Automotive & Railway Electronics
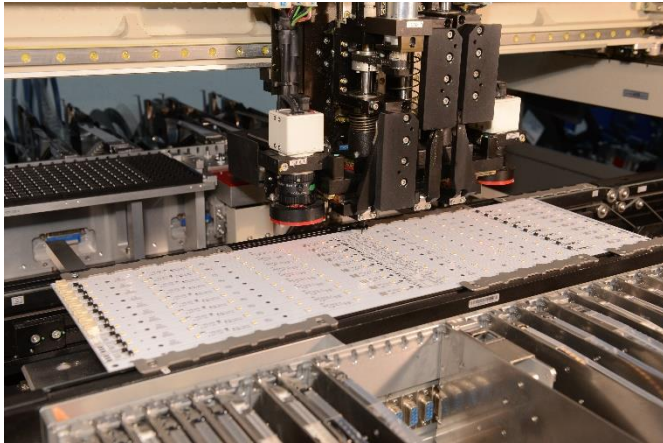
Quality All

COMPANY PROFILE

ABOUT US

ERA WAS FOUNDED IN 1968 AND FROM THE VERY BEGINNING, BECAME THE SYMBOL OF QUALITY AND THE TRADITION OF DESIGNING INNOVATIVE, CREATIVE AND COST-EFFECTIVE ELECTRONIC PRODUCTS.

ERA IS THE LEADING SUPPLIER OF GLOBAL AUTOMOTIVE AND RAILWAY VEHICLE MANUFACTURERS. ERA HAS MORE THAN 55 YEARS OF EXPERIENCE IN DESIGNING AND DEVELOPING INTERIOR LIGHTING SYSTEMS FOR AUTOMOTIVE AND RAILWAY VEHICLES.

OUR PLANT

- ✧ CLOSED AREA: 5200 m2, 4 floors

- ✧ PRODUCTION ENVIRONMENT:
  - o CONDUCTIVE FLOOR
  - o TEMPERATURE, DUST & HUMIDITY CONTROLLED CLIMATE SYSTEM
- ✧ PRODUCTION CAPACITY:
  - o COMPONENTS INSERT CAPACITY: 21,000,000 PCS/YEAR
- ✧ SOLDERING CAPACITY: 630,000 FRAMES /YEAR (SIZE: 230X380 MM)
  - o EQUIPMENT CAPACITY: 810,000 UNITS/YEAR

Solder Paste Screening

- ✧ TEMPERATURE AND HUMIDITY CONTROLLED, ESD PROTECTED SMD ROOM
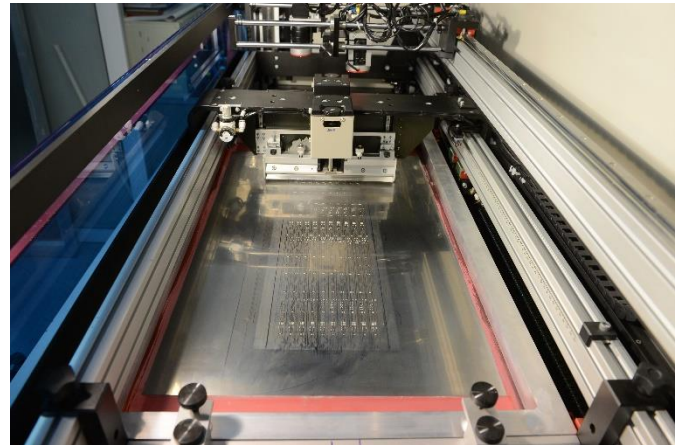- ✧ AUTOMATIC SMD PICK & PLACE AND SOLDERING

SMD Pick & Place Machine

- ✧ AUTOMATIC COMPONENT INSERTION PROCESS

- ✧ SOLDERING ROBOT

Soldering Robot

- ✧ COMPONENT LEAD FORMING PROCESS
- ✧ AUTOMATIC CABLE CUTTING & STRIPPING AND CRIMPING PROCESS

Cable Cutting & Stripping and Crimping

- ✧ PCB MANUAL ASSEMBLY & SOLDERING PROCESS
- ✧ PCB CLEANING PROCESS
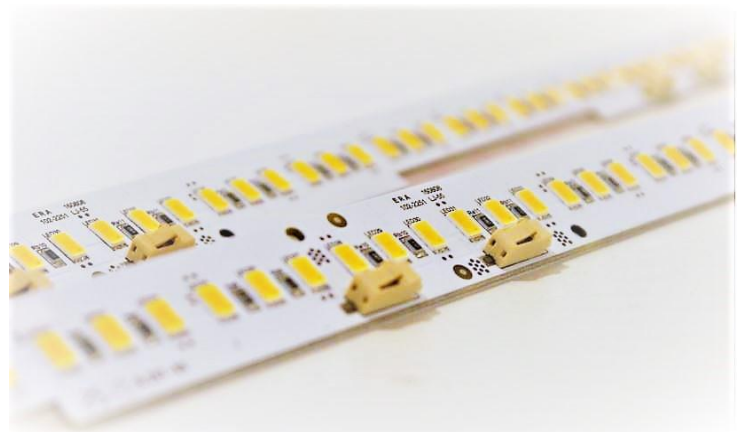- ✧ DOUBLE WAVE LEAD-FREE SOLDERING

