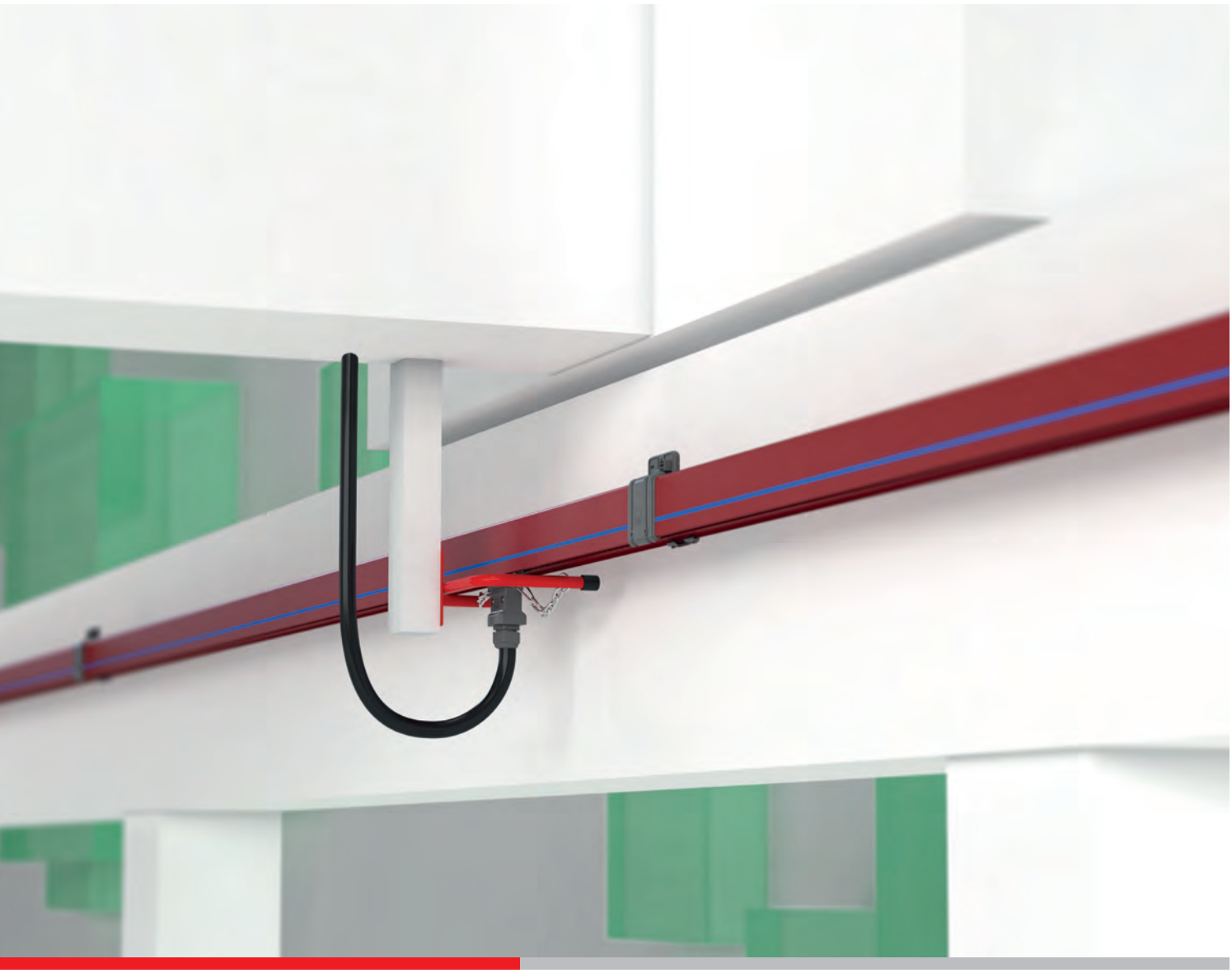
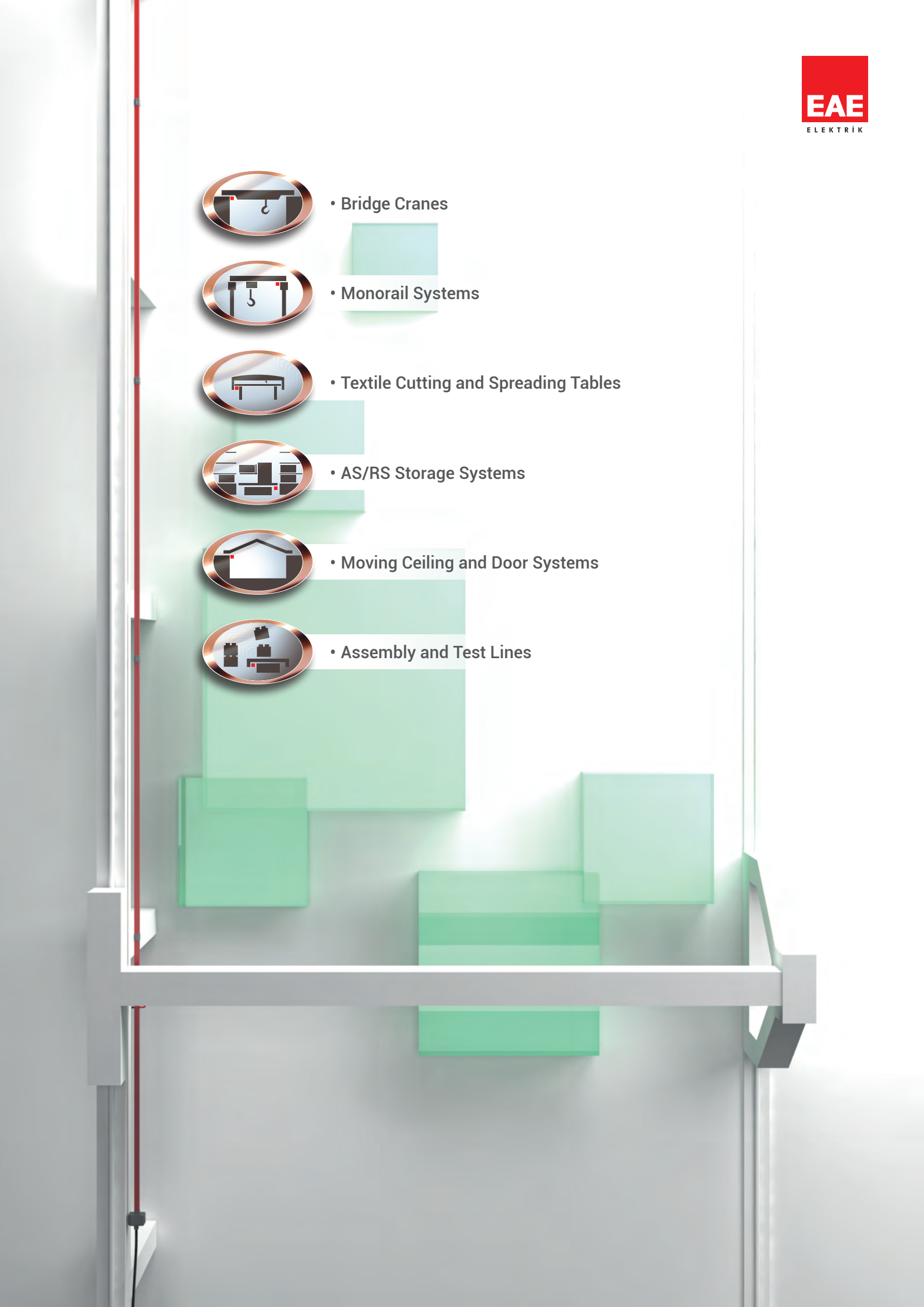
EAE
ELEKTRİK



E-LINE TBX-S



- Bridge Cranes
- Monorail Systems
- Textile Cutting and Spreading Tables
- AS/RS Storage Systems
- Moving Ceiling and Door Systems
- Assembly and Test Lines

E-LINE TBX-S

E-LINE TBX-S

Trolley Busbar Systems

- Bridge Cranes
- Monorail Systems
- Textile Cutting and Spreading Tables
- AS/RS Storage Systems
- Moving Ceiling and Door Systems
- Assembly and Test Lines

It consists of copper conductors and current collectors in the C-PVC body. The uninterrupted energy supply and movement of the system is provided by current collectors connected to the system mechanically.

The eliminates the possibilities such as accident, malfunction in energy distribution with suspended and reel cable in conventional systems. Conductors are enclosed in C-PVC housing and personnel safety is maximized.

There is no fixed connection between the conductor housings and the conductors and between the C-PVC housing and the sliding hangers, the necessary expansion opportunity is provided, therefore the expansion element is unrequired.

Cautions:
If it is used in external environments exposed to rain, it is recommended to protect it with a cover such as a canopy.

