

E-LINE KD-III

Data Rack Busway Systems 250A...800A

EAE GROUP IN NUMBERS



Since 1973

EAE Group of Companies started its journey in the electrical sector in 1973 with the establishment of EAE Elektrik. Since its founding, EAE has grown rapidly, expanding its production and areas of operation by incorporating EAE Lighting in 1983, EAE Machinery in 1996, EAE Electrotechnics in 2004, and EAE Technology in 2009.

EAE carries out its production activities in accordance with ISO 9001 Quality Management, ISO 14001 Environmental Management, ISO 14064-1 Greenhouse Gas Management System, ISO 45001 Occupational Health and Safety Management, ISO 10002 Customer Satisfaction Management, ISO 50001 Energy Management System, and ISO 27001 Information Security Management System standards.



50+
Years Experience



7
Active Factories



360.000 sqf.
Manufacturing Area



3
R&D Centers



150+
Countries Exported To

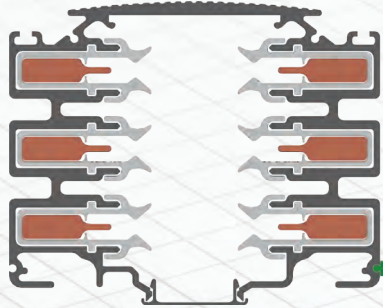
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E-LINE KD-III

Overview

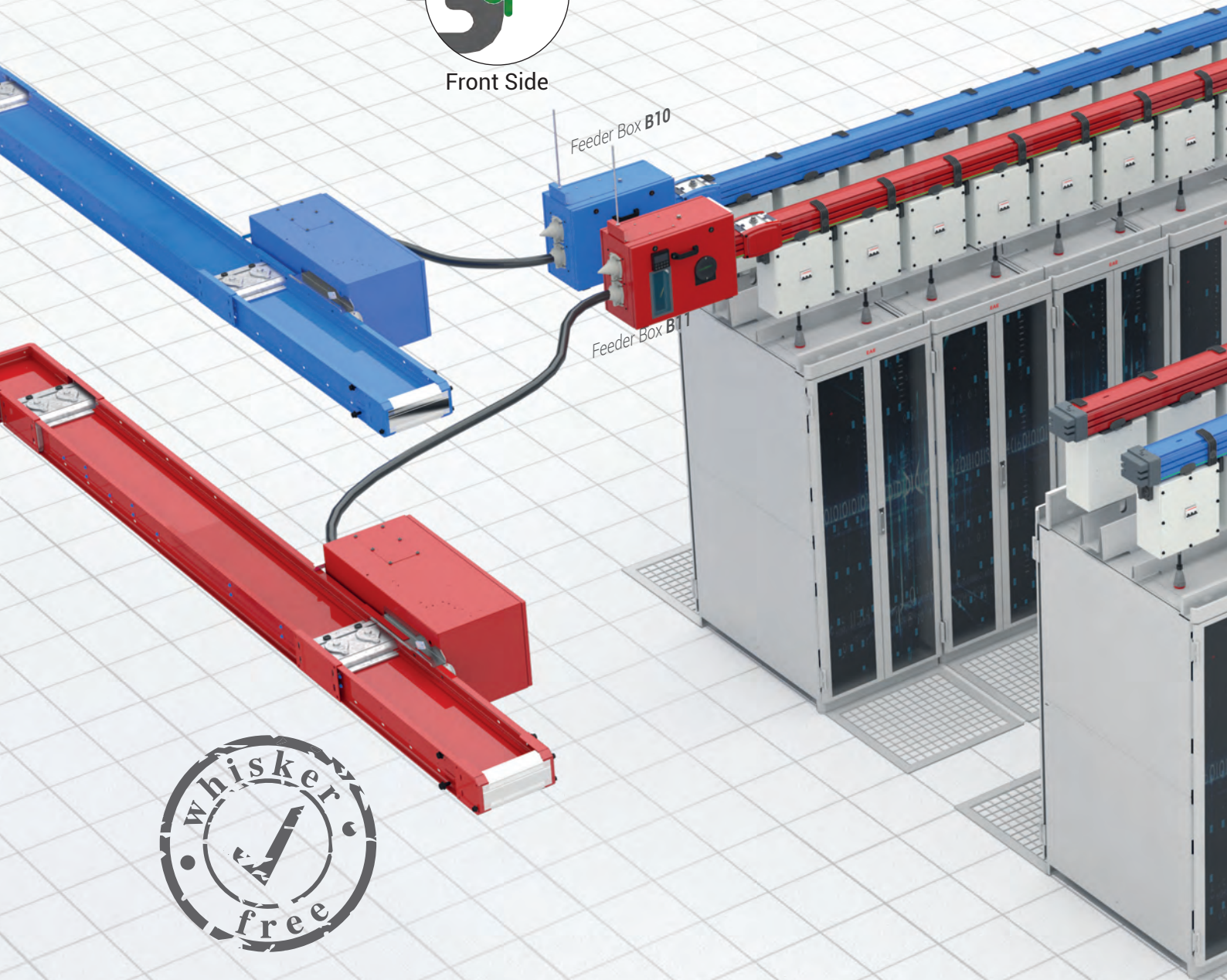
To power the mission critical IT infrastructures on the Data Rack Cabinets, EAE offers a highly flexible and reliable Busway System to meet the "Scalability" challenge in the Data Centers finding the way to Moves, Adds and Changes (MACs).



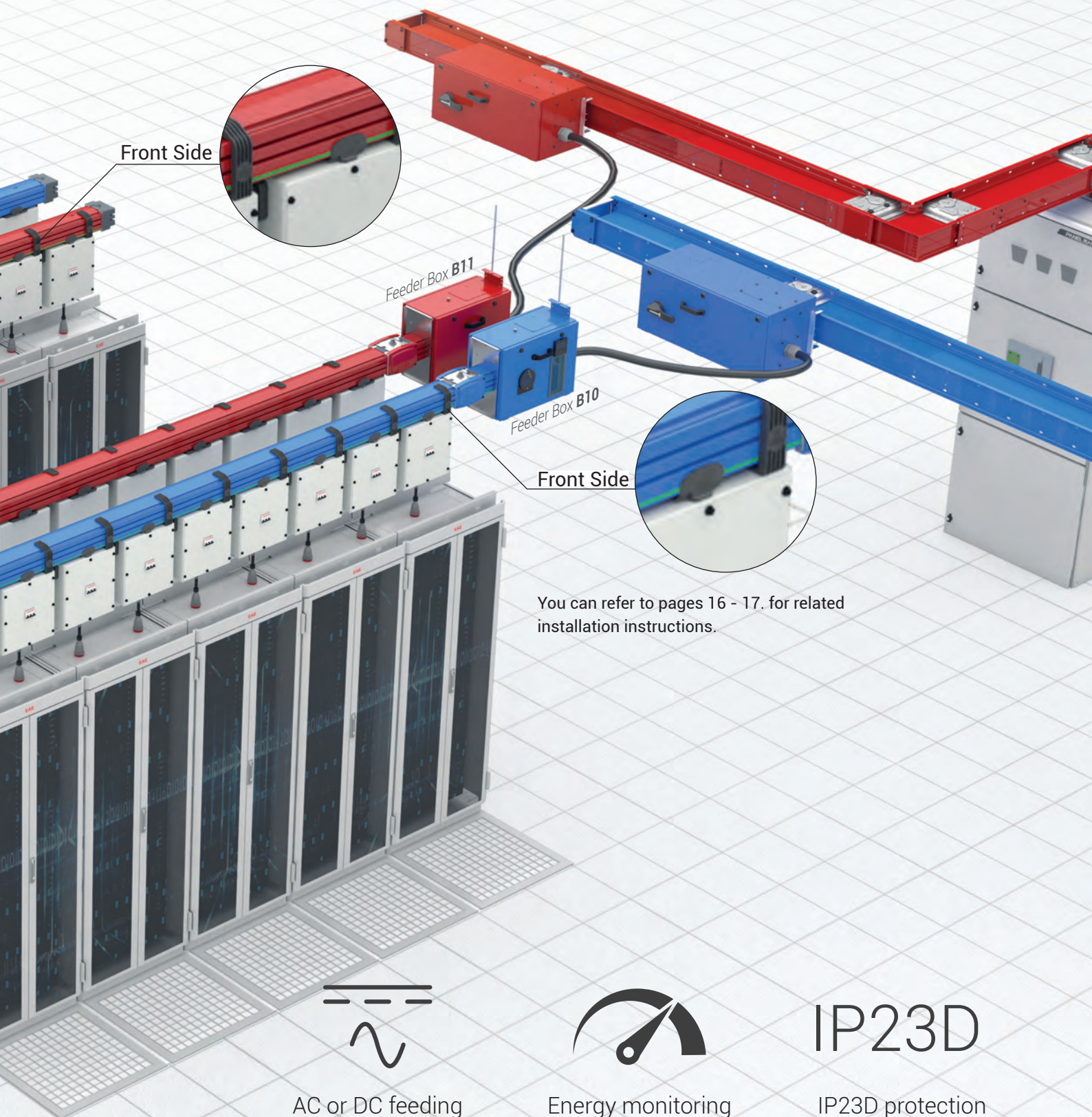
Al or Cu conductor options with whisker free coating

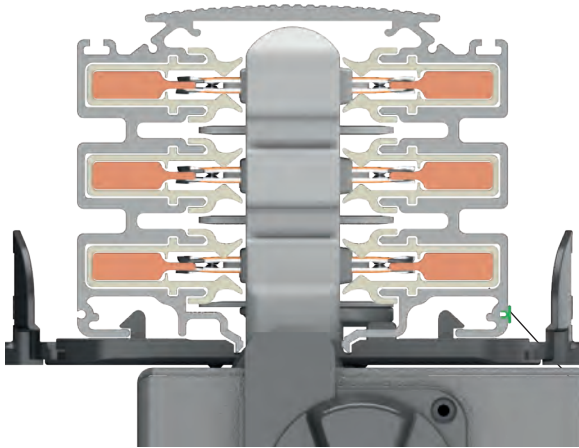


Front Side



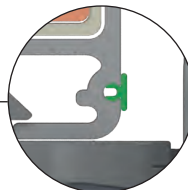
Whisker free and tin plated solid form conductors ensure for better heat dissipation, higher short circuit values and longer operation life while significantly contributing to the "Availability" challenge in the data center environments



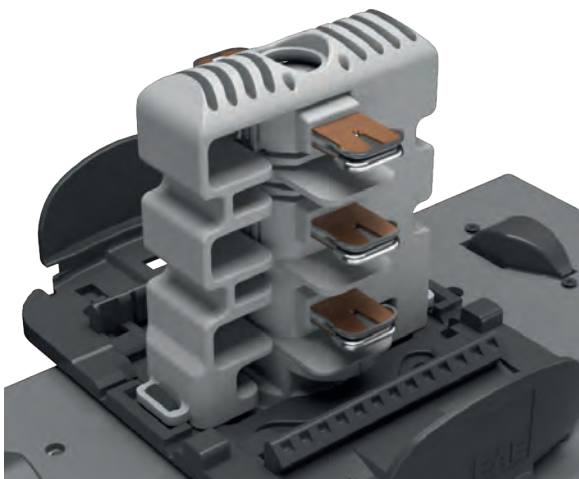


Plug-n-Play

Easy plug-in Tap-Off Boxes on any point along the BUSWAY, remove and relocate wherever necessary