Soldering Oven

QUALITY MANAGEMENT SYSTEM

Quality assurance is defined as a set of planned and systematic activities implemented to provide sufficient confidence that a product or service will meet specified requirements for quality. Its basis lies in the instructions, job and responsibility definitions and certification of all stages of the product or service, training of employees and raising awareness about quality and maintaining the quality at the planned level with the least use of resources.

ERA has been implementing the requirements of IATF 16949 Automotive Quality Management System, ISO/TS 22163:2017 International Railway Industry Standard (IRIS) and ISO 9001 Quality Management System, for many years. We also apply the following processes into our production; APQP, PPAP, FMEA, SPC and MSA, G8D, LCC and RAMS analysis.

ERA attaches great importance to Quality Management System.
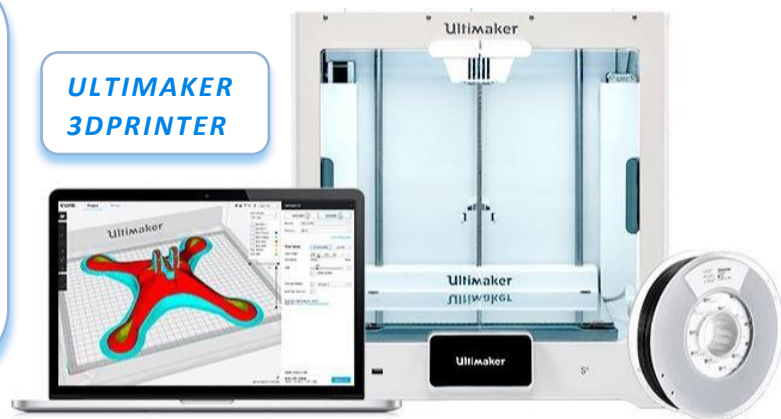
That is why our motto is *"Quality All"*.

EXTENSIVE IN-HOUSE RESEARCH & DEVELOPMENT

- ✦ AUTOCAD 2D DESIGNING
- ✦ EASYPC PCB DESIGNING
- ✦ UNIGRAPHICS UGS 3D DESIGNING
- ✦ 3D PRINTER - ULTIMAKER
- ✦ ELECTRONIC LABORATORY TEST EQUIPMENT
- ✦ LIGHTING SIMULATION ANALYSIS - DIALUX
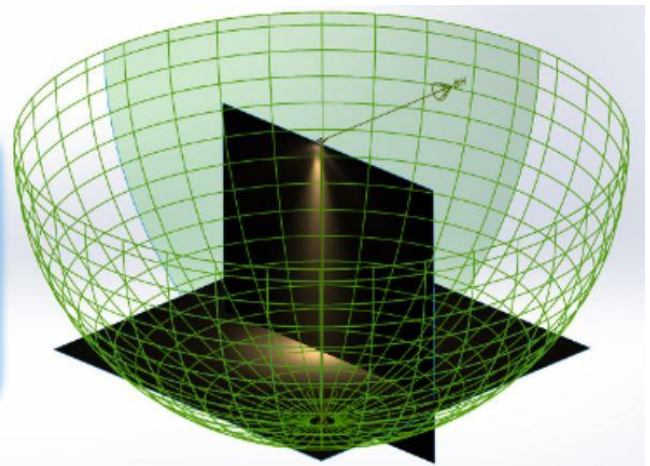
ULTIMAKER 3DPRINTER

LPKF PCB FAST PROTOTYPING

- ✦ MILLING & DRILLING CIRCUIT BOARD PROTOTYPES
- ✦ CircuitCAM LITE AND BOARDMASTER SOFTWARE
- ✦ CAD PACKAGE
- ✦ DOUBLE SIDED BOARD DESIGN

