



Energy Distribution Solutions







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.







Active Factories



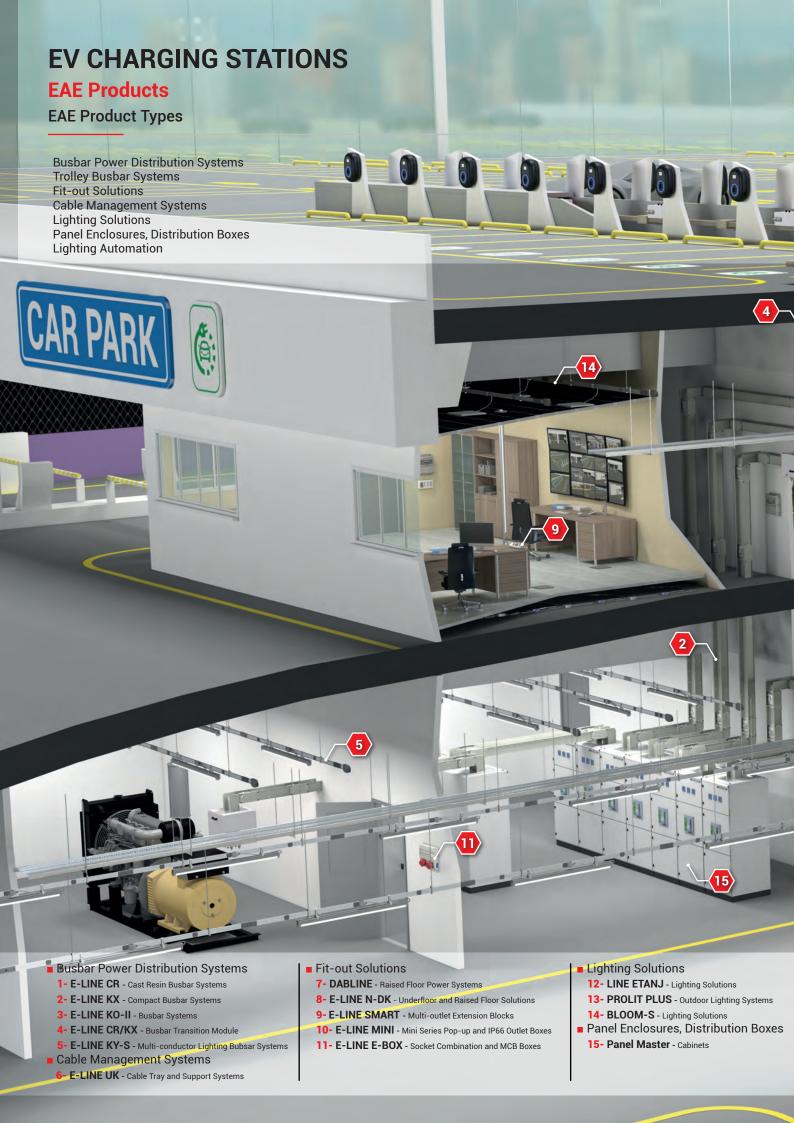
360.000m² Enclosed Space

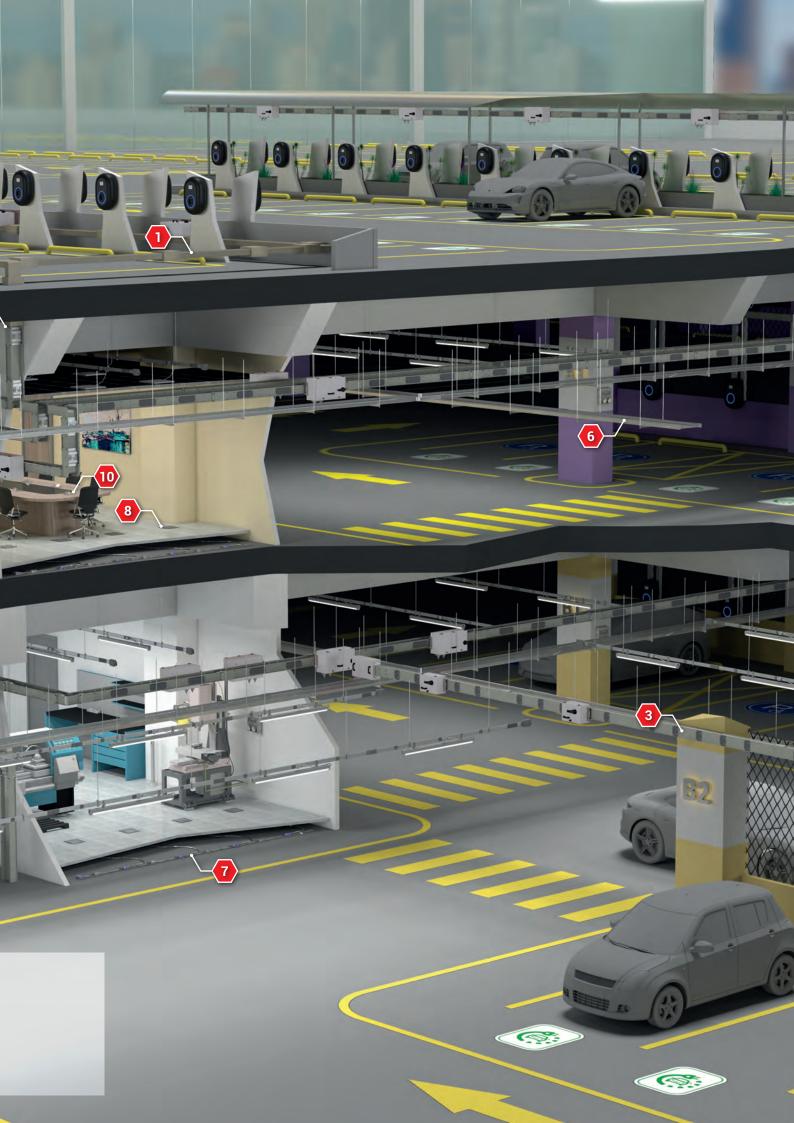


R&D Centers



150+
Countries Exported To







EAE Provides...





- Manufacturing since 1973
- Exporting to more than 100 countries with more than 10.000 global references
- · Wide range of products
- Local partners in more than 100 countries and EAE engineers are experienced in design, site measurement, installation, supervision, and testing



- CB Test Certificate
- Kema-Keur Program
- Halogen-Free & Fire Resistant products
- ISO 9001, ISO 14001, OHSAS 14001 (ISO 45001), ISO 27001, Green Guard, and CPR



Flexibility

- Tailor-made special products & solutions
- Patented Easy Busbar Software with 3D isometric drawings
- Revit Library



Good Delivery

- 3-4 weeks production lead time
- Emergency production lead time in 48 hours
- Easy access to Europe, Central Asia, the Middle East, and North Africa from EAE factories



High Standards



Wide Range of Products



Optimum Price



Continuous Innovation



Wide Services and Solutions



CONTENTS

Why EAE?	2-6
Applications	7
EAE Busbar Products	8-10
EAE Busbar Advantages	11
EAE Supporting System Products	12
EAE Fit-out Products	13
EAE Lighting Products	14
EAE Enclosure Products	15
EAE Lighting Automation Products	16
Major References	17-18

Why EAE

Reliable And Robust Solution With Busbars



