

Dynamic Busbar Systems

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.







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General Features



The E-Line URC range is designed to supply continuous power to moving machines. The system is easy to install and can be used in both indoor and outdoor installations. The E-Line URC system offers a safe solution for long runs because there are no moving cables. This eliminates the possibility of accidents and malfunctions associated with moving cables.

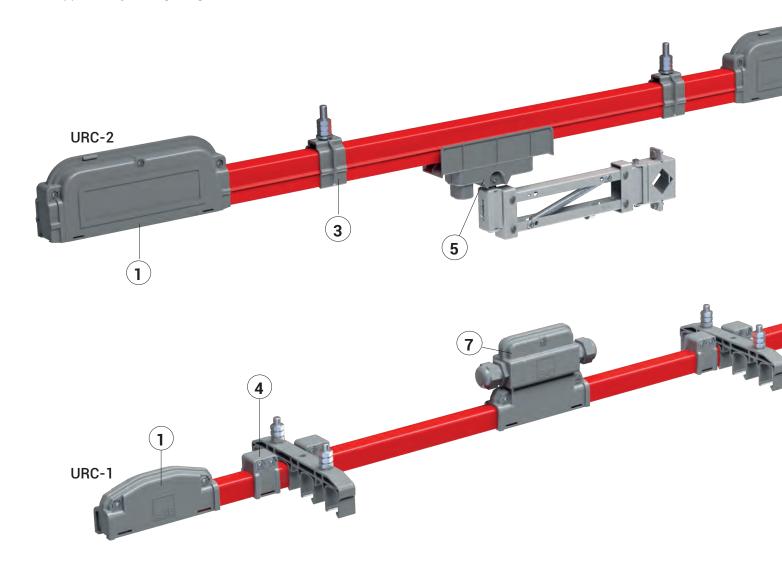
Standard Length: 4m (Aluminium Conductor URC-1)

6m (Aluminium Conductor URC-2)

Operating Speed: Maximum 200m/min.

System Components:

The E-Line URC comprises an end feed unit which supplies power to the conductors which are manufactured from either, aluminium with stainless steel contact surface. The power is conducted to the machine through a moving collector which runs along the length of the conductors. An expansion unit protects the installed system from external mechanical stresses. End caps are fitted to each end of the busbar run to safely complete the installation. The system is supported by sliding hangers.



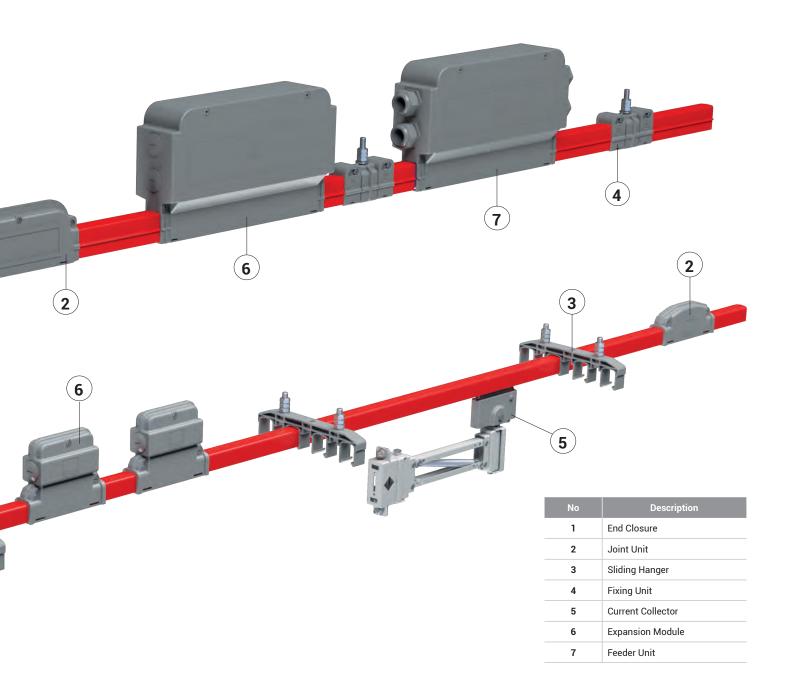
Personnel Safety:

- Personnel safety is assured by the insulation of the conductors.
- Protection Degree is IP23.

Safety



- The E-Line URC system offers a safe solution for long runs because there are no moving cables.
- This eliminates the possibility of accidents and malfunctions associated with moving cables.
- The system can used safely for outdoor applications, the component materials used give a long life solution.



Functionality:

- The system has a long life. On higher current versions the conductors are aluminium with a stainless steel V conductor surface.
- The system can carry serial collectors to allow for more than one machine to be fed from the same busbar.

Introduction

Dynamic Busbar Systems



The E-Line URC range is designed to supply continuous power to moving machines. The E-Line URC system offers a safe solution for long runs. The system is easy to install and can be used in both indoor and outdoor installations.