PHOTOPIA OPTICAL DESIGN SOFTWARE

- ✦ LUMINAIRE OPTICAL DESIGN
- ✦ ILLUMINATION OPTICAL DESIGN
- ✦ NON-IMAGING OPTICAL DESIGN
- ✦ UV CURING AND DISINFECTION OPTICAL DESIGN
- ✦ SOLAR AND DAYLIGHTING OPTICAL DESIGN
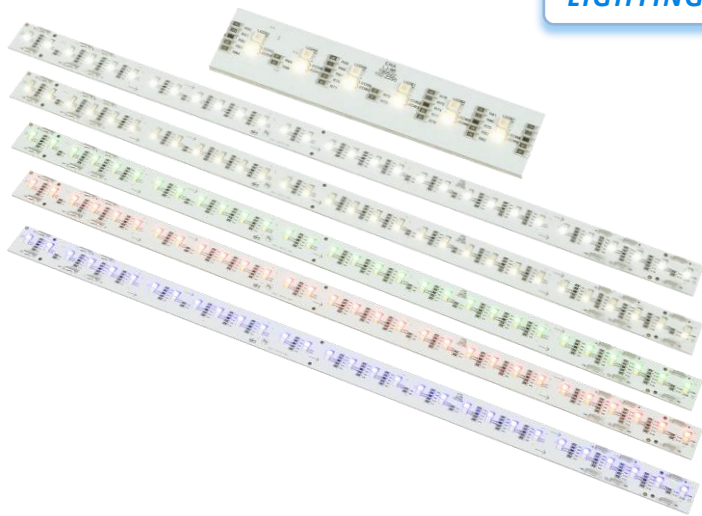
1. Automotive Product Groups

2. Railway Product Groups

LIGHTING PRODUCTS

LED STRIP MODULES

- ✧ Rigid LED strip modules for continuous lighting systems
- ✧ Suitable thermal design for long lasting LED life
- ✧ Adjustable CCT VARIO (3500-6500K), RGB and VARIO + RGB LED strips
- ✧ Mounting Types;
  - Screwing on aluminium profile
  - Fixing on aluminium profile by brackets
  - Fixing on aluminium profile underneath adhasive tape

AISLE & STEP LIGHTS

- ✧ Refracted light to avoid direct glare
- ✧ Protection against reverse polarity
- ✧ Hidden screws under plastic caps
- ✧ Water and dust proof; IP67

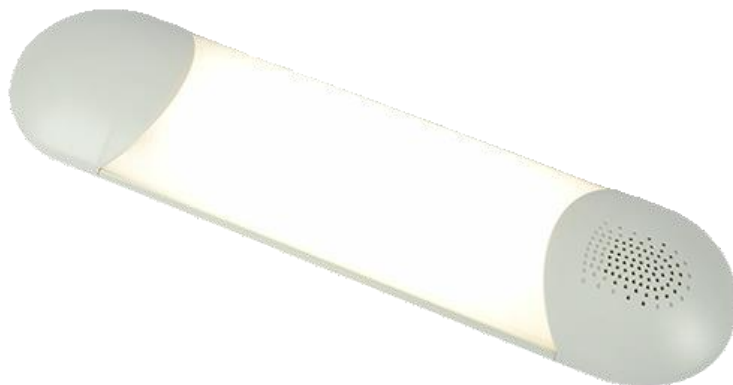## FIXED AND 360˚ MOVABLE HEAD SPOT LIGHTS

- ✧ Suitable for certain area lighting (reading light, door and driver area lighting, WC lighting)
- ✧ Fixed and 360° movable head
- ✧ Cool White or Warm White options

STEP LIGHT UNIT

- ✧ No visible mounting screws
- ✧ Step Anti – Slip Surface Design
- ✧ Direct and Indirect lighting on steps.
- ✧ Waterproof (IP65) design.

LIGHTING PRODUCTS

LED LIGHTING FIXTURES

- ✧ Suitable for ceiling & main lighting
- ✧ No dot effect, No dark area
- ✧ Aluminium extrusion chassis and PC lens
- ✧ Recessed mounting, surface mounting types
- ✧ Dim and Night light options
- ✧ Customized length and function options

LGP LED LIGHTING FIXTURE

- ✧ LED Lighting with Light Guide Panel
- ✧ Suitable for ceiling, main lighting and night light
- ✧ No dot effect, No dark area
- ✧ Optional adjustable CCT(K) value (3000-6000K)
- ✧ Low surface height of 20mm

LED LIGHTING FIXTURES

- ✧ Suitable for ceiling & main lighting
- ✧ No dot effect, No dark area
- ✧ Aluminium extrusion chassis and PC lens
- ✧ Recessed mounting, surface mounting types
- ✧ Dim and Night light options
- ✧ Customized length and function options

GOOSNECK READING LED LAMP

- ✧ Suitable for all types of vehicles, trucks, buses and caravans
- ✧ Elegant design and ergonomic use
- ✧ Easy Installation
- ✧ Long-life on-off push-button switch
- ✧ Optional Customer LOGO on top of the LAMP

CUSTOM DESIGN LIGHTING PRODUCTS

CUSTOM DESIGN LIGHTING FIXTURES

- ✧ *Suitable for different and special purposes*
- ✧ *Suitable for ceiling, main lighting and night light*
- ✧ *No dot effect, No dark area*
- ✧ *Optional adjustable CCT(K) value (3000-6000K)*
- ✧ *Aluminium extrusion, plastic body and multi color pc lens*
- ✧ *Recessed mounting, Surface mounting*
- ✧ *100% to 10% light level continuous dim control*