Transportation and distribution of electricity were used to be provided by paralleling several large-sized cables. In order to support these cables in the buildings, there must be a lot of cable trays, cable ladders, under-floor cable channels, etc. Applications of cables, such as, fixing to cable channels, branching, connecting, calculating distances between cables for heat dissipation, adjusting difference lengths, etc. need special expert workers, more time, more effort, which means more money. In order to eliminate all the above disadvantages, modern BUSBAR SYSTEMS are developed. EAE manufactures E-LINE busbar systems from 25A up to 6300A since 1973 in order to convert the above disadvantages to advantages.

- Busbars have a compact structure. Compact structure is provided by placing insulated/separated conductors in the housing.
- Busbar systems do not burn, do not carry flames, and do not generate poisonous (halogen, etc.) gas in case of fire.
 Traditional cable systems can burn and enable fire to propagate in the buildings.
- Busbars can be applied to any kind of building by their modular structure. Busbar trunking systems have the advantage of
 expansion, change, replacement, and re-using capability in the future. According to the future needs, the design of the busbar
 system can be changed easily or fully/partially moved to another establishment.
- During the design stage of the building, busbar systems reduce the number of cable trays, distribution boards, dimensions of main panel boards, MCBs, and MCCBs in panel boards and eliminate all the accessories of cable systems.
- Installation time is much shorter than cable systems. This provides low installation and workforce costs and helps for better time management.