Applications

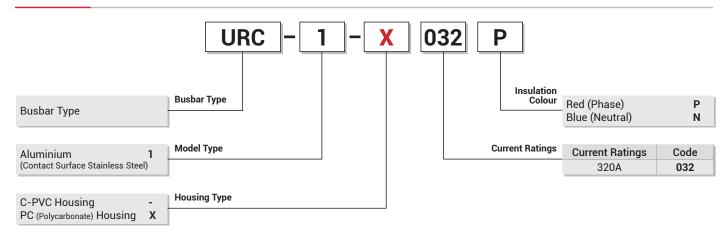
- Port, construction and cranes
- AS/RS storage systems
- Moving playground systems
- Moving Ceiling and Door Systems
- · Assembly and test lines
- Monorail systems
- · Elevator and lift systems





Order Coding System

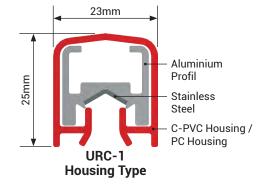




- -40°C +55°C for the temperature range C-PVC Housing.
- -40°C +100°C for the temperature range PC (Polycarbonate) Housing must be used.

Technical Features

Busbar Code		032
Rated Current	А	320
Conductor Cross-section Area	mm²	120
Rated Voltage	AC - V	1000
Resistance (20°C)	R_{20} (m Ω /m)	0,286
Resistance (32°C)	R_{35} (m Ω /m)	0,353
Reaktance	X (mΩ/m)	0,160
Impedance	Z (mΩ/m)	0,388
Weight	kg/m	0,580



- Aluminium Contact Surface Stainless Steel.
- Protection Degree IP23.
- Standard length is 4m.

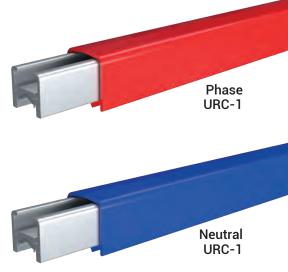
Ambient temperature is:

- C-PVC for housing -40°C +55°C
- PC Polycarbonate) is for housing -40°C +100°C

Standard Straight Length

	URC-1 (C-PVC Housing)		URC-1-X (PC Housing)	
Aluminium Conductor	(-40°C +55°C)		(-40°C +100°C)	
	Phase	Neutral	Phase	Neutral
URC-1 032 (320A)	3271455	3271457	3271454	3271456





Current Collector

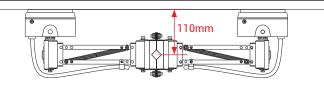
URC-1 Current Collector



Description	Order Code
URC-1 100A Current Collector (Y)	3233907

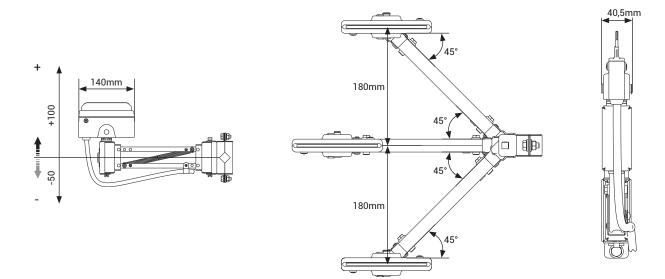
URC-1 Technical Features:

- Copper-Graphite Brush
- 200m/min. maximum operating speed
 100A 1x16mm² H01N2-D 2m standard cable length





- The distance between busbar and current collectors support should be 110mm.
- The contact pressure of current collector is 10N.



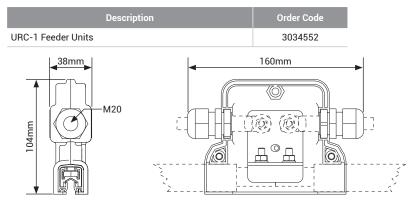
URC-1 Current Collectors Support

Description URC-1 Current Collectors Support URC-1 Current Collectors Support	L (mm) 400 600	Order Code 3034551 3188390	
•	L (mm)		6mm 155mm

System Components

URC-1 Feeder Units







URC-1 Joint Unit

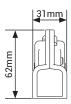
Description	Order Code
URC-1 Joint Unit	3034582
31mm	128mm

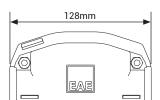




URC-1 End Closure

Description	Order Code
URC-1 End Closure	3034571







URC-1 Fixing Unit

Description	Order Code
URC-1 Fixing Unit	3034581







System Components

URC-1 Current Collector Brush Set

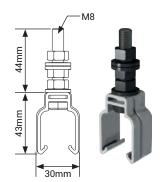


Description	Order Code
URC-1 Current Collector Brush Set	3158598



URC-1 Sliding Hanger

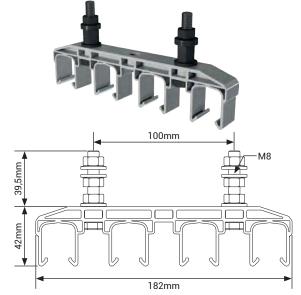
Description	Order Code
URC-1 Plastic Sliding Hanger (Single)	3034558
URC-1 Plastic Sliding Hanger (Quad)	3034559
URC-1 Steel Sliding Hanger (Single)	3200541