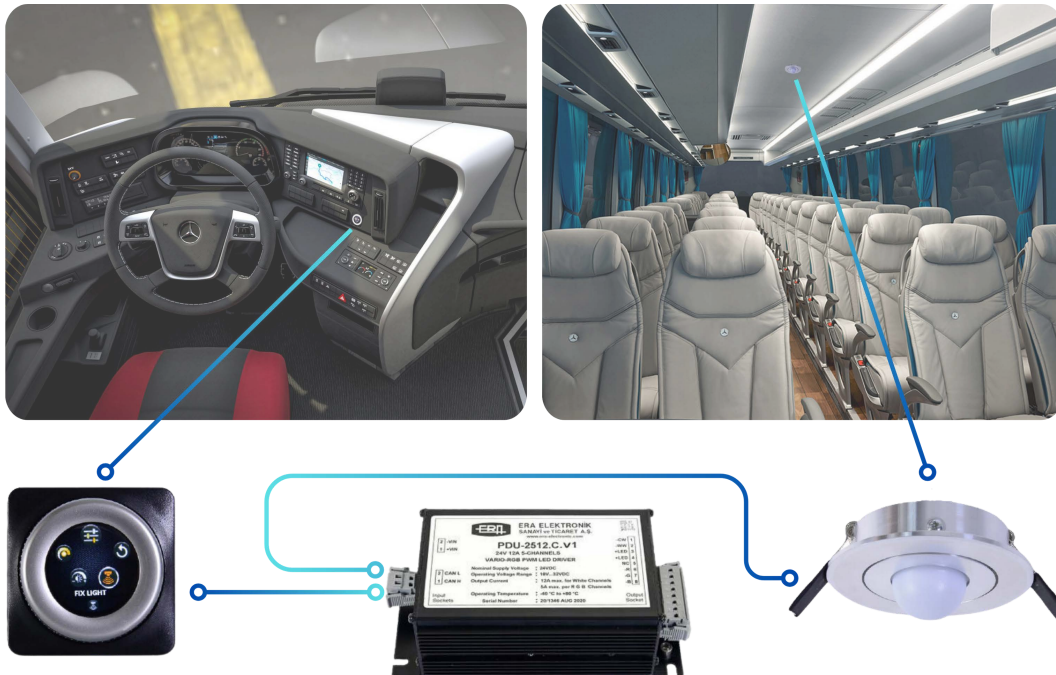## CUSTOM DESIGN LIGHTING FIXTURES

- ✧ *Suitable for ceiling and main lighting*
- ✧ *Amber night light on the same lighting surface*
- ✧ *%50 Dimming*

CUSTOM DESIGN AMBIENT LIGHTING SYSTEM

- ✧ *Ambient Lighting application with high brightness, low attenuation power SMD RGB LEDs*
- ✧ *10 different RGB colours can be adjusted*
- ✧ *High Efficiency & Homogeneous Lighting*
- ✧ *24 VDC Power Supply*

CUSTOM DESIGN LIGHTING PRODUCTS

AUTO-FIXED INTERIOR LIGHTING LEVEL CONTROL SET

- ✧ Lighting system to keep the interior lighting level constant under different environment light levels
- ✧ Monitors lighting level inside the vehicle and when the vehicle enters a tunnel or dark area, the interior lights automatically and smoothly turn on
- ✧ *Suitable for coaches, intercity buses, public vehicles and train cars*
- ✧ *CAN-BUS Communication between Controller, PWM Driver & VLS Vehicle Light Sensor devices*

MAIN LIGHT

AMBIENT LIGHT

VARIO (WW-CW) & RGB LIGHTING SYSTEM

- ✧ *12 CCT (Correlated Color Temperature) levels of White VARIO LEDs*
- ✧ *12 different colors of RGB LEDs*
- ✧ *5 dim levels for both VARIO and RGB lights*
- ✧ *Adjustable CCT VARIO (3500-6500K), RGB Ambient Light*
- ✧ *Optional Control Units;*
  -LCD PUSH & ROTARY SWITCH CONTROLLER
  -ROCKER SWITCH CONTROLLER
  -Via Vehicle CAN-BUS System

BUS SIGN UNIT

- ✧ Suitable for coaches, intercity buses and public vehicles
- ✧ Sign Options – "STOP" in different languages
- ✧ Suitable for any text or sign
- ✧ Display area options - 155 x 48mm or 2 x (77 x 48mm)

BUS SIGN UNIT

- ✧ Suitable for coaches, intercity buses and public vehicles
- ✧ Sign Options – "WC Occupied", "Fasten Seat Belt"
- ✧ Suitable for any text or sign
- ✧ Display area options - 155 x 48mm or 2 x (77 x 48mm)

DIGITAL BUS CLOCK

- ✧ Suitable for coaches, intercity buses and public vehicles
- ✧ Optional Features – 12H Mode, "WC", "STOP", "Temperature"
- ✧ Display area - 1.5" (38mm) red LED Display