Safety

- EAE tap-off boxes are able to feed any brand of wall boxes easily without any additional systems and mechanisms.
- All outgoing cables with suitable plugs are protected by breakers equipped in EAE tap-off boxes.
- EAE tap-off boxes are mechanically and electrically interlocked with the busway housing to prevent fixing or removal of EAE tap-off boxes while the switch is in the ON position.
- EAE tap-off boxes can be equipped with an operating handle that always remains in control of the switching mechanism.
- EAE tap-off boxes are lockable by a **padlock** (only authorized personnel from the maintenance team will be able to operate EAE tap-off boxes).
- It's easy, economic, and safe to get the power from the EAE
 Busbar line with EAE tap-off boxes where they are needed.
 The number of tap-off boxes can be increased safely on plugin points and block joints. The location of these EAE tapoff boxes can be easily changed according to future needs.
- Busbar systems do not burn, do not carry **flames**, and do not generate and propagate the poisonous (halogen, etc.) **gas** in case of fire.
- Busbars can not be bitten and damaged by rats, bugs, etc. because the housing is made of **metal**.



operated after switching off the system by an only

authorized person.

Why EAE

Tap-Off Box With Any Type Of Breakers

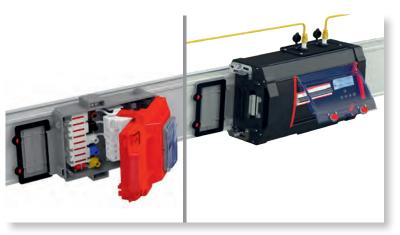


Plug-in and bolt-on tap-off boxes are a unique technology to drain power up to 1000A at plug-in outlets and/or block joints providing power distribution solutions.

EAE tap-off boxes are compatible with Worldwide brands of circuit breakers and switches.

All-metal enclosure tap-off boxes can be supplied;

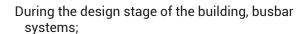
- With any type, model, the brand of breakers
- · With any gland type or with a blank gland plate
- · Any required color of the housing
- Has an electrical interlock mechanism
- · Has a mechanical interlock mechanism
- Has IP55 protection degree
- · Has tulip contacts made of silver-plated copper
- Can be tailor-made to any size





Cost Efficiency & Better Voltage Drop

- EAE busbars systems provide better voltage drop and short circuit values, which make the power distribution more reliable and economical than the traditional cable system solutions in buildings.
- Busbars can be applied to any kind of building by their modular structure. Busbar trunking systems have a big advantage due to thermal expansion, flexibility, route change, replacement, and reusing capability when it is required.
- Installation time is much shorter than cable systems.
 This provides fewer manpower costs and helps for better time management.



- a) Reduce the number of CABLE TRAYS,
- b) Reduce the number of DISTRIBUTION BOARDS. It is possible to feed loads directly with EAE tap-off boxes,
- c) Reduce the DIMENSIONS of MAIN PANEL BOARDS,
- d) Reduce the number of the MCBs / MCCBs,
- e) Eliminate many ACCESSORIES used for cable systems,
- f) Execute the projects in a shorter time and reduce the COST.





Why EAE

Canopy Solutions



- EAE has its own canopy solution to provide additional protection around the busbars.
- The canopy system also can be manufactured by customers/clients in the coordination of EAE and their architects to maintain visual harmony in facilities/ buildings.
- EAE LV power busbars are IP55, besides IP68 LV cast resin busbars are available too. These IP 55 & 65 levels are enough for indoor applications.
- For outdoor applications, IP 68 Cast resin busbar is available with IP 65 tap-off boxes.
- IP67 busbar type is also available for Partially protection with a suitable Canopy in order to protect the busbar systems against human/animal intervention and atmospheric conditions like UV, direct sunlight, rain, and dust.



Green Guard Certificate

- The chemical pollutants come from products and materials that we use at our homes and workspaces like furniture, pieces of equipment, and building materials. These materials emit Volatile Organic Compounds (VOCs) that can negatively affect our health. Since our heating and cooling systems recirculate the same air in all the rooms, that means that VOCs remain inside the buildings, posing problems.
- The <u>Greenguard Environmental Institute</u> is an independent organization that certifies products and materials for low chemical emissions. Products that are certified by Greenguard have to meet stringent standards and emission limits for indoor use like schools, daycares, and other areas. You can rest assured that any product with the Greenguard Gold certification will not emit significant chemical compounds into the air which is scientifically proven to reduce indoor air pollution and the risk of chemical exposure.
- EAE Busbar Systems are certified by Greenguard since 2015.