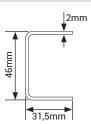
Steel Sliding Hanger (Single)

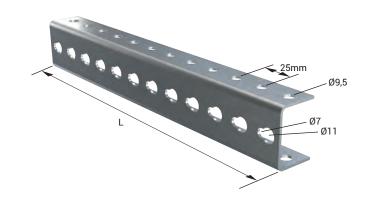


Plastic Sliding Hanger (Quad)

URC-1 Hanger Bracket

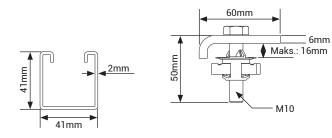
Description	L (mm)	Order Code
URC-1 Hanger Bracket	500	3034560
URC-2 Hanger Bracket	750	3025382

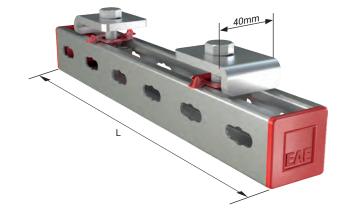




URC-1 BR Hanger Bracket Set

Description	L (mm)	Order Code
URC-1 BR Hanger Bracket Set	600	3178917
URC-2 BR Hanger Bracket Set	800	3178918

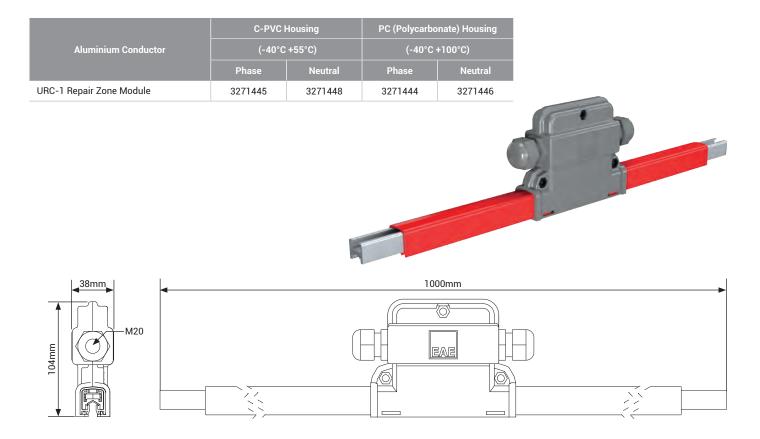




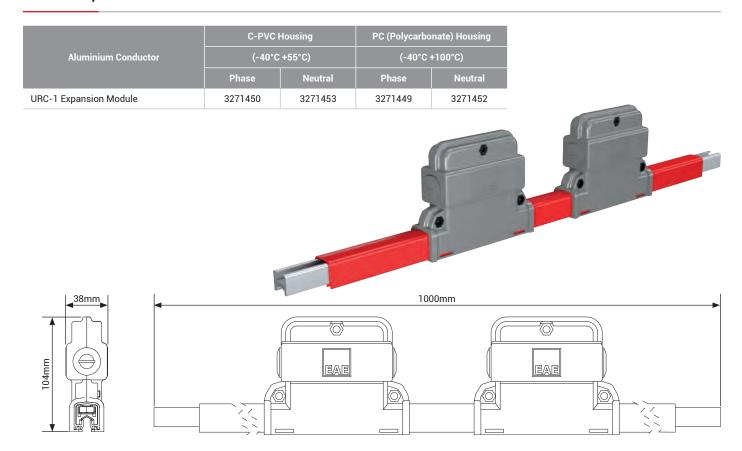
System Components

URC-1 Repair Zone Module





URC-1 Expansion Module



The expansion module should be used every 50 meters between the fixed points in order to protect the system from being damaged by the expansion that may occur due to heat.