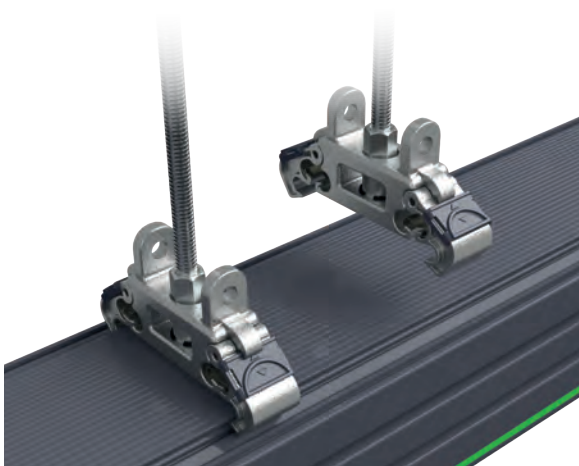


Front Side



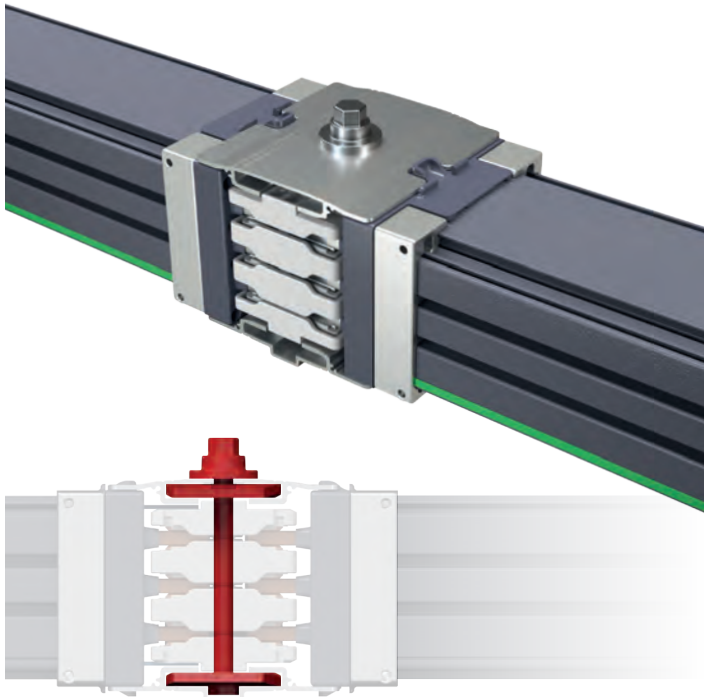
Tap-Off Contacts

Constant contact pressure with double sided spring system and safe locking mechanism on Tap-Off Box contacts



Snap-In Suspension Mechanism

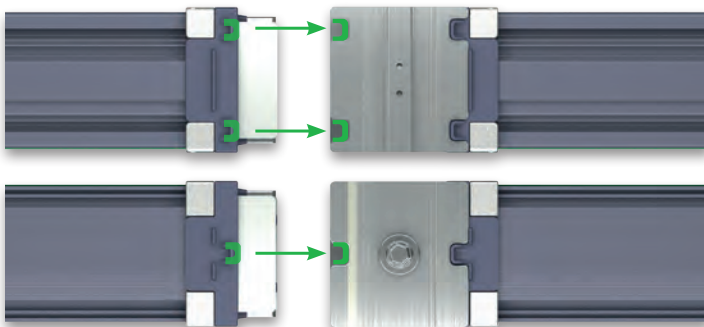
Easy and fast structural mounting thanks to Snap-In Fixing Unit



Joint Mechanism

Safe alignment mechanism with a single bolt monoblock joint for correct installation and operation

Front Side



Easy and Safe Installation

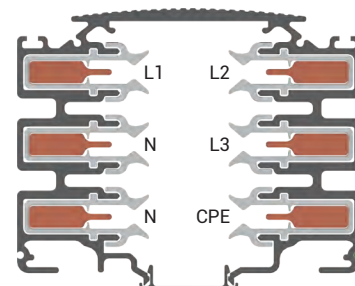
Patented EAE Alignment Solution, ideal alignment of the block joint element and BUSWAY thanks to the alignment guides on the joint area



E-LINE KD-III

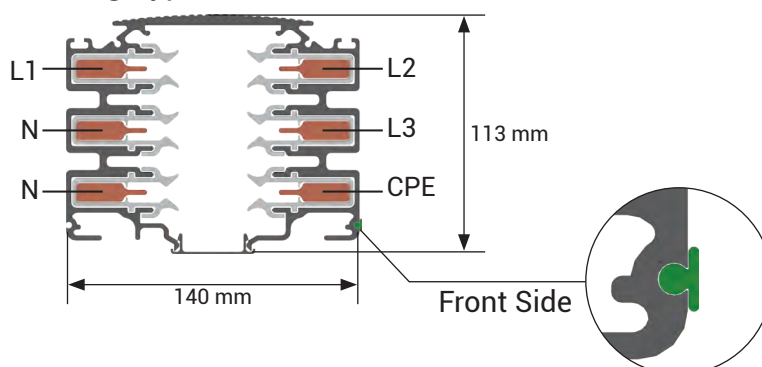
Technical Characteristics

Standards	UL 857
Rated Isolation Voltage	Ui: 600 V
Max. Rated Operational Voltage	Ue: 600 V
Rated Frequency	f: 50 - 60 Hz

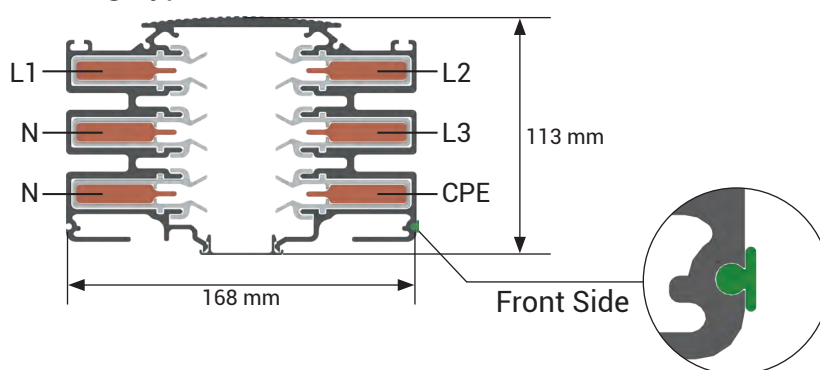


			KDA - Al		
			TYPE 1		TYPE 2
RATED CURRENT	I_n	A	250	400	600
BUSWAY CODE			02	04	06
Symmetrical Short Circuit Rating (3 Cycle)	I_{cw}	kA(rms)	22	25	30
Short Circuit Conditional Rating (KAIC) at 480V	I_{cc}	kA _(rms)	65	65	65
Resistance	R	mΩ/m	0,269	0,192	0,139
Reactance at 60Hz	X	mΩ/m	0,083	0,072	0,059
Impedance at 60Hz	Z	mΩ/m	0,282	0,205	0,151
GROUND CHARACTERISTIC UNDER FAULT CONDITION					
Resistance	R	mΩ/m	0,344	0,254	0,189
Reactance at 60Hz	X	mΩ/m	0,081	0,075	0,058
Impedance at 60Hz	Z	mΩ/m	0,353	0,264	0,198
SECTIONS					
L1.L2.L3.N		mm ²	94	230	360
PE (4 ½ Conductors)		mm ²	47	115	180
PE (5 Conductors)		mm ²	94	230	360
(6 Conductors)		mm ²	94	230	360
Aluminium Housing Section		mm ²	3302	3302	3302
Busway Weight (4 Conductors)		kg/m	11,8	12,6	16,3
Busway Weight (5 Conductors)		kg/m	12,2	13,3	17,3
VOLTAGE DROP FULL LOAD 60Hz per m					
Power Factor = 0.4		V/m	0,0798	0,0990	0,1143
Power Factor = 0.5		V/m	0,0897	0,1098	0,1256
Power Factor = 0.6		V/m	0,0988	0,1196	0,1357
Power Factor = 0.7		V/m	0,1072	0,1284	0,1446
Power Factor = 0.8		V/m	0,1149	0,1363	0,1522
Power Factor = 0.9		V/m	0,1208	0,1416	0,1568
Power Factor = 1.0		V/m	0,1523	0,1823	0,2050

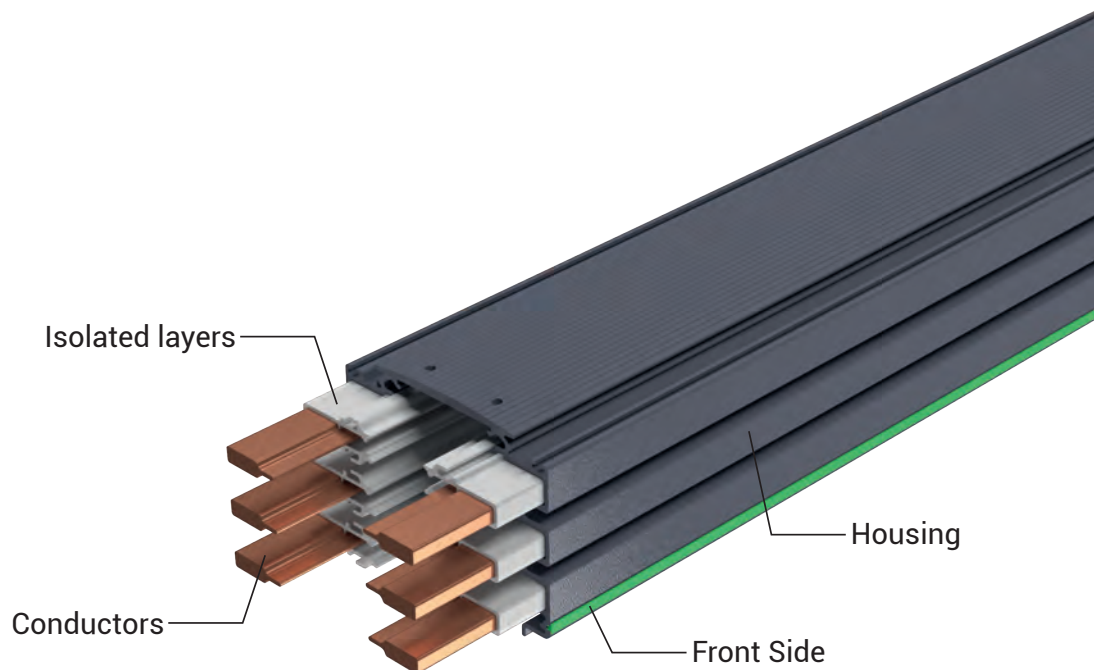
Housing Type 1: 250A...400A (Al), 250A...400A... 600A...(Cu)



Housing Type 2: 600A (Al), 800A (Cu)

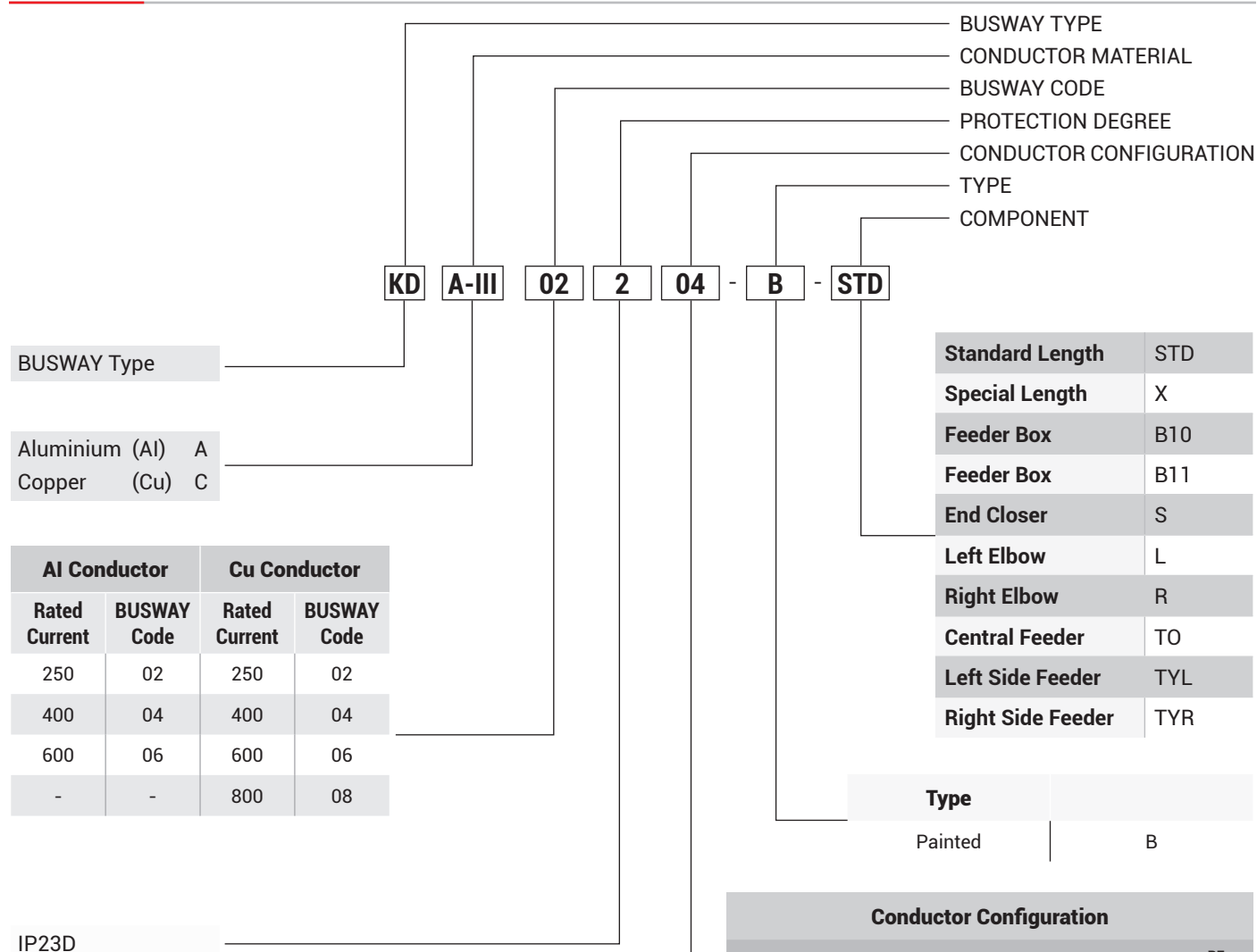


KDC - Cu			
TYPE 1			TYPE 2
250	400	600	800
02	04	06	08
25	25	25	30
65	65	65	65
0,233	0,172	0,127	0,091
0,097	0,085	0,073	0,059
0,252	0,192	0,146	0,108
0,299	0,239	0,194	0,147
0,103	0,087	0,070	0,064
0,316	0,254	0,206	0,161
94	148	230	360
47	74	115	180
94	148	230	360
94	148	230	360
3302	3302,0	3302	3565
13,6	11,6	14,3	26,43
14,6	13,0	17,0	29,68
0,0789	0,1020	0,1226	0,1254
0,0869	0,1109	0,1320	0,1339
0,0940	0,1187	0,1398	0,1408
0,1003	0,1253	0,1462	0,1461
0,1058	0,1307	0,1510	0,1498
0,1091	0,1332	0,1520	0,1493
0,1423	0,1776	0,2070	0,2068