GREENGUARD



Why EAE

Fire Resistance Certificate



- Fire Resistance Tests IEC 60331-1 (Circuit Integrity Under Fire for E-LINE KX)
- IEC 60331-1 1000°C 3 hours BRE, UK
- IEC 60331-1 950°C - 3 hours - TUV, Singapore
- 1000°C 2 hours DEKRA, Netherlands IEC 60331-1
- 842°C 2 hours BRE, UK BS 8491 (Sprinkler Water & Mechanical Impact)
- EN 50399 Low Heat and Low Smoke Release

B1/S1 dO - Dekra, Netherlands

- Fire Resistance & Circuit Integrity Tests for E-Line KX with Plug-in Tap-Off Box
- IEC 60331-1 830°C - over 3 hours, Magnetic MCCB - DEKRA, Netherlands
- IEC 60331-1 830°C - over 3 hours, NH Fuses - DEKRA, Netherlands
- Flame Propagation Test IEC 60332-3 (IEC 61439-6,10.101)
- Fire Barrier Test 2 Hours ISO 834-1 (IEC 61439-6,10.102)

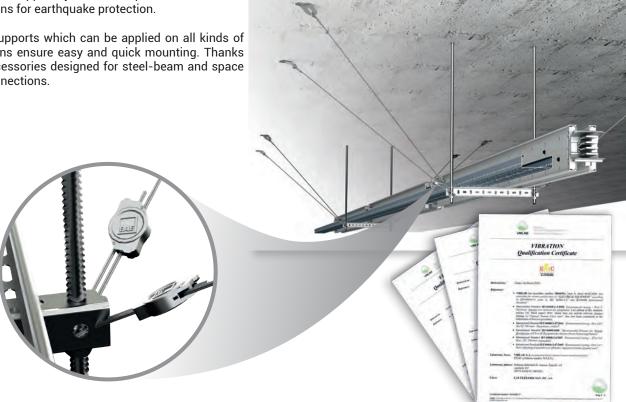




Seismic Supports

installations for earthquake protection. · Seismic supports which can be applied on all kinds of installations ensure easy and quick mounting. Thanks to the accessories designed for steel-beam and space frame connections.

• EAE Seismic support systems offer perfect solutions for



Why EAE

RoHS & REACH



- RoHS directives were published and started to implement from 01 July 2006 to all members of this protocol worldwide. This directives goal is to limit some hazardous materials like Pb, Hg, Cd in Electrical and Electronic pieces of equipment. Those materials had a serious impact on human health.
- EAE ELEKTRIK keeps human health and product safety at the highest level to not use detrimental elements that create negative effects on the environment and human health, as stated in the RoHS directives.

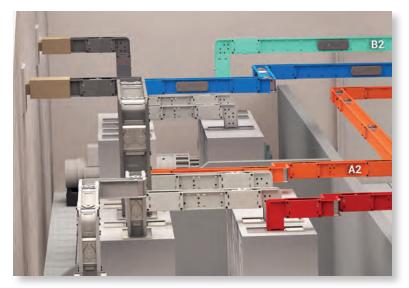






Painted Housing For Busbar System (Any Colors)

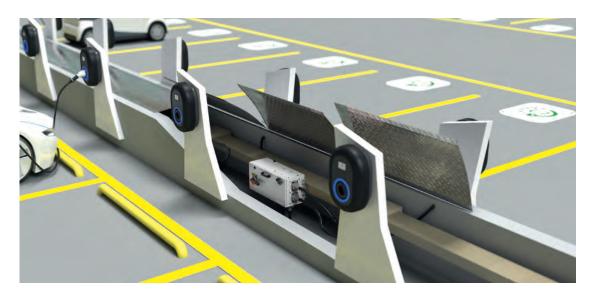
- The housing of any type/model/rating Busbar can be painted in any color selected by the designer/client in order to match the building/room aesthetically.
- Polyester epoxy paint with a min. 75-micron thickness on the housing provides a better strength against environmental conditions.
- Any similar requirement can be applied to our Cable trays as well.
- This process is done in EAE's in-house plant as per QA/ QS procedures in several steps with chemical surface preparation, acidic treatments for degreasing, and applying the necessary coats of paint on the surface of metal sheets.