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 $[\Omega/m]$
		Z = Impedance of The Busbar $[\Omega/m]$
For Three-Phase Alternative Current	$\Delta U = \sqrt{3} \cdot L_t \cdot I_g \cdot Z$	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;

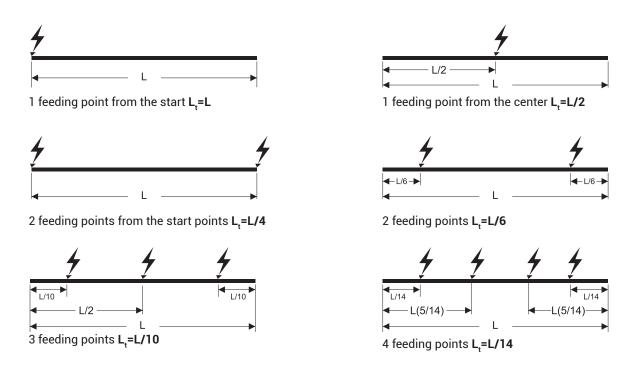
Three-phase asynchronous drive in direct start $I_A = I_G \times 5$ to 6

Slip ring rotor motor $I_A = I_G \times 2 \text{ to } 3$

Frequency converter $I_{\Delta} = I_{G} \times 1,20 \text{ to } 1,50$

Calculation of Feeding Points

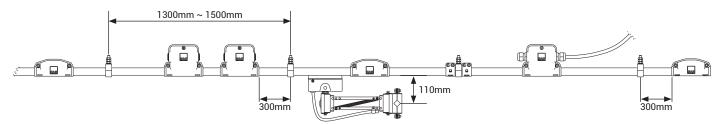
When we take L as the length of the line, feeding points may be selected as shown in the diagrams below to keep the L_t voltage drop at minimum and it may be used as the hole length for the calculation of L_t voltage drop.



Installation Manual

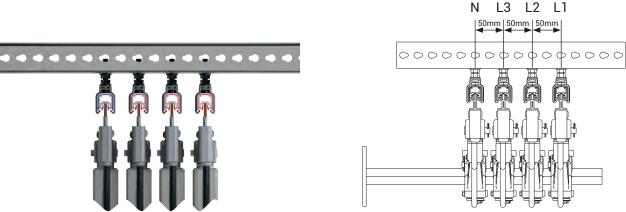
General System Usage Metrics





- Distance between the sliding hangers should be 1300 ~ 1500mm.
- Distance between sliding hanger and other units (joint unit, feeder, expansion etc.) should be minimum 300mm.

Installation

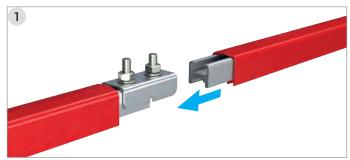


2

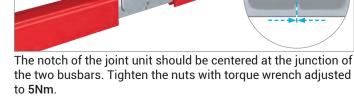
5Nm

• For horizontal installation distance at least 50mm, should be between sliding hanger axes.

URC-1 Joint Unit Installation Manual



Place the joint unit between the two busbar lengths to be joined with their bolts facing upwards as shown. The notch of the joint unit should be centered at the junction of the two busbars.





Place the joint unit covers facing each other. Put the bolts and nuts in the sockets

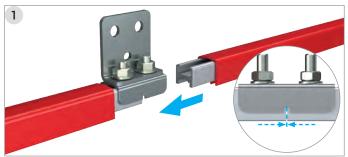


Tighten the the bolt with 5 allen wrench.

Installation Manual

URC-1 Feeder Unit Installation Manual

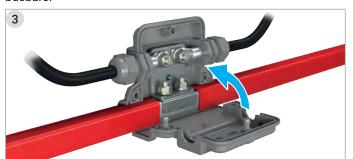




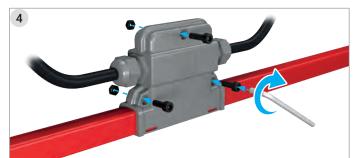
Place the joint unit between the two busbar lengths to be joined with their bolts facing upwards as shown. The notch of the joint unit should be centered at the junction of the two busbars.



Pass the cables feeding the system through cable gland, tighten the nuts of the connecting plate with a torque wrench adjusted to 12Nm.

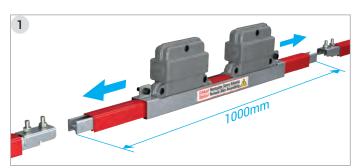


Place the feeder unit covers facing each other.

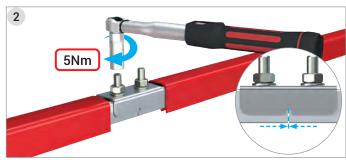


Put the bolts and nuts in the sockets. Tighten the the bolt with 5 allen wrench.

URC-1 Expansion Unit Installation Manual



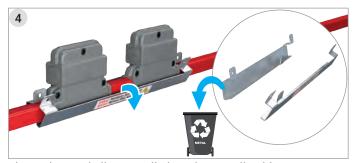
Installation of the expansion module in accordance with the joint unit installation instructions.



The notch of the joint unit should be centered at the junction of the two busbars. Tighten the nuts with torque wrench adjusted to 5Nm.



Do not open the expansion module covers. After assembly unscrew the bolts of the alignment part and remove it.



Throw the steel alignment jig into the recycling bin.

Note: If the alignment part is removed before assembly, the distances of the module should be adjusted as shown in the Figure 1.