E-LINE TBX-S

Order Code System

TBX | S | 06 | 5

Trolley Busbar Model

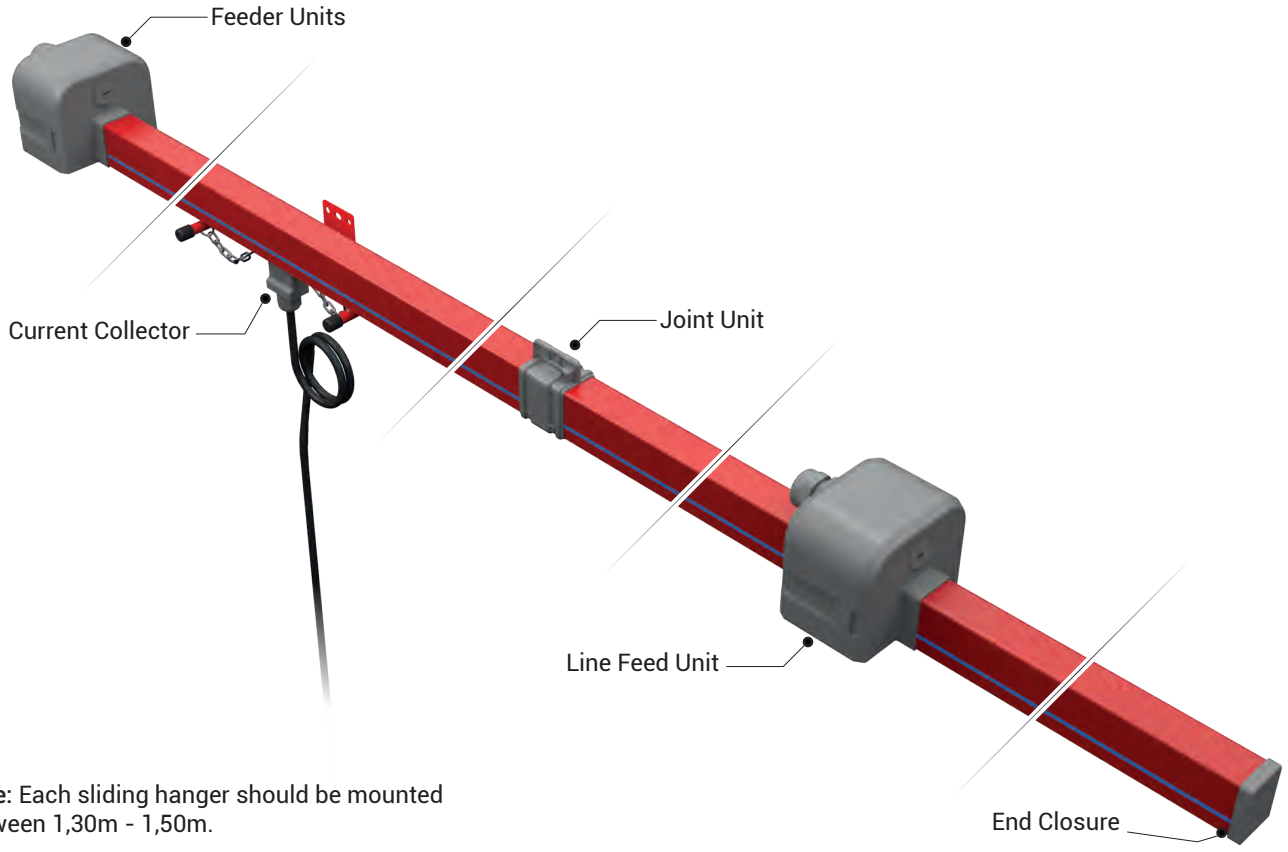
Current Ratings	
40A	04
63A	06
75A	07
105A	10
130A	13

Conductor Quantities	
4 Conductors	4
5 Conductors	5

Type	
Jointed	E
Continuous	S

Technical Features

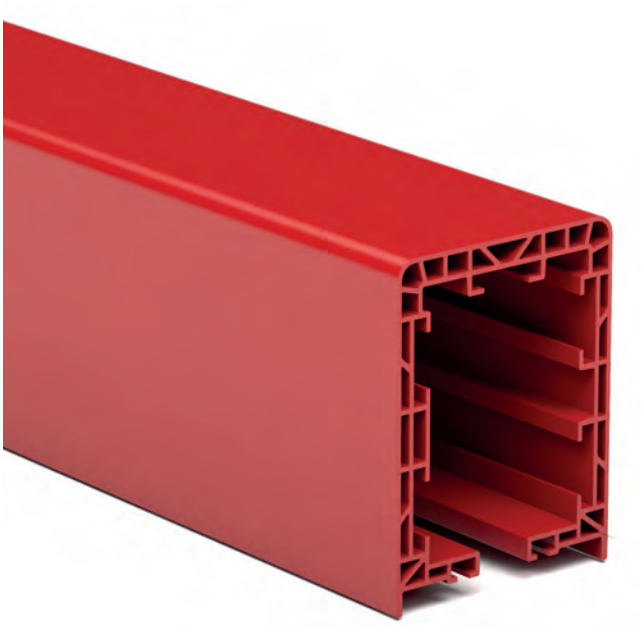
Rated Current	(A)	**40**	**63**	**75**	**105**	**130**
Conductor Quantities	(pcs)	4-5	4-5	4-5	4-5	4-5
Rated Voltage	(AC) (V)	690	690	690	690	690
Dielectric Properties	(kV/mm)	30	30	30	30	30
Frequency	(Hz)	50/60	50/60	50/60	50/60	50/60
Resistance (20°C)	R20 (mΩ/m)	1,300	1,018	1,280	0,800	0,570
Resistance (35°C)	R35 (mΩ/m)	1,420	1,176	1,460	0,920	0,660
Reactance	X (mΩ/m)	0,160	0,447	0,140	0,060	0,250
Impedance	Z (mΩ/m)	1,429	1,258	1,467	0,922	0,706
Standard Length	(m)	4	4	4	4	4



Note: Each sliding hanger should be mounted between 1,30m - 1,50m.

E-LINE TBX-S

TBX-S Trolley Busbar



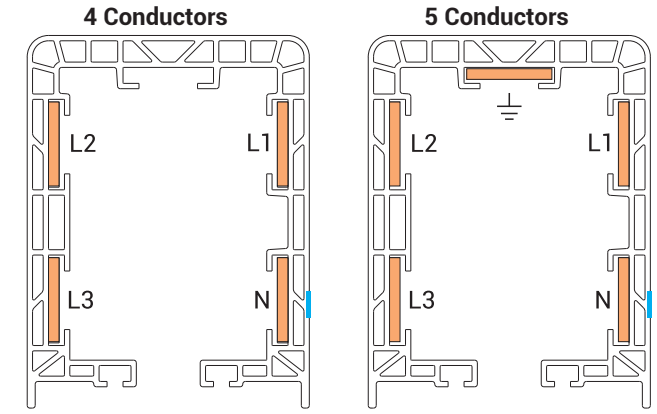
Description	Weight (gr/m)	Order Code
TBX-S Trolley Busbar Housing	820	2067393

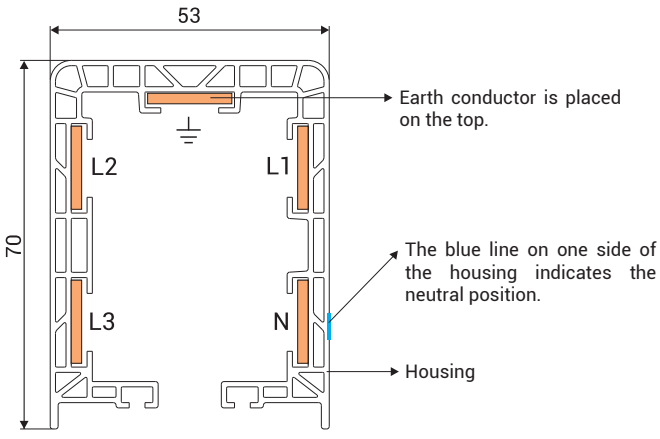
The housing has a structure that can use maximum 5 conductors. There is safety system that prevents the current collector to be fixed inversely.

Continuous Copper Conductors

Electrolytic copper conductors can be applied without interruption at a maximum length of 150m.

- **Number of Conductors:** 4 or 5 conductors
- **Colour:** Red.
- **Temperature range:** -40°C and +55°C.
- **Standard housing length:** 4 meters.
- **Protection:** Standard IP24, Gasket, IP44.
- **Non-Flammable Characteristics:** UL 94 V0
- Housing is made of C-PVC and plastic accessories are made of PA6 raw material.
- There is a neutral line on the housing the neutral conductor.
- Light and durable with double layer structure, TBX provides ease of installation.