Applications

Outdoor Application with IP68 Busbar





Indoor Application with IP55 Busbar (IP65 Busbars are optional)





EAE Busbar Products







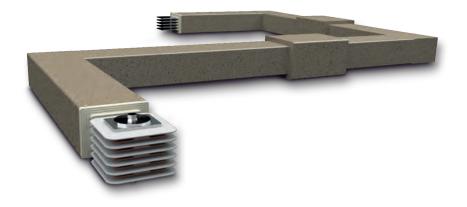
Overview

The EAE E-Line KX Series compact busbar system is designed for use in projects requiring high power distribution and is rated from 400A to 6300A using the latest technology.

Features:

- UL 857 and IEC 61439-1&6 product
- Modular structure
- · Ability to supply energy either from the joints or from the tap-off points (Bolt-on or Plug-in)
- · High electrical and mechanical strength
- Fast, easy and reliable installation with single bolt joint construction.
- · Output units allow a significant saving about panel and system cost
- · Special design for minimal voltage drop
- Tin-plated (optional silver plated) aluminum or copper conductors
- IP 55 and IP 65 standard, IP 67 optional protection degree
- · Aluminium housing
- · Epoxy insulation
- Fire resistance as per IEC 60331

E-LINE CR / Compact Busbar Distribution System 630...6300A



Overview

The body of the E-Line CR busbar is formed using DURACOMP, a composite material of epoxy resin and pure silicon which gives protection against arduous environments and high impact.

Features:

- IEC 61439-1&6 product
- Current Aluminium and Copper ranges from 630A to 6300A
- IP68 / IP69 K protection degree
- 4, 5 and 6 conductor options
- · Clean earth option
- IEC 60331-1, 3 hours of continuous current under fire condition
- Conformance to seismic requirements in accordance with IEC 60068-3-3; IEC 60068- 2-57 and IEEE 693 standards
- Please refer to our catalogs for further information from www.eaegroup.com

EAE Busbar Products

E-LINE KO-II / Busbar Distribution System 160...800A





Overview

"E-Line KO Series" medium-range busbar systems provide suitable solutions for electricity transmission and distribution in medium-sized project facilities.

Features:

- IEC 61439-1&6 product
- Modular structure
- Plug-in tap-off outlets at every 25 cm
- · Aluminium or copper conductors
- 4, 4,5, or 5 conductors
- Tin plated conductors
- · Dust cover on outlet points
- IP 55 protection class

E-LINE MK / Busbar Distribution System 100-160-225A



Overview

The small power range busbar systems of "E-Line MK Series" provide flexible and cost-effective solutions for the transmission and distribution of electricity in small-sized enterprises, workshops, and industrial facilities.

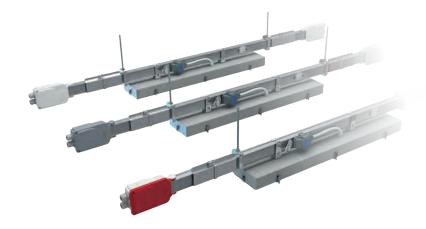
Features:

- IEC 61439-1&6 product
- Modular structure
- Plug-in tap-off outlets at every 25 cm on both sides
- Tin-plated aluminum or copper conductors
- 4 or 5 conductors
- Hinged and lockable dust cover on outlet points
- Installation without using a torque wrench (shear head bolts)
- IP 55 protection class
- · Flexible elbows and expansion modules
- Please refer to our catalogs for further information from www.eaegroup.com

EAE Busbar Products







Overview

The E-Line DL/SL range of busbar systems are used in buildings on lighting and socket circuits where 25A, 32A, or 40A Three-phase or Single-phase power is required. 10-16A plugs or 25A tap-off boxes with a cartridge fuse or miniature circuit breaker are specially designed to supply lighting and power circuits as per the specifications.

Features:

- IEC 61439-1&6 product
- Choice of conductor configurations up to 10 conductors with 5+5 form
- Tap-off plugs are available in different colors to indicate the phases
- · Strong body structure which can support all types of luminaires
- IP 55 protection class
- Clean Earth "CE" conductor for UPS circuit
- The Emergency Kit (ACK) supply and the Dali signal are fed through the same busbar and tap-off plugs negating the need for extra cabling.

E-LINE KY / Lighting & Low Power Distribution System 25-40-63A



Overview

KY Busbar System is suitable for all kinds of lighting, sockets, and low power circuits with 25-40-63A current levels. Also within the scope of lighting automation, DALI and DIM circuits can be used to transmit the emergency lighting kit reference voltage.