Please duplicate this page for your own use.

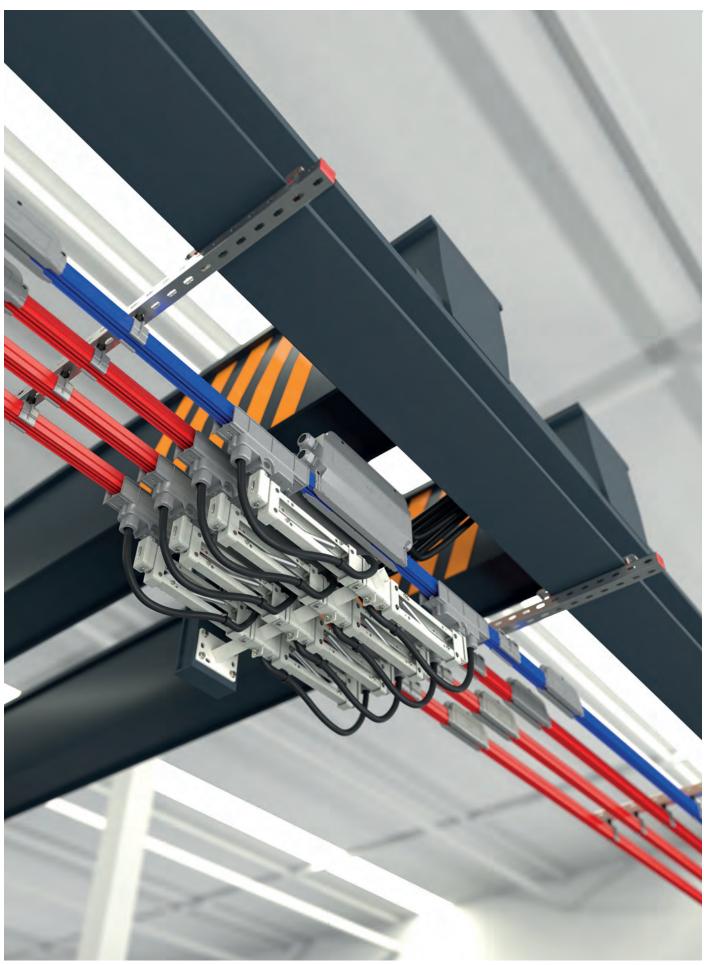
E-LINE URC

Offer Request Form



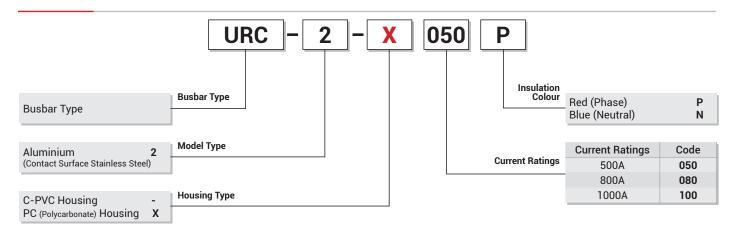
		Date :	
Project Name	:		
Company	:		
Name Surname	:		
Tel	:		
E-Mail	:		
Address	:		
		General Data	
Track Length	:		
Number of Cranes on Track	:		
Crane Travel Speed	:		
		Environmental Data	
Operating Environment	:	☐ Indoor ☐ Outdoor	
Ambient Temperature	:	°C min. °C max.	
Other Operating Conditions (Humidty, Dust, Chemical Influence, etc.)	: c.)		
		Electirical Data	•
Operating Voltage	:	Volts AC DC	
		Phases N PE	
Position and Number of Feeder	r :	from End from Middle	
Duty Cycle (%)	:	50% 60% 70% 80% 90% 100%	
		Crane - 1 Crane - 2 Crane - 3	-
Motor Specifications		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 Require	d:	Yes Qty No	
Descriptions	:]





Order Coding System





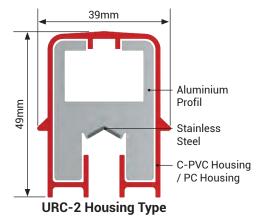
- -40°C +55°C for the temperature range C-PVC Housing.
- -40°C +100°C for the temperature range PC (Polycarbonate) Housing must be used.

Technical Features

Busbar Code		050	080	100
Rated Current	Α	500	800	1000
Conductor Cross-section Area	mm²	275	460	625
Rated Voltage	AC - V	1000	1000	1000
Resistance (20°C)	R_{20} (m Ω /m)	0,125	0,080	0,062
Resistance (32°C)	R ₃₅ (mΩ/m)	0,148	0,099	0,076
Reaktance	X (mΩ/m)	0,133	0,139	0,140
Impedance	Z (mΩ/m)	0,198	0,171	0,157
Weight	kg/m	1,150	1,700	2,050

URC-2

080



- Aluminium Contact Surface Stainless Steel.
- Protection Degree IP23.
- · Standard length is 6m.