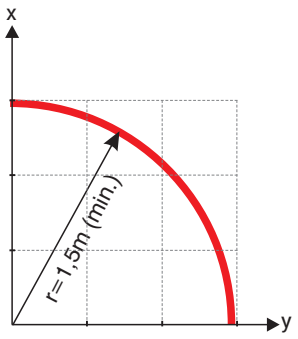
Standard 4 Meters

Model	Conductors Quantity-Current (A)	Weight (gr/m)	Conductor Cross Section (mm²)	Order Code
TBX-S 044	4P - 40A	1250	4x11,20	3233922
TBX-S 064	4P - 63A	1300	4x12,80	3135807
TBX-S 074	4P - 75A	1400	4x16,00	3135809
TBX-S 104	4P - 105A	1650	4x24,00	3135811
TBX-S 134	4P - 130A	1950	4x32,00	3135813
TBX-S 045	5P - 40A	1350	5x11,20	3233923
TBX-S 065	5P - 63A	1400	5x12,80	3135808
TBX-S 075	5P - 75A	1500	5x16,00	3135810
TBX-S 105	5P - 105A	1900	5x24,00	3135812
TBX-S 135	5P - 130A	2250	5x32,00	3135814

Joint plastics are not included in the weight values.
Total weight of the joint plastics and bolts is 100 kg.

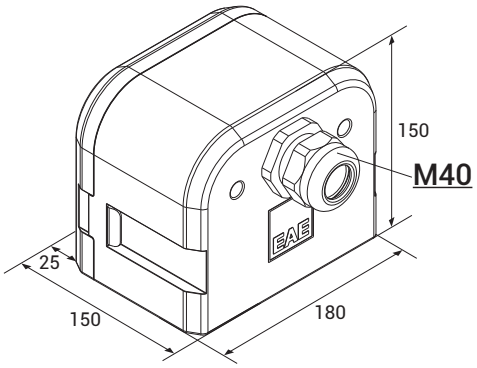
Radius Trolley Busbar

It has minimum 1,5m radius Trolley Busbar available in vertical axes. Radius Trolley Lines can be applied with maximum 4 conductors.



E-LINE TBX-S

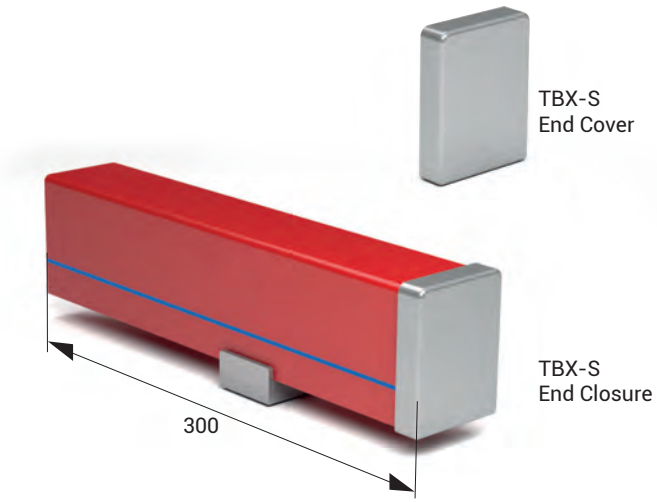
TBX Feeder Box



Description	Weight (gr)	Order Code
TBX Feeder Box	750	3135798

Type of the feeding element is selected by calculating the voltage drop and the location of the power supply that shall provide power to the system.

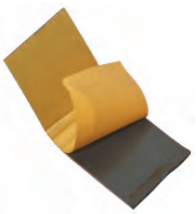
TBX-S End Closure



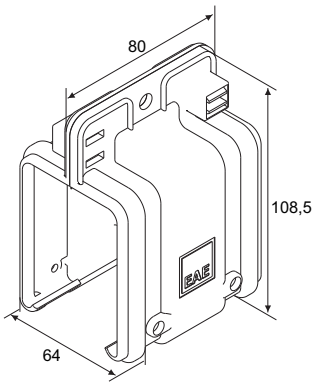
The end closure placed on the end of the busbar line prevents the exposure of the conductors, protects the system, and prevents the current collector from moving out of the housing.

Description	Weight (gr)	Order Code
TBX-S End Closure	450	3135816
TBX-S End Cover	25	1022212

TBS Joint Unit



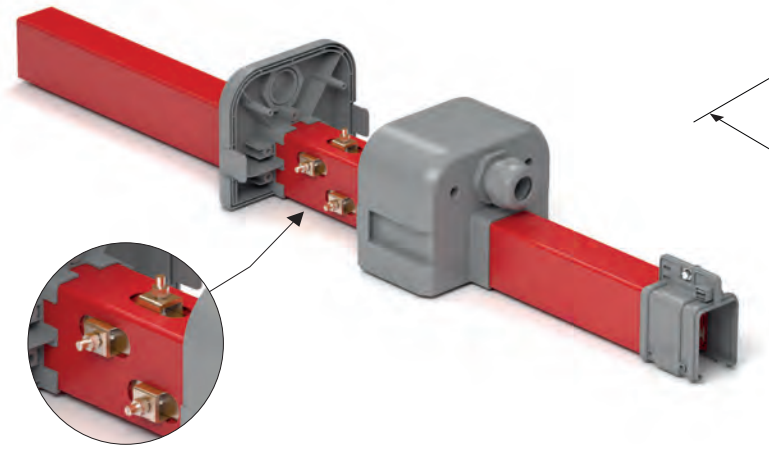
EPDM Gasket

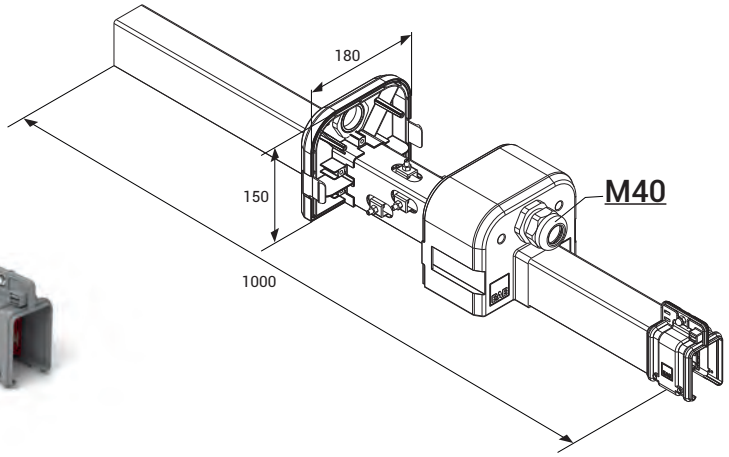


Description	Weight (gr)	Order Code
TBS Joint Unit	90	1003663

E-LINE TBX-S

TBX-S Line Feed Unit - Continuous Type

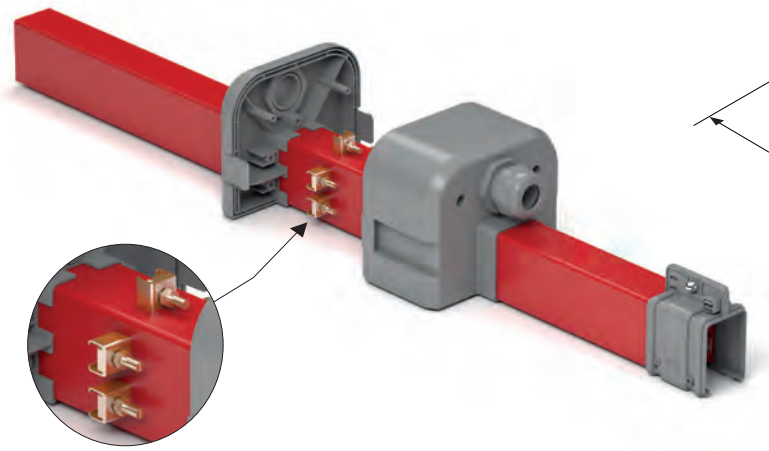


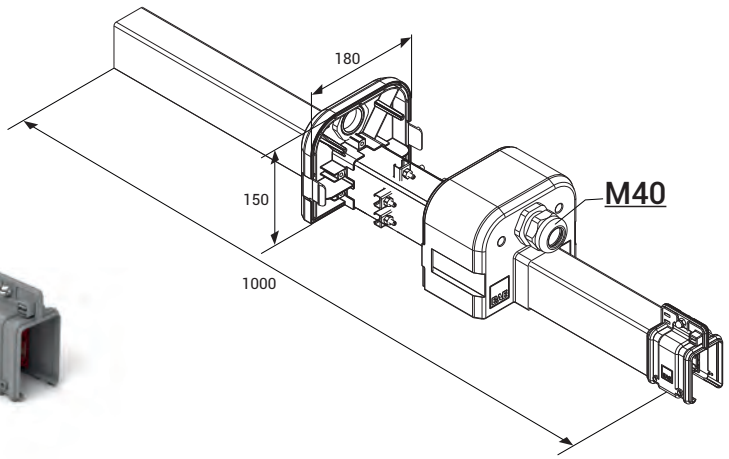


Description	Weight (gr)	Order Code
TBX-S Line Feed Unit - Continuous Type	1650	3136706

Type of the feeding element is selected by calculating the voltage drop and the location of the power supply that shall provide power to the system.