DIGITAL BUS CLOCK

- ✧ Suitable for coaches, intercity buses and public vehicles
- ✧ Optional Features – 12H Mode, "WC", "STOP", "Temperature"
- ✧ Display area - 1.5" (38mm) red LED Display
- ✧ Real Time Clock option

PROGRAMMABLE DIGITAL BUS CLOCK & PIS

- ✧ Wide language options
- ✧ Displays any alphabets or drawing beside Clock, Temperature, WC Occupancy, Fasten seat belt, Stop information
- ✧ Real Time Clock without supply voltage by back up battery
- ✧ Protected against reverse polarity

OTHER ELECTRONIC PRODUCTS

VARIO & RGB PWM LED DRIVER WITH CAN-BUS

- ✧ 24VDC system PWM LED driver for 24VDC LED strip modules
- ✧ 5 Channels (VARIO (WW+CW) - RGB) PWM outputs
- ✧ CAN-BUS communication with control unit
- ✧ 10% to 100% 10 steps dim function for both VARIO and RGB outputs
- ✧ 3000K to 6500K 11 steps CCT level for VARIO outputs
- ✧ 12 different ambient colours for RGB outputs

LCD PUSH & ROTARY SWITCH CONTROLLER WITH CAN-BUS

- ✧ CAN-BUS controller for PDU-2512.C PWM LED Driver
- ✧ Programmable 262K(max.) color TFT LCD display, SPST push button and rotary encoder.
- ✧ Adjustment of VARIO and RGB lights by single switch
- ✧ 12 CCT (Correlated Color Temperature) levels of VARIO function
- ✧ 12 different colours of RGB function
- ✧ 5 dim levels for both VARIO and RGB lights.

AVAS - ACOUSTIC VEHICLE ALERTING SYSTEM

- ✧ Sound system that warns pedestrians for silent electric and hybrid vehicles
- ✧ Advanced features especially designed for buses, coaches and public transport vehicles
- ✧ Compliant with UNECE-R138 Regulation
- ✧ CAN-BUS communication
- ✧ Short circuit, high current and reverse polarity protections
- ✧ Diagnosis CAN-BUS codes for speaker failure, high temperature low/ high voltage
- ✧ Optional advanced features can be added

BUS INTERCOM SYSTEM

- ✧ 2 or 3 stations bus Intercom
- ✧ Locked headset against vibration
- ✧ Individual acoustical ID call signal
- ✧ Conference function
- ✧ Stations are identical with ID selection switch
- ✧ Hands Free Unit (Optional)
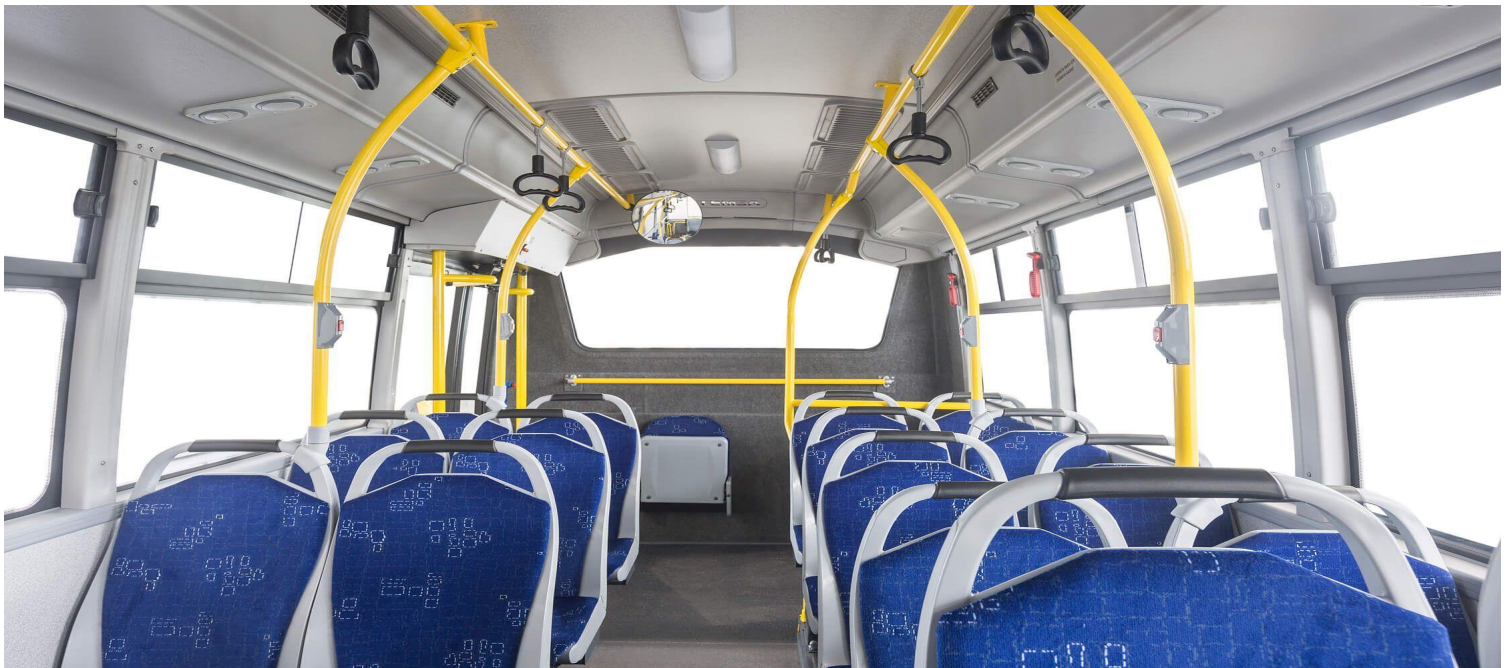
EVOBUS E-CITARO