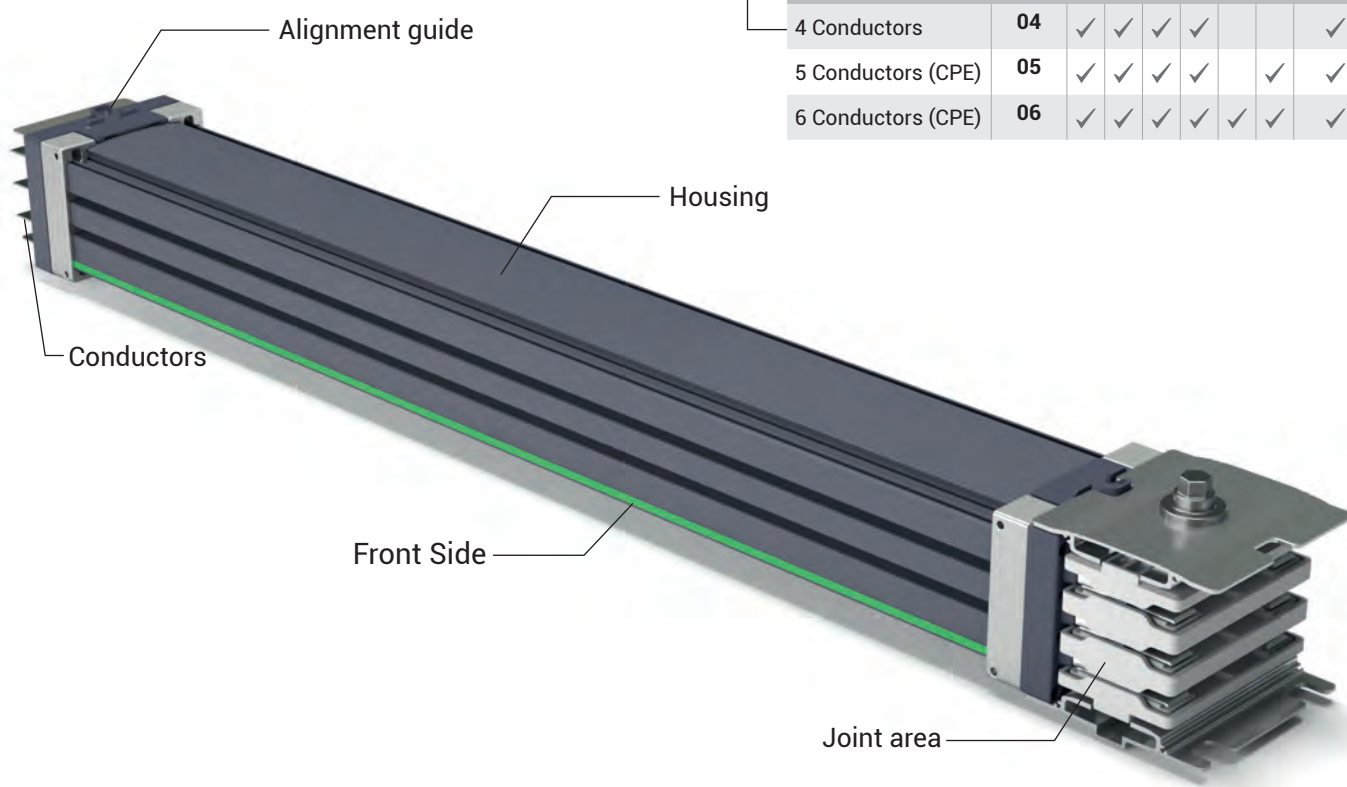


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Order Code System



Conductor Configuration							
Conductors	Code	L1	L2	L3	N1	N2	CPE PE (Housing)
4 Conductors	04	✓	✓	✓	✓		✓
5 Conductors (CPE)	05	✓	✓	✓	✓	✓	✓
6 Conductors (CPE)	06	✓	✓	✓	✓	✓	✓



E-LINE KD-III

Standard Straight Length

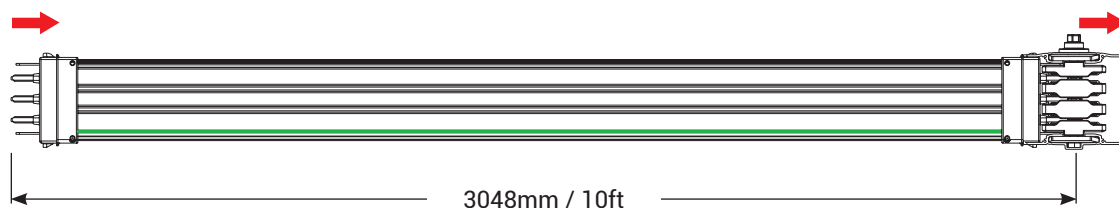


Standard Length

Sample Order:

250 A, Aluminium,
IP23D, 6 Conductors,
Painted

KDA-III 02206-B-STD



Housing Type 1: 250A-400A (Al); 250A-400A-600A (Cu)

Housing Type 2: 600A (Al), 800A (Cu)

Special Length

Sample Order:

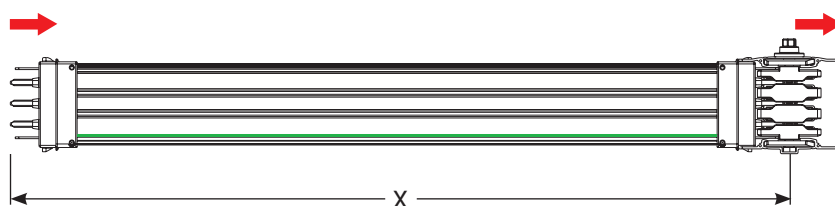
250 A, Aluminium,
IP23D, 6 Conductors,
Painted

KDA-III 02206-B-X

X=1500 mm.

Note:

Minimum Length (X)=650 mm.

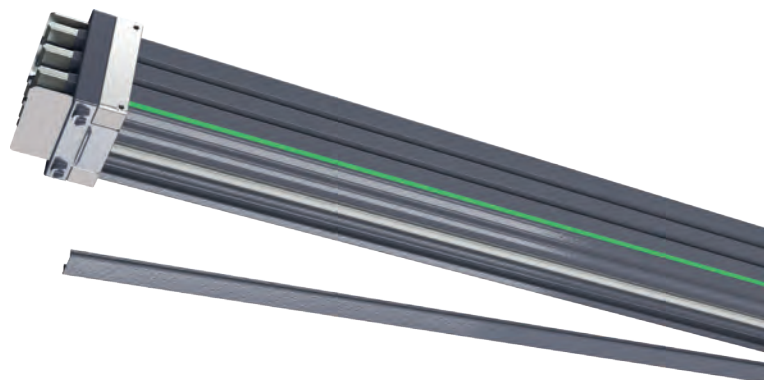
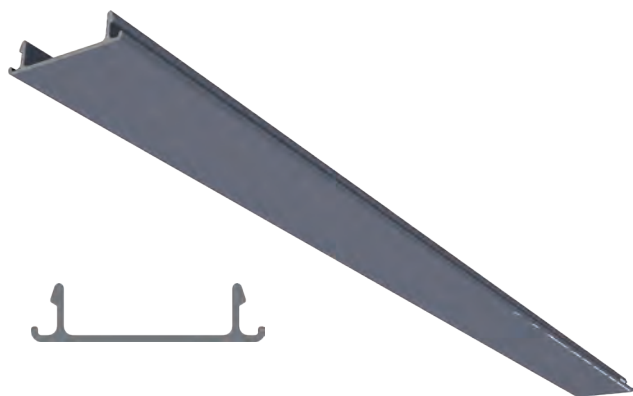


Housing Type 1: 250A-400A (Al); 250A-400A-600A (Cu)

Housing Type 2: 600A (Al), 800A (Cu)

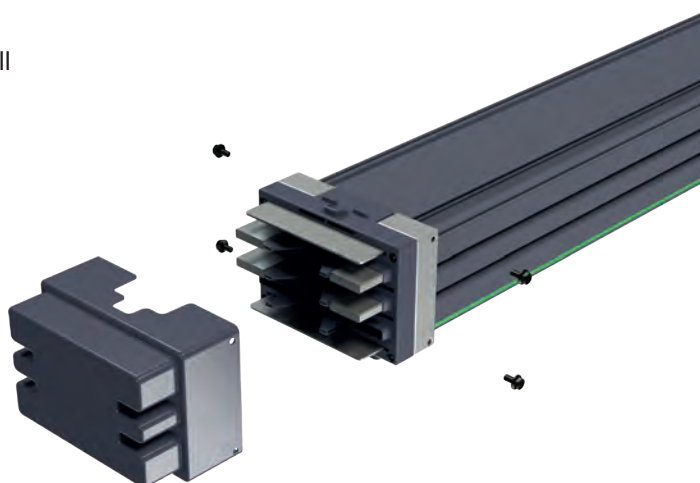
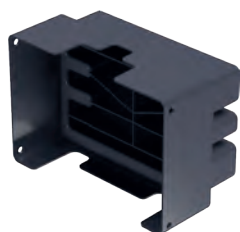
Aluminium Closure Panel

Standard length= 2800 mm



End Closer (S)

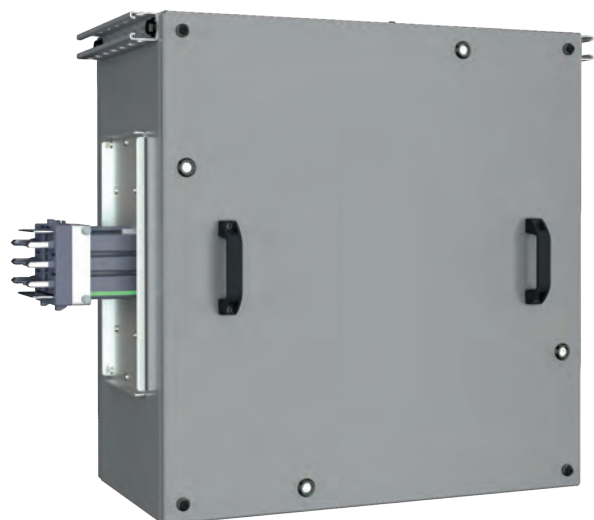
It is used to close the end of the BUSWAY run and included on all standard and special length of BUSWAYS.