TBX-S Line Feed Unit - Jointed Type



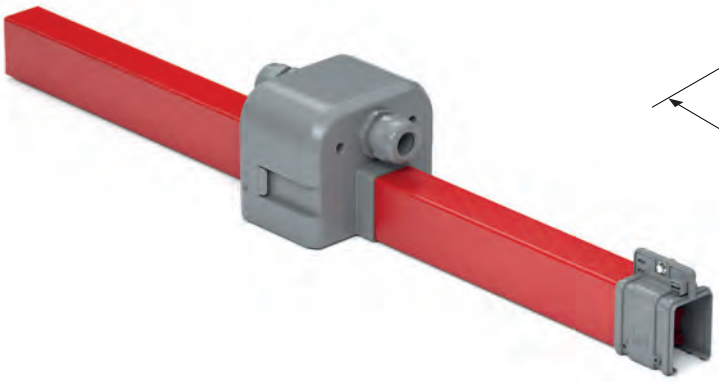


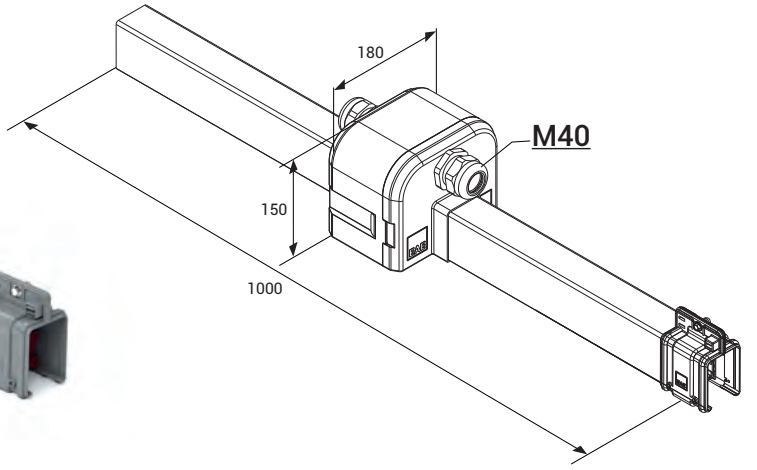
Description	Weight (gr)	Order Code
TBX-S Line Feed Unit - Jointed Type	1650	3135818

Type of the feeding element is selected by calculating the voltage drop and the location of the power supply that shall provide power to the system.

E-LINE TBX-S

TBX-S Repair Zone Unit

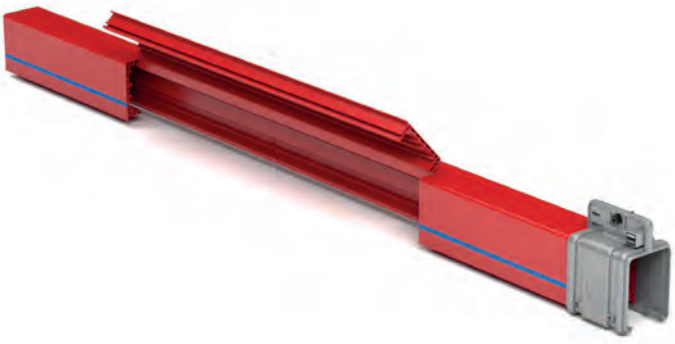


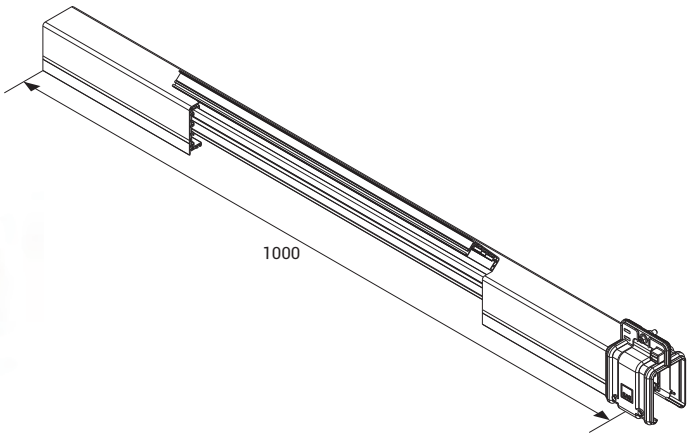


Description	Weight (gr)	Order Code
TBX-S Repair Zone Module	2050	3135817

Current supply shall be cut off when a machine working on the line shall be maintained or repaired. Repair zone module is used to create a currentless area on the busbar so that the other machines operating on the same line may continue to work.

TBX-S Current Collector Replacement Module



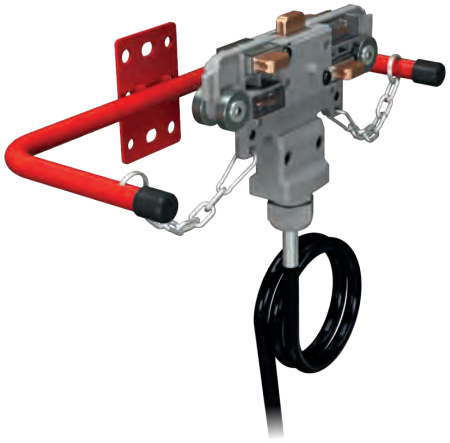


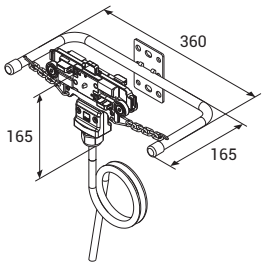
Description	Weight (gr)	Order Code
TBX-S Current Collector Replacement Module	1100	3233921

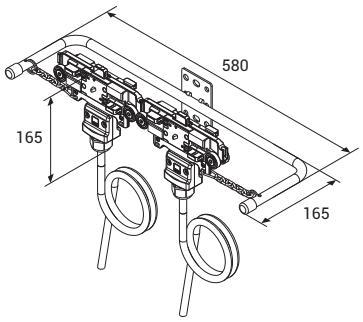
This unit is used to remove an existing current collector or to add extra trolleys. The unit is obtained by cutting a 50cm section from the PVC housing.

E-LINE TBX-S

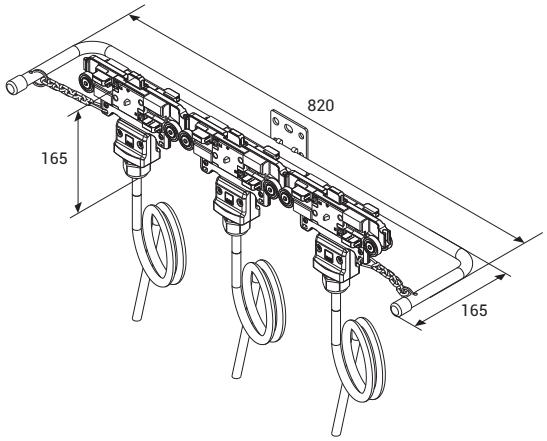
TB5 Current Collectors With Cable





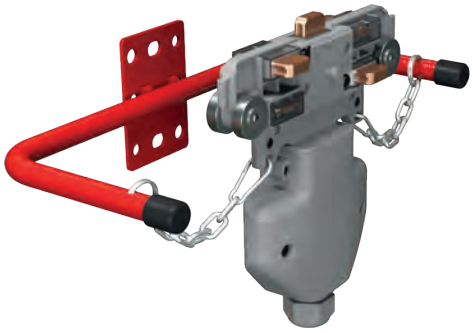


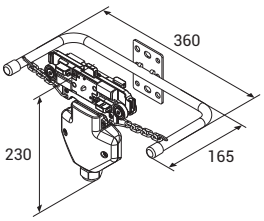
Model	Brushes Number-Current (A)	Weight (gr)	Order Code
TB5	4P - 35A (Single)	1700	3024385
	4P - 70A (Double)	2950	3024386
	4P - 105A (Triple)	4450	3024387
	5P - 35A (Single)	1900	3024376
	5P - 70A (Double)	3250	3024377
	5P - 105A (Triple)	4700	3024378