Ambient temperature is:

- C-PVC for housing -40°C +55°C
- PC Polycarbonate) is for housing -40°C +100°C

Standard Straight Length

URC-2

050

URC-2

100

Current Collector

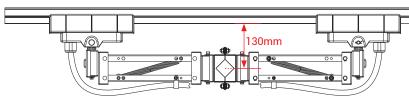
URC-2 Current Collector



Description	Order Code
URC-2 300A Current Collector (Y)	3233908

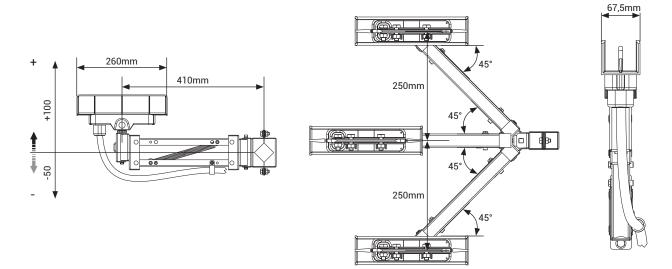
URC-2 Technical Features:

- Current collector capacity is 300A
- Copper-Graphite Brush
- 200m/min. maximum operating speed
- 1x95mm² H01N2-D 3m standard cable length





- The distance between busbar and current collectors support should be 130mm.
- The contact pressure of current collector is 50N.



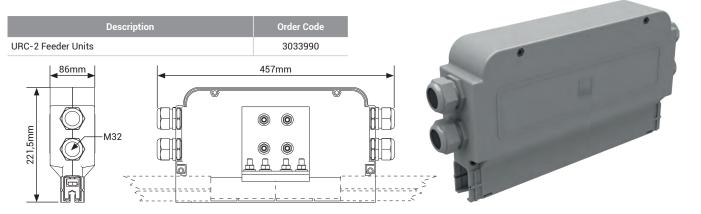
URC-2 Current Collectors Support

Description URC-2 Current Collectors Support	L (mm)	Order Code 3030410	
ene 2 curent concessor support		3000 110	
	L (mm)		155mm O Marketo O Regulation

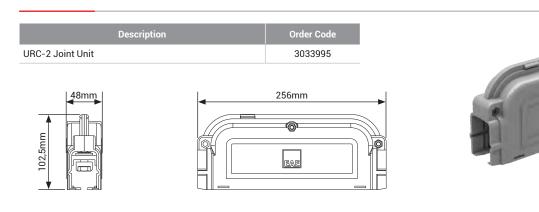
System Components

URC-2 Feeder Units

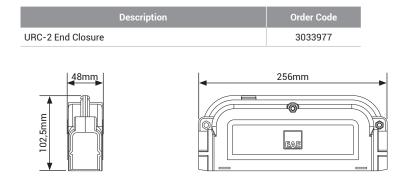




URC-2 Joint Unit



URC-2 End Closure





URC-2 Fixing Unit

Description	Order Code
URC-2 Fixing Unit	3033987







System Components

URC-2 Current Collector Brush

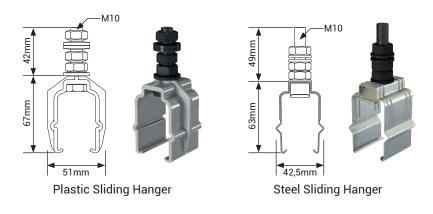
Description	Order Code
LIBC-2 Current Collector Brush (300A)	1003516





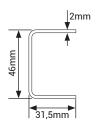
URC-2 Sliding Hanger

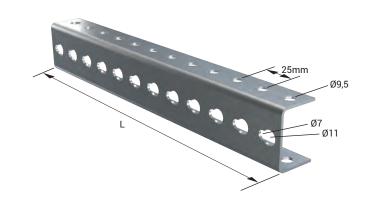
Description	Order Code
URC-2 Plastic Sliding Hanger	3033986
URC-2 Steel Sliding Hanger	3132893



URC-2 Hanger Bracket

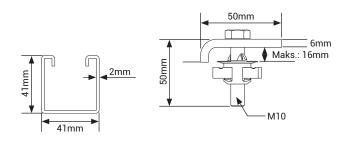
Description	L (mm)	Order Code
URC-2 Hanger Bracket	750	3025382