MERCEDES TRAVEGO

TEMSA TS 45

MAN TRUCK AMBIENT LIGHT

MERCEDES -BENZ TOURRIDER
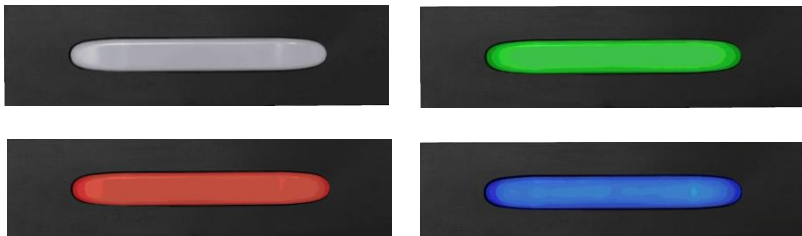

TEMSA PRESTIGE CITY SX

OTOKAR SULTAN

TEMSA MARATON

LIGHTING PRODUCTS

DOOR INDICATOR LIGHT

✧ EN 45545 certified semi-transparent mono block PC body
✧ 7 different colour selection
✧ Adjustable brightness level with external PWM signal
✧ Surface and Recessed mounting option
✧ Front or back side mounting option

AISLE & STEP LIGHTS

✧ Refracted light to avoid direct glare
✧ Protection against reverse polarity
✧ Hidden screws under plastic caps
✧ Water and dust proof; IP67

LED STRIP MODULES

✧ Applicable for Continuous Lighting Systems
✧ Specialized designed for Indirect Lighting with narrow beam lenses.
✧ Easy to install and service modules with connector
✧ Suitable to mount with direct screwing in aluminium profiles.

FIXED AND 360˚ MOVABLE HEAD SPOT LIGHTS

✧ Suitable for certain area lighting (reading light, door and driver area lighting, WC lighting)
✧ Fixed and 360° movable head
✧ Cool White or Warm White options

CABIN LIGHT

✧ Suitable for ceiling lighting, cabin lighting, step lighting, WC lighting
✧ No dot effect

CUSTOM DESIGN LIGHTING PRODUCTS

CUSTOM DESIGN READING LIGHT

- ✧ Suitable for reading lighting
- ✧ 360° movable head
- ✧ Cool White or Warm White options
- ✧ Optional: Single axis +20˚/-20˚movable head
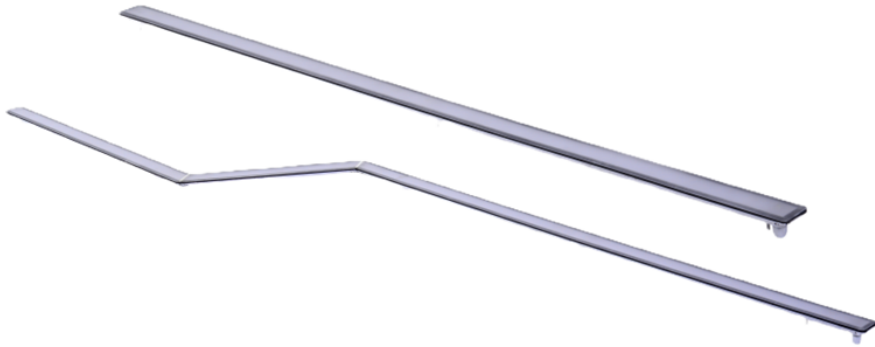
CUSTOM DESIGN EFFECT LIGHT

- ✧ Suitable for ceiling lighting, cabin lighting, WC lighting
- ✧ No dot effect
- ✧ Surface mounting

CUSTOM DESIGN TABLE LIGHT

- ✧ Suitable for table lighting
- ✧ Smooth lighting
- ✧ Surface mounting
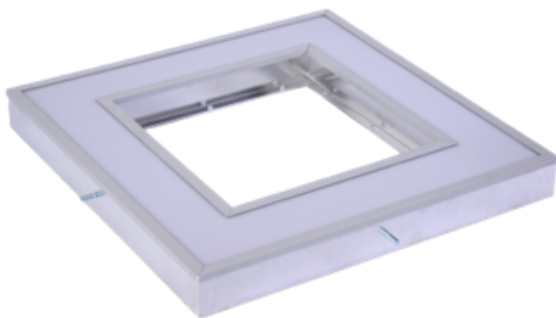
CUSTOM DESIGN LIGHTING PRODUCTS

