- Do not touch the exposed conductor while it is energized. Failure to follow this warning could result an electric shock and injury.
- Make sure to turn off the power to the circuit before connecting or disconnecting the crimp terminal.
- After mating the crimp terminal, pull the cable gently to confirm that it will not be disconnect. Incomplete mating may result in disconnect or contact failure during operation which can lead to significant danger.

*Please check our Guideline for more details.

ZERO SCREW™ Terminal Block (EF2 Series) Special Site → ZERO SCREW Search

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The information in this brochure is current as of Apr. 2024.
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The Zero Screw Solution.

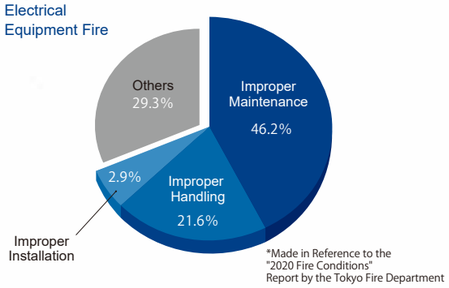
The ZERO SCREW™ terminal block achieves enhanced safety and reduces construction time.

The ZERO SCREW terminal block (EF2 Series) can be connected in a single action without screws.
Simply insert the ring terminal to connect. Since a highly reliable contact can be maintained over a long time period, maintenance work is also reduced. It is a new choice of terminal block that improves the work quality, construction time and the safety of electrical facilities.

1 Reduced Electrical Equipment Fire Risk

Maintains Stable Connection

Major Causes of Electrical Equipment Fire



*Made in Reference to the "2020 Fire Conditions" Report by the Tokyo Fire Department

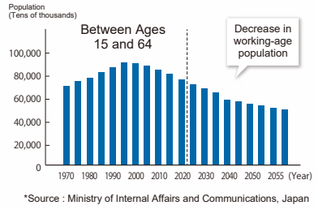
An electrical fire not only endangers the life of building users, it also lowers trust in developers, construction companies and fire source product suppliers. About 70% of the cause of electrical fires is poor handling and lack of maintenance. More specifically, screw looseness can be identified as the cause of these fires. Period maintenance and inspection of screws is required. Even with periodic maintenance, it is difficult to completely prevent an accident.
The ZERO SCREW terminal block maintains a highly reliable connection for a long time with its unique, screw-less design that reduces fire risk caused by loose screws in electrical equipment to zero.

2 Solves the Shortage of Technicians

Simply Insert the Contact to Connect

Work quality with screw type terminal blocks varies due to differences in technician skill level during screw tightening and torque management.
The ZERO SCREW terminal block connects by just insertion, enabling stable work quality regardless of workers' ability. It is ideal for future staffing where there will be fewer skilled workers.

Data for Changes in the Working-age Population



*Source : Ministry of Internal Affairs and Communications, Japan

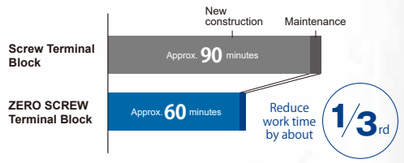
3 Shortens Construction Time Drastically

Reduce All Process Related to Screws

With screw type terminal blocks, screwing and unscrewing is required for new construction and torque checking is needed during maintenance. Since the ZERO SCREW Terminal Block has no screws, it can reduce the number of work hours by more than one-third compared to a conventional screw terminal block for a dramatic reduction in construction time.

Work Hours Comparison with Screw Terminal Block

* The graph is an example of work hours.
New construction + maintenance =
Work hours for single phase × Three phases × Board (15 Routes)



ZERO SCREW™

3 Features

Easy Operation

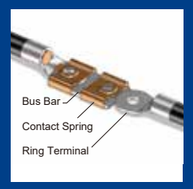
Simply insert to Connect. No screws needed.

Quick and secure single action positive lock design. Unlike a conventional screw terminal block, an operator with less experience can easily maintain stable work quality. Visual confirmation of the insertion status from the top after mating ensures safety.

Long-term Stable Connection

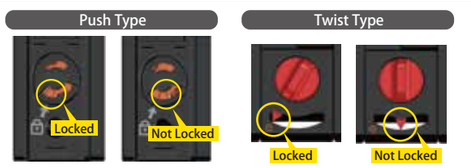
Highly Reliable Connection with Unique Contact Spring Design

Unique design presses the ring terminal directly against the bus bar for connection, improving contact reliability and maintaining a stable, long-term connection.



Positive Lock

Fully Locked State is the Standard Position

EF2 is always in a locked state when connected. The safety design prevents the ring terminal from coming out unless the bottom is pressed and the ring terminal is removed. This design also prevents workers from forgetting to lock the connector and the ring terminal from falling out.

Can visually check the insertion state from the top after mating.