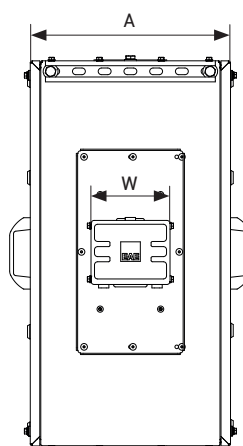
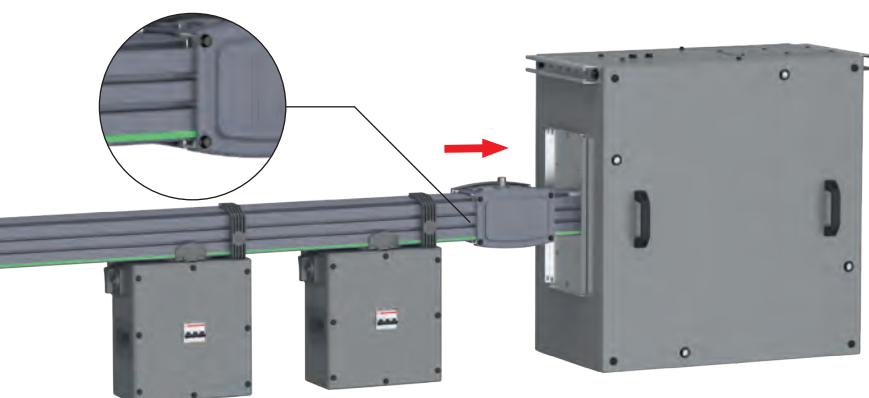
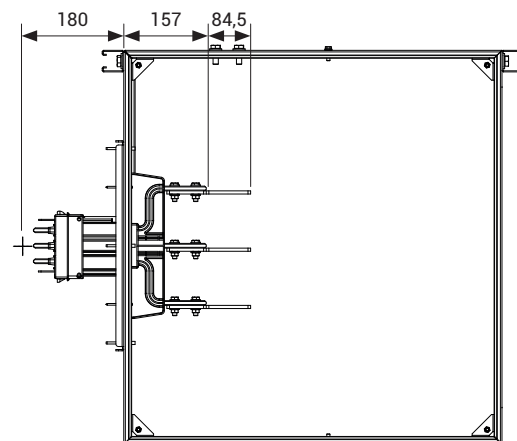
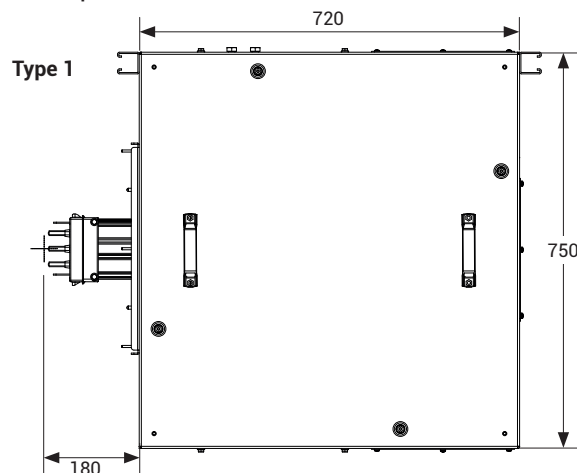
E-LINE KD-III

Feeder Boxes 250A...600A (Al), 250A...800A (Cu)

Feeder Box (B10) (Orientation : Right → Left)



* Support the feeder units from corresponding junction points.



	A (mm)	W (mm)
Housing Type 1	390	140
Housing Type 2	390	168



Housing Type 1: 250A-400A (Al); 250A-400A-600A (Cu)

Note: Please consider the conductor type for your project.
There is no separate order code, one code covers each ampacity.



Housing Type 2: 600A (Al), 800A (Cu)

Note: Please consider the conductor type for your project.
There is no separate order code, one code covers each ampacity.



Tap-off boxes cannot be installed on feeder boxes.

* Please contact us for special feeder boxes.

* All dimensions in mm.

- Hinged and easily removable cover
- IR window (optional)
- Energy Monitoring (optional)

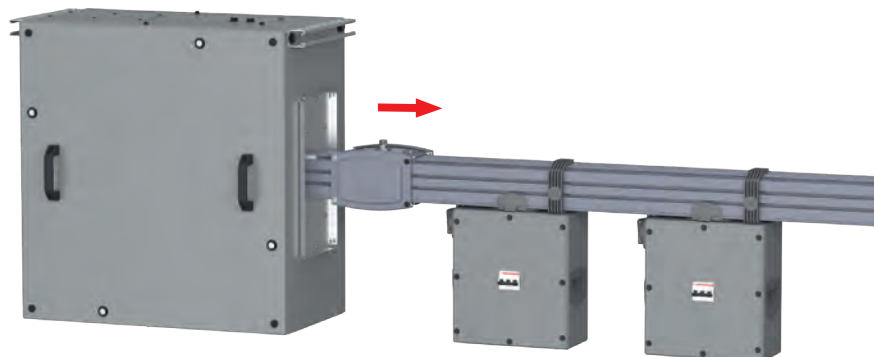
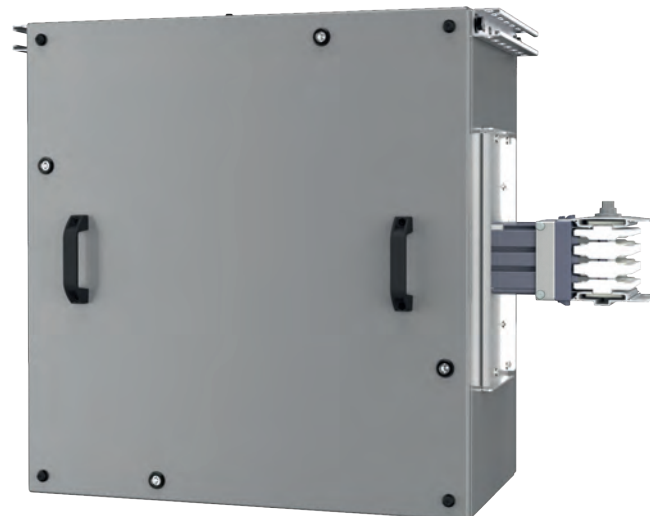
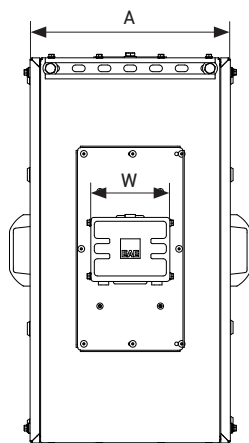
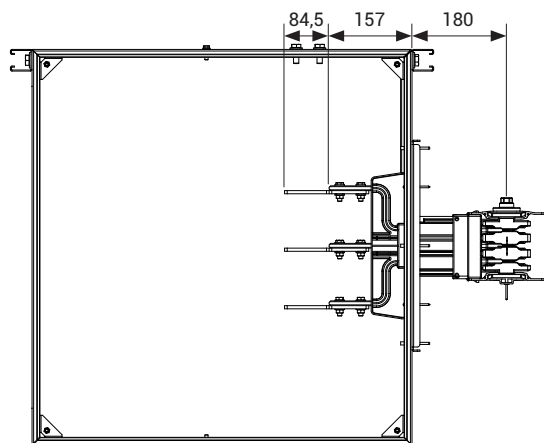
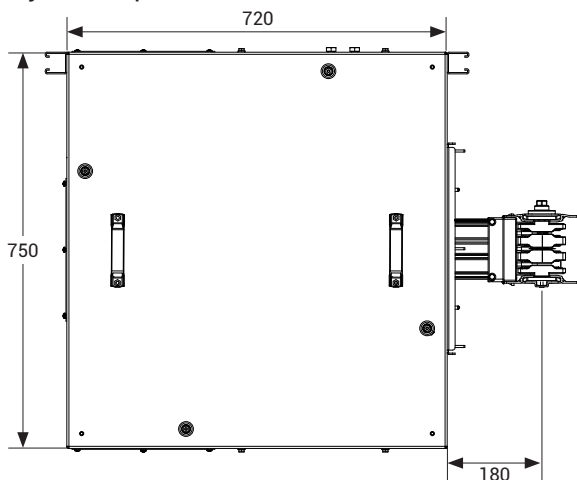
E-LINE KD-III

Feeder Boxes 250A...600A (Al), 250A...800A (Cu)

Feeder Box (B11) (Orientation : Left → Right)



* Support the feeder units from corresponding junction points.



Housing Type 1: 250A-400A (Al); 250A-400A-600A (Cu)

Note: Please consider the conductor type for your project.
There is no separate order code, one code covers each ampacity.



Housing Type 2: 600A (Al), 800A (Cu)

Note: Please consider the conductor type for your project.
There is no separate order code, one code covers each ampacity.

	A (mm)	W (mm)
Housing Type 1	390	140
Housing Type 2	390	168



Tap-off boxes cannot be installed on feeder boxes.

* Please contact us for special feeder boxes.

* All dimensions in mm.

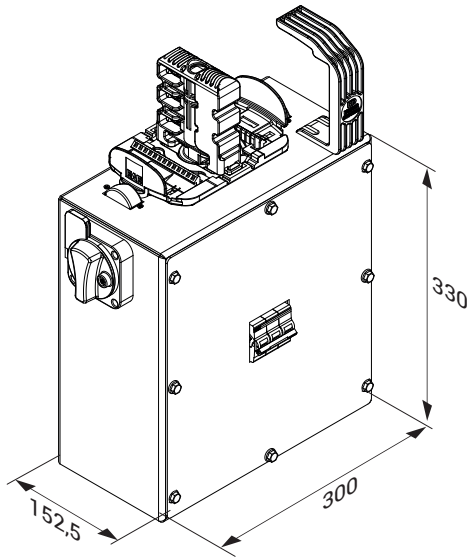
- Hinged and easily removable cover
- IR window (optional)
- Energy Monitoring (optional)

E-LINE KD-III

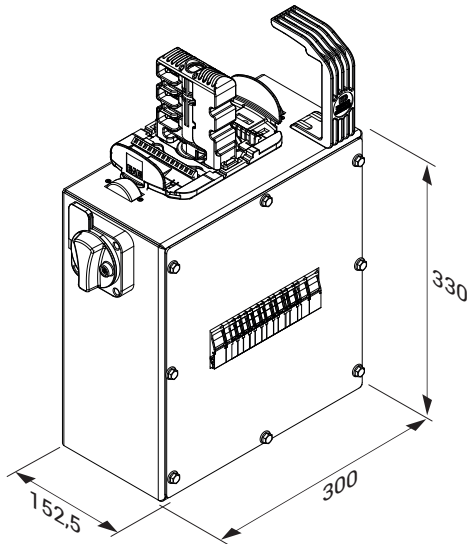
Tap-Off Boxes



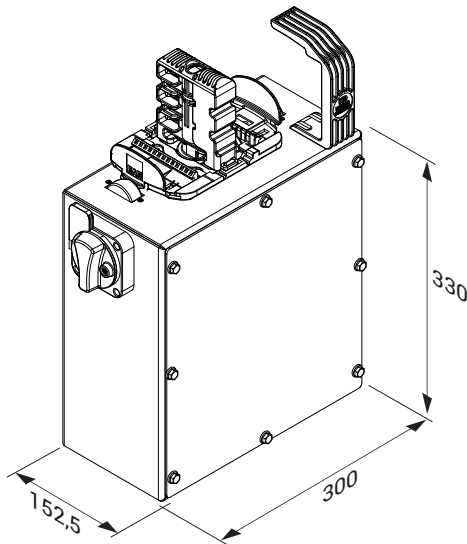
Type 01



Type 02



Type 03



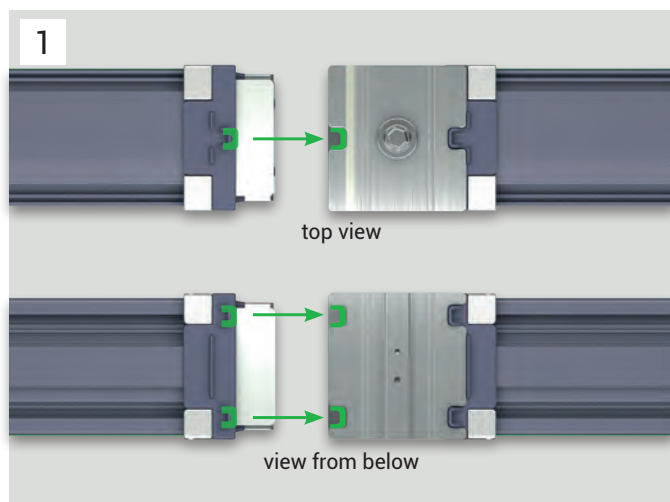
- * Please contact us for special boxes.
- * All dimensions in mm.