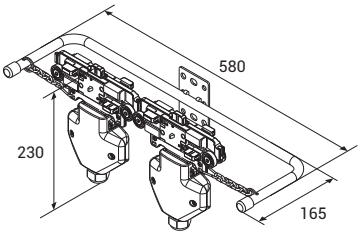


Model	Brushes Number-Current (A)	Weight (gr)	Order Code
TB5	4P - 60A (Single)	2000	3203193
	4P - 120A (Double)	3550	3269558
	5P - 60A (Single)	2200	3203194
	5P - 120A (Double)	3850	3269559

TB5 Current Collectors With Clip

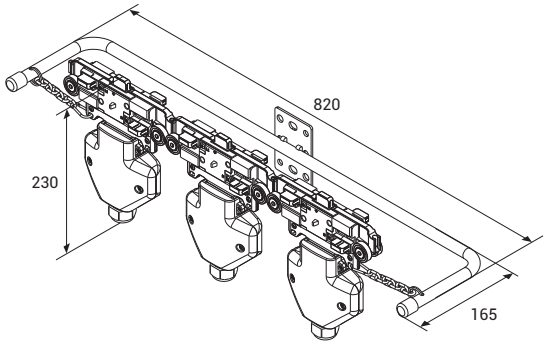






Model	Brushes Number-Current (A)	Weight (gr)	Order Code
TB5	4P - 35A (Single)	1350	3024388
	4P - 70A (Double)	2050	3024389
	4P - 105A (Triple)	3050	3024390
	5P - 35A (Single)	1350	3024379
	5P - 70A (Double)	2250	3024380
	5P - 105A (Triple)	3200	3024381

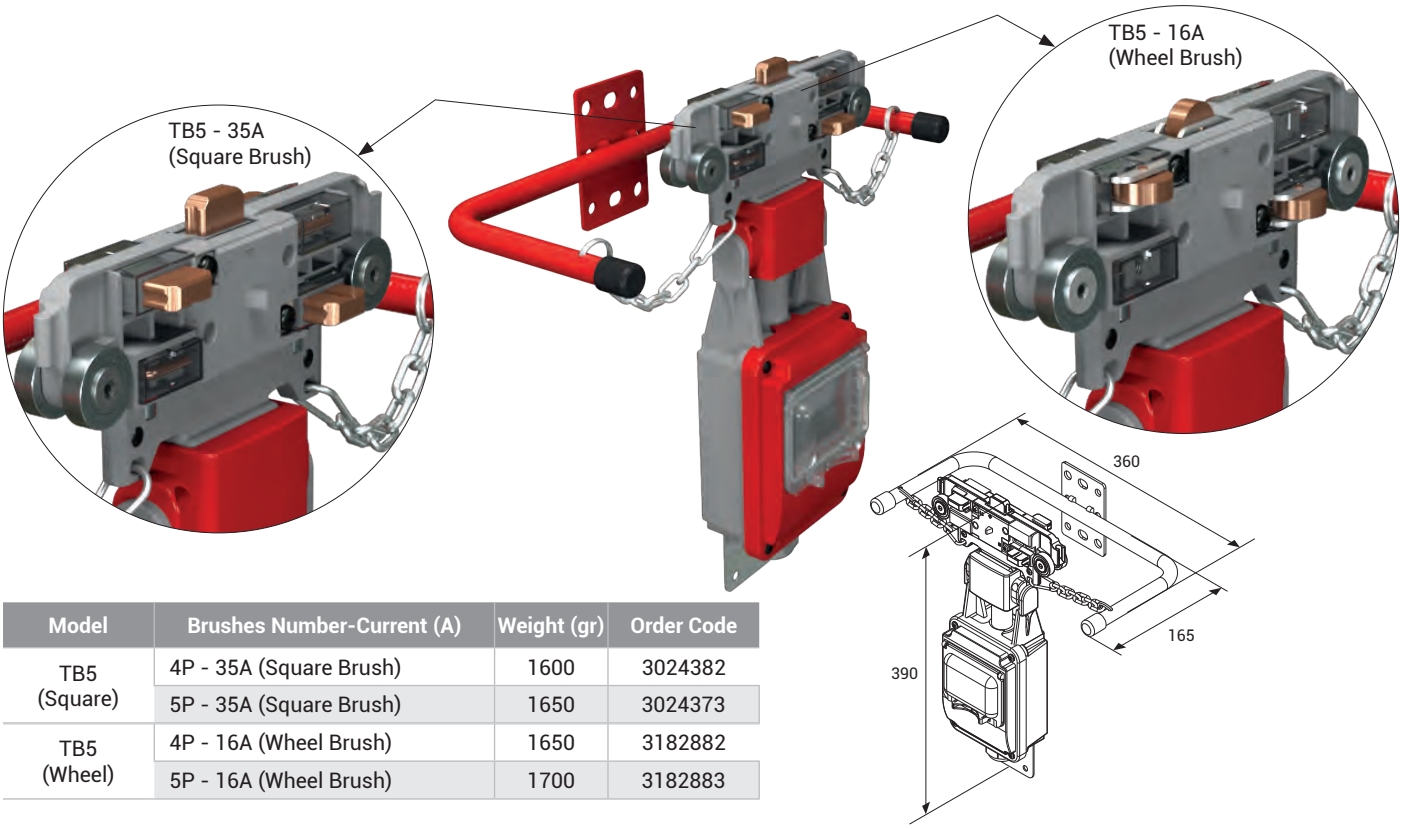
*Produced with standard M40 cable gland and 4mm² clip.



Current collector with clips allow the customers to perform cabling as they desire with the clips they include.

Current collector are the moving elements of the trolley busbar systems. Current collector brushes rub against the conductors and draw continuous current while they move through the busbar line. They adapt to shaky and vibrant conditions thanks to the moving brushes. As current collecting and transfer systems are included in the C-PVC housing, they are protected against human contact.

TB5 Current Collector With Fuse Box



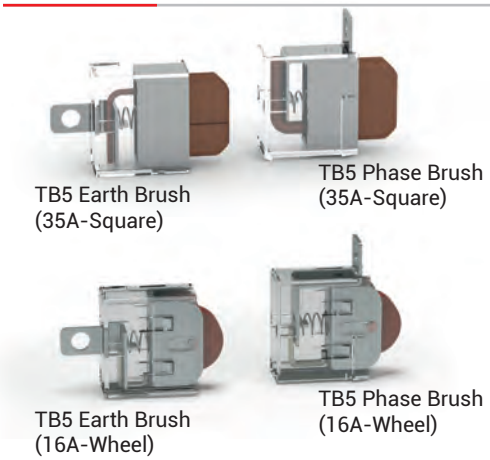
Model	Brushes Number-Current (A)	Weight (gr)	Order Code
TB5 (Square)	4P - 35A (Square Brush)	1600	3024382
	5P - 35A (Square Brush)	1650	3024373
TB5 (Wheel)	4P - 16A (Wheel Brush)	1650	3182882
	5P - 16A (Wheel Brush)	1700	3182883

Fuse boxed with both staff and current receiving area carts current machine's safety can be raised to a higher level. In addition, when it is desired to cut the power of one of the machines on a line, the current is cut off through the fuse, other machines on the line can continue to operate.

Current collector with Wheel Brush simplify the movement of the current collectors inside the busbar by reducing the time at the installation tables when movement is provided by the personnel.

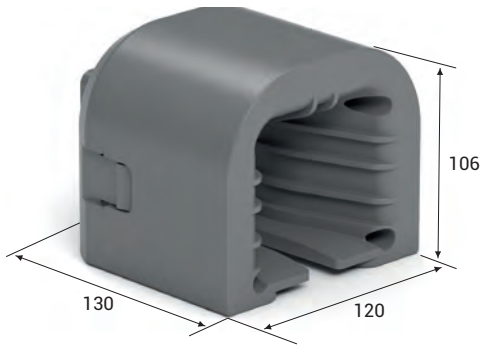
TB5 Current collector models operating speed is max. 100m/min.