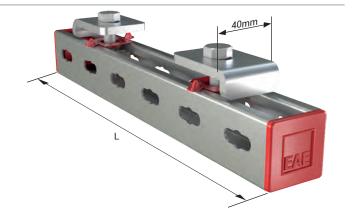




URC-2 BR Hanger Bracket Set

Description	L (mm)	Order Code
URC-2 BR Hanger Bracket Set	800	3178918

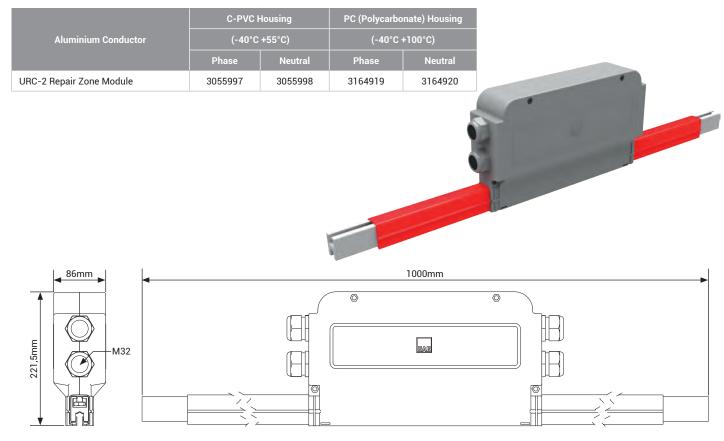




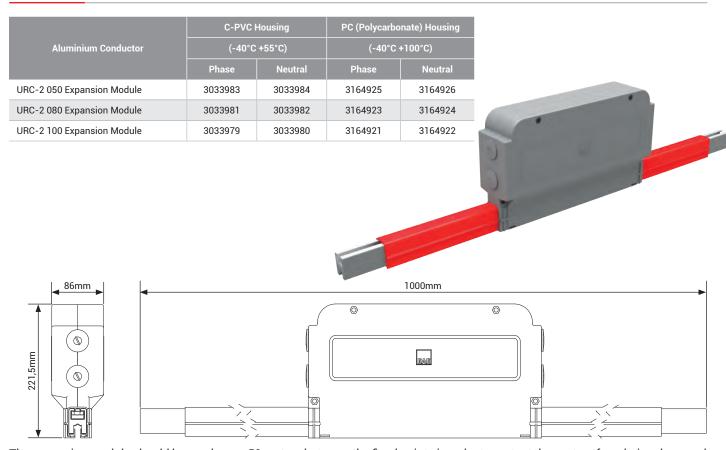
System Components

URC-2 Repair Zone Module





URC-2 Expansion Module



The expansion module should be used every 50 meters between the fixed points in order to protect the system from being damaged by the expansion that may occur due to heat.

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	$\Delta U = 2.L_{t}.I_{g}.R$	∆U =	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;

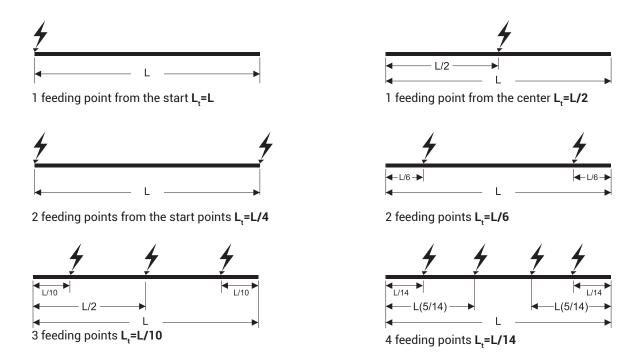
Three-phase asynchronous drive in direct start $I_A = I_G \times 5$ to 6

Slip ring rotor motor $I_A = I_G \times 2 \text{ to } 3$

Frequency converter $I_{\Delta} = I_{G} \times 1,20 \text{ to } 1,50$

Calculation of Feeding Points

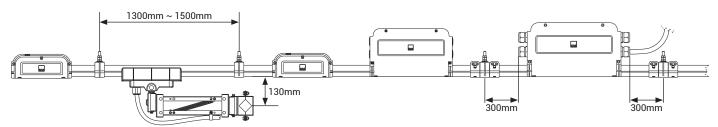
When we take L as the length of the line, feeding points may be selected as shown in the diagrams below to keep the L_t voltage drop at minimum and it may be used as the hole length for the calculation of L_t voltage drop.



Installation Manual

General System Usage Metrics



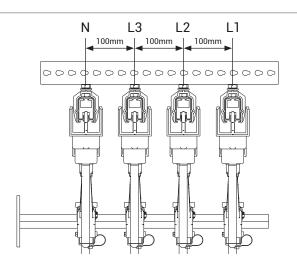


- Distance between the sliding hangers should be 1300 ~ 1500mm.
- Distance between sliding hanger and other units (joint unit, feeder, expansion etc.) should be minimum 300mm.

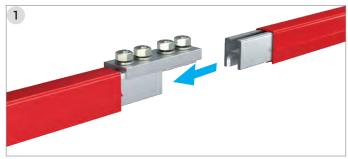
Installation



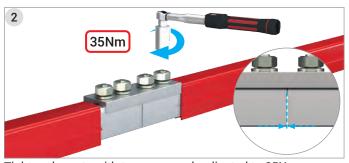
• For horizontal installation distance at least 100mm, should be between sliding hanger axes.



