





Hybrid Type

# Next-Generation Terminal Block that Connects in a Single Action

HIROSE ELECTRIC CO., LTD.

Push Type

Twist Type

# **The Zero Screw** Solution.

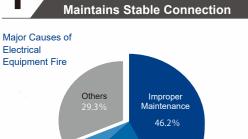
## The ZERO SCREW<sup>™</sup> terminal block achieves enhanced safety and reduces construction time.

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.

**Reduced Electrical Equipment Fire Risk** 

All Rights Reserved.

May.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD.



Improper Handling Improper Installation \*Made in Reference to the "2020 Fire Conditions" Report by the Tokyo Fire Departmen

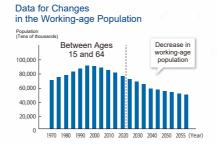
An electrical fire not only endangers the life of building users, it also lowers trust in developers, construction companies and fire source product suppliers. About 70% of the cause of electrical fires is poor handling and lack of maintenance. More specifically, screw looseness can be identified as 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.

# 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.



#### 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 Co with Screw Ter	
* The graph is an examp New construction + main Work hours for single ph	
	New construction Maintenance
Screw Terminal Block	Approx. 90 minutes
ZERO SCREW Terminal Block	Approx. 60 minutes Reduce work time by about 1/3 rd

# 22: 10--55.0 0



#### Simply insert to Connect. No screws needed.

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

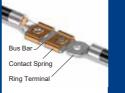
Easy Operation



#### 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

tact reliability and maintaining a stable, ona-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

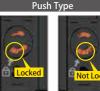
Can visually check the







insertion state from the top after mating.









### EF2 Series

#### ZERO SCREW<sup>™</sup> Terminal Block Supporting Up to 500A

	Product	500	400	250	200	150	60	30				
	Push Type	-	-	-	-	-	EF2-D60BA-1	EF2-D30BA-1				
Pa	Twist Type	EF2A-D500B-1	EF2A-D400B-1	EF2A-D250B-1	EF2A-D200B-1	EF2A-D150B-1	-	-				
Part Number	One-sided screw Type (Push)	-	-	-	-	-	EF2-DH60B-1	EF2-DH30B-1				
	One-sided screw Type (Twist)	EF2A-DH500B-1	EF2A-DH400B-1	EF2A-DH250B-1	EF2A-DH200B-1	EF2A-DH150B-1	-	-				
Image		<b>E</b>										
Rated Current		500A : 250mm <sup>2</sup> (500MCM)	: 250mm <sup>2</sup> (500MCM) 400A : 200mm <sup>2</sup> (400MCM)		175A : 60mm <sup>2</sup> (1/0 AWG) 240A :100mm <sup>2</sup> (4/0 AWG)	94A : 22mm <sup>2</sup> (4 AWG) 132A : 38mm <sup>2</sup> (2 AWG) 175A : 60mm <sup>2</sup> (1/0 AWG)	40A : 5.5mm <sup>2</sup> (10 AWG) 50A : 8mm <sup>2</sup> (8 AWG) 70A : 14mm <sup>2</sup> (6 AWG)	16A : 1.25mm <sup>2</sup> (16 AWG) 21A : 2mm <sup>2</sup> (14 AWG) 30A : 3.5mm <sup>2</sup> (12 AWG) 40A : 5.5mm <sup>2</sup> (10 AWG)				
R	ated Voltage		1,000V AC,	1,500V DC		600V AC/DC						
Oper	ating Temperature	-25 to +105℃ (Includes current rising due to current flow.)										
Con	tact Resistance		0.1mΩ Ma	x. (1A DC)		1mΩ Max. (1A DC)						
With	nstanding Voltage		5,000V AC	for 1 min.		2,500V AC for 1 min.						
Ма	ting Durability											
Envir	onmental 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 terninal	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

# $\frac{\mathsf{EF2}}{\bullet} - \frac{\mathsf{D}}{\bullet} \frac{\mathsf{H}}{\bullet} \frac{\mathsf{150B}}{\bullet} - \frac{\mathsf{I}}{\bullet} \frac{\mathsf{(01)}}{\bullet}$

<b>Series Name</b> EF2 : Push type EF2A : Twist	<b>2 Mount Type</b> D : DIN rail mount type	<b>3</b> Connection Type Blank : Single action type H : One-sided screw type	Ourrent Capacity	Protect Design Blank=No protection design B, BA= With Protection Design	<b>6</b> Linked Quality (D150 type only)	<b>Plate</b> Blank=With end plate (01)=No end plate

Crimp Terminal Conf	ormity Tabl	e											
Current Capacity	R1.25	R2	R3.5	R5.5	R8	R14	R22	R38	R60	R100	R150	R200	R250
30	~	~	~	~	×	×	×	×	×	×	×	×	×
60	×	×	×	~	~	~	×	×	×	×	×	×	×
150	×	×	×	×	×	×	~	1	~	×	×	×	×
200	×	×	×	×	×	×	×	×	1	~	×	×	×
250	×	×	×	×	×	×	×	×	×	×	1	×	×
400	×	×	×	×	×	×	×	×	×	×	×	~	×
500	~	×	×	×	×	×	×	×	×	×	~	×	1

 $\checkmark$ : Usable crimp terminals  $\times$ : Unusable crimp terminals

#### Safety Precautions

- 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.

Warnings
After mating the crime 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<sup>™</sup> Terminal Block (EF2 Series) Special Site

Site  $\rightarrow$  ZERO SCREW Search



# **HS** HIROSE ELECTRIC CO., LTD.

6-3, Nakagawachuo 2-chome, Tsuzuki-ku, Yokohama 224-8540 https://www.hirose.com