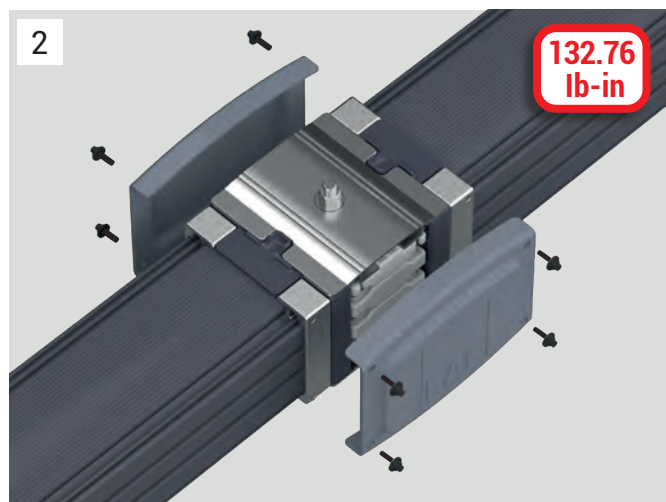
E-LINE KD-III

Installation

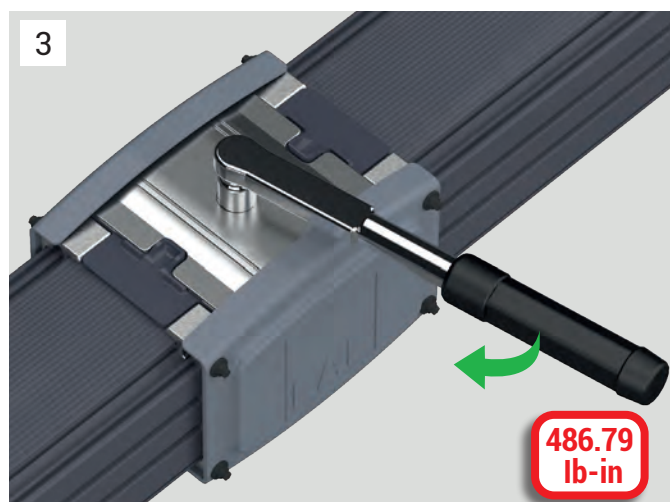
Joint Installation



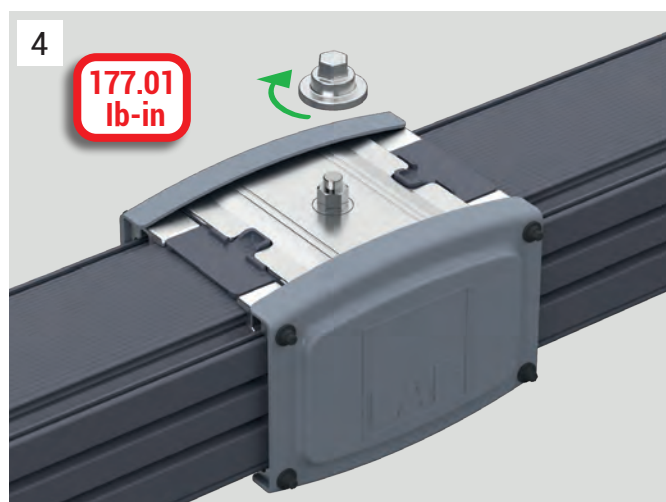
Align the BUSWAYs those with and without block joints facing each other and insert together



Assemble the joint cover and tighten the cover bolts



Adjust the torque wrench to 55 Nm and tighten the joint nut

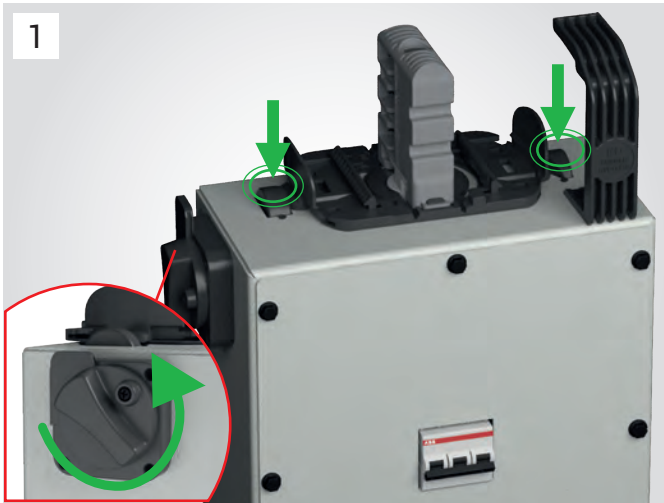


Mount the nut locking piece on the nut

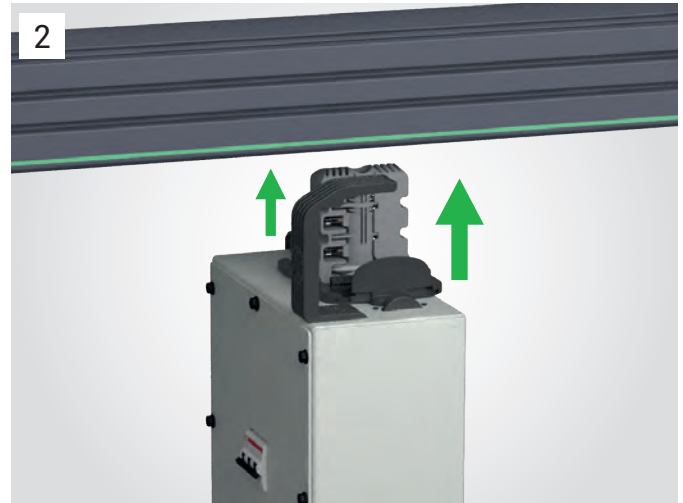
E-LINE KD-III

Installation

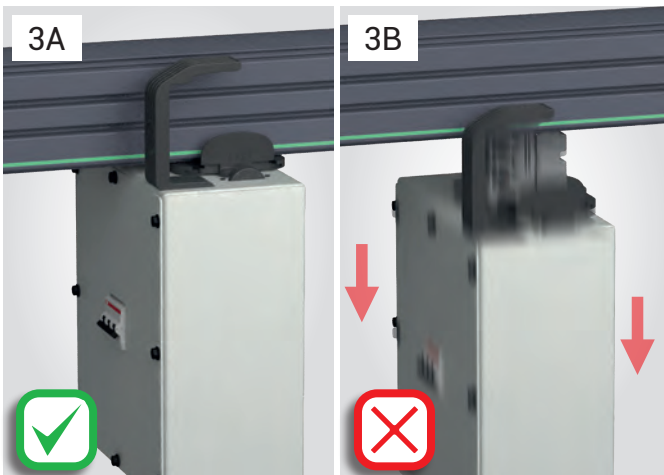
Tap-Off Box Installation



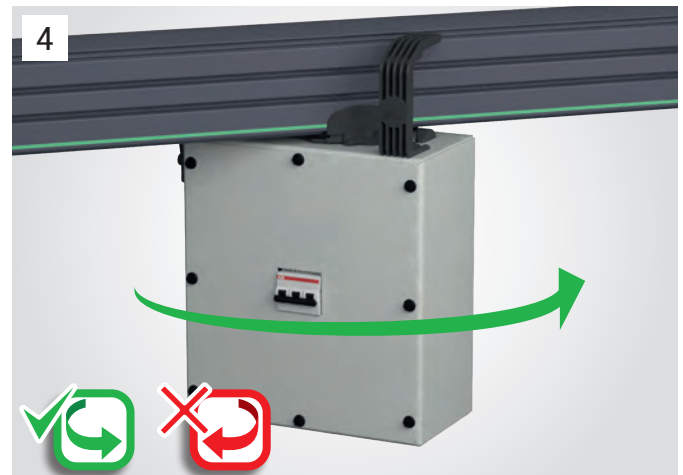
Ensure that the locking latch position is set right (as indicated), setup the installation mechanism by pressing on the claws. **If this step is not made, the box contact set may be damaged as a result of any force.**



Insert the box inside the slot of the BUSWAY by facing the mounting angle, the box label and the housing 'green' reference line on the same side. **Do not install or remove Plug-in units under load. Make sure breakers are in the off position**



Assure that the box is inserted and locked inside the BUSWAY slot

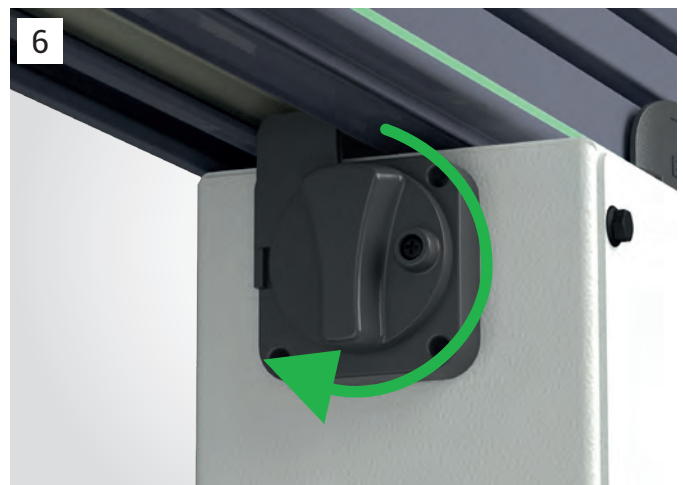


Engage the top off box by rotating in the direction of the arrow

Do not rotate the box against the direction of the arrow



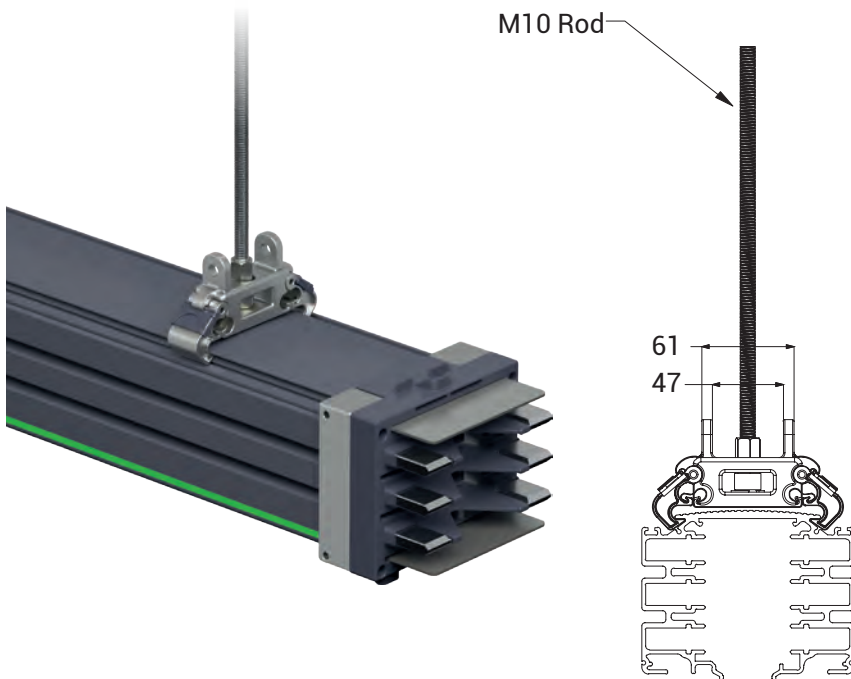
Ensure that the mounting angle is correctly attached on the BUSWAY housing



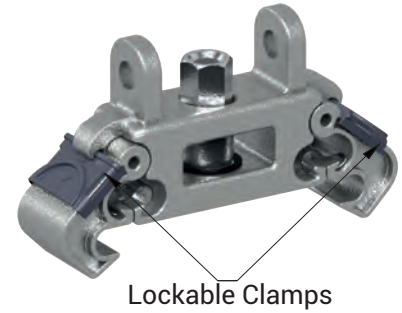
Secure the box by turning the locking latch in direction of the arrow

Notes: For the purpose of ensuring earth continuity, the installation of the upper mechanism onto the busbar may cause minor paint imperfections on the top part of the box. These imperfections are solely cosmetic and do not affect the electrical or mechanical performance of the product.