CUSTOM DESIGN DECORATIVE LIGHTING UNIT

- ✧ *Suitable for train toilet modules*
- ✧ *Vibration resistant*
- ✧ *IP65 Certified*

CUSTOM DESIGN EXTERIOR LIGHTING UNITS

- ✧ *Suitable for train exterior lighting*
- ✧ *6 different type options*
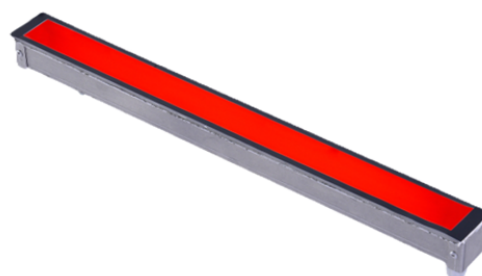- ✧ *Homogeneous light distribution, no dot effect*

CUSTOM DESIGN GANGWAY LIGHTING UNIT

- ✧ *Suitable for gangway area lighting*
- ✧ *Homogeneous light distribution, no dot effect*
- ✧ *1 step dimming option*
- ✧ *The lid provides easy access for servicing the back sides*

CUSTOM DESIGN LIGHTING PRODUCTS

CUSTOM DESIGN DECORATIVE LIGHTING UNIT

- ✧ *Exterior front/back side decorative lighting system*
- ✧ *Homogeneous light distribution, no dot effect*
- ✧ *One unit offers two colours, changing based on the metro car's direction*
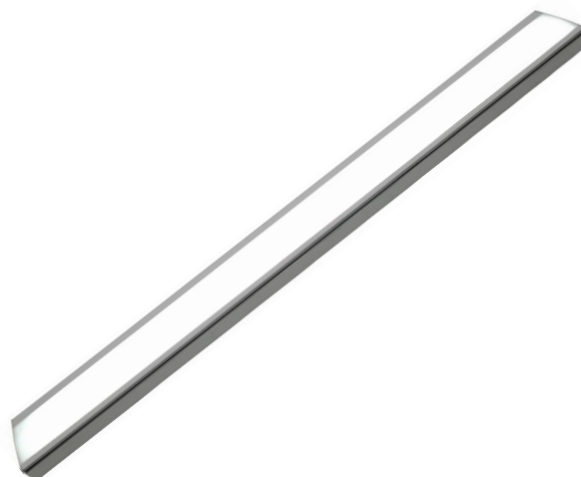
CUSTOM DESIGN LIGHTING FIXTURE

- ✧ Suitable for ceiling & main light
- ✧ No dot effect, No dark area
- ✧ Optional CCT(K) value (3000-6000K)
- ✧ Aluminium extrusion chassis and pc lens profile
- ✧ Recessed mounting type
- ✧ Customized length and function options

CUSTOM DESIGN CONTINUOUS LIGHTING SYSTEMS

- ✧ Suitable for ceiling & main lighting
- ✧ No dot effect, No dark area
- ✧ Optional CCT(K) value (3000-6000K)
- ✧ Aluminium extrusion chassis and pc lens
- ✧ Surface mounting type
- ✧ Customized length and function options

OTHER ELECTRONIC PRODUCTS

DC-DC SWITCH MODE CONVERTER (LED DRIVER)

- ✧ Suitable for all appliances with 110VDC & 72VDC battery
- ✧ 110VDC to 24VDC
- ✧ Short circuit protection, high output current protection
- ✧ 50% one step dim, Optional: 30% to 90% dim adjustable pre-set
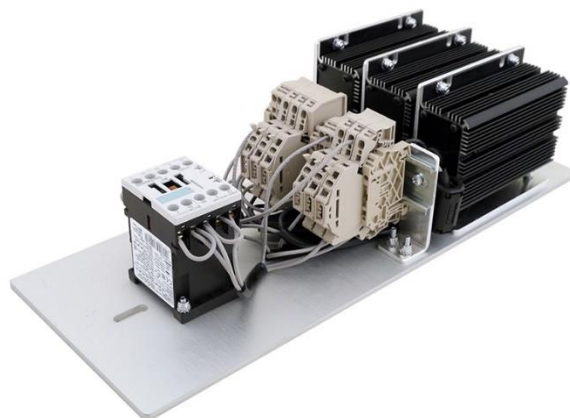- ✧ 6A @24VDC on full mode
- ✧ Efficiency better than 90%

DC-DC SWITCH MODE CONVERTER (LED DRIVER)