Features:

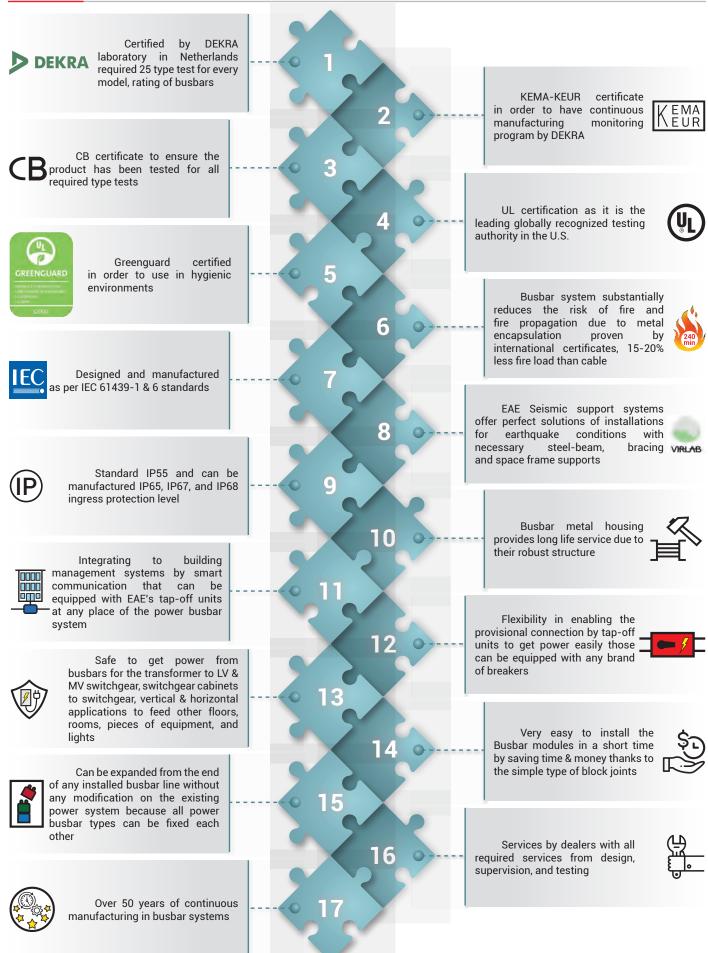
- IEC 61439-1&6 product
- 3 and 4 meters standard busbar length, plug-in points every 1 meter,
- · At all joint and plug-in points, the contacts are plated with silver,
- · Copper conductors are covered with full-length tin and copper oxide formation is prevented,
- · Simple joint structure that prevents deflection and stretching.

[•] Please refer to our catalogs for further information from www.eaegroup.com

EAE Busbar Advantages

E-LINE KO-II / Busbar Distribution System 160...800A





EAE Supporting System Products

E-LINE A-A / Supporting Systems & Accessories





Overview

E-LINE A-A series and E-Line Seismic suspension systems are used in buildings and factories; in concrete or steel structures to carry Busbar, Conduit, Cable Ladder, etc. Systems appropriately. Service- and light service-type suspension types diversities are available according to the weight of the system to be carried.

A-A Support Systems / Cable Tray Support and Accessories



E-Line A-A series of support systems are designed for heavy-duty loads. The A-A series can be produced from 2.0mm up to 4 mm. as below available finishes. With its special coating, it can provide project required corrosion protection and it is fire resistant.

Strut Channel (G Profile)



E-Line STRUT CHANNEL series is a modular support system specially designed for heavy-duty loads with its numerous assembly variations. The BINRAK series can be produced with 1.5, 2.0mm, and 2.5mm thickness as pre-galvanized and hot-dip galvanized and stainless steel.

Seismic



E-Line Seismic bracing assembly systems are designed to secure the support systems sustainability against seismic waves with lateral and longitudinal applications withstanding the push and pulling forces. The assemblies are produced as hot-dip galvanized with electro galvanized accessories.

M-Fix Electro-Mechanical Support and Suspension Systems



- Pre-galvanized and Hot-Dipping alternatives
- · Suspension system varieties of Light, Medium, and Heavy-Duty type
- Coating resistant to the salt test of 400 hours for the purpose of corrosion prevention of products such as Stem Bar, Bolt, and Nuts of switch material fittings
- Mechanical suspension solutions specific to customer requirements.