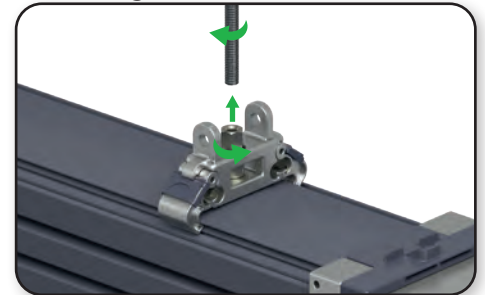
Application I : TMP Ceiling Support with Snap-In Fixing Unit



THREADED ROD SUPPORT	
KD SNAP-IN	2143683

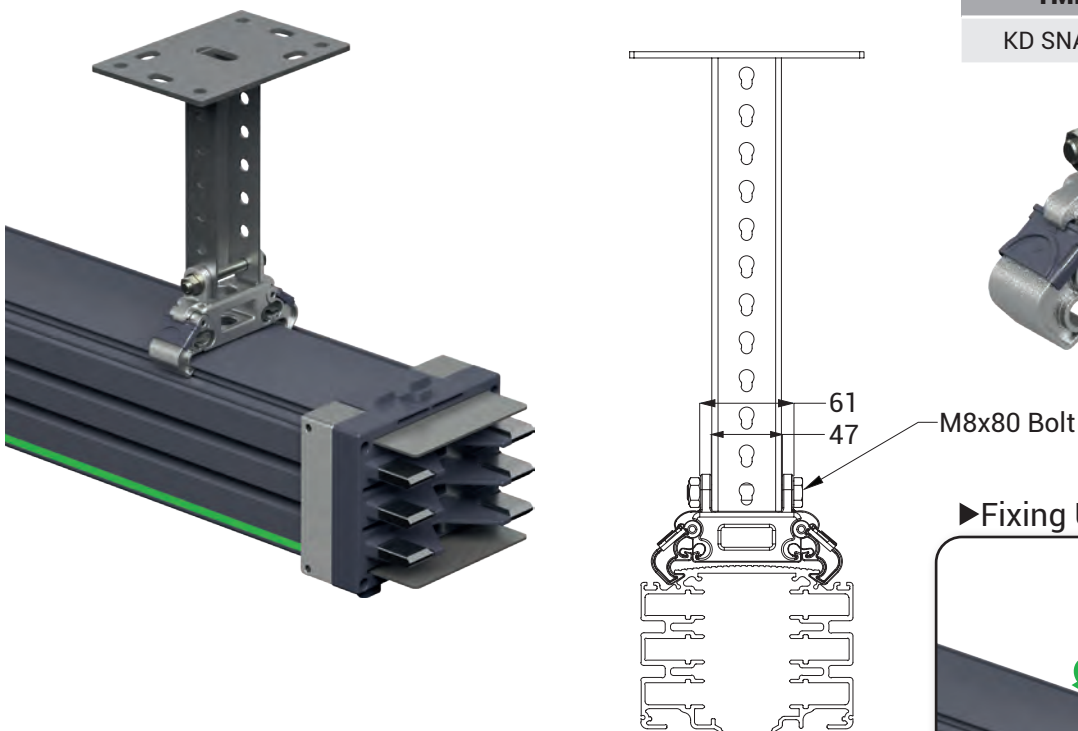


► Fixing Unit Uninstallation



* Bolt and Nuts are included.

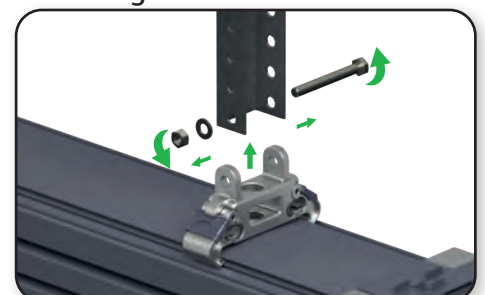
Application II : TMP Ceiling Support with Snap-In Fixing Unit



TMP CEILING SUPPORT	
KD SNAP-IN	2143682

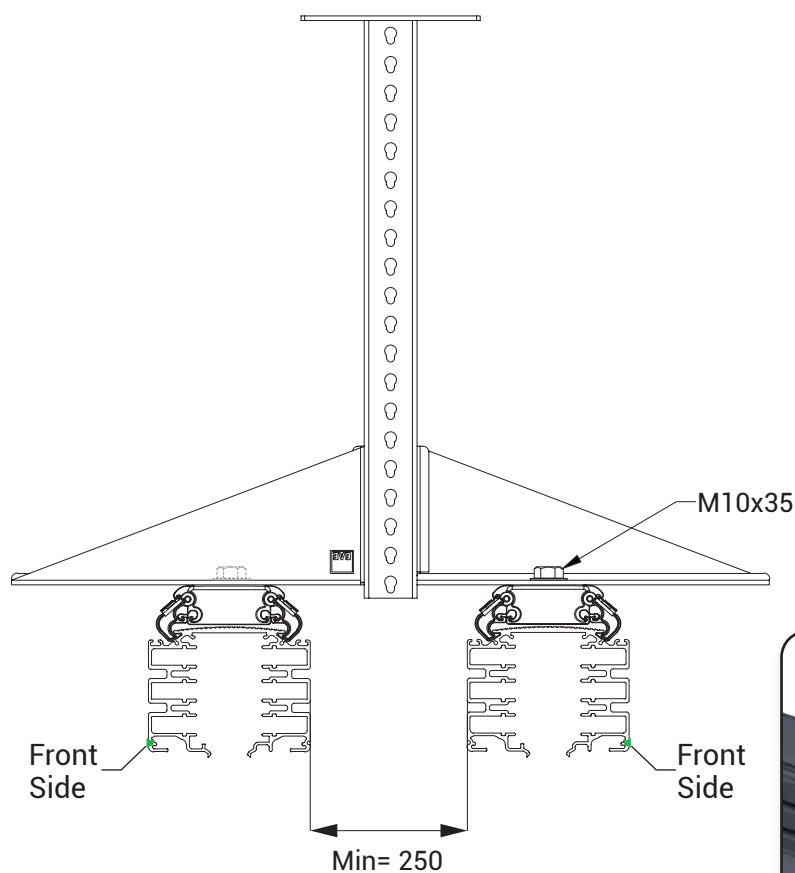
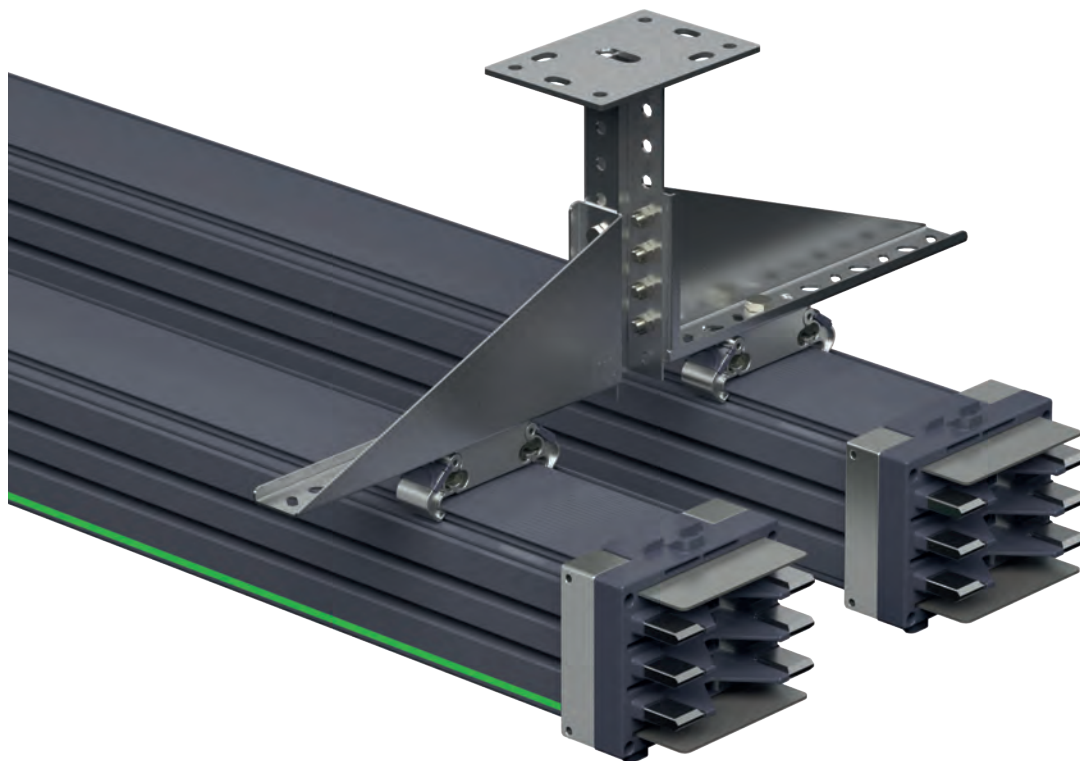


► Fixing Unit Uninstallation

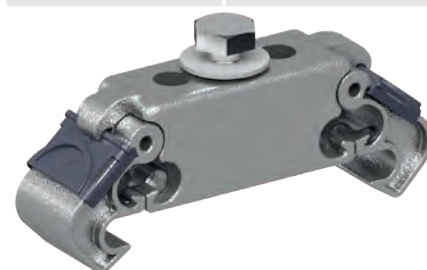


* Bolt and Nuts are included.
* All dimensions in mm.

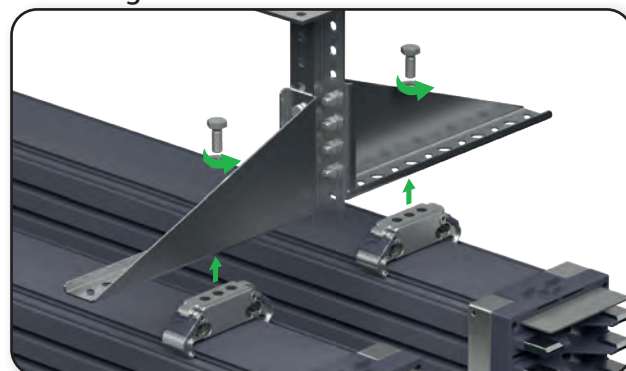
Application III : TMP Ceiling Support and Tray Bracket with Snap-In Fixing Unit



TS TRAY SUPPORT	
KD SNAP-IN	2143684



►Fixing Unit Uninstallation

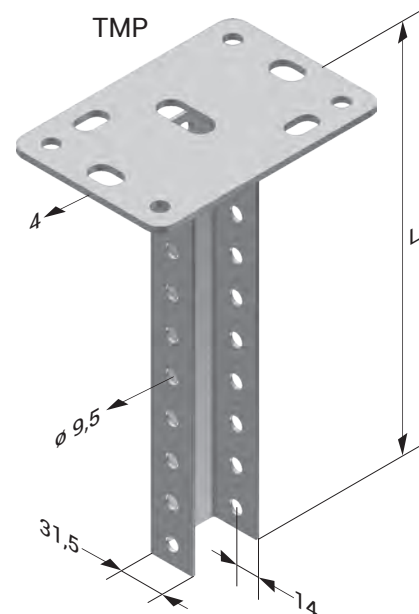


- * Bolt and Nuts are included.
- * All dimensions in mm.

Ceiling Mounting Fittings

Hot Dip Galvanized After Fabrication (TS EN ISO 1461)

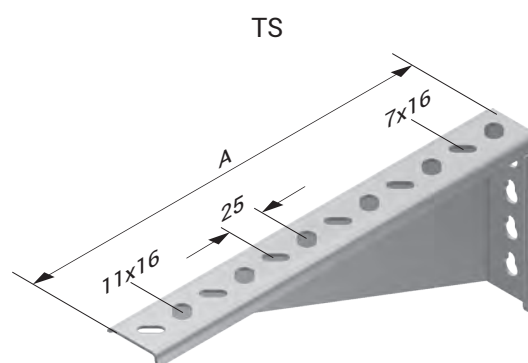
Description	L (mm)	T (mm)	Pulling Load (kg.)	Weight (kg./pc.)	Order Code	Pack (pc.)
TMP 42 Ceiling Support Unit	250	2	500	0,542	3008233	20
TMP 43 Ceiling Support Unit	500	2	500	0,949	3008234	10
TMP 44 Ceiling Support Unit	1000	2	500	2,131	3008235	-
TMP 45 Ceiling Support Unit	2000	2	500	3,791	3007952	-



Tray Supports

Hot Dip Galvanized After Fabrication (TS EN ISO 1461)

Description	A (mm)	T (mm)	Weight (kg./pc.)	Order Code	Pack (pc.)
TS 200	205	2	0,311	3008551	10
TS 250	255	2	0,521	3008549	10
TS 300	305	2	0,607	3008547	10
TS 400	405	2	0,781	3008545	10
TS 500	505	2	0,955	3008543	10
TS 600	605	2	1,128	3005828	10

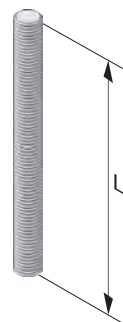


* Please contact us for special size.
* All dimensions in mm.