- ✧ Suitable for all appliances with 110VDC & 72VDC battery
- ✧ 110VDC to 24VDC
- ✧ Short circuit protection, high output current protection
- ✧ 50% one step dim, Optional: 30% to 90% dim adjustable pre-set
- ✧ *1.5*A @24VDC on full mode
- ✧ Efficiency better than 90%

CONVERTER (LED DRIVER) GROUP

- ✧ Combination of our own Converters with relay control
- ✧ Automated lighting control using sensors for complete interior lighting solution with added dim mode control
- ✧ Powerful enough for an entire rail car
- ✧ Customizable for each and every customer
- ✧ Aluminium chassis for grounding and heat transfer

SIEMENS – SKODA CONSORTIUM RAILJET CD

SIEMENS – SKODA CONSORTIUM RAILJET CD

TCDD-E14000

TCDD – E14000

TALGO F073-F081 TRAINS

CRRC-MNG ANKARA METRO

CRRC-MNG ANKARA METRO

BOZANKAYA GREENLINE BANGKOK METRO

BOZANKAYA TIMISOARA & IASI TRAM

SIEMENS – AVENIO ULM TRAM

BOZANKAYA GEBZE-DARICA METRO

BOZANKAYA GEBZE DARICA METRO

Certificate 1 (TÜV NORD)

TÜV NORD

CERTIFICATE

Management system as per
ISO 9001 : 2015

The Certification Body TÜV NORD CERT GmbH hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

Era Elektronik Sanayi ve Tic. A.Ş.
Dudullu OSB 4. Cad No: 11,
TR-34776, Ümraniye
Türkiye

operates a management system in accordance with the requirements of ISO 9001 : 2015 and will be assessed for conformity within the 3 year term of validity of the certificate.

Scope

Design and manufacturing of the electronic products

Certificate Registration No. 44 100 103526	Valid from 2024-08-24
Audit Report No. TR 1396	Valid until 2027-08-23
	Initial certification 2010

Certification Body
at TÜV NORD CERT GmbH

Istanbul,2024-06-23

TÜV NORD CERT GmbH   Am TÜV 1   45307 Essen   www.tuev-nord-cert.com

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Certificate 2 (TÜV NORD)

TÜV NORD

CERTIFICATE

Management system as per
IATF 16949:2016
(1st edition, 2016-10-01)

Evidence of conformity with the above standard has been furnished and is certified for

Era Elektronik Sanayi ve Tic. A.Ş.
Dudullu OSB, 4. Cad. No: 11, Ümraniye
34776 İstanbul
Turkey

Scope

Design and manufacturing of the electronic products

IATF Registration No. 0426280	Issue date: 2021-09-23
Certificate Registration No. 44 111 100740	Expiry date: 2024-09-22

Certification body
at TÜV NORD CERT GmbH

Essen, 2021-09-23

This certification was conducted in accordance with the IATF „Rules for achieving and maintaining IATF recognition".
Validity can be verified at https://www.tuev-nord.de/de/unternehmen/zertifizierung/zertifikatsdatenbank.

TÜV NORD CERT GmbH   Langemarckstraße 20   45141 Essen   www.tuev-nord-cert.de

02-IAO-QMC-01021   page 1/1   A13F201e rev. 01/03.19

Certificate 3 (TÜV NORD / IRIS)

TÜV NORD

CERTIFICATE

awarded to

ERA ELEKTRONIK SAN. VE TIC. A.S.
DUDULLU O.S.B 4. CAD. N0:11 UMRANIYE
34776, ISTANBUL
Turkey

TÜV NORD CERT GmbH

confirms, as an IRIS Certification® approved certification body, that the Management System of the above organization has been assessed and found to be in accordance with the

IRIS Certification® Conformity assessment:2020
and based on
ISO/TS 22163:2017

for the activities of Design and Development and Manufacturing
for the scope of certification: 15 (Lighting)
Design and production of internal lighting parts

Certificate valid from: 31/01/2022   Certificate valid until: 30/01/2025*

IRIS Certification

Current date: 18/01/2022
Certificate-Register-No: 44739140008

Certificate 4 (KING CERT)

KING CERT

CERTIFICATE

Era Elektronik Sanayi ve Ticaret A.Ş.

Dudullu OSB Mah. 4. Cad. No: 11 Ümraniye İstanbul Türkiye

The above-mentioned organization implements and maintains a management system in the following scope, and its compliance with the standard has been approved by KingCert.

ISO 14001:2015
Environmental Management System

Scope : Design and Manufacturing of The Electronic Products

IAF/EA Code: 19

IAS ACCREDITED
Management Systems Certification Body
MSCB-196

This certificate is valid during above mentioned company perform the requirements of ISO 14001:2015 standard and fulfill all responsibilities to KingCert.

Certificate Publication Date : 29.03.2023
Cert. Last Issue Date : 21.03.2024
Cert. Expiry Date : 28.03.2025
Cert. Period/Exp. Date : 28.03.2026
Certificate Number : I1679657003E

King Cert International Certification Ltd.
Director

V14,21-08-2024