TB5 Current Collector Brushes



Description	Weight (gr)	Order Code
TB5 Phase Brush (35A-Square)	40	3024371
TB5 Earth Brush (35A-Square)	40	3024372
TB5 Phase Brush (16A-Wheel)	40	3165078
TB5 Earth Brush (16A-Wheel)	40	3165080

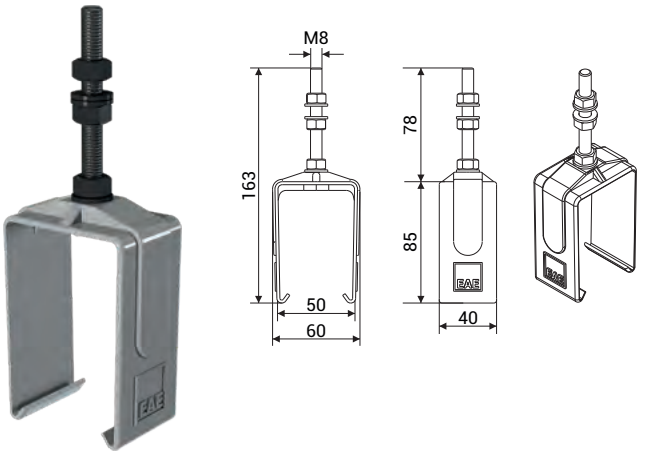
TBX Trolley Transfer Tool



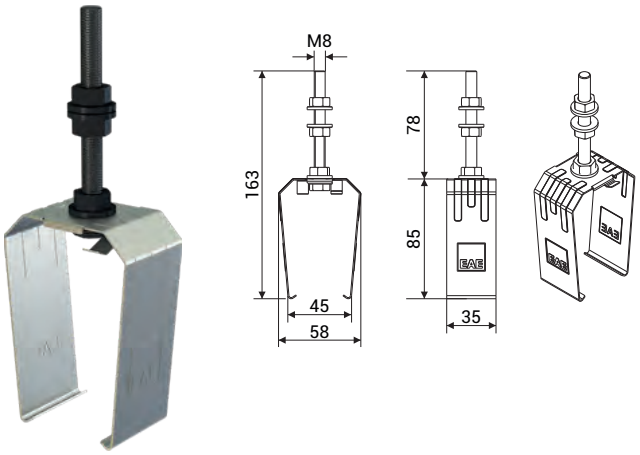
Description	Weight (gr)	Order Code
TBX Trolley Transfer Tool	250	3179529

E-LINE TBX-S

TB5 Plastic Sliding Hanger



TB5 Steel Sliding Hanger

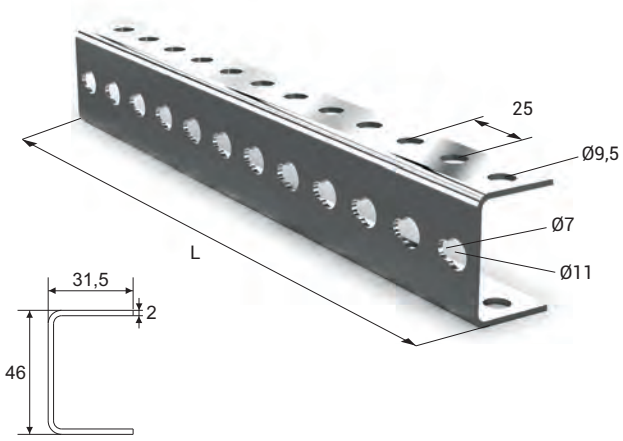


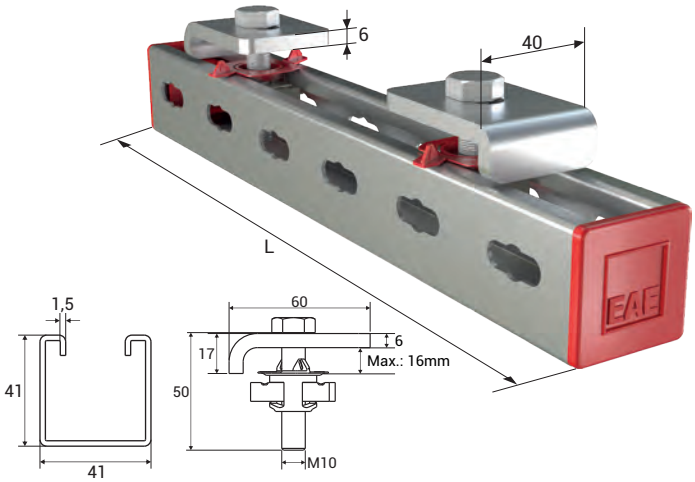
Trolley busbar should be mounted with slinding hanges and each hangers should be between 1,30m - 1,50m.
Distance between sliding hanger and other units (joint unit, feeder etc.) should be minimum 300mm.

Description	Weight (gr)	Order Code
TB5 Plastic Sliding Hanger	85	1003664

Description	Weight (gr)	Order Code
TB5 Steel Sliding Hanger	100	1005954

TB5 Hanger Bracket

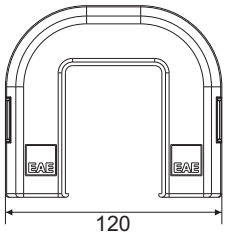


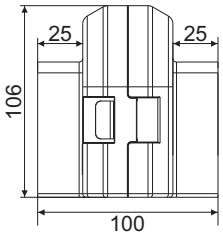


Description	L (mm)	Weight (gr)	Order Code
TB Hanger Bracket	250	350	3025153
URC-C/S Hanger Bracket	500	700	3034560
URC-A Hanger Bracket	750	1050	3025382

Description	L (mm)	Weight (gr)	Order Code
TB BR Hanger Bracket Set	300	800	3178916
URC-C/S BR Hanger Bracket Set	600	1250	3178917
URC-A BR Hanger Bracket Set	800	1550	3178918

TBX Extension Element



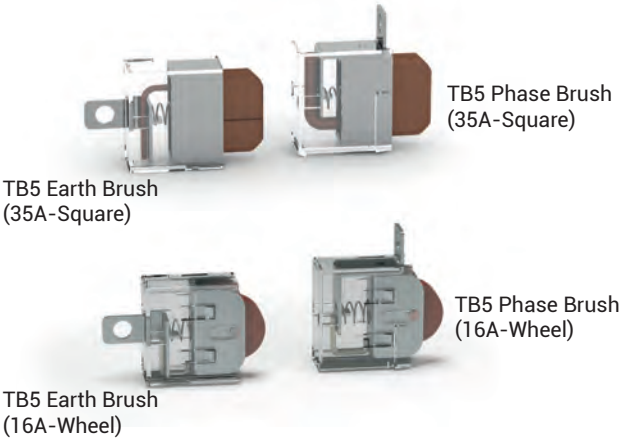


When the busbar line needs to be extended, you may remove the End Closure and install the joint unit to extend.

Description	Weight (gr)	Order Code
TBX Extension Element	280	3136703

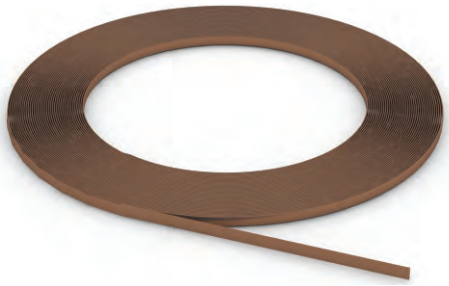
E-LINE TBX-S

TB5 Current Collector Brushes



Description	Weight (gr)	Order Code
TB5 Phase Brush (35A-Square)	40	3024371
TB5 Earth Brush (35A-Square)	40	3024372
TB5 Phase Brush (16A-Wheel)	40	3165078
TB5 Earth Brush (16A-Wheel)	40	3165080

TB5 Copper Conductors



Description (mm x mm)	Order Code
TB5 0.80x16,00 (TB5 Copper)	1003097
TB5 1.00x16,00 (TB5 Copper - 75A)	1002254
TB5 1.50x16,00 (TB5 Copper - 105A)	1002275
TB5 2.00x16,00 (TB5 Copper - 130A)	1003094

TB Conductor Casette

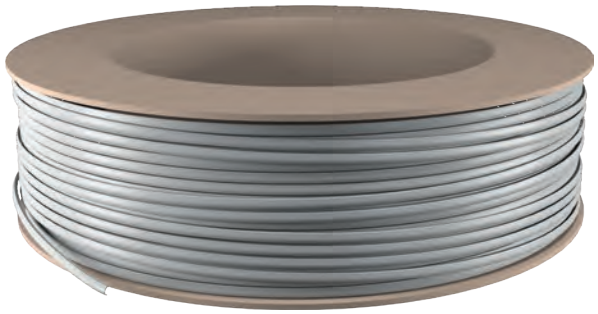
Conductor cassette shall be used to prevent damage to the conductors while the copper conductors are installed on the busbar.

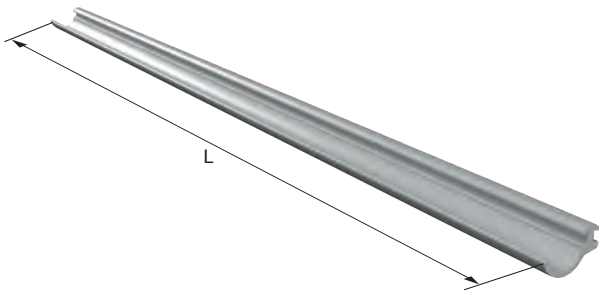
Description	Weight (gr)	Order Code
TB Conductor Casette	6800	3025151

TB5 Conductor Mounting Tool

Description	Weight (gr)	Order Code
TB5 Conductor Mounting Tool	215	3024456

TBX Gasket





• Continuous length is maximum 300 meters.