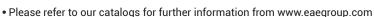












EAE Fit-Out Products

Fit-Out Solutions





DABLINE / Raised Floor Power Distribution Systems 63-80A

DABLINE busbar systems, which have different color options, are used for raised floor applications in offices. Does not require a cable duct, cable, junction, or connector. Manufactured in either 63A or 80A current rated versions with the tap-off plugs rated 13A to 32A.



Stylish, safe, and innovative design,

modular and compact solutions. The underfloor and raised floor power distribution systems save office etc environments from cable stacks and offer streamlined cabling. Can be adapted when offices or workplaces are moved around or capacity

Overview

increases.

E-LINE N-DK/MINI / Modular and Compact Solutions for Underfloor and Raised Floor

Stylish, safe, and innovative design, modular and compact solutions. The underfloor and raised floor power distribution systems save office etc environments from cable stacks and offer streamlined cabling. Can be adapted when offices or workplaces are moved around or capacity increases. New, aesthetic, compact, and mini-solutions for working desks, raised floor, and under-screed sockets. Three different ranges with IP40 and IP66 options.



E-LINE E-BOX / Socket Combination and MCB Boxes

E-Line E-BOX equipped and/or empty socket combination and fuse (distribution) box solutions for factories, construction sites, workshops, and working environments.







[•] Please refer to our catalogs for further information from www.eaegroup.com

EAE Lighting Products

Parking Solutions



Parking lots are one of the most preferred areas of use in daily life. Sufficient and properly illuminated car parks offer drivers safe and easy parking. Therefore, choosing suitable fixtures for parking areas will provide high comfort and efficiency in the long run. In general, waterproof luminaires are preferred for parking lot lighting. Meeting with LEDs in the lighting of parking lots will save up to 60% in expense and energy consumption. In this sense, the selection of luminaires that match the parking lot lighting criteria will also bring sustainability. In addition, the use of sensors and smart systems in car parks that are frequently used at short intervals will greatly reduce operating expenses. LED lighting fixtures developed by EAE will provide maximum illumination with minimum energy consumption for many years when integrated with control systems. In addition, more homogeneous, low-cost, and energysaving can be achieved by using advanced optical lens options. With the "BATWING" lens option we have developed for indoor parking projects as EAE lighting, additional 50% cost savings are achieved in parking lots compared to conventional LED products. Integrated and efficient projects are designed with Busbar, LED lighting, and automation systems developed by EAE group companies.





INDOOR PARKING AREAS

Indoor parking areas can create adverse conditions for drivers when they are not illuminated in accordance with the field conditions. Ensuring adequate lighting conditions in parking garages is very important for creating a safe parking space and for a comfortable driving experience. While 75lux illumination level is sufficient for indoor parking areas and the other parts, 250-300lux illumination level will be sufficient for entrances and exits. In areas with high dust and humidity, choosing LED Waterproof luminaires with IP65 protection class will be the right choice for parking garages that cannot benefit from daylight.









OUTDOOR PARKING AREAS

Outdoor car park lighting should be completely tailored to the needs of the drivers. The lighting level to be used in this area between 10-20lux will be sufficient. In outdoor parking lots, the main preferred lighting is street luminaires and floodlights. In this way, it will facilitate the homogeneous spread of light. While pole lighting is suitable for small car parks, high-performance projectors are used in outdoor car parks with large areas. Preferring luminaires with low glare values in outdoor car parks is closely related to the visual comfort of the drivers.



PROLIT PLUS







• Please refer to our catalogs for further information from www.eaegroup.com

EAE Enclosure Products

Panelmaster

Type-tested LV Switchgears Up to 6800A

PanelMaster low voltage switchboards are designed to fulfill various application needs. Its unique structure and flexible power modules are type-tested and certified by internationally accepted independent laboratories.

PanelMaster has been type-tested with switchgear equipment of various suppliers. This gives freedom at component selection among widely accepted and known switchgear equipment brands.





Rated Current (I_n)

Rated Short Time Withstand Current (I_{cw}) Rated Impulse Withstand Voltage (U_{imp})

Partitioning
Protection Class

Protection Class Against Mechanical Impact

Framework

Colour

: Up to 6800A

: Up to 120 kA - 1sec.