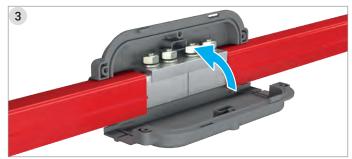
URC-2 Joint Unit Installation Manual



Place the joint unit between the two aluminium busbar lengths to be joined with their bolts facing upwards as shown. The notch of the joint unit should be centrered at the junction of the two Busbars.



Tighten the nuts with torque wrench adjusted to 35Nm.



Place the joint unit covers facing each other. Put the bolts and nuts in the sockets.

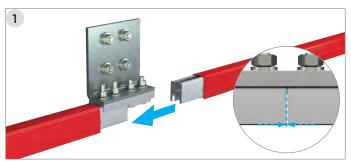


Tighten the the bolt with 5 allen wrench.

Installation Manual

URC-2 Feeder Unit Installation Manual

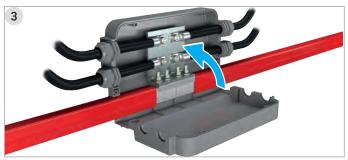




Place the joint unit between the two busbar lengths to be joined with their bolts facing upwards as shown.



Pass the cables feeding the system through cable gland, tighten the nuts of the connecting plate with a torque wrench adjusted to 35Nm.

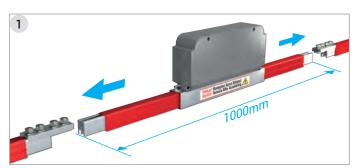


Place the feeder unit covers facing each other.

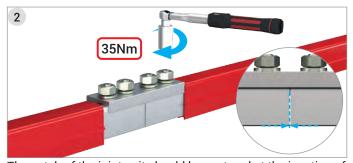


Put the bolts and nuts in the sockets. Tighten the the bolt with 5 allen wrench.

Calculation of Feeding Points



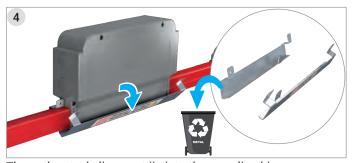
Installation of the expansion module in accordance with the joint unit installation instructions.



The notch of the joint unit should be centered at the junction of the two busbars. Tighten the nuts with torque wrench adjusted to 35Nm.



Do not open the expansion module covers. After assembly unscrew the bolts of the alignment part and remove it.



Throw the steel alignment jig into the recycling bin.

Note: If the alignment part is removed before assembly, the distances of the module should be adjusted as shown in the Figure 1.

Please duplicate this page for your own use.

E-LINE URC

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		Outdoo	r		
Ambient Temperature	:		°C min.		°C max	(.	
Other Operating Conditions (Humidty, Dust, Chemical Influence, etc.)	:						
Electirical Data							
Operating Voltage	:		Volts	☐ AC	Г	DC	
			Phases] PE	
Position and Number of Feeder:	:	from End from Middle					
Duty Cycle (%)	:	<u> </u>	60%	70%	80%	 90%	100%
		Cran	e - 1	Cran	ie - 2	Cran	e - 3
Motor Specifications		Power (kW)	Current (A)	Power (kW)	Current (A)	Power (kW)	Current (A)
Hoist motors	:						
Auxiliary motor	:						
Long travel	:						
Cross travel	:						
Options							
Brackets Required		☐ Yes	Орион	□ No			
Repair Zone Required		☐ Yes					
Collector Replacement Required	I.	☐ Yes					
	١.			ity No			
Descriptions	:						

Declaration



CE DECLARATION OF CONFORMITY

Product Group E-Line Trolley Busbar Systems

Manufacturer Akcaburgaz Mahallesi, 3114. Sokak,

No:10 34522 Esenyurt-Istanbul

The objects of the declaration described below is in conformity with the relevant Cable gland 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: Busbar trunking systems

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. Tic. A.S. Akcaburgaz Mahallesi, 3114. Sokak, No:10 34522 Esenyurt-Istanbul

Mustafa AKÇELİK

Date

Document Authorized Signatory

20.03.2025

Elif Gamze KAYA OK Deputy General Manager

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.





EAE Elektrik Head Office

Akcaburgaz Mahallesi, 3114. Sokak, No: 10 34522 Esenyurt - Istanbul - Turkiye Tel: +90 (212) 866 20 00 Fax: +90 (212) 886 24 20

EAE DL 3 Factory

Busbar

Gebze IV Istanbul Makine ve Sanayicileri Organize Bolgesi, 6.Cadde, No:6 41455 Demirciler Koyu, Dilovasi - Kocaeli - Turkiye Tel: +90 (262) 999 05 55 Fax: +90 (262) 502 05 69