• Gasket should be ordered twice the line length.

Description	Weight (gr/m)	Order Code
TBX Gasket Roll (m)	30	1037761

Description	L (mm)	Weight (gr)	Order Code
TBX Gasket Straight Length (Pcs.)	4000	120	1037762

Voltage Drop

The voltage drop in the busbar lines shall be inspected as per the busbar type selected according to the total current calculated based on the ambient temperature and operating period of the system. Maximum acceptable value for voltage drop is 3%.

For Direct Current	$\Delta U = 2.L_t.I_G.R$	ΔU =	Voltage Drop [V]
		I_G =	Total current [A]
For Mono-Phase Alternative Current	$\Delta U = 2.L_t.I_G.Z$	R =	Resistance of the busbar [Ω/m]
		Z =	Impedance of the busbar [Ω/m]
For Three-Phase Alternative Current	$\Delta U = \sqrt{3}.L_t.I_G.Z$	L_t =	Calculated Hole Length [m]

Note : Calculation of the current drawn during first start in various motor types;

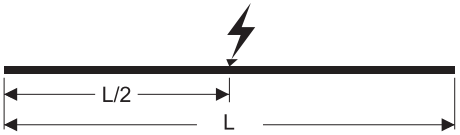
I_A= Total current drawn in the first start of the motors [A]

For the starting current;	Three-phase asynchronous drive in direct start	$I_A = I_G$ x calculated as 5 to 6
	Slip ring rotor motor	$I_A = I_G$ x calculated as 2 to 3
	Frequency converter	$I_A = I_G$ x 1,20 to1,50 calculated between.

Calculation Of Feeding Points

When we take L_t as the length of the line, feeding points may be selected as shown in the diagrams below to keep the L voltage drop at minimum and it may be used as the hole length for the calculation of L_t voltage drop.

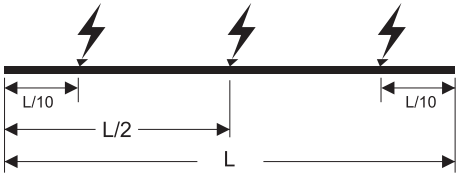
1 feeding point from the start, Lt=L



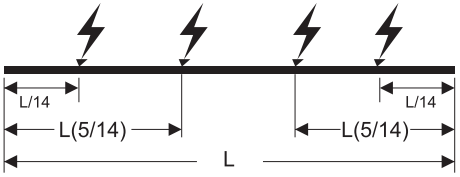
1 feeding point from the center, Lt=L/2

2 feeding points from the start points, Lt=L/4

2 feeding points, Lt=L/6



3 feeding points, Lt=L/10

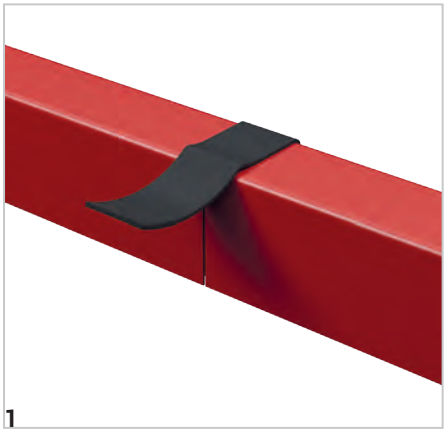


4 feeding points, Lt=L/14

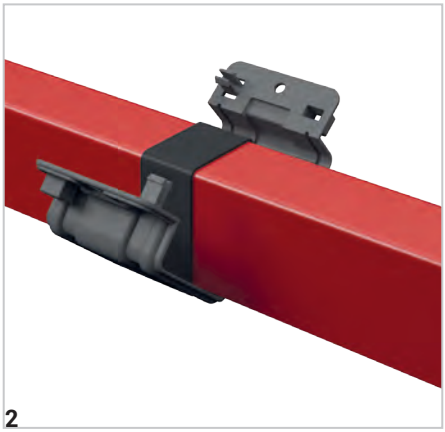
E-LINE TBX-S

Installation Manual

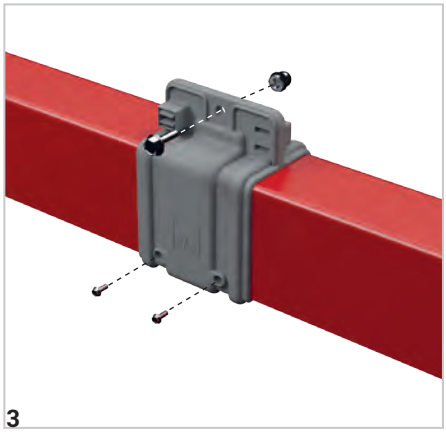
TBX-S - Installation Of Joint Unit



1
The joint point is covered using a self-adhesive EPDM gasket.

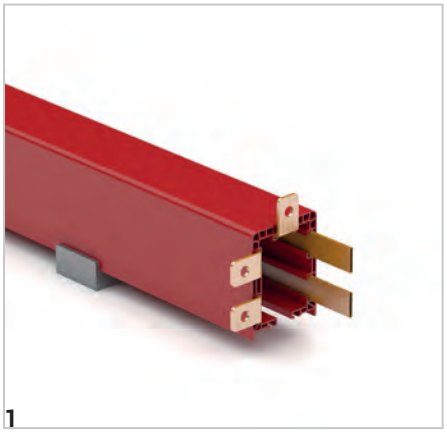


2
Engage the joint unit to the bottom of the busbar and close it.

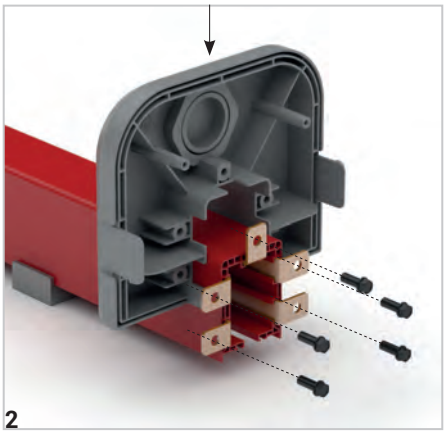


3
Secure it to the housing with screws.

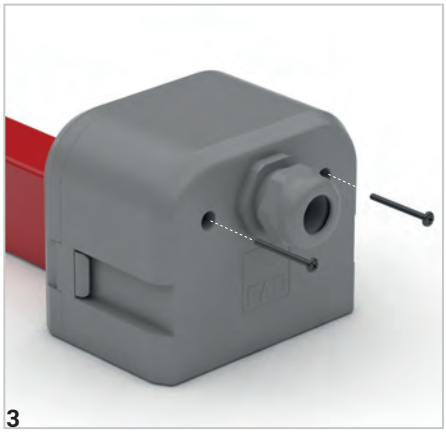
TBX-S - Feeder Unit



1
Conductors are bend 90° and pushed into the housing.

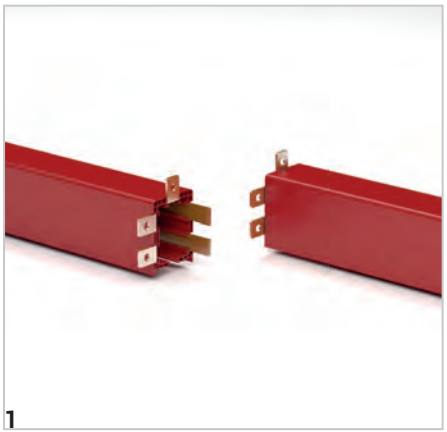


2
Housing and screw them to the feeding module.

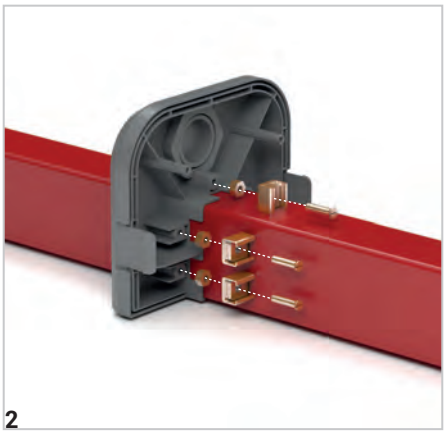


3
Close the module cover and screw it.

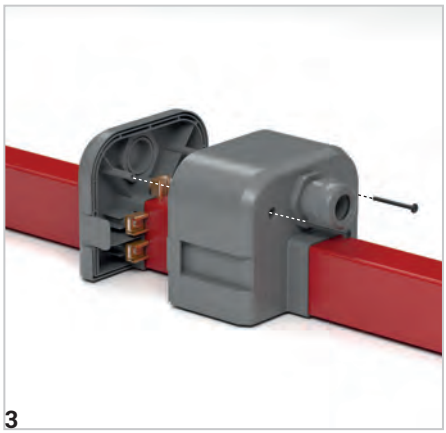
TBX-S - Line Feed Unit - 2 (Jointed Type)



1
Conductors are bend 90 ° and pushed into the housing. The two housing are combined in such a way that the bent conductors remain in the notched area.