Connection Accessories

Description	L (mm)	Weight (kg./pc.)	Order Code
Threaded Rod (M10)	500	0,245	5000037
Threaded Rod (M10)	1000	0,490	5000032
Threaded Rod (M10)	1500	0,735	5000031
Threaded Rod (M10)	2000	1,030	5000030
Threaded Rod (M10)	3000	1,520	5000029
Threaded Rod (M10) Electro Galvanized	500	0,245	5000172
Threaded Rod (M10) Electro Galvanized	1000	0,490	5000173
Threaded Rod (M10) Electro Galvanized	1500	0,735	5000174
Threaded Rod (M10) Electro Galvanized	2000	1,030	5000175
Threaded Rod (M10) Electro Galvanized	3000	1,571	5000301

M10 Rod



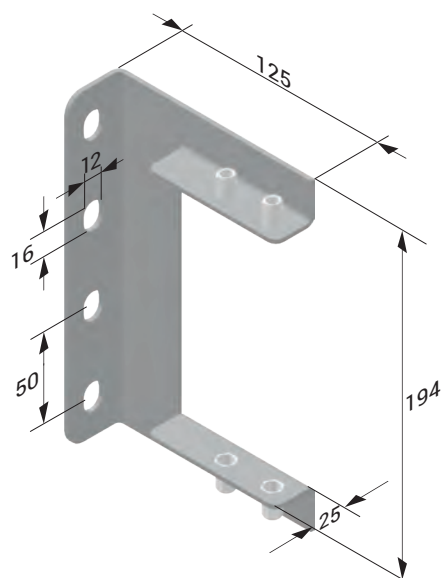
Description	Weight (kg./pc.)	Order Code
Extension Nut (M10) Lacquered	0,070	1004312

Extension Nut



Description	Order Code
Horizontal KD Hanger Element	2185387

Horizontal Hanger



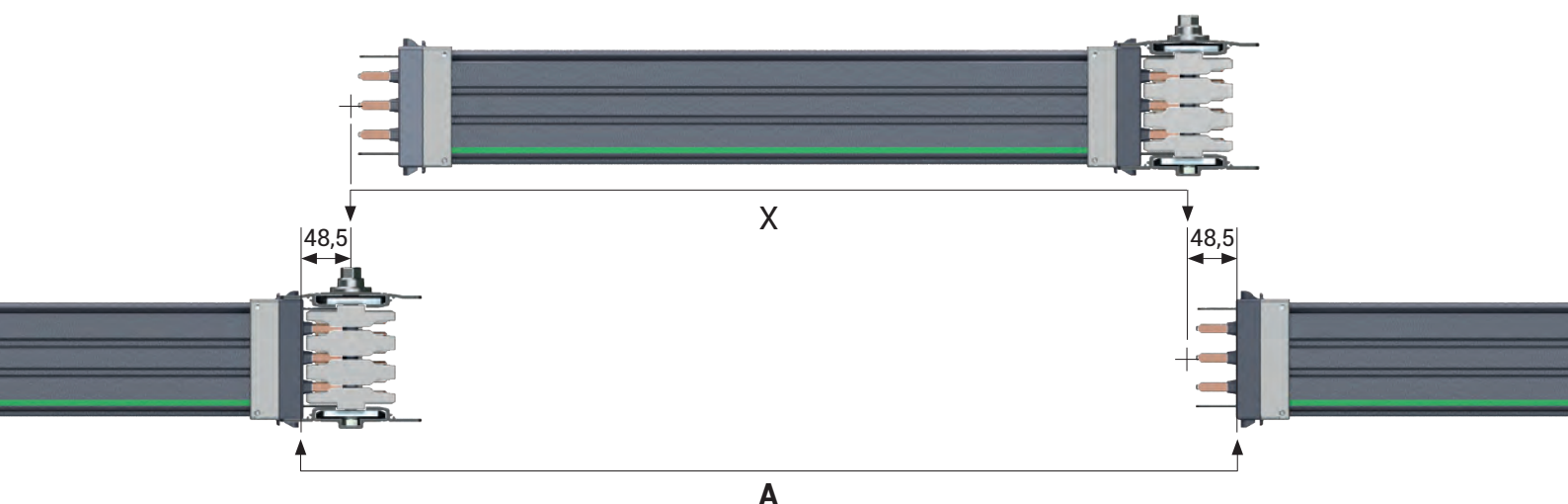
* Please contact us for special size.
* All dimensions in mm.

After installation of standard BUSWAY 3048mm / 10ft lengths, you will be in need of special lengths which are smaller than 3048 mm. The minimum length for these special elements can be 650 mm. Please measure the lengths of these modules as shown below.

Length A is measured between housing of 2 BUSWAYs in mm. A. The special length is calculated by deducting 97 mm from this measured length.

$X = A - 97 \text{ mm}$

X=Length of Special BUSWAY (The BUSWAY module will be manufactured as per X value.)



* All dimensions in mm.

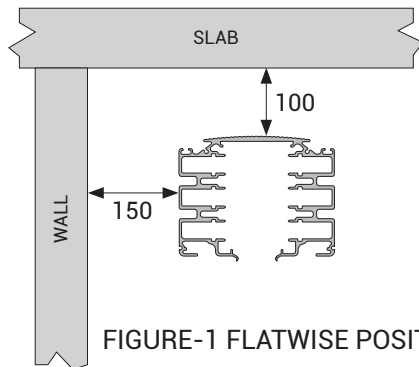


FIGURE-1 FLATWISE POSITION

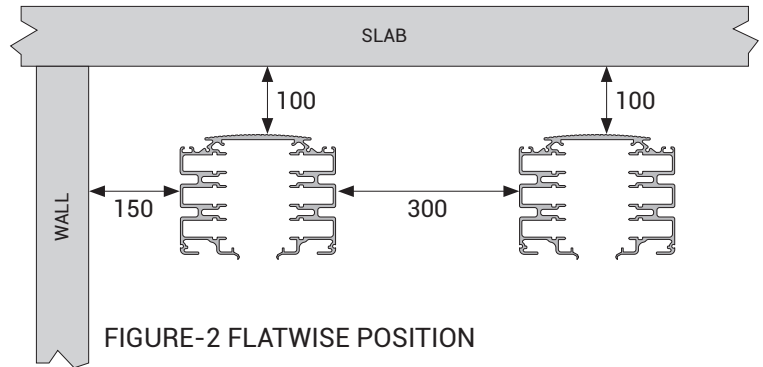


FIGURE-2 FLATWISE POSITION

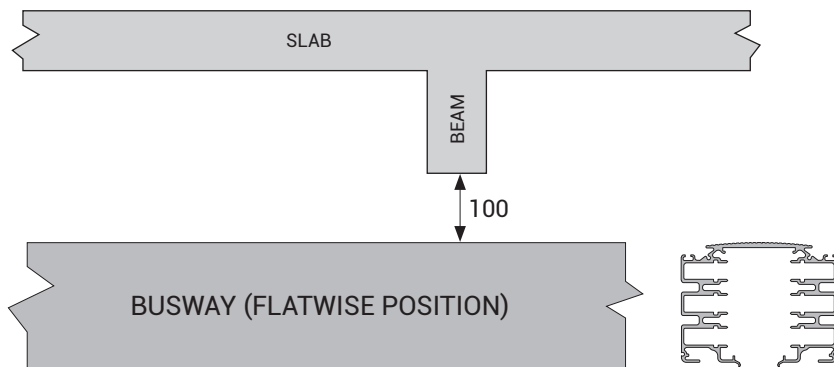


FIGURE-3 CROSSING UNDER A BEAM HORIZONTAL POSITION

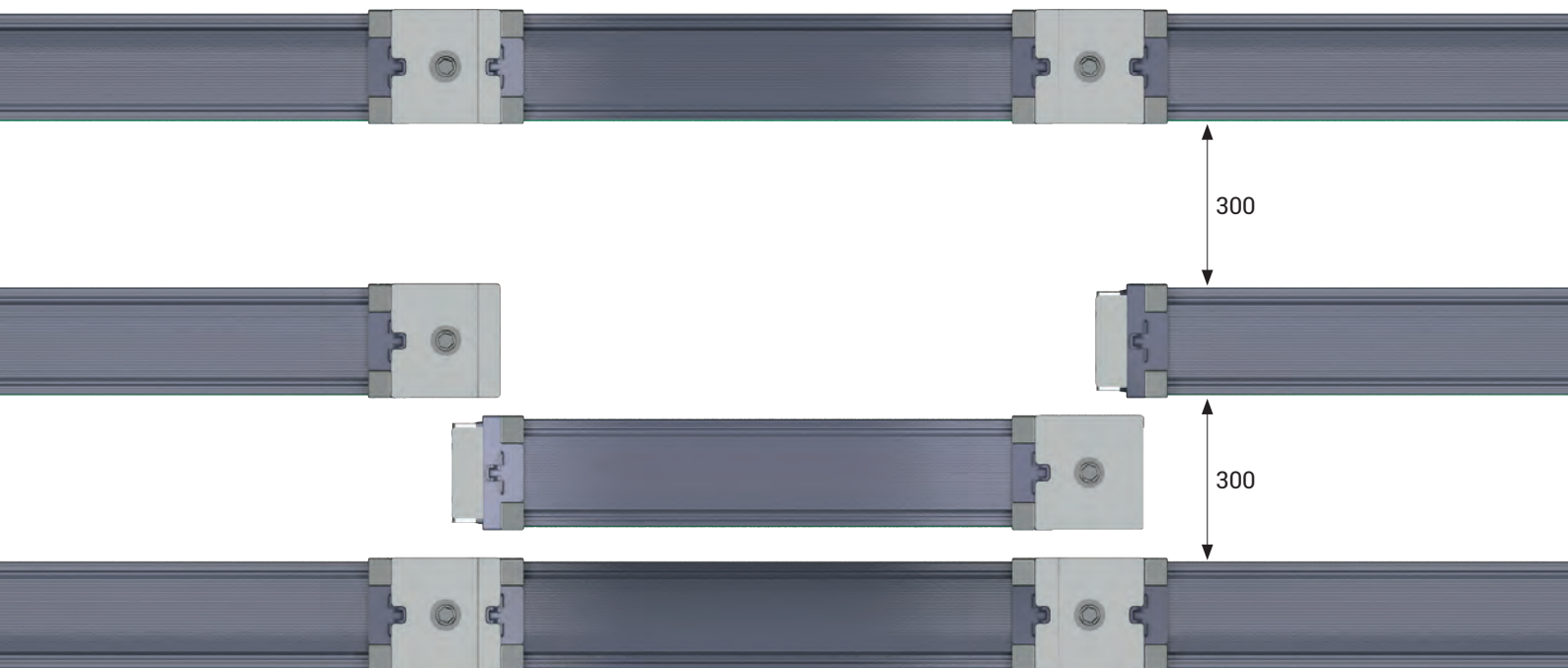


FIGURE-4 MINIMUM DISTANCE BETWEEN BUSWAY RUNS

* All dimensions in mm.



CE DECLARATION OF CONFORMITY

Product Group E-Line KD Data Rack BUSWAY

Manufacturer EAE Elektrik Asansor End. Insaat San. ve Tic. A.S.
Akcaburgaz Mahallesi, 3114. Sokak,
No:10 34522 Esenyurt-Istanbul-Turkey

The objects of the declaration described below is in conformity with the relevant Union harmonisation legislation. This declaration of conformity is issued under the sole responsibility of the manufacturer.

Standard:

TS EN 61439-6

Low-voltage switchgear and controlgear assemblies - Part 6: BUSWAY trunking systems

IEC 61439-6

Low-voltage switchgear and controlgear assemblies - Part 6: BUSWAY trunking systems (busways)

CE - Directive:

2014/35/EU "The Low Voltage Directive"

2014/30/EU "(EMC) Electromagnetic Compatibility Directive"

2011/65/EU "RoHS Directive"

Technical Document Preparation Official:

EAE Elektrik Asansor End. Insaat San. ve Tic. A.S.
Akcaburgaz Mahallesi, 3114. Sokak, No:10 34522 Esenyurt-Istanbul

Mustafa AKÇELİK

Date

20.04.2024

Document Authorized Signatory

Elif Gamze KAYA OK
Deputy General Manager



250A ... 800A DATA RACK BUSWAY PRODUCT OVERVIEW (E-LINE KD-III)

1- Standards & Certification:

- Busway system shall be designed and manufactured as per IEC 61439-6 standard, which requires below listed tests. Each busway rating shall have a separate type test certificate from an independent internationally accredited laboratory including below tests:
 - 10.2- Strength of material and parts, 10.2.2- Resistance to corrosion, 10.2.3- Properties of insulating materials, 10.2.3.1- Verification of thermal stability of enclosures, 10.2.3.2- Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects, 10.2.6- Mechanical impact, 10.2.7- Marking, 10.2.101- Ability to withstand mechanical loads, 10.2.101.1- Test procedure for a straight busway trunking unit, 10.2.101.2- Test procedure for a joint, 10.2.101.3- Resistance of the enclosure to crushing, 10.3- Degree of protection of assembly, 10.4- Clearances and creepage distances, 10.5- Protection against electric shock and integrity of protective circuits, 10.5.2- Effective earth continuity between the exposed conductive parts of the assembly and the protective circuit, 10.5.3- Short-circuit withstand strength of the protective circuit, 10.9- Dielectric properties, 10.9.2- Power-frequency withstand voltage, 10.9.3- Impulse withstand voltage, 10.10- Verification of temperature rise, 10.11- Short-circuit withstand strength, Annex BB Phase conductor characteristics, Annex CC Fault-loop zero-sequences impedances, Annex DD Fault-loop resistances and reactances.
- Busway system shall have CE marking.
- The manufacturer of busway system shall have ISO 9001 and ISO 14001 certification.
- Each product shall have a "Type Label" including coding system, which identifies the brand, type of the unit, number of conductors and electrical details. The same coding shall be on the related certificate and catalogue.