: Up to 12 kV

: Up to Form 4b

: Up to IP55

: IK10

: Painted 2mm pre-galvanized steel

: RAL 7035 epoxy-polyester electrostatic powder paint

E-Kabin

Type Tested Empty Electrical Enclosures

E-Kabin brand type-tested according to IEC 62208, offers complete solutions for low voltage empty electrical enclosures in various applications.

- Wall Mounted Enclosures (E-Kabin M, O, E Series)
- Stand Alone Enclosures (E-Kabin S, D Series)
- Outdoor Enclosures (E-Kabin H Series)
- Stainless Steel Enclosures (E-Kabin X Series)
- Terminal Boxes (E-Kabin T Series)
- Consoles (E-Kabin K Series)
- Type-tested Busbar Supports (E-Kabin B Series)



• Please refer to our catalogs for further information from www.eaegroup.com

EAE Lighting Automation Products

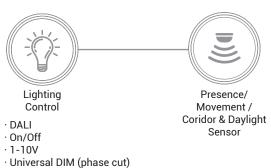
EAE Technology Parking Area Solution



EAE KNX Lighting Control Solution

EAE's KNX Lighting Control Solution is flexible and extendable to fulfill all the requirements and expectations of projects. EAE Technology's KNX products are designed with manufacturer-independent protocols such as KNX, making extensions of the system possible with any other KNX manufactured products.





· Emergency Lighting Reporting

EAE DALI-2 Lighting Control Solution

DALI-2 refers to the latest version of the DALI protocol. Compared with DALI version-1, there are many new commands and features in DALI-2. While DALI version-1 only included control gear, DALI-2 has control devices such as application controllers and input devices (e.g. sensors), as well as bus power supplies.



Motion Detector

Button Interface

EAE DALI-2 Oria Switch



EAE DALI-2 DA-STx Rosa Switch Series











[•] Please refer to our catalogs for further information from www.eaegroup.com

Major References





References

VBZ - Zurich Public Transport

IKEA

Essen RWE Campus E-Ladepunkte

Köln DIBAG Parkhaus 1 Köln DIBAG Parkhaus 2 Essen Aldi Parkhaus 1 Essen Aldi Parkhaus 2 Essen ALDI Nord Campus München Parkhaus Zenith München SWM TG und Kita Berlin QBB-B Ladestationen Luxemburg Auvent 2+3

Stuttgart SW9 NB Verwaltungsgebäude UG

Düsseldorf Eclipse mit E-Ladepunkte OSL Gardermoen Airport Parking OSL Gardermoen Airport Hertz Rental

Tomtebrygga B1 apartments and Hotel

Professor Birkelands vei Grønn Kontakt EV Entrepreneur

Porsche EV Supercharger Billingstad

TSG Group Charging Stations Etelärannan Huolto Oy

As. Oy Rettiginrinne As. Oy Tuhtopolku

Tyyrpuuri

Pan Ledi Pancevo

Brederode Offices Parking Grognon

INFINITY Shopping Center

Garage ASML Garage Atrium Zurich, Switzerland Switzerland

Essen, Germany Köln, Germany

Köln, Germany Essen, Germany Essen, Germany

Essen, Germany München, Germany München, Germany

Berlin, Germany

Luxemburg

Stuttgart, Germany Düsseldorf, Germany

Oslo, Norway Oslo, Norway Oslo, Norway Oslo, Norway

Norway Norway France Finland Finland

Finland Finland Serbia

Brussels, Belgium Namur, Belgium Luxembourg

Veldhoven, Netherlands Amsterdam, Netherlands Coles Distribution Centre **Kmart Distribution Centre Woolworths Distribution Centre** Elizabeth Quay 77 Market St

Melbourne, Australia Hamilton, New Zealand Sydney, Australia Perth, Australia Sydney, Australia

Major References



Projects











Applications











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 Ťel: +90 (212) 866 20 00 Fax: +90 (212) 886 24 20

EAE DL 1 Factory

Cable Tray

Gebze IV Istanbul Makine ve Sanayicileri Organize Bolgesi, 6.Cadde, No:2 41455 Demirciler Koyu, Dilovasi - Kocaeli - Turkiye Tel: +90 (262) 999 05 55 Fax: +90 (262) 502 05 70

EAE DL 2 Factory

Lighting - Electrotechnical

GMakine Ihtisas Organize Sanayi Bolgesi Mahallesi, 1. Cadde, No:4 41455 Dilovası - Kocaeli - TURKEY Tel: +90 (262) 999 05 20 Fax: +90 (212) 549 37 90

EAE DL 3 Factory

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