2
Conductors are brought back to back and combined with clips. Supply cables are connected to clips.

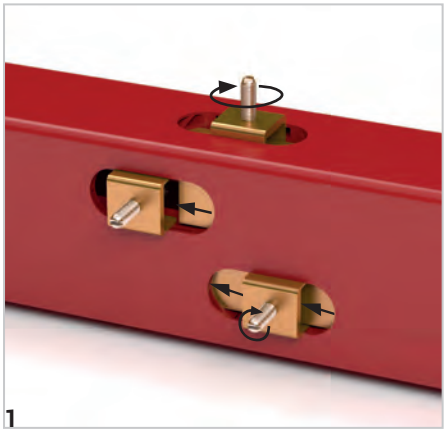


3
Close the module cover and screw it.

E-LINE TBX-S

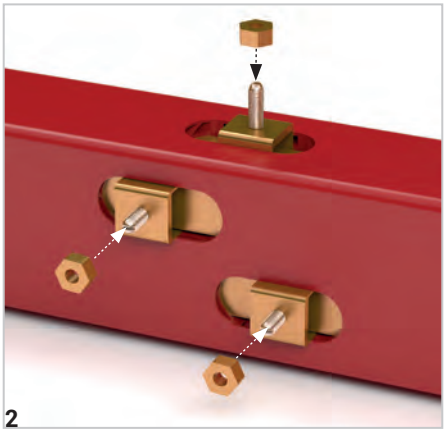
Installation Manual

TBX-S - Line Feed Unit - 1 (Continuous Type)



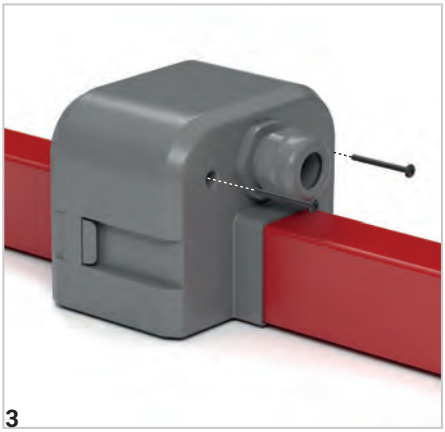
1

Put the conductors through the clips and screw them.



2

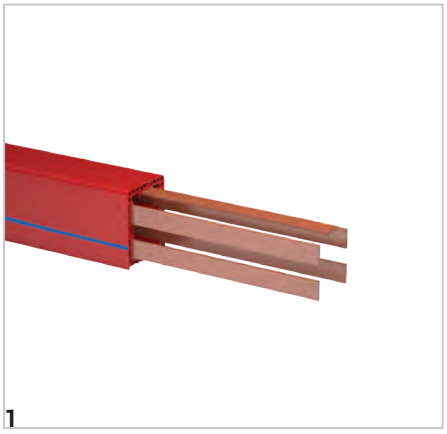
Connect the feeding cables to the clips with nuts.



3

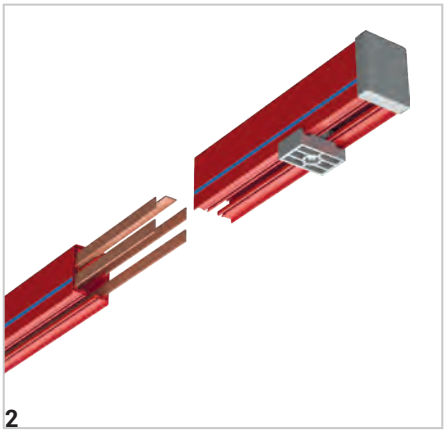
Close the module cover and screw it.

TBX-S - End Closure



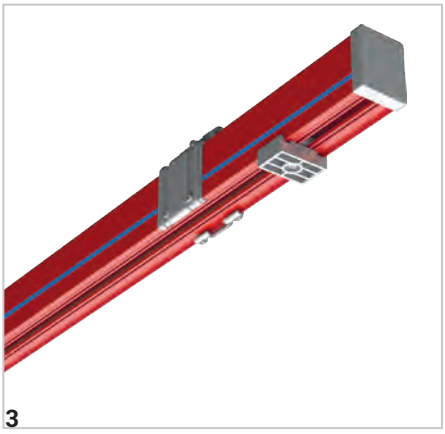
1

Cut the coppers at the end of the line by leaving a extra length of 15 cm.



2

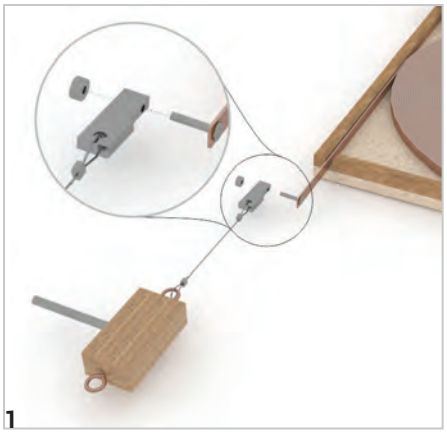
After placing the current collector to the system, place the End Closure so that it shall house the coppers.



3

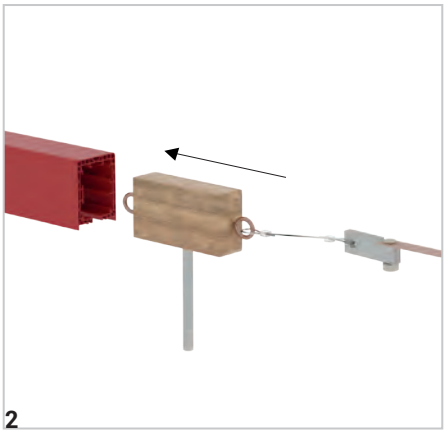
Install it on the system as you do while installing the extension.

TBX-S - Conductor Mounting Tool



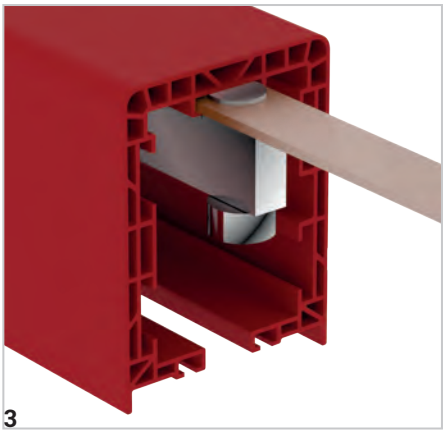
1

Screw the conductor to the conductor mounting tool.



2

Drive the conductor mounting tool along the line.



3

Ensure that the conductor is seated.

E-LINE TBX-S

Notes

E-LINE TBX-S

Offer Request Form

Date :

Project Name	:	
Company	:	
Name Surname	:	
Tel	:	
E-Mail	:	
Address	:	

General Data

Track Length	:	
Number of Cranes on Track	:	
Crane Travel Speed	:	

Environmental Data

Operating Environment	:	☐ Indoor ☐ Outdoor
Ambient Temparature	:	°C min. / °C max.
Other Operating Conditions (Humidty, Dust, Chemical Influence, etc.)	:	

Electirical Data

Operating Voltage	:	Volts ☐ AC ☐ DC
		Phases ☐ N ☐ PE
Position and Number of Feeder	:	from End / from Middle
Duty Cycle (%)	:	☐ 50% ☐ 60% ☐ 70% ☐ 80% ☐ 90% ☐ 100%

Motor Specifications		Crane - 1		Crane - 2		Crane - 3	
		Power (kW)	Current (A)	Power (kW)	Current (A)	Power (kW)	Current (A)
Hoist motors	:						
Auxiliary motor	:						
Long travel	:						
Cross travel	:						

Options

Brackets Required	:	☐ Yes		☐ No	
Repair Zone Required	:	☐ Yes	Qty	☐ No	
Collector Replacement Required:		☐ Yes	Qty	☐ No	
Descriptions	:				

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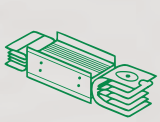
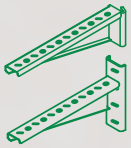
SUSTAINABLE FUTURE

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.

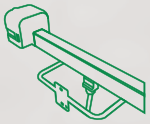


Busbar Systems



Support Systems

Cable Tray Systems



Trolley Busbar Systems

Fit-Out Solutions

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surdurulebilirlik.eae.com.tr

#FutureTogether

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