2- Electrical Characteristics

- Busway systems nominal insulation voltage shall be 600 V.

2.1- Housing

- Conductors shall be packed and placed into the housing.
- Housing shall be made of thermal processed, extruded aluminium, RAL7012-Electrostatic painted.

2.2- Conductors

- Aluminium or Copper conductors overall isolated and tin plated.
- Aluminium conductors between 250A – 600A.
- Copper conductors between 250A – 800A.
- Busway system shall have the following number of conductors and wire configuration;
 - 6 Conductors: (6 full size conductors CPE (100% earth conductor + double neutral + housing)),
 - Phase conductors and neutral conductor shall have the same cross-section and they shall be insulated.
- Aluminium conductors shall be of EC grade aluminium. Minimum conductivity shall be $34\text{m/mm}^2 \cdot \Omega$.
- Copper conductors shall be minimum 99,95% electrolytic copper. Minimum conductivity shall be $56\text{m/mm}^2 \cdot \Omega$.

2.3- Insulation

- Insulation system shall be suitable for 1.000V continuous operation. Conductor size shall be designed so that temperature rise on the conductors shall not exceed 100°C degree at nominal current, which helps to global heating problem. With this reason, insulation class shall be selected as "B class".

2.4-Joint Structure

- Electrical and mechanical connection shall be made by placing conductor joints into the joint blocks of the connected conductors and followed by tightening and fastening of the joint bolts.

2.5-Protection

- Protection degree of the housing and joints shall be IP23D.

2.6-Acessories

- Busway system shall have all necessary accessories (elbows, panel-transformer connections, etc.) Manufacturer shall supply special dimensioned units in short time, if the project conditions requires

3-Tap Off Boxes

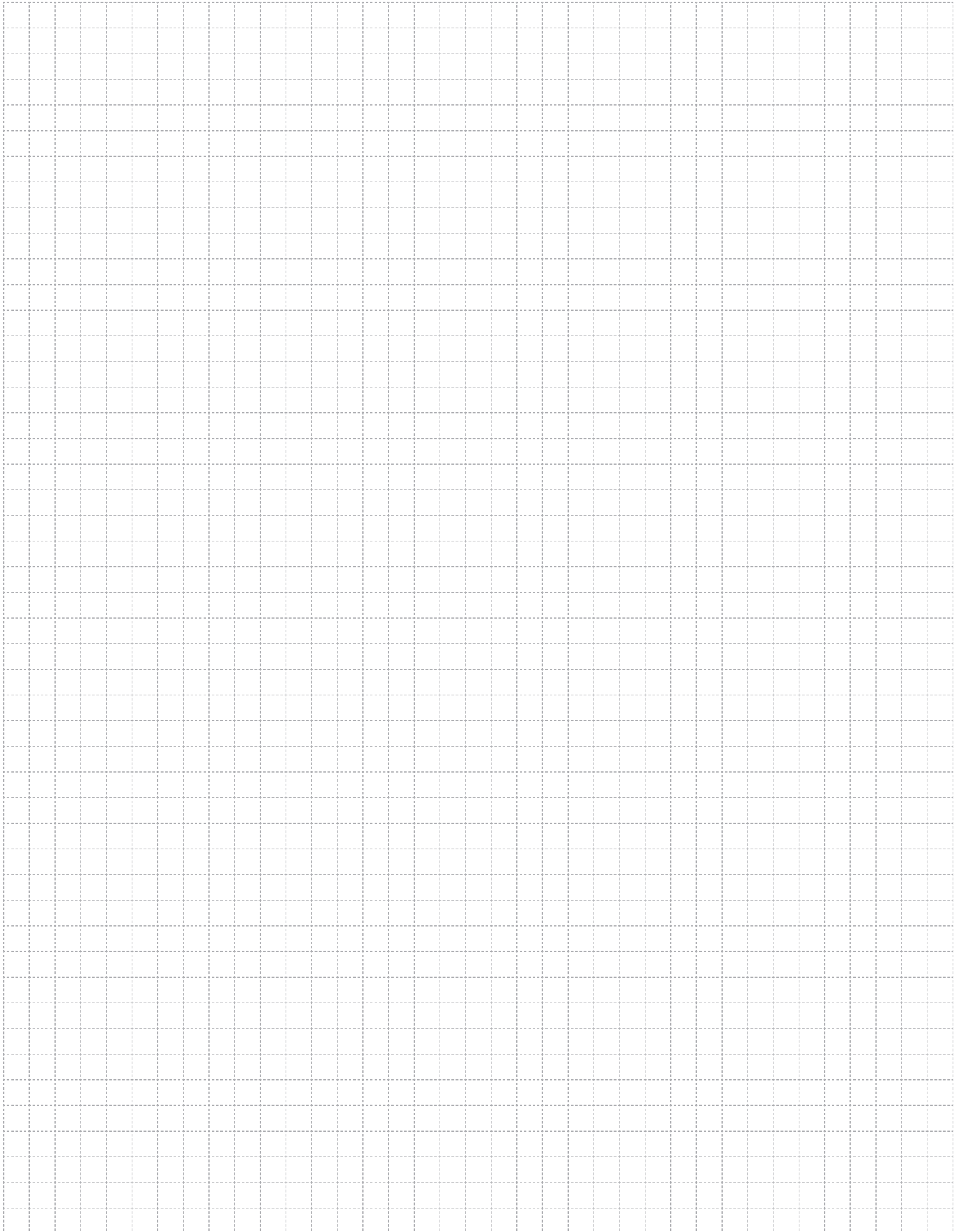
- The Tap off boxes shall be Plug-nPlay type.
- Plug-n-Play tap off boxes shall be suitable to install or remove from BUSWAYS without switching off the power on the BUSWAY.
- Plug-n-Play tap off boxes shall be suitable to install or remove anywhere alongside the BUSWAY.
- The Tap-Off Box contacts shall be protected with a cover
- The Tap-Off contacts shall be heat cycle tested
- Contacts of plug-in tap off box shall be silver plated.
- The special locking mechanism of the Tap-Off Boxes shall ensure to carry the weight of the plug-in box and cables by the busway housing.
- While inserting the contacts of plug-in tap off box, earth contact shall make the first touch. While removing, it shall be disconnected last.
- Tap off boxes shall be manufactured of epoxy painted aluminium.
- The Tap-Off Boxes shall be equipped with a safe alignment mechanism to ensure correct installation and operation

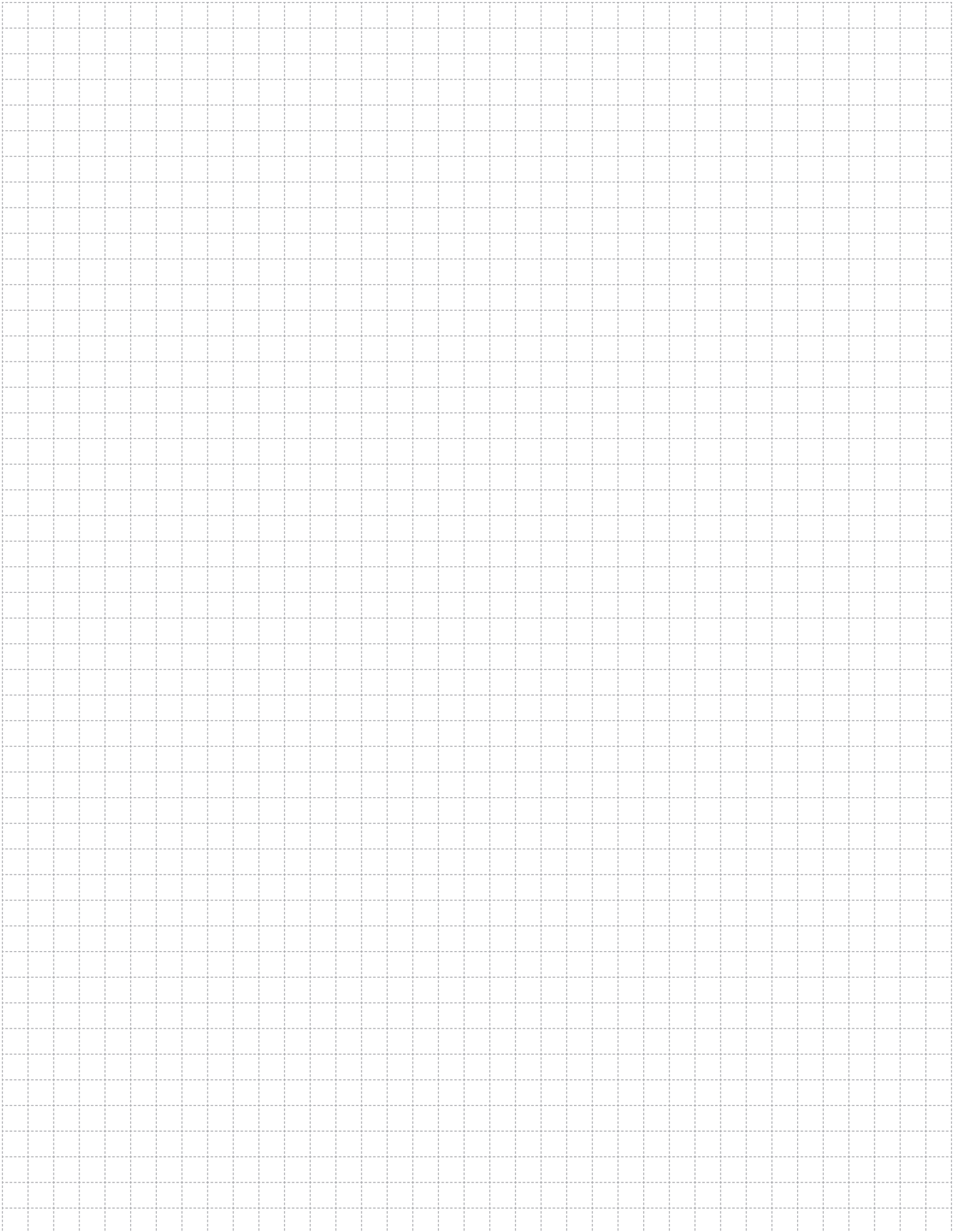
4-Busway Fixing & Mounting System

- The busways shall be easily installed and positioned through their entire lengths with the "Snap-In Fixing Units" by inserting into the guiding slots on top of the housing.
- To ensure flexible positioning of the busways, each single busway length shall easily slide independently on the "Snap-In Fixing Units" through the guiding slots.
- To maintain the mounting security, the "Snap-In Fixing Unit" clamps shall be lockable.
- For various mounting practices the "Snap-In Fixing Units" shall be available with threaded rod, ceiling support and/or with tray brackets options

5-Installation and Commissioning

- Busway systems shall be installed as per Single-Line drawings respect to required ampere rates and manufacturer installation guide (torque values, lockers, etc.). Electrical installer shall run an insulation test after installation, according to manufacturer's test procedures. The results of the test shall be reported to the manufacturer and minimum insulation value shall be 1 Mohms.

A large rectangular area filled with a light gray dashed grid, intended for handwritten notes.

A large rectangular area filled with a light gray dashed grid, intended for handwritten notes.



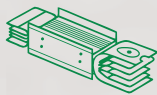
A large grid of dashed lines for taking notes, consisting of 20 columns and 40 rows.

SUSTAINABLE FUTURE

Sustainability Management at EAE Elektrik



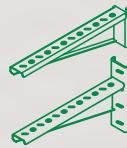
As part of our goal to support sustainable development and green transformation, measuring, evaluating, and managing all economic, environmental, and social impacts resulting from our sustainability practices is a key governance priority for EAE Elektrik. We act with great care in analyzing, monitoring, and managing the economic, environmental, and social impacts and risks that arise throughout our value chain in both our national and global operations.



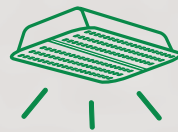
Busway
Systems



Cable Tray
Systems



Support
Systems



Led
Lighting

"We are working together with all our stakeholders to develop the electrical technologies that will build the future."

You can visit our sustainability website at
surdurulebilirlik.eae.com.tr



#FutureTogether

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